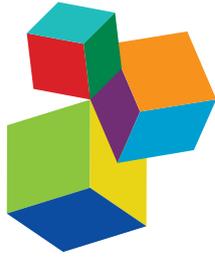


UNDERSTANDING YOUNG INDIVIDUALS' AUTONOMY AND PSYCHOLOGICAL WELLBEING

EDITED BY: Teresita Bernal-Romero, Miguel Melendro, Ángel De-Juanas
and Martin Goyette

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UNDERSTANDING YOUNG INDIVIDUALS' AUTONOMY AND PSYCHOLOGICAL WELLBEING

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Editorial: Understanding Young Individuals' Autonomy and Psychological Well-Being

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Editorial on the Research Topic

Understanding Young Individuals' Autonomy and Psychological Well-Being

During the transitional stage between adolescence and adulthood, young people navigate complex and often difficult situations as they attain full maturity and autonomy. They strive to create their identities, defend their ideals, make decisions, and establish a sense of independence that will be crucial to their confidence about providing for themselves, taking responsibility for their actions, and handling the problems that will arise. Although young people feel a pressing need for self-fulfillment and independent living away from their parents, and for forging bonds with their peers, multiple studies have shown that autonomy develops gradually over time. Parents, educators, psychologists, and social workers are consequently very interested in exploring the factors affecting autonomy in young people, for purposes of developing counseling, orientation, and intervention strategies.

The autonomy and well-being of young people transitioning to adulthood is in fact very important in psychological, educational, and social research. Large quantities of empirical data are to be found within the framework of positive psychology; these data examine perceived psychological well-being compared to academic performance, personality, intelligence, etc.

Several interesting studies from psychological, educational, and social perspectives have examined autonomy processes in young people (here, 'autonomy' refers to the capacities for self-organization, context analysis, critical thinking, forming relationships with others, and socio-political engagement).

However, very few studies have linked psychological well-being to autonomy. The articles in this collection, addressing autonomy and psychological well-being in young people, all examine the link between these two variables and their relationships with other variables (peer groups, gender, physical activity, hobbies, geographic setting, etc.) that affect the lives of young people in our modern societies.

This topic is presented with three aims: (1) to discover new relationships, which may help explain a range of realities in different cultural and socio-educational contexts; (2) to deepen our understanding of the methodology used to examine and analyze these variables; and (3) to develop tested and effective plans of action, whether psychological, educational, or social, for the youth population.

The articles in this collection, which derive from different approaches and fields, therefore contribute to our understanding of autonomy and well-being in young people transitioning to adult life. This Research Topic is presented in order to promote new findings from original studies and reviews that provide a better overview of this reality and how it is affected by psychological, educational, and social interventions.

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We have identified three lines of research among the articles contributing to this Research Topic: (1) a line examining the different *contextual approaches* to development, according to the most general understanding of the link between autonomy and psychological well-being; (2) a line addressing different *specific factors* and their impact on this area of knowledge examples include ICTs, physical activity/sports, and factors linked to gender and leisure/free time; and (3) a final line of research studying autonomy and well-being in adolescents and young adults within *educational systems*, including universities.

Beginning with the line of research exploring the different *contextual approaches* that are applied according to the most general understanding of the relationship between autonomy and psychological well-being in youth, we first highlight the creation and validation of an Autonomy Scale for young people transitioning to adulthood. This scale, devised by Bernal-Romero et al. employs a differential approach to measuring autonomy in young people. While most existing scales are based on a self-focused notion of autonomy, the scale presented in the above article contemplates the idea of the individual as mediated by others, and by society, along four dimensions: self-organization, context analysis, critical thinking, and socio-political engagement.

Another interesting contribution to this line of research, by Gabriel et al. examines the impact of experiences in a residential facility among young people leaving care. The authors gauge this impact in three analytic areas: social networks, parenthood, and state interventions. In a third article, Melendro et al. compare autonomy and social well-being in young people transitioning to adulthood by means of three different pathways, characterized by education, by employment and job training, or by extreme social disadvantage, with this last pathway displaying more complex situations. The study on group characteristics among adolescents and young adults facing social disadvantages or displaying maladjusted behavior, in the words of Bojanowska and Piotrowski, plus an interesting article on the effect of age on the development of autonomy and social well-being among young people (García-Castilla et al.), also provide helpful information for understanding these realities and designing evidence-based interventions for young people transitioning to adult life.

The line of research exploring contextual approaches also includes three studies that examine relevant problems in several other contexts informing how we understand and interact with young people in social difficulty: the influence of drugs (Santibáñez et al.), the effect of socioeconomic inequality on mental health (Myhr et al.), and how incarceration affects young people's development. In this third study, Añaños et al. found that assuming responsibilities, engaging in teamwork, feeling prepared for employment, and having an optimistic view of the future were positive factors contributing to readiness for temporary release. An additional study by Charry et al. compares Spanish and Colombian youth and examines the importance of contextual factors, finding significant differences in results for some dimensions of autonomy (self-organization and critical thinking) and of psychological well-being (the "positive relationships" and "purpose in life" subscales).

The second line of research examines the relationship between young people's autonomy and psychological well-being and different study variables having to do with leisure activity; this collection includes articles examining use of the Internet and social networks, physical activity and sports, and relationship status. These studies clearly show that leisure activities and hobbies remain one of the largest socio-educational and psychological concerns of our time. Increased free time with an expanded list of possibilities for leisure activities is not always conducive to best practices in our society (Audrin and Blaya). Social networks play a key role in these activities, as stated by Castillo de Mesa et al. Nonetheless, we must stress the social, educational, and psychological value of young people's leisure activities for their development and well-being. Findings from the articles by Rodríguez-Bravo et al.; Fraguera-Vale et al. support this position.

One must also consider the importance of leisure activities for optimal human development. They hold undeniable social, educational, and psychological value by forging intergenerational family relationships, as concluded by Alonso Ruiz et al. The articles by García-Castilla et al. and by Mari-Ytarte et al. both focus on peer relationships in young people and conclude that relationship status and sex education affect youth autonomy and psychological well-being. In any case, skillful time management is key to achieving a more satisfactory experience with either relationships or activities, according to findings by both Doistua et al.; Pestana et al.

A third and final line of research addresses the autonomy and well-being of adolescents and young people in educational systems, including universities. The first cluster of articles examines the importance of psychological well-being in the education of adolescents. In one study, framed from the parallel mediating model, Guo et al. show how teacher support may promote mental well-being in adolescents by increasing goal planning, affect control, and help-seeking behavior, while decreasing depression. Another study by Páez-Gallego et al., examining decision-making processes in adolescent students, found that increased use of adaptive decision-making strategies was correlated with higher levels of psychological well-being. Also within this cluster of articles, the study by Lan and Zhang on emotional well-being among Chinese adolescents who change schools shows how such disruptions can be detrimental to students' emotional state. It also addresses the role of professors in supporting student autonomy.

Last of all, this collection presents four articles focusing on university students. The first, by González-Olivares et al., explores the interaction between psychological well-being and motivation. It shows how the vocational approach in university teacher training programs provides new students with the motivation to achieve a professional future. Another two articles examine autonomy processes. Valenzuela et al., have linked procrastination with self-regulation profiles in their study of autonomous functioning in students. In the other, Borjas et al., examined financial independence and its effect on academic performance, finding lower scores

among independent students who self-financed their studies or worked during the week than among students receiving loans or grants.

The final article, which actually coincided with the pandemic that provided the setting for the development of this Research Topic, was published by Fernández-Cruz et al. and focuses on evaluating emotional and cognitive regulation among young people in lockdown due to Covid-19. One of its more interesting findings is that the students' digital competence and ability to engage in online interactions were crucial for overcoming feelings of loneliness and social isolation, even when students were physically separated from their friends and classmates for a time.

The full set of studies listed in this collection clearly provides a very complete and diverse view of how we understand young people's autonomy and psychological well-being, while specifically focusing on those people facing greater social difficulties. This Research Topic draws from many international cooperative efforts.

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This Editorial has been co-authored by the four guest associate editors, TB-R, MM, AD-J, and MG. All authors contributed to the article and approved the submitted version.

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Family Leisure, Self-Management, and Satisfaction in Spanish Youth

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Youth values leisure as a right, a source of growth and integral development, and a context for experimentation. It has been shown that organized leisure leads to more benefits than unorganized leisure; when undertaken (Throughout the document, an attempt will be made to use inclusive language, although “under Law 3/2007 of 22 March, for the effective equality of women and men, any reference to positions, persons or groups included in this document in masculine, are to be understood as including both women and men.”) by the young people themselves, these benefits lead to the development of prosocial skills, self-efficacy, autonomy, and increased independence, personal motivation, and responsibility, as well as acting as a protective factor against risky behaviors. When organized leisure activities are also shared with the family, the benefits influence a positive family environment. This study focused on analyzing the relationship between family-shared leisure practices that are managed by Spanish youth in post-compulsory secondary education and the importance and satisfaction granted to these experiences. The sample consisted of 1,764 post-compulsory secondary education students from all over Spain. Youths responsibility for the organization of their leisure activities, the perception of the relationship between enjoyment of the activity and involvement in its management, the organization of the spaces in which leisure activities are carried out, their satisfaction with them, and the importance attached to shared practice and family experiences were recorded. The results showed a shortage of self-managed youth leisure practices, but increased responsibility, spatial organization, and satisfaction were confirmed when leisure experiences are shared with the family. The need to encourage opportunities for children to self-organize their leisure practices from an early age is commented on.

Keywords: leisure, family, self-management, satisfaction, youth

INTRODUCTION

Leisure is a source of personal and social growth and development (Carrera, 2009; Cuenca, 2009, 2013, 2014; Otero, 2009; Caride, 2012; Clerton de Oliveira et al., 2014; Álvarez et al., 2014) because it is a right that is especially valued by youth, characterized by satisfaction, freedom, and voluntariness (López Ruiz, 2011; Arastegui and Silvestre, 2012; Cuenca and Goytia, 2012). As such, it is carried out in a scenario that is suitable for experimentation (Doistua et al., 2016).

Scientific literature has shown multiple benefits of leisure for the integral development of youths emotional, cognitive, physical, and social aspects (Quintana, 1991; Caride, 1998;

Cuenca, 2009; Stebbins, 2012; Freire and Teixeira, 2018; Rodríguez et al., 2018). More specifically, it has also confirmed that organized leisure leads to greater benefits than unorganized leisure (Monteagudo et al., 2017).

Although previous studies (Ortega et al., 2015) indicate that the organization of leisure activities is frequently alien to young people, this research focuses on situations in which leisure experiences are managed by the young people themselves, through their social participation and decision making in the planning and development of these activities. This leads to questioning whether young people have the opportunities for and are interested in the self-management of their leisure time.

In this line, Larson (2000) proposed that most of young peoples time is taken up with academic tasks and periods of structured leisure. Any leisure experience constitutes a fruitful use of leisure time and is considered as a protective factor against risky behaviors and promotes the development of prosocial skills, as well as youth self-efficacy (Casey et al., 2005; García Moya et al., 2012). However, not all practices strengthen youth autonomy and decision-making ability to the same degree. Thus, leisure organized by the young people themselves promotes their independence and requires the assumption of responsibilities in planning, which increases personal motivation and impacts youths life experiences, making them more authentic and allowing them to experiment (Doistua et al., 2016).

However, Rodríguez et al. (2018) noted that young people show little interest in self-managing their leisure practices, and they discovered that youth satisfaction does not increase when they assume responsibilities for the organization of such activities. These results contradict previous studies (Ortega et al., 2015; Doistua and Ried, 2016; Doistua et al., 2016; Lazcano and Caballo, 2016) that found that young people showed greater participation, satisfaction, and degree of commitment in spaces that promoted greater autonomy and opportunities to design and self-manage their leisure experiences rather than in supervised spaces.

Young peoples participation in leisure activities and their assessment of them depend on factors that shape their daily lives (Salazar and Arellano, 2015). In particular, these include aspects such as their schooling, socioeconomic status, or the social and cultural context, as well as certain personal characteristics, such as engagement, responsibility, or commitment, which are related to self-management (Fonseca and Maiztegui-Oñate, 2017; Rodríguez et al., 2018).

There is currently a growing interest in examining the possible relationships between young peoples self-management of leisure and their personal satisfaction and in determining whether such an association is present when leisure activities are shared with the family. In this line are studies on youth satisfaction with the organization of leisure practices with peer groups (Kleiber et al., 2017), but there are very few works focusing on the relationships between youth well-being and the self-organization of leisure when shared with the family, an institution that plays an essential role in young peoples development and well-being (Juang and Silbereisen, 1999; Jackson and Warren, 2000; Demaray and Malecki, 2002; Elzo, 2004; Brazelton and

Greenspan, 2005; Álvarez and Rodríguez, 2008; Badenes and López, 2011; Valdemoros et al., 2014).

It is scientifically proven that family-shared leisure leads to multiple benefits, as it provides well-being, improves self-esteem and communicative quality, reduces the chances of engaging in risky behaviors, and promotes encounters, empathy, and generativity among its members (Bell and Bell, 2005; Fiese, 2006; Garmiene et al., 2006; Barnes et al., 2007; Zaborskis et al., 2007; Hebblethwaite and Norris, 2010, 2011; Poff et al., 2010), which are significantly associated with satisfaction with family life (Agate et al., 2009).

On the one hand, family leisure activities have been found to lead to important benefits for family functioning, including the promotion of a positive environment at home, as well as favorable attitudes toward family leisure (Maynard and Harding, 2010; Craig and Mullan, 2012; Grosso et al., 2013; Offer, 2013, 2014; Pinxten and Lievens, 2014; Sanz et al., 2018; Veenstra and Patterson, 2012). On the other hand, a good family atmosphere characterized by warmth and support for young people favors their autonomy in leisure experiences (Ornelas et al., 2007). Lastly, it has been verified that when these activities are organized by the young people themselves, this leads to an increase in self-confidence, social responsibility, and civic sense (Bressler et al., 2005; McCallum et al., 2006; Pinazo and Kaplan, 2007). Therefore, this work is aimed at analyzing the link between young peoples self-management of family-shared leisure activities and the satisfaction and importance they grant to these experiences. The results of this research will facilitate the establishment of lines of action that optimize the benefits derived both from youths self-management and family-shared leisure activities.

METHODOLOGY

Population and Sample

During the 2013–2014 academic years, a total of 1,055,532 students were enrolled in post-compulsory secondary education in the Spanish state. Given the breadth of the study universe, we decided to select a representative study sample, for which the following parameters were established: sampling error of ± 2.3 sigmas, 95% confidence level, and the assumption that $p = q = 0.5$. A total of 1,764 subjects made up the final sample, 50.1% female ($n = 885$) and 49.9% male ($n = 879$). Mean age was 17.60 ± 1.60 years. Of participants, 83% were enrolled in public centers and 17% in private centers. Sixty-seven percent were studying high school, 32.7% middle-grade educational cycles, and 10.3% basic vocational training. Random proportionate cluster sampling was used, taking into account the representativeness of the Spanish state as a whole through the six geographical areas described below:

A1-Northeast: composed of Catalonia, Aragon (except for Teruel), and the Balearic Islands.

A2-Levante: formed by the Valencian Community, Murcia, and Albacete.

A3-South: made up of Andalusia, the Canary Islands, Ceuta, and Melilla.

A4-Center: it groups Madrid, Castilla-La Mancha (except for Albacete), Castilla-León (except for León, Palencia, and Burgos), Cáceres, and Teruel.

A5-Northwest: it includes Galicia, Asturias, and León.

A6-North: it includes Cantabria, Basque Country, La Rioja, Navarre, Burgos, and Palencia.

- Satisfaction with each leisure activity practiced: This identifies each youths degree of satisfaction with each of the leisure activities indicated.
- Importance of the activity: This shows the degree of importance of each leisure activity for each student.
- Practiced in the family: This dichotomous variable, composed of the categories *yes* and *no*, identifies which activities are shared with a family.

Variables

This study is based on six variables. The first five are rated on a 5-point Likert scale the response options: *not at all*, *a little*, *fairly*, *pretty much*, and *very much*.

- Youth responsibility in the organization of their leisure activities: This registers whether the student perceives that he/she participates in the organization of each of his/her leisure activities.
- Perception of the relationship between enjoyment of an activity and engagement in its organization: This registers the students perception of whether greater engagement in the organization of each leisure activity influences the enjoyment of performing them.
- Organization of the spaces in which leisure activities are held: This determines the students degree of responsibility for the preparation of the spaces used for their leisure.

Instrument

For data collection, we created an *ad hoc* questionnaire. This instrument was validated through a pilot test with students from eight autonomous communities and through experts judgment, involving 14 researchers of leisure from seven Spanish universities.

Procedure

Each of the General Directors of Education of the participating Autonomous Communities was informed through a letter about the purposes of the study. After the administrative authorities had granted permission, two researchers trained to ensure the standardized application traveled to each of the randomly selected schools to apply the instruments.

Data Analysis

On a first level, a descriptive analysis was carried out to calculate the frequencies, means, and standard deviations in

TABLE 1 | Summary of Students *T*-test for independent samples: autonomy for organizing leisure activities based on whether or not the activity is shared with the family.

	Levenes test for variance equality		T-test for equal means			<i>M</i> ± <i>SD</i>
	<i>F</i>	<i>p</i> ¹	<i>T</i>	<i>df</i>	<i>p</i>	
I am responsible for organizing the activity	213.88	0.125	−10.09	1,455.89	0.000	Family leisure (FL) = 2.67 ± 0.910 Non-family leisure (NFL) = 1.90 ± 1.297

¹Levenes test: *p* > 0.05 in all cases, so the equality of variances is assumed.

TABLE 2 | Summary of Students *T*-test for independent samples: enjoyment of the activity in relation to participation in its organization as a function of whether or not the activity is shared with the family.

	Levenes test for variance equality		T-test for equal means			<i>M</i> ± <i>SD</i>
	<i>F</i>	<i>p</i> ¹	<i>T</i>	<i>df</i>	<i>p</i>	
I would enjoy the activity more if I engaged more actively in its organization	125.788	0.284	−8.896	1,762	0.000	Family leisure (FL) = 1.68 ± 1.41 Non-family leisure (NFL) = 1.16 ± 1.00

¹Levenes test: *p* > 0.05 in all cases, so the equality of the variances is assumed.

TABLE 3 | Summary of Students *T*-test for independent samples: development of leisure in spaces organized by youth as a function of whether or not the activity is shared with the family.

	Levenes test for variance equality		T-test for equal means			<i>M</i> ± <i>SD</i>
	<i>F</i>	<i>p</i> ¹	<i>T</i>	<i>df</i>	<i>p</i>	
I practice this activity in spaces that I organize myself	243.298	0.468	−10.69	1,762	0.000	Family leisure (FL) = 2.25 ± 1.74 Non-family leisure (NFL) = 1.49 ± 1.20

¹Levenes test: *p* > 0.05 in all cases, so the equality of the variances is assumed.

TABLE 4 | Summary of Students *T*-test for independent samples: satisfaction with leisure activity depending on whether or not it is shared with the family.

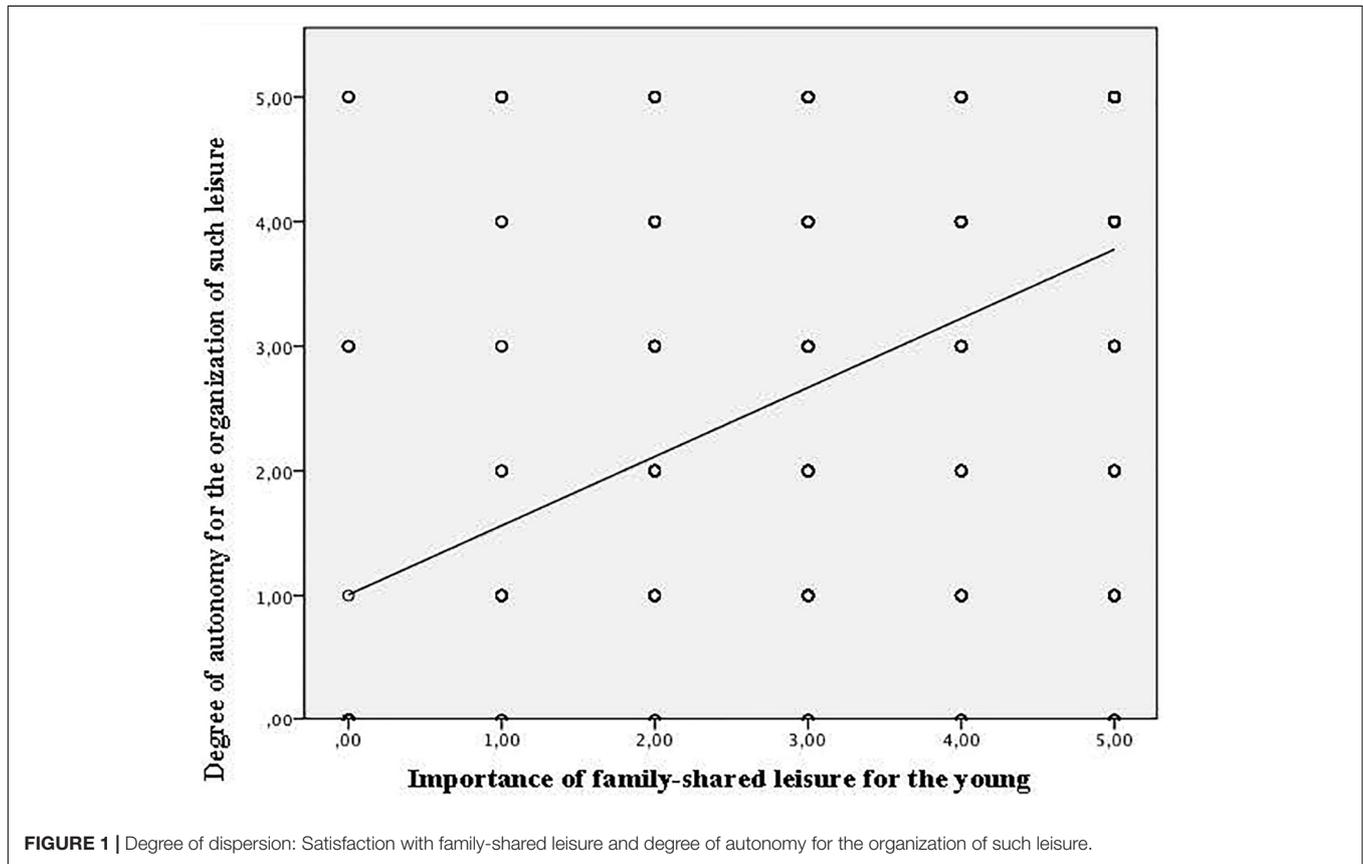
	Levenes test for variance equality		T-test for equal means			<i>M ± SD</i>
	<i>F</i>	<i>p</i> ¹	<i>T</i>	<i>df</i>	<i>p</i>	
I would enjoy the activity more if I engaged more actively in its organization	61.777	0.169	-12.36	1,762	0.000	Family leisure (FL) = 3.47 ± 1.85 Non-family leisure (NFL) = 2.49 ± 1.46

¹Levenes test: *p* > 0.05 in all cases, so the equality of the variances is assumed.

TABLE 5 | Summary of Students *T*-test for independent samples: importance of activity for the student depending on whether or not it is shared with the family.

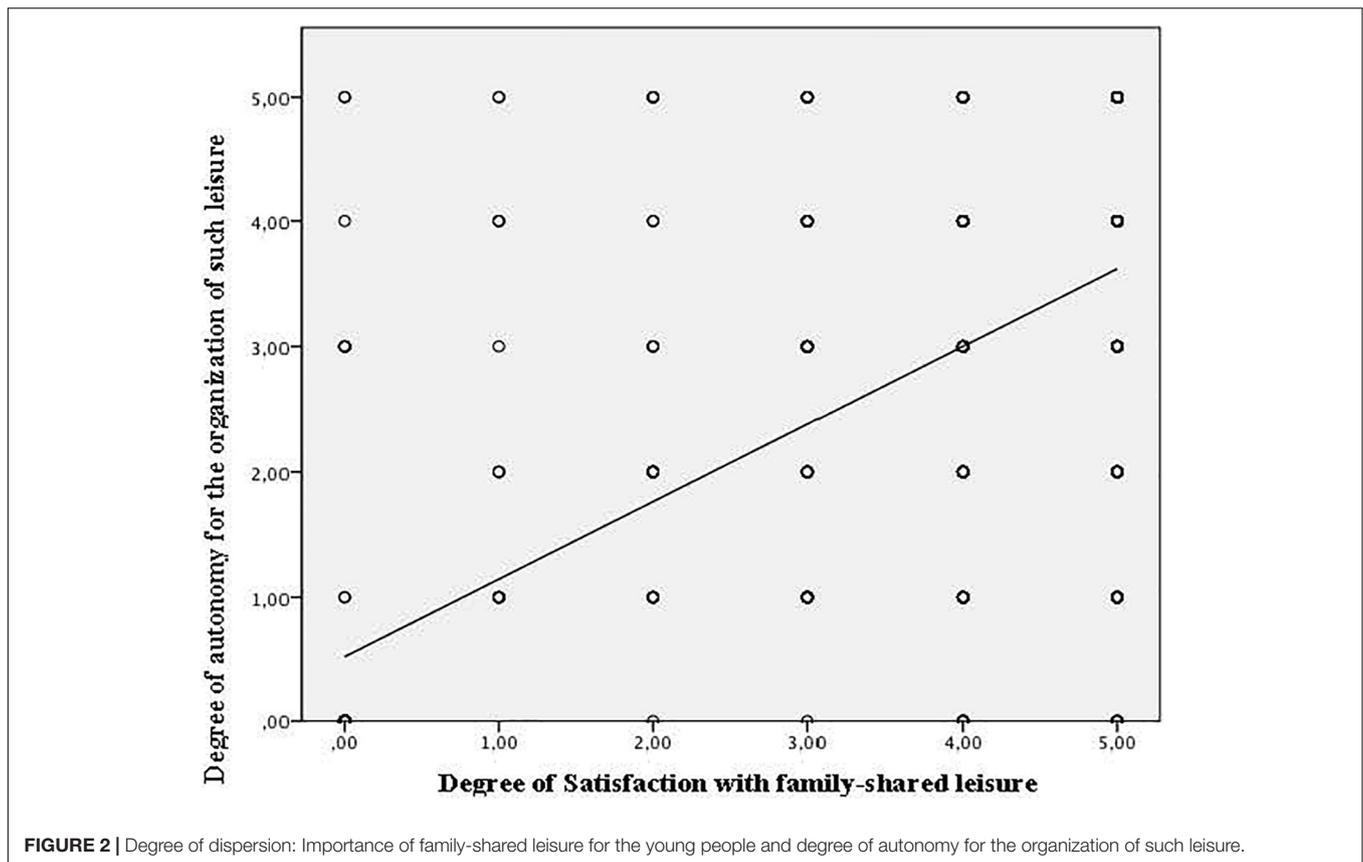
	Levenes test for variance equality		T-test for equal means			<i>M ± SD</i>
	<i>F</i>	<i>p</i> ¹	<i>T</i>	<i>Df</i>	<i>p</i>	
I would enjoy the activity more if I engaged more actively in its organization	87.408	0.352	-11.57	1,762	0.000	Family leisure (FL) = 3.00 ± 1.77 Non-family leisure (NFL) = 2.16 ± 1.30

¹Levenes test: *p* > 0.05 in all cases, so the equality of the variances is assumed.



order to describe the students responsibility and autonomy in the organization of their leisure, as well as the satisfaction and importance they attach to these activities, and the amount of young people who share leisure with their family. The students were classified as sharing leisure with their family (FL) or not sharing their leisure with their family (NFL). After this descriptive analysis, we performed a second bivariate inferential level to determine possible significant differences in responsibility

and autonomy in the organization of leisure activities and the satisfaction and importance granted to them as a function of whether or not they are practiced with family members. This was performed with Students *T*-test for independent samples. Finally, through correlational analysis, we determined a possible linear relationship between students responsibility for the management of family-shared leisure activities and the satisfaction they feel and the importance they attach to these



activities. The level of significance established for this study was $p < 0.05$.

RESULTS

Post-compulsory high school students considered that they assume little responsibility for the organization of their leisure activities ($M = 2.26 \pm 1.61$) and they did not believe that if they engaged more actively in this issue, they would enjoy the activities more ($M = 1.40 \pm 1.24$). In general, they did not carry out their leisure in self-organized spaces ($M = 1.85 \pm 1.52$), they were somewhat satisfied with their main activities ($M = 2.94 \pm 1.73$), but they did not consider them to be very important ($M = 2.55 \pm 1.59$).

On the other hand, 46.5% of the students in post-compulsory secondary education reported sharing some leisure activity with their families. In this sense, 31.1% practiced one leisure activity with their family, compared with 11.2% who indicated two family leisure activities and 4.3% who claimed they practiced more than three activities with their family.

Bivariate relational analysis showed that post-compulsory high school students take on more autonomy for organizing their leisure activities when they are shared with the family ($M_{FL} = 2.67 \pm 0.910$ vs. $M_{NFL} = 1.90 \pm 1.297$) (Table 1).

In the same vein, when these young people practice family leisure activity, they are more likely to consider that their

autonomy in the organization of the activity provides more enjoyment ($M_{FL} = 1.68 \pm 1.41$ vs. $M_{NFL} = 1.16 \pm 1.00$) (Table 2).

Family-shared leisure is practiced significantly more in spaces organized by post-compulsory high school students than those activities that are not shared with the family members ($M_{FL} = 2.25 \pm 1.74$ vs. $M_{NFL} = 1.49 \pm 1.20$) (Table 3).

There is a significant difference in the degree of satisfaction with leisure activities depending on whether or not they are shared with family members. Students are more satisfied with family-shared leisure activities ($M_{FL} = 1.68 \pm 1.41$ vs. $M_{NFL} = 1.16 \pm 1.00$) (Table 4).

Post-compulsory high school students perceived that their family activities are significantly more important to them than those leisure experiences that they do not share with family members ($M_{FL} = 3.00 \pm 1.77$ vs. $M_{NFL} = 2.16 \pm 1.30$) (Table 5).

The Pearson correlation analysis yielded positive linear relationships between satisfaction with family-shared leisure activities and autonomy for the organization of the activity ($r = 0.631$, $p = 0.000$), participation in the organization of spaces ($r = 0.538$, $p = 0.000$), the belief that participating more in the organization of the activity would provide greater enjoyment ($r = 0.407$, $p = 0.000$), and the importance that this family activity has in their lives ($r = 0.707$, $p = 0.000$) (Figure 1).

The Pearson correlation analysis also yielded positive linear relationships between the importance of this family activity for the young people and the autonomy for organizing the activity ($r = 0.538$, $p = 0.000$), responsibility in the organization of the

spaces ($r = 0.474, p = 0.000$), and the belief that participating more actively in the organization of the activity would provide greater enjoyment ($r = 0.415, p = 0.000$) (Figure 2).

DISCUSSION

The findings of this study verify the low levels of self-management in young peoples leisure; that is, there are few activities in which youth engages socially in the participation and decision making of the planning and the development of the activities. This is in line with the work of Rodríguez et al. (2018), who corroborated the scarce interest shown by youth in the organization of leisure activities.

Although previous studies (Doistua et al., 2016) ensure that self-managed leisure activities provide greater motivation and leads to more authentic experiences that facilitate experimentation, our research found that young people perceive that taking on more autonomy for the organization of their leisure does not increase their satisfaction. This is in line with the results of the study of Rodríguez et al. (2018), who also stated that the degree of satisfaction does not increase when students assume the responsibility for organizing and managing their leisure practices.

Regarding the family sphere, this study shows that young people do share leisure activities with their families, which is consistent with previous research (Ponce de León et al., 2015; Sanz et al., 2018) that verifies the desire to practice this type of leisure, but it disagrees with other authors (Berntsson and Ringsberg, 2014) who state that few young people acknowledge that they share their leisure experiences with direct relatives. This reveals a lack of agreement in the scientific literature on this issue.

Despite finding low levels in the self-organization of youth leisure, leading to lower commitment to its development and to poor management of the spaces in which leisure activities are practiced, our results nonetheless support an increase in the rating of responsibility and spatial organization when these leisure experiences are shared with the family. We also highlight the presence of a positive relationship between young peoples self-management of leisure and their personal satisfaction when these activities are practiced in the family. To this conclusion is added the fact that these family-shared leisure experiences are felt to be more important than those that are not shared. Although previous studies (Kleiber et al., 2017) show that leisure activities organized and practiced with the peer group achieve higher levels of well-being in young people, there are no conclusive results linking personal satisfaction to family-shared leisure activity. This is a limitation of this investigation, and we recommend continuing this line of study in the future.

Finally, it is confirmed that the family is a privileged area for the construction of the children's leisure (Valdemoros et al., 2014) and that family-shared leisure provides benefits for family functioning (Agate et al., 2009; Maynard and Harding, 2010; Craig and Mullan, 2012; Veenstra and Patterson, 2012; Grosso et al., 2013; Offer, 2013, 2014; Pinxten and Lievens, 2014;

Sanz et al., 2018). The numerous benefits derived from leisure experiences when self-managed by young people are also shown (Ortega et al., 2015; Doistua and Ried, 2016; Doistua et al., 2016; Lazcano and Caballo, 2016). This research has revealed an increase in well-being when such practices take place within the family nucleus and the school, and the youngsters assume responsibility for their management and organization. This justifies the need to promote from an early age actions that offer opportunities to plan and develop family leisure experiences, involving the youngest children in simple decisions about the form of the activity and the preparation of the material required to practice it, and to consider infancy as a favorable period to lay the groundwork for the acquisition of behaviors and competences to participate in leisure practices.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité de Ética de la Universidad de La Rioja. Written informed consent to participate in this study was provided by the participants legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

All authors have contributed equally to each and every part of this manuscript, equally involved in the bibliographic search and review, as well as in the reflective debate and drafting of the theoretical bases, involved in the methodological design and statistical data analysis, in charge of data collection in the different Spanish autonomous communities, and participated in the interpretation and drafting of the results, as well as in the discussion and conclusions of the study carried out, through their shared dialogue.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Shields for Emotional Well-Being in Chinese Adolescents Who Switch Schools: The Role of Teacher Autonomy Support and Grit

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Although prior research has demonstrated that switching schools poses a risk for academic and behavioral functioning among adolescents, relatively little is known about their emotional adjustment, or how it affects emotional well-being. Moreover, the cumulative effects of multiple risk and protective factors on their emotional well-being are even less covered in the existing literature. Guided by a risk and resilience ecological framework, the current study compared emotional well-being, operationalized as positive affect and negative affect, between Chinese adolescents who had switched schools and their non-switch counterparts, and examined the direct and interactive effects of teacher autonomy support and two facets of grit (i.e., perseverance and consistency) on emotional well-being in both groups. A propensity score matching analysis was used to balance the two groups in terms of sociodemographic characteristics (i.e., age, gender, and socioeconomic status). A total of 371 adolescents who had switched schools and 742 non-switch counterparts aged from 13 to 18 years were involved in this study. Results indicated that adolescents who had switched schools reported higher levels of negative affect than their non-switch counterparts. Moreover, for adolescents who had switched schools, those who possessed higher levels of perseverance had a significantly negative association between teacher autonomy support and negative affect; however, the corresponding association was independent of perseverance for their non-switch counterparts. The current findings indicate that switching schools is a disadvantage for adolescents' emotional states. However, teacher autonomy support and perseverance can protect adolescents who switch schools as critical stress-buffering factors against these negative feelings.

Keywords: emotional well-being, teacher autonomy support, grit, school switching, Chinese adolescents

INTRODUCTION

Educators and researchers have long voiced concern about the effects of switching schools on adolescents' adjustment and achievement (for a review, see Welsh, 2017), and accordingly, the consequences of switching schools have been the focus of separate lines of research. Based on these findings, the majority of research has indicated that switching schools is associated with substantial

academic and behavioral difficulties, such as low academic grades, high rates of dropping out, and behavior dysregulation (e.g., Mehana and Reynolds, 2004; Gasper et al., 2012), because switching schools requires adolescents to adjust to a new learning environment and to reconstruct peer networks and teacher-student relationships (Rumberger et al., 1999). Despite such research efforts in the last decades, gaps in knowledge remain. First and foremost, understanding of the outcomes beyond academic and behavioral variables, such as emotional well-being, appears relatively lacking, and this gap is particularly glaring during adolescence because this period of life is accompanied by psychological, physical, and social transformations, which causes adolescents to experience more frequent and intense emotions than children and adults (Larson and Lampman-Petratis, 1989; Radloff, 1991). Second, some findings have argued that switching schools is not always harmful (Welsh, 2017). For example, switching to a higher quality school that provides better educational resources may offset and outweigh negative effects on adjustment in adolescence (Welsh, 2017). Although several attempts have been made to explain this paradox, studies on the cumulative effects of multiple risk and protective factors on their adjustment are still sparse (e.g., Bailey and Baines, 2012). Given that switching schools is an ecological transition encompassing some changes embedded in a person-environment interaction, the addition of literature exploring multiple risk and protective factors on emotional well-being is assumed to be potentially valuable for adolescents who had switched schools.

To fill these gaps, we used an integrative framework that combines an ecological perspective (Bronfenbrenner, 1979) with a risk and resilience perspective (Fergus and Zimmerman, 2005) to investigate possible risk and protective factors for adolescents' emotional well-being. Following this approach, adolescents are embedded within layers of environmental systems, and development unfolds through the dynamic interactions between the individual and multiple contexts: the contextual level (e.g., teacher autonomy support) and the individual level (e.g., grit). As this framework demonstrates, the contextual or individual factor may serve as both an asset factor (showing a positive main effect) and a protective factor (by moderating the effect of a contextual or individual risk factor). Instead of examining asset or protective factors individually, it may be more informative to investigate how multiple factors (across domains or contexts) jointly or interactively shape adolescents' developmental outcomes (Zhou et al., 2012). This approach has been successfully applied to identify the cumulative risk and protective factors for emotional adjustment (Lan et al., 2019c). Moreover, given the gaps in the existing literature, it is imperative and imminent that much attention may be paid to some contexts with high rates of switching schools, such as China.

With the rapid development of its economy in the last decades, China has witnessed a significantly increased rate of switching schools among adolescents. That is mainly due to the following situations. First, parents initiate switching of schools to let their school-aged children achieve a better educational fit and find a better school or community situation (Wu, 2013; Dong and Li, 2019); in this context, parents often mobilize their cultural, social, and economic capitals to guarantee that

their children can attend key state schools in China (Wu, 2013). Second, unplanned moves are made in reaction to some situation in the family or school. For example, to achieve a better life standard and job opportunities, adolescents are forced to switch schools because of their parents' residential or workplace mobility. Nevertheless, switching schools, in the context of Chinese culture, may be harmful to adolescents' adjustment. For instance, social harmony and positive personal interactions are emphasized (Bond, 1996), and the disruption to social networks due to switching schools may pose a risk for adolescents' emotional adjustment. Moreover, a successful adjustment at school in China is highly emphasized due to the longstanding fact that adjustment reflects on family dignity (Lan et al., 2019b). Over the past decades, although there has been a proliferation of policies in China to facilitate educational equity, little empirical attention has been paid to further understand adolescents' emotional well-being after switching schools. Given the high rates of switching schools in China and potentially unfavorable outcomes adolescents may encounter, the current study seems relatively valuable in terms of providing insight into education policy and designing intervention or prevention programs that can mitigate the negative impacts of switching schools on adolescents' emotional adjustment.

To briefly summarize, the current study aimed to compare emotional well-being of Chinese adolescents who had switched schools to their non-switch counterparts. Given the potential vulnerability of adolescents, we also aimed to explore the direct and interactive effects of teacher autonomy support and grit on facilitating emotional well-being, and these associations were expected to be more pronounced in adolescents who had switched schools. This is because a protective factor is more salient in the context of vulnerability (Fergus and Zimmerman, 2005; Lan et al., 2019c). The following sections provide a literature review to summarize the potential associations of teacher autonomy support and grit with emotional well-being.

Teacher Autonomy Support and Emotional Well-Being

In the current study, we focused on emotional well-being, indexed by positive affect and negative affect. This was done to echo the paradox of switching schools in adolescence, because prior research has suggested both positive and negative outcomes as a result of switching schools. Moreover, previous studies indicate that positive affect and negative affect are independent components in terms of how much individuals feel in their lives over longer time periods (Diener and Emmons, 1984; Larsen et al., 2017), and thus both positive and negative outcomes allowed us to comprehensively capture adolescents' emotional adjustment.

Adolescence is a time of many developmental and life changes, such as increases in autonomy-seeking. According to self-determination theory (SDT; Ryan and Deci, 2000), individuals naturally tend to self-organize their own actions, and the sense of choice that characterizes autonomy is a necessary aspect of well-being. As such, autonomy support from significant others appears critical to improving adolescents' emotional well-being,

which is one of the main focuses of the present research. Prior research about the correlates of emotional well-being in Chinese adolescents has shown that perceived social support (e.g., teacher support and classmate support) is positively linked to adolescents' subjective well-being, and teacher support shows a stronger association with well-being than classmate support (Liu et al., 2016; Tian et al., 2016). Indeed, considering the large amount of time that adolescents spend at school and the critical role of teachers during this period, it seems logical that teacher autonomy support would be more influential in facilitating adolescents' emotional well-being than support from classmates. Therefore, from a social-environmental perspective, the current study centered on the role of teacher autonomy support on emotional well-being.

Teacher autonomy support refers to the teachers in the classrooms providing a meaningful rationale, acknowledging negative feelings, using non-controlling language, offering meaningful choices, and nurturing internal motivational resources for their students (Núñez and León, 2015). Prior research has documented that when teachers become more supportive of autonomy, their students show wide-ranging gains in adaptive functioning, including well-being (Vansteenkiste et al., 2012; Cheon et al., 2018). This is mainly because the autonomy-supportive motivating style in the classroom catalyzes engagement-fostering motivations, which in turn facilitate students' adaptive functioning. In the context of Chinese culture, a burgeoning body of research has also highlighted the positive role of teacher autonomy support on Chinese adolescents' optimal functioning (e.g., Yu et al., 2016; Wang et al., 2017). Particularly, Yu et al. (2016) have uncovered that teacher autonomy support can significantly reduce anxiety and depression in Chinese adolescents, suggesting that teacher autonomy support may be critical in facilitating well-being in Chinese adolescents. On the basis of theoretical perspective and empirical findings, we assume that teacher autonomy support is positively associated with positive affect, and negatively associated with negative affect in Chinese adolescents.

Grit

From an individual characteristic perspective, the variable selection was informed by self-regulatory theory (Carver and Scheier, 2004; de Ridder and de Wit, 2006). Within this theory, self-regulatory traits refer to efforts by humans to alter their thoughts, feelings, desires, and actions in the pursuit of goals. Central to Carver and Scheier's approach, goals orientation has the potential to induce positive affect and negative affect. According to this approach, we propose that grit as a self-regulatory trait may fulfill our research purpose.

Grit involves perseverance and passion for long-term goals in the face of challenging circumstances (Duckworth et al., 2007). To date, most of the literature related to grit has found that grit is negatively associated with negative emotional states, such as depression (e.g., Datu et al., 2018a), and positively associated with academic performance (e.g., Datu et al., 2018b). In separate lines of research, grit is found to be moderately associated with other self-regulatory traits, such as conscientiousness and self-control (e.g., Ivcevic and Brackett, 2014). However, we assume

that grit is more appropriate to fulfill our research objectives than other self-regulatory traits, due to the following empirical and cultural considerations. First, aligned with self-regulation theory (de Ridder and de Wit, 2006), adaptive competencies draw on longer volitional processes of goal striving, whereas conscientiousness and self-control refer to short-term goal orientations (Duckworth and Gross, 2014). Second, given the potential vulnerability of the students who switch schools, an emerging body of research highlights the protective role of grit in adolescents' socioemotional adjustment, especially under an unfavorable condition. For example, Lan and Moscardino (2019) found that in the context of negative teacher-student relationships, high levels of grit can buffer student well-being in Chinese adolescents. Third, Chinese society emphasizes the protective roles of diligence and perseverance when individuals encounter adversities and challenges (Lan et al., 2019a). On the basis of the literature reviewed above, we assume that grit is positively associated with positive affect, and negatively associated with negative affect.

Furthermore, grit consists of two facets (Duckworth et al., 2007): perseverance of effort (hereafter, "perseverance") and consistency of interests (hereafter, "consistency"). The former describes the extent to which individuals can endure setbacks and difficulties while sustaining personal effort, whereas the latter refers to the degree to which individuals continuously concentrate on achieving their long-term aspirations (Duckworth et al., 2007; Datu et al., 2016b). However, a recent meta-analysis has questioned the construct validity of grit (Credé et al., 2017), demonstrating that the utility of grit mainly depends on perseverance but not consistency. Meanwhile, Datu et al. (2016a) found that perseverance fits into a collective cultural context well, but consistency does not. Additionally, research examining the roles of perseverance and consistency suggests that these two facets play different roles in emotional states. For example, Datu and Fong (2018) found that Chinese primary school students with high perseverance and low consistency show high positive activating emotions (e.g., hope) and reduced levels of negative activating emotional states (e.g., anxiety and shame). Likewise, Disabato et al. (2019) demonstrated that perseverance is moderately associated with subjective well-being and personality strengths, whereas consistency is weakly and negatively related to these outcomes. Given the differential roles of perseverance and consistency, we distinguish two facets of grit when examining the association of grit with emotional well-being.

The Present Study

To sum up, the current study had two main goals: (a) to compare emotional well-being in adolescents who switch schools and their non-switch counterparts, and (b) to examine the direct and interactive effects of teacher autonomy support and the two facets of grit on emotional well-being in both groups. Moreover, previous research has shown that sociodemographic characteristics are potentially related to our dependent variables in Chinese adolescents. For example, females show higher levels of well-being than males (Chen et al., 2016); older aged adolescents report lower levels of well-being than younger adolescents (Liu et al., 2016); and SES (socioeconomic status)

is positively associated with well-being (Ni et al., 2016). Taken together, this study regarded age, gender, and SES as potential covariates. Specifically, we tested the following hypotheses (H):

- (H1) After controlling for sociodemographic characteristics, adolescents who switch schools report higher levels of negative affect and lower levels of positive affect than their non-switch counterparts.
- (H2) After controlling for sociodemographic characteristics, teacher autonomy support and the two facets of grit are positively associated with positive affect and negatively related to negative affect.
- (H3) After controlling for sociodemographic characteristics, adolescents reporting higher levels of teacher autonomy support, perseverance, and/or consistency score higher on positive affect and lower on negative affect than adolescents reporting lower levels of perseverance and/or consistency (i.e., two-way interaction; H3a), and these associations are stronger for adolescents who switch schools (i.e., three-way interaction; H3b).

A graphical representation of our hypothesized model is depicted in **Figure 1**.

MATERIALS AND METHODS

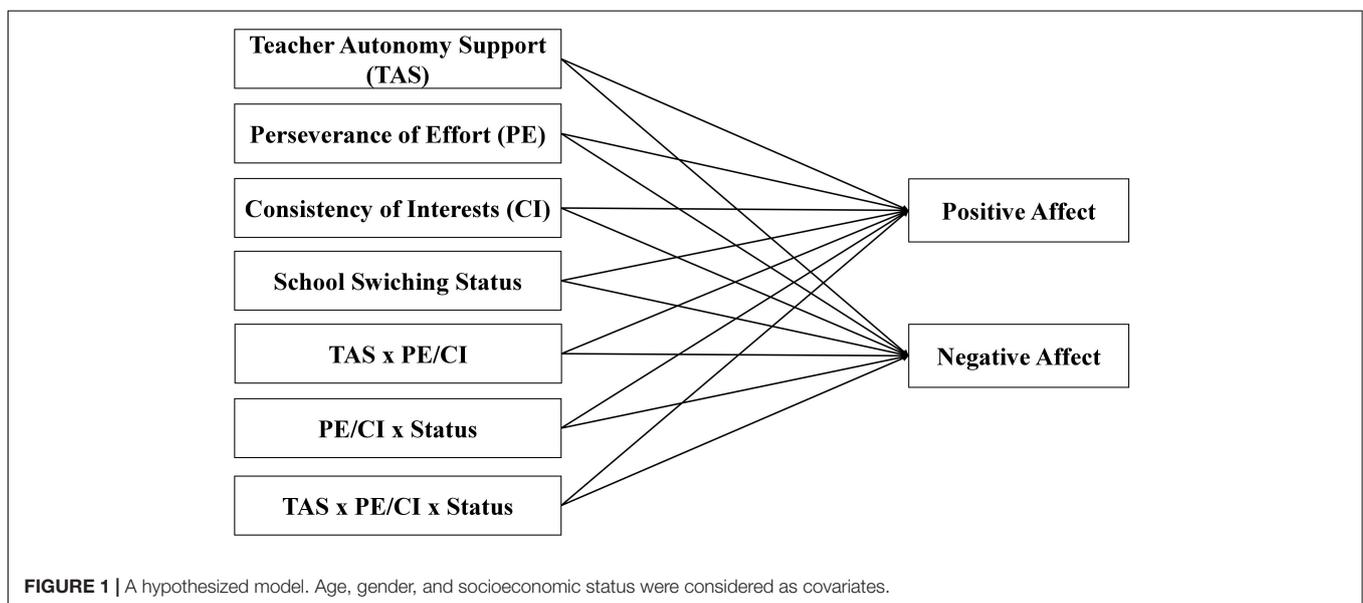
Participants

The current study was based on a project entitled “Socioecological Correlates of Psychosocial and Academic Functioning in Chinese Adolescents.” We recruited participants from four grades (7th, 8th, 10th, and 11th) within 10 public middle and high schools located in different regions of north mainland China (i.e., Harbin, Lanzhou, and Beijing) through personal networks. We did not include 9th and 12th graders,

because they may encounter high pressure for entrance examination during the last year of middle and high schools. Finally, approximately 2,700 students in those schools agreed to participate, and 13.7% ($n = 371$) adolescents who had switched schools were identified through an archival review of school records. To obtain a comparable sample with similar characteristics (i.e., gender, age, and SES), we conducted a propensity score matching analysis, as suggested by pertinent research about adolescents who switch schools (Gasper et al., 2012). Although Gasper et al. suggested a ratio of one-to-one is assumed to be sufficient, we adopted a ratio of one-to-two in order to ensure enough statistical power, given the sample size of adolescents who had switched schools in the present research. The same ratio can be found in prior research (e.g., Lan et al., 2019a). Participants in this study comprised 371 adolescents who switched schools (60.1% girls) and 742 or their non-switch (60.1% girls) counterparts, aged 13–18 years ($M_{age} = 15.87$; $SD = 1.52$). As for adolescents who had switched schools, most of their fathers (54.7%) had completed high school education, and the majority of their mothers (30.5%) had finished middle school education. For their non-switch counterparts, most of their fathers (56.3%) and most of their mothers (56.1%) had completed high school education.

Procedure

Prior to data collection, ethical approval for this study was granted by the principal investigator of the university and collaborative schools. Through personal networks, the authors and research assistants contacted the public primary and secondary schools located in different regions of north mainland China. Those regions were the northeast (i.e., Harbin, Heilongjiang Province), northwest (i.e., Lanzhou, Gansu Province), and north (i.e., Beijing) of mainland China. These schools are all located in urban areas, and only adolescents with urban household registrations are entitled to attend. After



obtaining permission from school principals, a project brochure and an informed consent form were sent to the head teacher in each classroom. Suggested by prior research (Wang et al., 2019), the head teachers were asked to send a message to inform parents about the purpose and voluntary nature of the survey in the Parents WeChat Group. Only on the condition that all parents approved would the children be allowed to participate in the current project. In the meantime, a verbal agreement was obtained from each adolescent. In total, participation rate was approximately 95%, which is in accordance with prior research of Chinese adolescents (e.g., Lan et al., 2019a). Eligibility criteria in the present research were as follows: (a) the adolescents were between 13 and 18 years old; (b) those who had transferred to another school at least once during primary and secondary school, either within one city or between two cities in mainland China (for adolescents who had switched schools only); and (c) the type of school switching was limited to non-structural mobility, defined as unplanned moves made in reaction to some situation in the family or school, or purposeful and planned moves made to achieve a better educational fit and to find a better school or community situation (for adolescents who had switched schools only; Welsh, 2017). This was done to differentiate from structural mobility, which refers to the scheduled transition from primary to middle school or from middle to high school that is dependent on the structural change inherent in the education system. During school hours, a trained research assistant provided standardized instructions (i.e., confidentiality and anonymity of participation, right to withdraw and debrief), and participants were asked to complete the questionnaires during a regular class hour.

Measures

Sociodemographic characteristics were provided by several self-report questions, such as age, gender, parental education level and occupation, and monthly family income. SES was measured by parental education level and occupation, and family income per month. In terms of parental education, four options were provided: (a) middle school graduation or less, (b) high school graduation, (c) bachelor's degree graduation, and (d) master's degree graduation or higher. Moreover, seven choices were available for parental occupation and monthly family income based on Chinese occupational classifications and income criteria. Overall, the three scores were standardized and summarized to yield an SES score, with higher values indicating higher SES (Lan and Moscardino, 2019).

The histories of switching schools were collected through an archival review of school records. To double-check the accuracy of this information, adolescents were also asked to report their experiences of switching schools in terms of the overall number of schools they attended during their primary and secondary school years.

Teacher autonomy support was assessed using a subscale of the Learning Climate Questionnaire (LCQ; Black and Deci, 2000). This subscale consists of nine items. One of the examples is "I feel that my teacher provides me choices and options." Participants were asked to assess each item on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

The mean score was yielded to represent the score of teacher autonomy support, with higher values indicating higher levels of perception of autonomy support from teachers. Previous research has demonstrated good internal consistency for this scale in Chinese adolescents (e.g., Vansteenkiste et al., 2012). In the present study, this scale showed good reliability and validity [Cronbach's alpha was 0.92 for both groups; $\chi^2(27) = 222$, $p < 0.001$; the non-normed fit index (NNFI) = 0.95; the comparative fit index (CFI) = 0.96; the root mean square error of approximation (RMSEA) = 0.08].

Grit was measured by the 8-item Grit Scale (Duckworth and Quinn, 2009). This scale was validated in Chinese adolescents by Li et al. (2018b), showing good validity and reliability. This scale contains two dimensions: perseverance (four items; e.g., "Setbacks do not discourage me") and consistency (four items; e.g., "New ideas and projects sometimes distract me from previous ones"). Participants were asked to rate each item from 1 (*not like me at all*) to 5 (*very much like me*) on a Likert scale. The average score of the corresponding items was calculated separately to yield the score of perseverance and consistency, with a higher value indicating higher levels of perseverance and consistency. In the current study, Cronbach's alphas for perseverance were 0.81 and 0.79 for adolescents who switch schools and their counterparts, respectively. In terms of consistency, Cronbach's alpha was 0.80 for both groups. Moreover, as prior research has raised issues about the psychometric validity of the Grit Scale, especially in non-Western contexts (e.g., Datu et al., 2016a), confirmatory factor analysis was used to ensure the construct validity of grit in the current study. Results showed an acceptable model fit: $\chi^2(19) = 161$, $p < 0.001$; NNFI = 0.93; CFI = 0.95; RMSEA = 0.08.

Positive and negative affect were measured by the 14-item Affect Balance Scale (ABS; Bradburn, 1969). ABS has been used to assess Chinese adolescents by Yang et al. (2017), showing adequate properties. This scale consists of two dimensions: positive affect (eight items; e.g., "I feel particularly excited or interested in something") and negative affect (six items; e.g., "I feel so restless that I could not sit long in a chair"). Participants were asked to rate each item from 1 (*never*) to 4 (*always*), based on their frequency of experiencing the given feeling. The average scores for positive affect and negative affect were calculated separately, with higher values indicating higher levels of positive affect and negative affect. A previous study has reported good internal consistency of this scale (Yang et al., 2017). In the present study, Cronbach's alphas were 0.84 and 0.83 for positive affect in adolescents who switch schools and their counterparts, respectively. For negative affect, coefficients were 0.77 and 0.79, respectively. Moreover, results of confirmatory factor analysis showed an acceptable model fit of the ABS in the current study: $\chi^2(76) = 549$, $p < 0.001$; NNFI = 0.89; CFI = 0.90; RMSEA = 0.07.

Data Analyses

Data analyses were performed using SPSS 21.0 (IBM Corp, 2012) and R software (R Core Team, 2017). Twenty cases were excluded because we did not obtain the information regarding their experiences of switching schools. In addition, eight cases were omitted due to high rates of missing data (more than 20%).

This procedure was done before we conducted a propensity score matching analysis. To investigate the impact of missing data (less than 20%), we performed a Little's Missing Completely at Random (MCAR) test. Results supported the MCAR assumption, $\chi^2(105) = 101.83, p = 0.57$. Therefore, full-information maximum likelihood estimates were employed to impute missing data.

Moreover, suggested by prior research (Wang et al., 2019), we conducted Harman's single-factor test to evaluate the potential common method bias in the current study. This was done because this study heavily relied on self-reported measurement, which may potentially be affected by response bias. As such, all items in this study were loaded into an exploratory factor analysis and the results indicated the presence of five factors with initial eigenvalues greater than 1.00. The first factor accounted for 23.43% of the variance, suggesting that the influence of common method variance was relatively small (Podsakoff et al., 2003).

Regarding our research purposes, descriptive information for the sample was summarized using means and standard deviations for continuous variables. Pearson's correlations were used to evaluate associations among the study variables. To examine group differences in the two outcome variables, Multivariate Analysis of Covariance (MANCOVA) was used. Moreover, we used path analyses for observed variables to evaluate the direct and interactive contributions of teacher autonomy support and two facets of grit to positive affect and negative affect in Chinese adolescents. Our hypothesized model was tested using the R package lavaan (Rosseel, 2012; R Core Team, 2017). To evaluate the goodness of fit of the model, several indices were taken into consideration: χ^2 , NNFI, CFI, and RMSEA (Schermelleh-Engel et al., 2003). For these indices, values of NNFI and CFI higher than 0.95 and 0.97, respectively, and values of RMSEA lower than 0.05 can be considered a good fit. Path coefficients from teacher autonomy support to positive affect and negative affect were estimated using the maximum likelihood method, with a single observed score (i.e., centered mean score) for each variable. To test for moderation, products between centered variables were computed and included in the model as interaction terms (Lan and Radin, 2019).

RESULTS

Descriptive Statistics

Means and standard deviations for study variables and bivariate correlations are reported in **Table 1**, separately for adolescents who had switched schools and their non-switch counterparts.

As shown in **Table 1**, the results indicated that teacher autonomy support and two facets of grit were each significantly and positively associated with positive affect, and negatively related to negative affect in both groups.

Multivariate analysis of covariance—after controlling for age, gender, and SES—indicated that adolescents who had switched schools reported higher levels of negative affect, $F(1, 1108) = 6.45, p = 0.01$, partial $\eta^2 = 0.01$, in comparison to their non-switch counterparts, but there was no significant difference in positive affect, $F(1, 1108) = 0.85, p = 0.36$, between adolescents who switched schools and their non-switch counterparts.

Path Analyses

First, the baseline model was tested (see **Figure 1**), and inspection of path coefficients showed many non-significant links between interaction terms and outcome variables. For the sake of parsimony, these links were removed step by step based on p -value, and the model was re-evaluated. The final model, presented in **Figure 2**, fit the data well [$\chi^2(5) = 3.12, p = 0.68$; NNFI = 0.99; CFI = 0.99; RMSEA < 0.01]. The R^2 for the endogenous variables indicated that the model accounted for 16.2% of the variance in positive affect and 12.1% of the variance in negative affect.

As shown in **Figure 2**, teacher autonomy support and perseverance were each significantly and positively associated with positive affect. Moreover, teacher autonomy support, perseverance, consistency, and switching school status were significantly and negatively related to negative affect. Furthermore, the interaction term among teacher autonomy support, perseverance, and switching school status was positively associated with negative affect.

Moreover, simple slope analysis showed that for adolescents who had switched schools, the association between teacher autonomy support and negative affect was significant at high levels of perseverance ($B = -0.13, SE = 0.05, t = -2.59, p < 0.01$) but not at low levels of perseverance ($B = 0.06, SE = 0.04, t = 1.28, p = 0.20$). However, the association between teacher autonomy support and negative affect was significant at both low levels of perseverance ($B = -0.11, SE = 0.04, t = -2.91, p < 0.001$) and high levels of perseverance ($B = -0.06, SE = 0.04, t = -1.81, p = 0.05$), indicating that this association was independent of perseverance in adolescents who had not switched schools (see **Figure 3**).

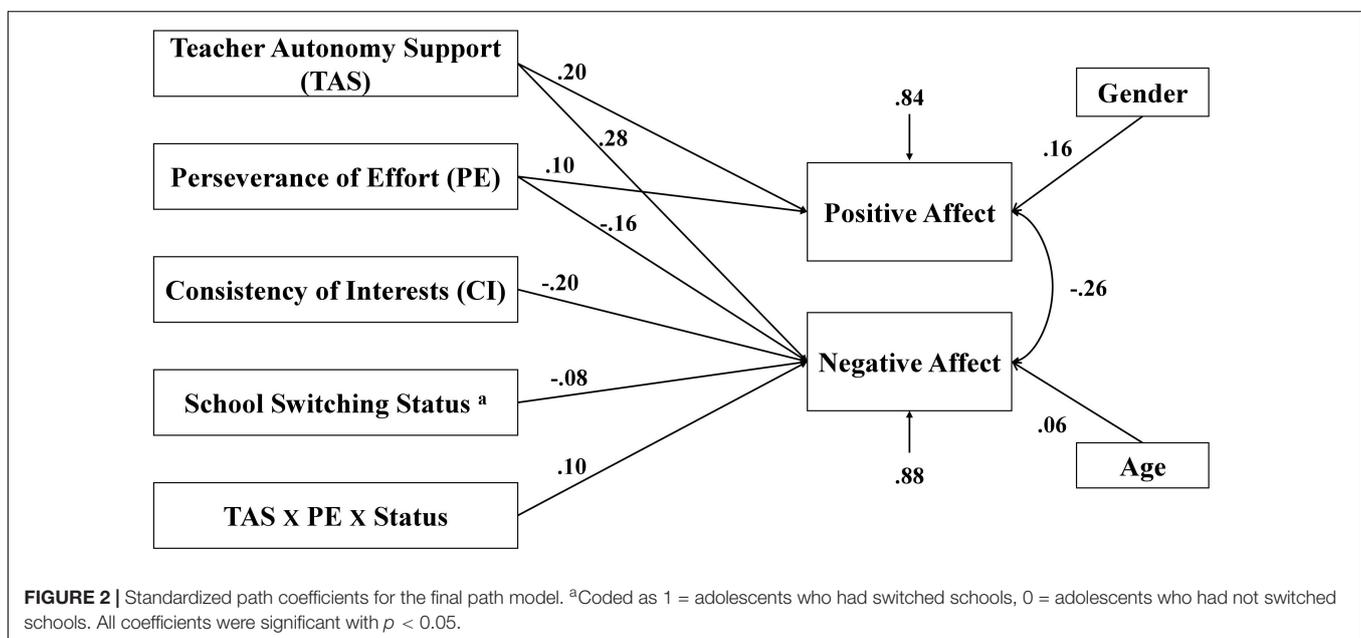
DISCUSSION

The goals of this study were to compare emotional well-being operationalized by positive affect and negative affect in Chinese adolescents who had switched schools and their non-switch counterparts, and to examine the associations of teacher autonomy support and two facets of grit with emotional well-being. Moreover, guided by a risk and resilience ecological framework, the potential two- and three-way interaction effects among teacher autonomy support, grit, and school switching status on emotional well-being were investigated. Although extant research suggests that switching schools is a potential risk factor for adolescent academic and behavioral adjustment, relatively little is known about emotional adjustment, such as emotional well-being; moreover, the cumulative effects of multiple risk and protective factors on emotional well-being is less explored in the existing literature. Our findings showed that adolescents who had switched schools reported higher levels of negative affect than their non-switch counterparts, but there were no significant differences in positive affect between the two groups. Moreover, teacher autonomy support and perseverance were positively correlated with positive affect, and negatively associated with negative affect; consistency was negatively

TABLE 1 | Descriptive statistics and bivariate correlations of study variables for adolescents who had switched schools and their non-switch counterparts.

	Switch (n = 371)			Non-switch (n = 742)			1	2	3	4	5	6	7	8
	M	SD	Range	M	SD	Range								
1. TAS	3.59	0.83	1–5	3.74	0.77	1–5	–	0.27***	0.09*	0.25***	–0.17***	0.06	0.001	–0.001
2. PE	3.53	0.85	1–5	3.64	0.82	1–5	0.30***	–	0.39***	0.32***	–0.27**	–0.11**	–0.13***	0.06
3. CI	2.98	0.93	1–5	3.03	0.88	1–5	0.15**	0.37***	–	0.14***	–0.27***	–0.06	0.05	–0.01
4. PA	3.20	0.51	1–4	3.23	0.49	1–4	0.31***	0.30***	0.14**	–	–0.32***	0.01	0.12***	0.01
5. NA	2.46	0.59	1–4	2.37	0.60	1–4	–0.10	–0.22***	–0.27***	–0.29***	–	0.10**	0.08*	–0.08*
6. Age	15.86	1.51	13–18	15.88	1.52	13–18	–0.08	–0.14**	–0.03	–0.11*	0.05	–	–0.01	0.10**
7. Gender ^a	–	–	1–2	–	–	1–2	0.001	–0.09	–0.01	0.12*	0.01	0.02	–	–0.05
8. SES	0.12	3.61	–8.12–10.70	–0.10	3.63	–9.09–11.48	–0.06	0.13*	–0.02	–0.04	0.03	0.05	–0.07	–

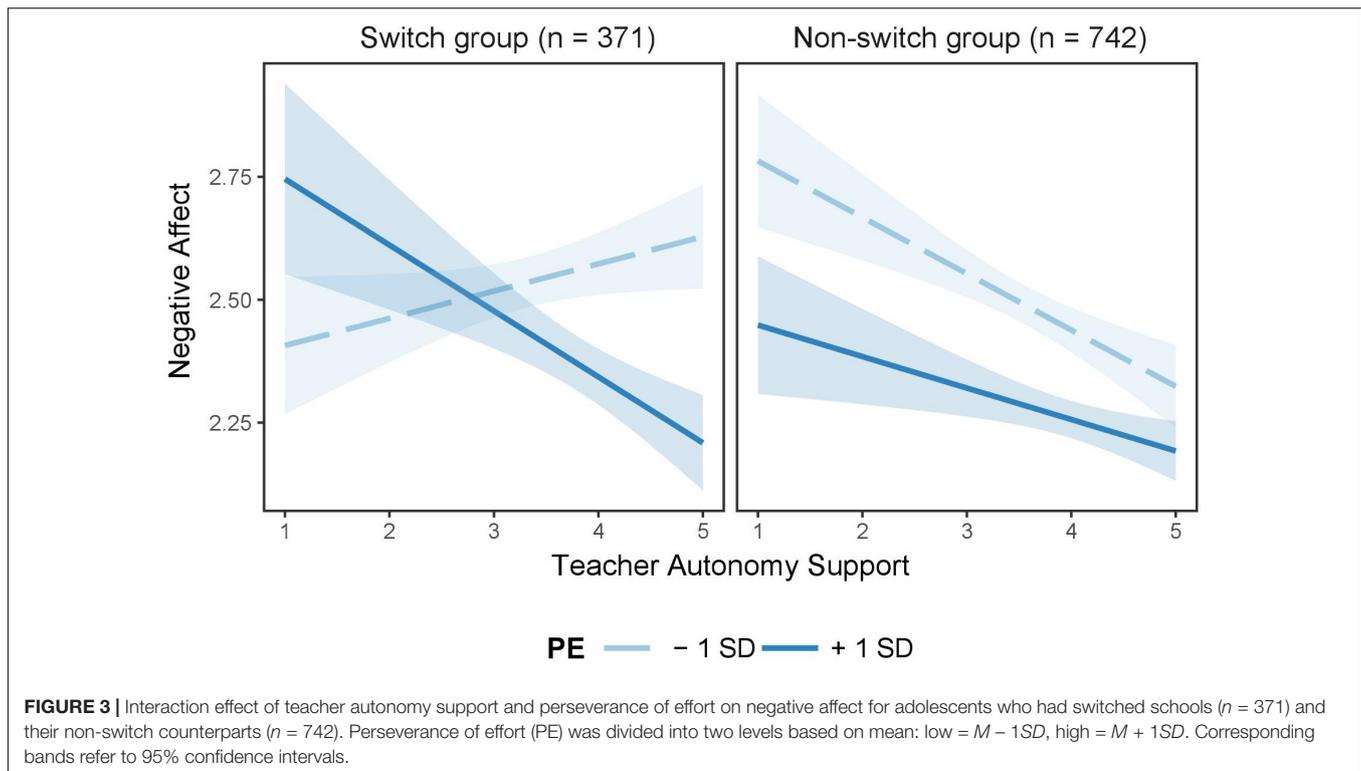
Correlation coefficients displayed above the diagonal are for adolescents who had not switched schools, below for adolescents who had switched schools. TAS = teacher autonomy support, PE = perseverance of effort, CI = consistency of interests, PA = positive affect, NA = negative affect, and SES = socioeconomic status. ^aCoded as 1 = male, 2 = female. * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.



associated with negative affect. Additionally, in the context of higher levels of teacher autonomy support, higher levels of perseverance can mitigate negative affect for adolescents who switch schools.

The first goal of this study was to compare positive affect and negative affect in both groups. In line with the first hypothesis, adolescents who had switched schools reported higher levels of negative affect than their counterparts. This finding is in accordance with previous research, confirming that adolescents who switch schools experience higher levels of emotional disturbance (Malmgren and Gagnon, 2005). Non-structural school switching is complex and driven by a confluence of social and economic factors, resulting in a discontinuity in early learning environments. This is against the assertion highlighting the importance of regularity and stability in early learning environments (Bronfenbrenner, 1979). Indeed, non-structural school switching often puts adolescents in a “minority” status in the classroom. They have to adjust to a

new environment as well as reconstruct social relationships and peer group interactions. Moreover, Chinese culture attaches special importance to interdependence and social networks (Bond, 1996); as such, difficulties caused by the adjustment to a new context may bring a heightened negative effect on adolescents’ emotional well-being. However, contrary to the first hypothesis, there were no significant differences in terms of positive affect between the two groups. One possible explanation is the homogeneity of the two groups in this study. For instance, as documented by prior research (Ni et al., 2016), SES is positively related to positive affect. As such, the similar SES background across the two groups may minimize the difference in positive affect. Another possible interpretation is ascribed to the traditional Chinese cultural emphasis on emotional control and moderation (Soto et al., 2005), particularly in terms of positive feelings. These factors may help explain why adolescents from the two groups did not show a significant difference in positive affect.



The second aim of this study was to explore the associations of teacher autonomy support and two facets of grit with emotional well-being in Chinese adolescents. Aligned with the second hypothesis, the findings showed that teacher autonomy support was positively correlated with positive affect, and negatively associated with negative affect. One possible explanation is attributable to the role of teachers in Chinese society. Given the majority of time school-aged adolescents spend at school, teachers are often regarded as the main influential or guiding role in youth emotional adjustment (Ho et al., 2001; Li et al., 2018a). As such, teachers who offer an autonomy-supportive motivating style in the classroom can elevate engagement-fostering motivations, which in turn facilitate positive feelings and minimize negative feelings of adolescents (e.g., Cheon et al., 2018). Another possible explanation is informed by SDT (Ryan and Deci, 2000), which suggests that individuals are prone to self-organizing and self-selection, and that the satisfaction of autonomy need can facilitate positive adaptive functioning, such as emotional well-being. Moreover, our findings showed that perseverance was positively correlated with positive affect, and negatively associated with negative affect; consistency was negatively associated with negative affect. Such a finding corroborates previous research on the positive correlation between grit and positive affective states (e.g., Datu et al., 2016b, 2018b). However, consistency did not show a significant association with positive affect. This finding may be explained by prior research illustrating that perseverance is more salient in predicting subjective well-being than consistency in a collective setting (Datu et al., 2016a).

The third goal of this study was to ascertain the interactive associations of teacher autonomy support and two facets of grit with emotional well-being in both groups. Our findings showed that perseverance moderated the association between teacher autonomy support and negative affect in adolescents who had switched schools. To be specific, in adolescents who endorsed higher levels of perseverance, the association between teacher autonomy support and negative affect turned out to be significantly negative. One possible explanation is ascribed to the Chinese cultural highlight of perseverance, and perhaps individual motivation to persevere as a way to contribute to their families and school communities, which is independent of their personal interests (Disabato et al., 2019). Therefore, along with sufficient teacher autonomy support, individuals with high perseverance can mobilize various types of strength to buffer negative emotional states triggered by the experience of switching schools. However, this study did not show any significant interactive effects on positive affect. One possible explanation is that grit is more salient in negative conditions (Duckworth et al., 2007). For example, Lan and Moscardino (2019) have found that grit can buffer student well-being in the context of negative teacher-student relationships. As such, grit may not have a strong protective effect on positive outcomes. From this perspective, other self-regulatory traits (e.g., emotional regulation; Extremera and Rey, 2015) may help to explain positive outcomes. In addition, consistency did not show any interactive effects among study variables. One possible interpretation is that youth from a collective culture may show lesser tendencies to espouse consistent thoughts, emotions, and actions across different situations; instead, they are more likely to adopt a

context-sensitive self (Datu et al., 2018b). Another explanation is aligned with the experience of switching schools, which requires better social integration skills in a new learning environment through making continuous efforts instead of continuously concentrating on achieving their long-term aspirations. Thus, the role of consistency is not salient in the association of teacher autonomy support with emotional well-being.

Overall, our findings went beyond traditional academic and behavioral outcomes by examining both positive and negative emotional outcomes in adolescents who switch schools, as compared with their non-switch counterparts. Based on the current findings, this study may refute the assertion that non-structural school switching may have some “benefits.” Moreover, the adaptability of the positive role of autonomy support among adolescents with various functioning levels in a collective setting remains under debate, as conformity and interdependence are highly embedded in collective societies (Markus and Kitayama, 1991). Along with other pertinent research (Yu et al., 2016), the current study further confirms the universally positive effect of autonomy support on adaptive functioning in adolescence in a collective context. Given the high rates of switching schools in China and the emotional vulnerability of adolescent who switch schools, the cumulative effects of teacher autonomy support and perseverance are highlighted as factors that mitigate negative affect. The current study may be particularly significant in the efforts to develop preventive aspects in the social environment (i.e., teacher autonomy support) and individual characteristics (i.e., grit) to facilitate adolescents’ emotional well-being during this transition.

Limitations and Implications

Along with these significant findings, several limitations should also be acknowledged when interpreting the current findings. First, the current study relies on a cross-sectional design, which has less power than a longitudinal design when it comes to excluding time-invariants and unobserved individual differences, as well as in terms of observing a certain event’s temporal order. For example, this study fails to consider the impact of pre-transfer risk and resilience factors on well-being, despite, as documented by prior research, these factors being salient concerning well-being (e.g., Gasper et al., 2012). Given the growing incidence of school switching, further research adopting a longitudinal design to address the impact of school transfer over time may yield useful insights (Welsh, 2017). Second, the current study does not differentiate the timing, frequency, types, and distance involved in switching schools; however, previous studies indicate that these variables can covariate the deleterious effects of switching schools on adolescents’ adjustment (Pears et al., 2015; Welsh, 2017). Therefore, future study should unpack those effects to gain more credible estimates of the impact of switching schools. Third, although the effect of common method bias is proved to be small in the current study, self-report measurement may still fail to exclude the biases caused by response style and social desirability (Podsakoff et al., 2003). Moreover, teacher autonomy support is assessed by the perception of autonomy support, but not the actual autonomy being nurtured by teachers in the

classroom. As such, future research should use a mixed-methods and multi-informant approach. Fourth, the current study reckons on a “narrow” operationalization of well-being, which highlights the affective aspects only. Future research initiatives should incorporate cognitive (i.e., appraised life satisfaction; Diener, 2000) and even eudaimonic aspects of well-being (Ryff and Singer, 2008), when examining the buffering roles of teacher autonomy support and perseverance. Fifth, although the current sample size may be sufficient, at least in terms of addressing our research questions and fulfilling the analytical approach, the small effect size revealed may imply that a larger sample size is optimal; moreover, given the size of the Chinese population and regional differences (north vs. south; rural vs. urban), a nationally representative sample should be used in any future study. Finally, the present research is built on a monocultural dataset, which precludes the possibility to generalize the current findings into other cultural contexts. As such, further investigation into the direct and interactive effects of teacher autonomy support and perseverance on well-being in both collective- and individual-focused contexts is essential.

Despite such limitations, the current study may have several theoretical and practical implications. With regard to theory, the current study confirms a risk and resilience ecological framework in the context of Chinese culture (Bronfenbrenner, 1979; Fergus and Zimmerman, 2005): switching schools is a risk factor for Chinese adolescents’ negative emotional states, and the ecological interactions between environmental and individual factors can mitigate this detrimental effect of school switching on adolescents’ emotional adjustment. Moreover, this study enriches SDT (Ryan and Deci, 2000): satisfaction of autonomy support can nurture and build youths’ inner motivation, which in turn can facilitate their emotional well-being. Additionally, this study corroborates self-regulation theory (Carver and Scheier, 2004; de Ridder and de Wit, 2006), suggesting that longer volitional processes of goal striving can facilitate adaptive competencies. From an applied perspective, this study suggests that the traditional methods of Chinese teachers (i.e., authoritative teachers) should be adjusted. In the classroom context, teachers should provide an atmosphere in which youths are not pressured to behave in a specific way; instead, teachers can motivate students by providing a meaningful rationale, acknowledging negative feelings, using non-controlling language, and offering meaningful choices (Núñez and León, 2015). As for adolescents who switch schools, some activities facilitating perseverance are beneficial in mitigating the detrimental effects of switching schools on their negative emotional states. For example, school educators and teachers should organize some activities with long-term goals that emphasize sustained effort despite the presence of setbacks and distress (Disabato et al., 2019; Lan and Moscardino, 2019).

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Ethics Committee at collaborative schools. Online informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

XL conceived this study, performed the statistical analyses, and drafted the manuscript. LZ assisted with the preparation of the

manuscript. Both authors read and approved the final draft of the manuscript.

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Leisure and Procrastination, a Quest for Autonomy in Free Time Investments: Task Avoidance or Accomplishment?

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The purpose of the research was to analyze procrastination – a problem of time management that negatively affects the autonomy of people – in relation to leisure as a domain of everyday life. Specifically, the dynamics between leisure (activities and time invested – weekly frequency and duration of activity) and procrastination factors were studied. A sample of 185 university students (118 men and 67 women: $M_{age} = 20.77$ years, $SD_{age} = 2.53$) answered a procrastination scale – validated for the Spanish population – which refers to four factors of procrastination (dilatatory behaviors, indecision, lack of punctuality, and lack of planning) and an adaptation of the Time Budget (TB) (a table where the participants were asked to specify “the three activities that you prefer to do when you are not studying or doing a paid job”). Results show that leisure activities are associated with factors of procrastination. As a matter of fact, the different factors of procrastination were related to specific types of leisure activities, depending on the weekly frequency of the activity or its duration. In this sense, there are cases in which the greater frequency of leisure activities (hobbies and computing, social life and entertainment) seems to contain – control, inhibit – procrastination (specifically, affecting its component of indecision) variations in the weekly frequency and duration of certain type of activities result in higher or lower scores on certain factors of procrastination. In sum, the time invested in leisure can protect from or inhibit delaying tasks – which implies enhancing the autonomy of people – a deduction that opens up new lines of research to identify optimal time investments for coping with procrastination.

Keywords: leisure, leisure time, procrastination, time budget, time investments

INTRODUCTION

The problem of time management known as procrastination has generated a large number of publications, due to its potential negative influence on the autonomy of people (Mouratidis et al., 2018; Won and Yu, 2018). In fact, in the educational field it has been shown that a controlling teaching style – that is, contrary to the promotion of autonomy in the students – is associated with higher levels of procrastination (Codina et al., 2018b). Even the role of leisure in task avoidance has been suggested, in the study of the relations between leisure and procrastination certain inconsistencies have been detected. These inconsistencies have to do with what is known

as leisure ambivalence (Munné and Codina, 1996, 2002), given that leisure activities can have negative consequences, or on the contrary, favor personal development characterized by autonomy (Lochbaum and Jean-Noel, 2016; Balaguer et al., 2018). With the aim of discovering the dynamics of greater or less procrastination in relation to the time invested in leisure activities, the main characteristics of procrastination are described below, and later the evidence that justifies the analysis of this problem in conjunction with leisure.

As will be seen, the presence of certain leisure activities in everyday life – or the time dedicated to some of them – can affect the autonomy of people, who may see their time management negatively influenced due to their procrastination levels.

Procrastination, a Problem of Time Management

Procrastination has been defined as the experience of time characterized by habitually – and often counterproductively – postponing the performance of tasks (Procrastination, 2019). This problem, which reveals an inefficient time management problem, difficulties or lack of motivation when it comes to the performance of certain activities in a stipulated time (Pychyl et al., 2000; Steel et al., 2018), has serious social and personal consequences (Goroshit, 2018). Expressed in numbers, this problem becomes a maladaptive lifestyle for 20–25% of healthy adults, whose autonomy can be affected (Harriott and Ferrari, 1996; Díaz-Morales and Ferrari, 2015).

Given its importance and incidence, the study of procrastination has generated a large corpus of scientific knowledge in which two main trends can be distinguished: on the one hand, the investigation of the nature of procrastination; and, on the other hand, research on the contexts and variables associated with procrastination – or which help to cope with it.

With respect to the ontology of procrastination, it has been discussed from very different perspectives, from whether it is a personality trait (Ferrari et al., 1995; Steel, 2007; Kim et al., 2017) to whether it has an intentional or irrational character (Lay, 1986; Steel, 2007; Steel and Klingsieck, 2016). Certainly, procrastination is a problem that affects people's everyday lives; however, the assumption that procrastination is only a personality trait is a limited interpretation. Rather, procrastination appears as an individual tendency that can be influenced by certain contexts (Codina et al., 2018b). Specifically, this refers to the domains in which procrastination is most likely to occur.

With regard to the aforesaid contexts, procrastination is one of the most identified and common mistakes made in time management by students at the various different educational stages (Karatat, 2015; Cerezo et al., 2017), with academic procrastination being one of the most important domains of procrastination (Ferrari and Scher, 2000; Owens and Newbegin, 2000). In fact, 70% of college students procrastinate in their learning tasks on a regular basis (Steel and Klingsieck, 2016).

Outside the academic context, Klingsieck (2013) states that procrastination is typical of work settings, healthcare domains, everyday routines and habits, leisure, family life and partnership

domains, and social life. Therefore, while procrastination has mostly been investigated in connection with work and academic behavior (Van Eerde, 2003), this does not exclude the possibility that other contexts or areas of activity have explanatory potential with respect to the phenomenon. Thus, the procrastinating tendency may be more or less intense depending on the time investment in other activities or fields of activity. For example, one may procrastinate over a professional CV update because it is more fun to spend time reading a suspense novel – even when the preparation of the CV is an activity of greater importance, urgency (or both).

Leisure as a Context for Procrastination

The relevance of leisure has been underlined in the analysis of the uses of time made in different contexts (Roberts, 1999; Huebner and Mancini, 2003; Rojek, 2010; Kofman and Bianchi, 2012; Lam and McHale, 2015); in particular, its impact on the well-being of people has been demonstrated in different contexts (Joulain et al., 2017; Oman, 2019; Zuzanek and Hilbrecht, 2019). In fact, leisure can be a source of both well-being (and autonomy; Fattore et al., 2016) and pathological behaviors (Dorn and South, 1989; Rojek, 1999; Francis and Kentel, 2008; Codina et al., 2018a). This ambivalence – as it has been referred to by Munné and Codina (1996, 2002) – lies in the fact that leisure implies free or discretionary time that involves behaviors and experiences, which can represent a benefit, a cost, or even a mixture of the two (Kleiber et al., 2011). In our opinion, studying the relationship between leisure and procrastination helps to identify contributions concerning the above mentioned ambivalence of leisure. In this respect, an important contribution would consist of specifying what amounts of time – dedicated to a certain occupation during free time – are related to procrastinating habits or tendencies. To be precise, the explanatory potential of leisure is increased by answering a question such as the following: Is procrastination associated with certain time investments in specific types of activities, which can negatively affect the autonomy of their practitioners? In this research, time investments include two variables: frequency (times an activity is performed throughout the week) and duration (minutes used each time a given activity is performed). As we shall see, conceiving time investment in terms of frequency and duration allows the introduction of certain elucidations that can be taken into account in the joint analysis of leisure and procrastination.

On the other hand, the relations between the time invested in leisure and procrastination have been scarcely investigated in detail. Already existing approaches include highlighting associations between procrastination and reduced life satisfaction across domains like work and leisure time (Beutel et al., 2016), the different relationships between modern and postmodern values, the priority given to leisure and procrastination (Fries et al., 2005), and the suggested complex relationships between motivational interference, school-leisure conflict and procrastination (Hofer et al., 2010).

As far as time dedication is concerned, one of the characteristics of procrastinators is that they tend to structure their time to a lesser degree and tend to interchange the order in

which the activities are carried out (Ferrari, 1993), while people who have routines or habits tend to procrastinate less (Steel et al., 2018). In particular, in the case of students, those who organize their academic routines within a limited time frame are less inclined to procrastinate since they plan the start of the activity and set a deadline for its accomplishment (Dietz et al., 2007; Shu and Gneezy, 2010). On the contrary, those who have a less structured time are, in a certain sense, negatively affected with respect to the autonomy that characterizes whoever is in charge of their own time.

To our understanding, the above evidence prompts a need to analyze procrastination in relation to leisure as a domain of everyday life. This analysis would make it possible to specify how much time (frequency, duration) needs to be devoted to any leisure activity to relate it to procrastination. In other words, the accuracy with respect to these time investments can make it possible to assess the degree to which a person can lose autonomy when practicing leisure – that is, given that he/she procrastinates.

Approaching the Relationships Between Free Time Investments With Procrastination

In order to operationalize the ambivalence of leisure, the time dedicated to a leisure activity during a specific period of time has been proposed (Codina, 1999); for example, practicing sport is usually beneficial for health (U. S. Department of Health and Human Services, 2008; European Commission, 2014), but not at levels that could indicate absorption in this leisure activity in detriment to others (as in the case of sports addictions: Nogueira et al., 2018). Taking into account the operationalization of the time variable in the analysis of leisure activities, we have healthy levels when dedicating a minimum of 150 min per week, preferably spread out over 5 days (in moderate-to-intense practice: Cavill et al., 2007; Oja et al., 2010).

In order to measure time investment in leisure activities – in terms of frequency and duration – the study of leisure requires an instrument that guarantees the organization of data and flexibility when assessing it. Specifically, this research uses the technique known as the Time Budget (TB), in its behavioral-participant approach: “Behavior... is defined by the participant... on the basis of the activity in which he/she is engaged or the setting or time period in which it is embedded” (Kleiber et al., 2011, p. 58). This questionnaire is considered the most viable method for analyzing people’s daily activities, having been used by various international organizations in their studies of the use of time in different populations (Andorka, 1987; Zuzanek, 2006). In the TB, the activities of life are weighted, which allows the observation of the different degrees of significance and importance attached to different areas of life (Steinbach, 2006). In other words, thanks to the use of the TB it was possible to show that each activity has characteristics that need to be examined for their specific explanatory potential. Specifically, the TB used here recorded the activities carried out during the 7 days of the week, specifying the time spent on them, in line with the model developed by Neulinger (1986) and taking into account the adaptations and applications of TB developed for the context in which

this research was carried out (Codina, 1999, 2004; Codina and Pestana, 2009; Codina et al., 2016).

As far as procrastination is concerned, its measurement must include those factors in the phenomenon that, in general, may be sensitive to different contexts. In this respect, Díaz-Morales et al. (2006) validated an instrument, which in its Spanish language version, includes the General Procrastination Scale (GP: Lay, 1986), the Decisional Procrastination Questionnaire (DP: Mann, 1982), and the Adult Inventory of Procrastination (AIP: McCown and Johnson, 1989). This instrument contemplates four factors of procrastination: dilatory behaviors (“a summary of the predisposition to manifest intention-behavior gaps”), indecision (“putting off making a decision within some specific time frame”), lack of punctuality (“inability to work diligently on a task in order to meet a deadline”), and lack of planning (“lack of self-discipline needed to stay focused on a target task”). In this instrument, procrastination is considered as a set of factors whose presence in people can affect any context of everyday life. In other words, the items in this instrument include the characteristic of procrastination mentioned above: that it is a personal tendency sensitive to different contexts and, therefore, it changes depending on the activities that a person may perform (in his/her leisure time, in the case at hand).

All told, the evidence suggests the following two hypotheses:

H₁: Time investments (frequency and duration) in certain types of leisure activities are positively associated with procrastination factors.

H₂: Time investments (frequency and duration) in certain types of leisure activities are positively associated with procrastination factors.

Apart from strengthening the corpus of scientific evidence regarding the relationships of procrastination with other aspects of life, specifying which leisure activities are more likely to increase procrastination levels (i.e., their factors) allows a planning and time management that would not diminish the person’s autonomy and development.

MATERIALS AND METHODS

Design

In order to evaluate the research hypotheses, a transversal predictive design was carried out – according to taxonomy proposed by Ato et al. (2013) – in order to be able to predict which of the leisure activities (i.e., their days devoted and/or time spent in minutes) has more impact on the aforementioned procrastination factors.

Participants

A total of 237 university students participated in the research. Cases that did not meet the required age range or presented problems in completing the instruments were ruled out. Finally, a group of 185 people – 118 men and 67 women – aged between 18 and 30 years old ($M_{age} = 20.77$ years, $SD_{age} = 2.53$) took part in the study. Participation in the study was voluntary, i.e., the

participants did not receive any payment or academic benefit (such as extra marks for subjects or course credits).

Measures

Data was collected using two instruments, accompanied by the required demographics.

Procrastination

The procrastination instrument was the scale validated for the Spanish population by Díaz-Morales et al. (2006) – see the whole scale in pp. 136–137). The validation in the target population of this investigation refers to four factors of procrastination (with five response options, ranging from 1 to 5, from “does not describe me at all” to “very characteristic”): dilatory behaviors, indecision, lack of punctuality, and lack of planning. Specifying procrastination in these four factors “contribute to the conceptualization of procrastination as a multidimensional, not a [sic] unidimensional, trait” (Díaz-Morales et al., 2006). The instrument has shown an adequate Cronbach’s alpha in this study (0.88), similar to that of the above mention validation ($\alpha = 0.83$ – Díaz-Morales et al., 2006).

Leisure

Subsequent to the procrastination questionnaire, items about activities unaffected by academic obligations were added, following the structure and characteristics of the TB, technique described in the preceding paragraphs. Specifically, this questionnaire was presented as a table with seven columns – one for each day of the week – and a total of three rows where the participants were asked to specify “the three activities that you prefer to do when you are not studying or doing a paid job.” For each activity, the days of each week in which the activities were performed were marked, indicating the time (in minutes) dedicated to them.

Procedure

Before collecting data, we contacted the academic office of the university whose students had been selected to take part in the sample. After obtaining the corresponding authorization to apply the instruments, discussions were held with the staff in charge of each of the groups from which information was to be collected. In all cases it was agreed to complete the instruments at 11.30 am, at the end of a 30-min morning break.

Once in the classroom, the students participated after agreeing to sign the informed consent – data confidentiality was guaranteed. The method of completing the two instruments was explained in detail. During the response process, one of the members of the research team remained in the classroom to clear up any possible doubts.

The ethical requirements of the ethics committee of the University of [***Anonymized***] were applied to the current study, which meant that additional approval for the research was not required since the data obtained did not involve animal or clinical experimentation. Additionally, this study complies with the recommendations of the General Council of Spanish Psychological Associations (Consejo General de Colegios de Psicólogos), the Spanish Organic Law on Data Protection

(15/1999: Jefatura del Estado, 1999) and the Declaration of Helsinki (World Medical Association, 2013).

The activities accomplished during leisure time as mentioned by the participants were classified in line with the standards established by the European Union for time use surveys (EUROSTAT, 2009). These standards include ten general categories of activities: Personal care (care for own health), Employment (work done in paid jobs), Study (studies during free time), Household and family care (work done for the own household), Voluntary work and meetings (working as a volunteer free of charge or for a minor fee), Social life and entertainment (socializing with friends and relatives, as well as being a spectator/listener), Sports and outdoors activities (activities for physical exercise), Hobbies and computing (a pursuit outside regular occupation, especially for relaxation and with the computer), Mass media (reading periodicals/books, watching TV/DVD/videos, listening to the radio/records), and Travel and unspecified time (movement between two localities, activities that cannot be classified as belonging to any of the preceding groups). Of these categories, the one corresponding to Employment was not used since the TB used in this study only referred to the time of non-work. The Study category was only used in the sense of classes out of the formal education system. Also, there were no cases in which Voluntary work and meetings were carried out, so that of the ten categories only eight are included in the results analyzed.

Analysis

For purposes of processing the data obtained, the following variables were considered: gender of the participants; time invested in leisure activities (number of days per week and time spent); and procrastination factors (dilatory behaviors, indecision, lack of punctuality, and lack of planning). As appropriate, associations between the variables were calculated using Pearson’s r correlation coefficient (for perceptions of time invested in leisure activities and procrastination factors). Finally, to assess the predictive effects of leisure (days devoted and time spent) on procrastination factors, regression analysis – forward method – was performed, in line with recent evidence linked to the this research (Chang, 2015; Rosly et al., 2018).

RESULTS

Among the leisure activities reported (**Table 1**), sports and outdoors activities figured prominently, mentioned by 81.6% of the participants. This activity was followed by social life and entertainment, indicated by 63.2% of the participants. Behind these two activities came mass media, mentioned by approximately one in five participants. The rest of the activities – study, household and family care, travel and unspecified time and personal care – were cited by between 2.2 and 7.6% of the total number of participants. When analyzing the activities carried out according to gender or age, significant associations were not observed.

With regards to weekly rates for the stated activities (**Table 1**), hobbies and computing ($M = 5.27$, $SD = 2.07$) and mass media

($M = 5.23, SD = 1.98$) were reported as occurring nearly 5 days of the week. Observation of time spent doing leisure activities showed that the activities on which more minutes per week were spent – although with great disparity among the participants with regards to the time investments – were travel and unspecified time use ($M = 1,200.00, SD = 1,647.54$) and social life and entertainment ($M = 863.38, SD = 1,116.22$). Other values worth highlighting are the minutes spent on activities such as hobbies and computing ($M = 500.22, SD = 403.48$) and mass media ($M = 439.57, SD = 353.39$).

The values obtained for the four factors of procrastination (Table 2) put into manifest the predominance of dilatory behaviors ($M = 2.77, SD = 0.61$) and indecision ($M = 2.63, SD = 0.77$) was noted, being followed by the lack of planning ($M = 2.55, SD = 0.56$). The lack of punctuality ($M = 2.37, SD = 0.86$) was the factor with the lowest score (and below the midpoint). As regards values of skewness and kurtosis (idem Table 2), all factors were non-normally distributed. Regarding asymmetry and kurtosis, the four procrastination factors were distributed in a non-normal way, although the K–S test indicates a normal distribution for the factor related to dilatory behaviors.

The time dedicated to leisure activities – frequency and duration – brings to light other relationships that the mere

realization of an activity leaves unnoticed. These relationships refer, on the one hand, to the times invested in different types of leisure activity, and, on the other hand, to the correlations between the frequency and duration of each activity and procrastination factors (Table 3).

The significant correlations between frequency and duration of activities are understood in two ways. On the one hand, there are the correlations in which the times invested in some activities increase simultaneously, and, on the other hand, the cases in which on increasing the time investment in one activity, the investment in another decreases (either in frequency, duration or both). Among the results detailed in Table 3, four examples stand out (the first two with directly proportional correlations and the remaining two with negative correlations). Firstly, directly proportional correlations are observed between hobbies and computing and mass media as regards both frequency ($r = 0.987, p < 0.001$) and duration ($r = 0.968, p < 0.001$). Secondly, dedicating more days to personal care also increases the frequency of sports and outdoors activities ($r = 1.000, p < 0.001$) and mass media ($r = 1.000, p < 0.001$). Thirdly, the more time spent on personal care, the less is spent on sports and outdoors activities ($r = -1.000, p < 0.001$) and mass media ($r = -1.000, p < 0.001$). And fourthly, the more frequent household and family care, the less time dedicated to mass media – both as regards frequency ($r = -1.000, p < 0.001$) and duration ($r = -1.000, p < 0.001$).

In respect of the relations between procrastination factors and leisure activities, the higher the frequency of hobbies and computing ($r = -0.292, p < 0.050$) and social life and entertainment ($r = -0.202, p < 0.050$), the lower the indecision factor. A greater lack of punctuality is observed when more time is devoted to study ($r = 0.862, p < 0.001$). Finally, lack of planning is related to the two variables relative to time devoted to sports and outdoor activities: either in terms of frequency ($r = 0.219, p < 0.001$), or dedication to the activity ($r = 0.259, p < 0.001$).

In order to specify the explanatory potential of these correlations, multiple linear regression analyses (forward method) were carried out for each of the factors of procrastination considered (Table 4). Indecision was explained by the frequency of hobbies and computing ($R^2 = 0.08, F = 4.18, p < 0.047, \eta_p^2 = 0.129$; Tolerance = 1.00, VIF = 1.00, Durbin-Watson value = 2.11). As regards lack of punctuality, this factor was explained by the time invested in studying ($R^2 = 0.74, F = 34,56, p < 0.000, \eta_p^2 = 0.902$; Tolerance = 1.00, VIF = 1.00, Durbin-Watson value = 2.37). Finally, lack of planning was explained by the time invested in sports and outdoor activities ($R^2 = 0.06, F = 11.48, p < 0.001, \eta_p^2 = 0.411$; Tolerance = 1.00, VIF = 1.00, Durbin-Watson value = 1.94). As can be seen, tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern, as well as that of independent errors.

DISCUSSION

Testing our hypotheses has shown that leisure activities are associated with factors of procrastination. These associations

TABLE 1 | Leisure activities practiced: Weekly frequency and duration.

	N	%	Frequency (days)		Duration (min)	
			M	SD	M	SD
Personal care	4	2.2	4.75	2.87	180.00	176.63
Study	14	7.6	3.57	1.65	314.64	239.00
Household and family care	10	5.4	3.80	2.65	312.00	274.29
Social life and entertainment	117	63.2	3.98	2.09	863.38	1,116.22
Sports and outdoor activities	151	81.6	3.96	1.62	419.43	327.02
Hobbies and computing	45	24.3	5.27	2.07	500.22	403.48
Mass media	35	18.9	5.23	1.98	439.57	353.39
Travel and unspecified time use	6	3.2	3.83	2.56	1,200.00	1,647.54

TABLE 2 | Means, standard deviations, skewness, kurtosis and Kolmogorov–Smirnov (K–S) test for procrastination factors.

Procrastination factors	Skewness		Kurtosis		K–S			
	M	SD	Statistic	SE	Statistic	SE	Statistic	p
Dilatory behaviors	2.77	0.61	0.04	0.18	0.14	0.35	0.05	0.200
Indecision	2.63	0.77	0.35	0.18	-0.04	0.35	0.11	0.000
Lack of punctuality	2.37	0.86	0.50	0.18	-0.33	0.35	0.08	0.004
Lack of planning	2.55	0.56	0.23	0.18	-0.39	0.35	0.07	0.022

TABLE 3 | Intercorrelations between procrastination factors (1–4), frequency and duration of leisure activities (5–20).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
1. Dilatory behaviors	–																					
2. Indecision	0.495**	–																				
3. Lack of punctuality	0.524**	0.292**	–																			
4. Lack of planning	0.603**	0.293**	0.416**	–																		
Personal care																						
5. Days devoted	–0.661	–0.062	–0.305	0.002	–																	
6. Time spent (min)	–0.245	0.136	0.456	0.424	0.072	–																
Study																						
7. Days devoted	–0.131	0.000	0.247	0.061			–															
8. Time spent (min)	0.033	–0.035	0.862**	0.212			0.532	–														
Household and family care																						
9. Days devoted	0.217	0.165	–0.007	–0.099					–													
10. Time spent (min)	0.255	0.293	–0.055	–0.125					0.829**	–												
Social life and entertainment																						
11. Days devoted	–0.064	–0.202*	–0.058	0.005	0.688	0.917*	0.208	0.247	–0.061	0.251	–											
12. Time spent (min)	–0.123	–0.186*	–0.122	–0.086	–0.101	0.276	–0.030	–0.117	–0.436	0.386	0.423**	–										
Sports and outdoor activities																						
13. Days devoted	0.103	0.063	0.011	0.219**	1.00**	–1.00**	–0.230	–0.738	–0.035	0.042	0.224*	0.026	–									
14. Time spent (min)	0.101	0.090	0.051	0.259**	–1.00**	1.00**	–0.116	–0.020	0.728	0.486	0.114	–0.061	0.607**	–								
Hobbies and computing																						
15. Days devoted	–0.212	–0.292*	0.032	0.066							0.289	0.086	0.129	–0.062	–							
16. Time spent (min)	–0.117	–0.244	–0.046	–0.137							0.174	0.242	–0.103	0.083	0.470**	–						
Mass media																						
17. Days devoted	–0.152	–0.142	0.037	0.024	1.00**	–1.00**	0.945	0.913	–1.00**	–1.00**	0.097	–0.007	0.086	0.163	0.987**							
18. Time spent (min)	–0.235	–0.023	0.082	–0.141	–1.00**	1.00**	0.988	0.825	–1.00**	–1.00**	0.259	0.264	–0.073	0.151	0.968**	0.995**	0.637**	–				
Travel/unspecified time use																						
19. Days devoted	0.038	0.119	–0.269	–0.307					–1.00**	–1.00**	0.818	0.232	0.497	0.570						–		
20. Time spent (min)	–0.249	–0.062	–0.549	–0.680*					–1.00**	–1.00**	0.092	0.976*	0.347	0.560					–1.00**	–1.00**	0.411	–

*Significant differences for a probability $p < 0.05$; **significant differences for significant differences for a probability $p < 0.01$.

TABLE 4 | Regression analysis summary for frequency and duration of leisure activities predicting procrastination factors.

Leisure activities, models and predictor variables	Procrastination factors																		
	Indecision						Lack of punctuality						Lack of planning						
	B	SE B	95% CI	β	t	p	B	SE B	95% CI	β	t	p	B	SE B	95% CI	β	t	p	
Study																			
Min. in whole week							0.004	0.001	[0.002, 0.005]	0.862	5.880	0.000							
Sports and outdoor activities													0.000	0.000	[0.000, 0.001]	0.259	3.339	0.001	
Min. in whole week																			
Hobbies and computing																			
Days devoted	-0.105	0.051	[-0.208, -0.002]	-0.292	-2.046	0.047													

Each of the activities has two measures: number of days in the week in which the activities are practiced and the minutes allocated each time an activity is practiced. CI = confidence interval for B. Models based on forward method. Only the significant results are included in the table.

show that the different factors of procrastination were related to – or appear to be facilitated by – specific types of leisure activities (H₁), depending on the weekly frequency of the activity or its duration. In this sense, there are cases in which the greater frequency of leisure activities (hobbies and computing) seems to contain – control or inhibit – procrastination (specifically, affecting its component of indecision).

This positive aspect of leisure in relation to procrastination contrasts with the duration of sports and outdoor activities, which have a directly proportional relationship with lack of planning (H₂). This data reflects the negative side of the ambivalence of leisure [as noted, among others, by Munné and Codina (1996, 2002), Rojek (1999); Francis and Kentel (2008), and Kleiber et al. (2011)] and also the complexity of leisure itself.

Other results that should be taken into account are the relationships between time investments in different types of leisure activities, given that investing more time in a leisure activity can serve both to increase and decrease the time allocated to other activities [in line with what is evidenced by Samdahl and Jekubovich (1993); Patry et al. (2007), Hofer et al. (2009), and Grund and Fries (2012)], also potentially diminishing practitioners autonomy [which has been demonstrated by Gerber et al. (2018)]. In this sense, it is interesting to observe how personal care and sports and outdoor activities are related, since when they are valued – in terms of frequency – both types of activity correlate positively. On the other hand, when duration is valued, the greater the dedication to personal care the less time devoted to sports and outdoor activities.

It should obviously not be ignored that the presented findings are based on a specific sample of individuals – although participants’ practice of leisure activities is similar to that of more general groups with similar demographic characteristics. To be precise, our student sample is similar to that of other studies (Ministerio de Sanidad, Servicios Sociales e Igualdad, 2014; Codina et al., 2016) as regards the prevalence of sports and outdoor activities and social life and entertainment as leisure activities. Likewise, it should be noted that the measure of leisure has taken into account the activities carried out and the time allocated to them, pending – in future research – the examination of the subjective valuations and experiences linked to leisure activities (Neulinger, 1981; Kleiber et al., 1986, 2011; Lee et al., 1994; Carbonneau and Freire, 2017), especially those of linked to well-being (Joulain et al., 2017; Oman, 2019; Zuzanek and Hilbrecht, 2019).

The proper functioning of the sample data does not obviate its limitations. Although this study has had a target especially sensitive to the issue of procrastination – such as university students – future research should consider other sectors of the population with different levels of age and their specific time management problems. Likewise, a larger sample will allow making observations with regards to gender differences related to leisure activities, a reality that has been recently proven in our context (Codina et al., 2016, 2018a).

Future research should also incorporate the latest advances in the measurement of procrastination (Svartol and Steel, 2017), together with the use of the TB as an instrument for the study of

leisure, since its qualitative approach provides a wide variety of distinctions that help to preclude the subjective evaluations of the researcher (Codina, 1999, 2004). In this study, this qualitative approach brought to light the participants' perception of their use of time, but on the other hand, it impedes the characterization of time investment in activities common to most people. For example – and in the case at hand – while the low frequencies observed in habitual activities such as personal care do not imply that people do not carry them out, it does suggest that they do not have them in mind when thinking about their free time.

By specifying in more detail which leisure activities, times of the week and quantities of time are related with procrastinating behaviors, leisure could be used as a predictor variable to protect from or inhibit delaying tasks. In a more general sense, it would make sense to specify, if a person plans the activities in an important domain of his or her life, to what extent this planning not only protects against procrastination in this area but also in others, besides being able to generalize this habit to the rest of domains. Likewise, our results suggest new research perspectives that could serve to identify optimal time investments in leisure activities in order to cope with procrastination, as well as contributing with well-being and enhancing autonomy.

Put differently, taking into account the relationships between leisure and procrastination as a multidimensional construct, can be helpful to consider which free time activities – and their temporary investments – are the most appropriate to deal with procrastination (or, according to case, do not encourage it). Based on the results of this research, psychological, social and educational interventions should address time management outside formal education as a context for the development of the person in terms of their autonomy.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

All subjects gave written informed consent prior to the collection of the research data. The ethical requirements of the Ethics

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Committee of the University of Barcelona were applied to the current study, which meant that additional approval for the research was not required because the data obtained did not involve animal or clinical experimentation. Additionally, this study complies with the recommendations of the General Council of Spanish Psychological Associations (Consejo General de Colegios de Psicólogos), the Spanish Organic Law on Data Protection (15/1999: Jefatura del Estado, 1999), and the Declaration of Helsinki (World Medical Association, 2013).

AUTHOR CONTRIBUTIONS

JP conceived and designed the research and was responsible for drafting the work and revising it critically for important intellectual content. NC was responsible for the analysis and interpretation of data gathered during the research and revising it critically for important intellectual content. RV was responsible for the analysis of data gathered during the research and revising it critically for improving the explanatory potential of the results obtained.

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Teacher Support and Mental Well-Being in Chinese Adolescents: The Mediating Role of Negative Emotions and Resilience

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Teacher support has been shown to enhance adolescent mental health. However, the effects of negative emotions and resilience in the relationship between teacher support and mental well-being in adolescents are still unknown. This study investigated (a) the mediating role of negative emotions in the relationship between teacher support and mental well-being, (b) the mediating role of resilience in the association between teacher support and mental well-being, (c) the serial mediating role of negative emotions and then resilience in the relationship between teacher support and mental well-being, and (d) the parallel mediating role of the five dimensions of resilience and the three factors of negative emotions in the relationship between teacher support and mental well-being. Participants were 1228 Chinese adolescents (age, $M = 15.43$ years; 53.09% male). Participants filled out questionnaires regarding teacher support, negative emotions, resilience, and mental well-being. After controlling for age and gender, we found that teacher support, negative emotions, and resilience were significantly linked with mental well-being. Moreover, negative emotions and resilience were found to mediate the relationship between teacher support and adolescent mental well-being, accounting for 5.45 and 30.00% of the total effect, respectively. We also found that teacher support enhances mental well-being by decreasing negative emotions and then increasing resilience. This serial mediating effect accounted for 8.48% of the total effect. Finally, the mediating effect of resilience between teacher support and mental well-being was significantly greater than the mediating effects of the other two indirect effects (negative emotions in the relationship between teacher support and mental well-being, negative emotions and then resilience in the relationship between teacher support and mental well-being). And the parallel mediation model showed that teacher support can promote adolescent mental well-being by increasing goal planning, affect control, and help-seeking behavior, and decreasing depression. These findings suggest a process through which negative emotions can decrease resilience and identify the mediating effects of negative emotions (including the three dimensions of negative emotions) and resilience (including the five factors of resilience) in the relationship between teacher support and adolescent mental well-being.

Keywords: teacher support, mental well-being, negative emotions, resilience, adolescents

INTRODUCTION

Mental well-being is a dynamic state that allows individuals to be happy and satisfied with life, find purpose in their lives, realize their given potential, form and maintain relationships with others, and feel in control of their own lives (Ryff and Keyes, 1995). It is usually used interchangeably with positive mental health, which is a complex theoretical construct, covering both hedonic (happiness, life satisfaction) and eudaimonic (self-realization, psychological functioning) well-being (Ryan and Deci, 2001; Tennant et al., 2007; Lang and Bachinger, 2017). Clarke et al. (2011) pointed that the promotion of mental well-being has become a national priority for children and adolescents in United Kingdom. Given its importance for all aspects of life, mental well-being has received increasing attention (Dong et al., 2016; Ng et al., 2017). Research has identified several variables that influence mental well-being, including resilience, depression, anxiety, and social support (Liu et al., 2009; Strange et al., 2015; Khawaja et al., 2017). However, more study is necessary to deepen our understanding of the mechanisms underlying the relationship between social support from teachers and mental well-being (Guo et al., 2018). Furthermore, mental well-being is important for the healthy development of adolescents (Singh et al., 2015). Therefore, the current study investigated the association between teacher support and mental well-being of adolescents, as well as the influence of negative emotions and resilience in this relationship.

The Relationship Between Teacher Support and Mental Well-Being

According to some researchers, mental well-being is an aspect of mental health. For instance, Weich et al. (2011) wrote, “take mental health to mean the full spectrum of mental health states; mental illness refers to pathological disease states and mental well-being covers the positive end of the spectrum (p. 23).” Thus, the main effect model of social support, which describes the relationship between social support and mental health, should apply to mental well-being. This model indicates that social support can help people stay healthy and feeling good in all kinds of circumstances, and the increase of social support will facilitate the improvement of individual health status, no matter what the current level of support is (Cohen and Wills, 1985; Gong, 1994). One study reported that the more social support the caregivers of schizophrenia patients perceive, the better their mental health (Lee et al., 2006).

The ecological model of adolescent development specifies that adolescents' health and well-being are affected by some mutually interacting environmental settings, especially the microsystem level, including adolescents' direct interactions with teachers, parents, friends, and others in their immediate environment (Bronfenbrenner, 1986; Ferguson et al., 2011). In the context of schools, teachers can provide adolescents with different dimensions of support, such as emotional support, academic support, and competence support (Ahmed et al., 2010; Vervoort et al., 2014; Ansong et al., 2017; Liu et al., 2018), which are beneficial for the development of adolescents. Hence, more

studies should investigate the effect of social support offered by teachers. According to the main effect model of social support (Cohen and Wills, 1985; Gong, 1994) and the ecological model of adolescent development (Bronfenbrenner, 1986), teacher support may be a protective factor for adolescent mental well-being. For instance, some studies found that support from teachers has a positive influence on adolescent psychological well-being, mental health, happiness, and satisfaction (Lau et al., 2010; Wang et al., 2014; Alivernini et al., 2019). Although many studies have demonstrated the association between teacher support and mental illness, such as depression (Pössel et al., 2018) and anxiety (Zhao and Li, 2017), only a few studies have explored the positive association between teacher support perceived by middle school students and positive mental health (Guo et al., 2018). More importantly, the mechanism underlying these protective resources and positive outcomes has yet to be identified. Thus, it is necessary to more fully investigate the relationship between teacher support and adolescent mental well-being, and to identify the contributions of different resources such as resilience (protective resource) and negative emotions (destructive resource) to this association.

The Mediating Role of Resilience in the Relationship Between Teacher Support and Mental Well-Being

Resilience is a very complex construct (Southwick et al., 2014) and it can be viewed as a trait (Hu et al., 2015; Calegario et al., 2019), a process (Panter-Brick and Leckman, 2013; Stainton et al., 2018), or an outcome (Masten, 2014). In this study, resilience is defined both as an inner psychological potential and as a dynamic process of coping with disruptive, stressful, or challenging life events in a healthy way at minimal physical and psychological cost (Richardson et al., 1990; Luthar, 1991; Epstein and Krasner, 2013; Stainton et al., 2018). The positive factors of resilience in adolescents are assets and resources (Fergus and Zimmerman, 2005). Assets refer to the internal protective resources that reside within the individual, such as self-efficacy, competence, and coping skills. Resources are the positive factors that are external to the individual, such as parental support or adult mentoring (Fergus and Zimmerman, 2005; Stainton et al., 2018).

According to the framework of resilience in action, when the external resources (including close relationships, high expectations, and positive participation from school, family, society, and peer groups) meet the psychological needs of adolescents, including safety, love, and belonging (Li and Zhang, 2006), they can be transformed into internal resources, such as self-efficacy, self-consciousness, and self-awareness, that aid adolescent development and personal growth. At the same time, resilience is also increased in the process of developing internal resources. This logic is similar with self-determination theory (Ryan and Deci, 2000), which points that individuals' mental health and well-being are enhanced when their innate psychological needs including competence, autonomy, and relatedness are satisfied. Researchers found that adolescents who perceived respect and support from their parents or teachers have the highest levels of resilience (Gómez-Ortiz et al., 2015;

Liebenberg et al., 2016). According to the two models and previous studies, teacher support can be a kind of external resource, which is extremely important to develop resilience in adolescents, further improving their mental well-being.

Research on teacher support has identified resilience as a potential mediator in the association between teacher support and adolescent mental well-being. Some studies have consistently found that good teacher–student relationships and communication can improve resilience (Morrison and Allen, 2007; Rosenberg et al., 2018). Resilience has also been identified as a protective factor against mental health issues, with one study reporting a correlation between resilience and mental health (Wilson and Saklofske, 2017; Wu et al., 2018). These findings suggest that resilience might account for the positive effect of teacher support on adolescent mental well-being.

The Mediating Role of Negative Emotions in the Relationship Between Teacher Support and Mental Well-Being

Negative emotions are usually defined as negative emotional states, such as unpleasant or unhappy emotions that are evoked in individuals to express negative affect toward an event or person, and these usually include depression, anxiety, loneliness, anger, and stress (Cohen and Wills, 1985; as cited in Chen et al., 2016). In the current study, we used the short-form version of the Depression Anxiety Stress Scale (DASS-21, Lovibond and Lovibond, 1995) to measure the negative emotions, including depression, anxiety, and stress. The DASS-21 is an excellent tool which was conceptualized as a correlated three-factor model, and the total score of DASS-21 represents a full spectrum of negative emotional states (Lovibond and Lovibond, 1995; Chin et al., 2019; as cited in Prabhu, 2016). The buffering model of social support postulates that social support can maintain good health by decreasing the negative influence of stress on the body and mind (Gong, 1994). In line with this model, one study reported that older adults with low community social capital, such as social cohesion and community social ties, were vulnerable to depression when they faced stress (An et al., 2018). These results indicate that a lack of social support (i.e., teacher support) may lead to poor mental health by increasing negative emotional states, such as anxiety and depression. In other words, adolescents with higher levels of teacher support are more likely to perceive kindness and caring from teachers, and experience less negative emotions. Students who believe that they do things well in relationships with teachers display good normative adjustment and social adjustment (Herrera-López et al., 2016), which make them experience less negative emotions and feel better in the classroom. Based on the literature, it can be suggested that teacher support, as an important capital for adolescents, may antecede negative emotions, further facilitating adolescent mental well-being. In other words, students who perceive themselves as receiving less support from teachers may feel that they are worthless and unlovable; indeed, adolescents tend to have deficits in the self-system that manifest as low satisfaction of autonomy need and poor academic performance (Zhang et al., 2018). During this time, they may be more

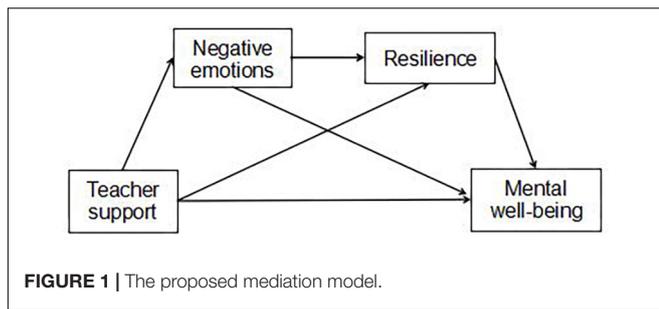
vulnerable to negative emotions. Studies have also demonstrated that students who frequently receive critical feedback from teachers and other school staff members are more likely to show higher levels of anxiety, educational stress, and depressive symptoms (Nguyen et al., 2013). However, teacher support can significantly reduce adolescent anxiety and depression (Yu et al., 2016). Furthermore, Extremera and Rey (2016) found that negative emotions are negatively associated with life satisfaction, which can be taken as an indicator of well-being. Although a direct examination of the associations between teacher support, negative emotions, and adolescent mental well-being is lacking, the existing literature indicates that teacher support reduces negative emotions in adolescents, which helps further develop their mental well-being.

The Relationship of Negative Emotions and Resilience

As negative emotions and resilience have negative and positive relationship with mental health, respectively, it is reasonable to assume that these two constructs are associated with each other. Indeed, it has been reported that stress, depression, and anxiety have negative relationships with resilience (Haddadi and Besharat, 2010; Skrove et al., 2013; Anyan and Hjemdal, 2016; Yen et al., 2019). However, different studies have different views on the relationship between negative emotions and resilience. For instance, some researchers found that higher resilience predicted lower levels of depression, anxiety, and stress (Hjemdal et al., 2011; Morote et al., 2017), while others evidenced that negative emotions such as anxiety and depression had negative impacts on the development of resilience (Galatzer-Levy et al., 2013; Yu et al., 2015). In the challenge model of resilience (Garmezy et al., 1984; Fergus and Zimmerman, 2005), the influence of a risk factor on an outcome is curvilinear. This suggests that high levels and low levels of a risk factor are associated with negative outcomes, but moderate levels of the risk are related to less negative outcomes when adolescents can learn from the process of overcoming the risk. Similarly, according to the resiliency model (Richardson et al., 1990), an individual can be more resilient only if they learn from the negative experience with more coping skills. That is to say, without learning from the risks, there are still many risks and challenges which have a very negative influence on the development of resilience. For example, negative emotions could be viewed as destructive resources that hinder the development of resilience in adolescents. In other words, adolescents exposed to high levels of risk factors, such as negative emotions, might have low levels of resilience. On the basis of the challenge model of resilience and the resiliency model, it is reasonable to infer that higher levels of negative emotions, including depression, anxiety, and stress, result in lower levels of resilience, which further reduces adolescent mental well-being.

Hypotheses of This Study

In this study, a serial mediation model (**Figure 1**) was proposed to test the mediating role of negative emotions and resilience in the association between teacher support and adolescent mental



well-being. Specifically, four hypotheses (direct and indirect effects) were examined, as follows:

Hypothesis 1: Teacher support is directly associated with adolescent mental well-being.

Hypothesis 2: Teacher support is indirectly associated with adolescent mental well-being via negative emotions.

Hypothesis 3: Teacher support is indirectly associated with adolescent mental well-being via resilience.

Hypothesis 4: Teacher support is indirectly associated with adolescent mental well-being by negative emotions and then resilience.

MATERIALS AND METHODS

Participants and Procedure

Participants were 1228 adolescents (652 male, 566 female, and 10 participants who gave no response as to their gender) enrolled at two junior middle schools and two senior middle schools in Tongling and Wuhu from Anhui Province in China. The four middle schools were selected by using convenience sampling. Two classes in each grade were randomly selected from each school. The final selection of 24 classes included 12 classes from junior middle school and 12 classes from senior middle school. Psychology teachers were contacted by the researchers, informed about the aim and procedure of the test, and asked to collaborate as experimenters, and were responsible for reading out the test introductions according to the standardized procedure. Adolescents completed a set of self-reported questionnaires in a class setting during the second semester of the 2017–2018 school year, which also included demographic information, including gender, age, and grade.

The final sample consisted of 1228 Chinese adolescents (611 junior school students and 617 senior school students) aged 11–20 years. The proportion of participants from grades 1 to 3 in junior middle school and senior middle school was 15.47, 16.78, and 17.51% and 16.86, 16.53, and 16.86%, respectively. The proportion of male and female was 53.09 and 46.09%, respectively. The mean age of participants was 15.43 years ($SD = 1.76$). All participants and their parents provided written informed consent before the study. The study protocol received approval from the Ethics Committee of Anhui Normal University.

Instruments

Teacher Support

The Students' Perception of Teacher's Behavioral Support Questionnaire (SPTBSQ) is a 19-item instrument designed to assess teacher support (Ouyang, 2005). The SPTBSQ measures students' perception of teacher's behavioral support in their studies and life. Items are rated on a six-point scale ranging from 1 (*was not relevant to me at all*) to 6 (*was very relevant to me*), and students were asked to indicate to what extent each statement applied to them. The questionnaire contains three dimensions, including learning support (nine items, such as "when I can't answer the question, my teacher often repeats the question to me"), emotional support (six items, such as "my teacher often encourages me in my study and life"), and ability support (four items, such as "my teacher often recommends that I participate in various activities or competitions"). Specifically, learning or academic support reflects students' belief that teachers care about what and how much they have learned, emotional support describes students' feelings that teachers care about their life and are kind to them, and ability support refers to students' perception that teachers encourage them to participate in different activities and contest (Ouyang, 2005; Vervoort et al., 2014; Ansong et al., 2017; Liu et al., 2018). Item 11 is a negative item. After reverse-coding this item, it is possible to obtain a global measure of teacher support by estimating the mean of 19 items, with higher scores indicating higher teacher support. The original SPTBSQ has been shown to have an adequate reliability (Cronbach's alpha of 0.87) and three-factor structure (three factors accounted for 50.64% of the variation). The SPTBSQ has also been shown to have an adequate reliability when completed by middle school students (Cronbach's alpha ranging from 0.82 to 0.89) and construct validity (Qiao et al., 2013; Chen and Guo, 2016; Chen et al., 2018). In the current sample, Cronbach's alpha for the entire questionnaire was 0.90, and ranged from 0.71 to 0.84 for the emotional support, ability support, and learning support sub-scales.

Negative Emotions

Negative emotions were evaluated using the short-form version of the Depression Anxiety Stress Scale (Lovibond and Lovibond, 1995), translated into Chinese. The Chinese version of DASS-21 is an effective instrument to measure negative emotions (Gong et al., 2010; Wang et al., 2016). Participants are asked to respond to each item by rating the frequency and severity of the symptoms experienced over the past week using a 4-point Likert scale (0 = *did not apply to me at all*, 3 = *applied to me very much or most of the time*). The scale contains three dimensions, including depression (seven items, such as "I felt that I had nothing to look forward to"), anxiety (seven items, such as "I felt I was close to panic"), and stress (seven items, such as "I found it difficult to relax"). The total score is the mean of all items, with higher scores indicating higher negative emotions. The original DASS-21 (Antony et al., 1998) has been shown to have an adequate reliability (Cronbach's alphas for the DASS-21 sub-scales were 0.94 for depression, 0.87 for anxiety, and 0.91 for stress) and excellent structures (three factors accounted for 67.00% of the variation). The Chinese version of the DASS-21

has also been reported to have an adequate reliability (Cronbach's alpha, 0.89) and construct validity (Gong et al., 2010). In the current sample, Cronbach's alpha for the entire questionnaire was 0.92, and ranged from 0.77 to 0.86 for the depression, stress, and anxiety sub-scales.

Resilience

The Resilience Scale for Chinese Adolescents (Hu and Gan, 2008) is a localized resilience scale specifically for Chinese adolescents. All items were developed on the basis of the resiliency model (Richardson et al., 1990) which contains individual experience and envirosocial influences. The scale items are rated on a five-point scale, ranging from 1 (*did not apply to me at all*) to 5 (*applied to me very much*), and students are asked to indicate how much the statement applies to them when they are faced with adversity and discouragement. The scale includes 27 items that are classified into five factors, including goal planning (five items, such as "I tend to be more mature and experienced after experiencing setbacks"), affect control (six items, such as "I have difficulty in controlling my unpleasant emotions"), positive thinking (four items, such as "I think adversity has an incentive effect on people"), family support (six items, such as "my parents respect my opinions very much"), and help-seeking behavior (six items, such as "I have a friend with whom I can talk about my difficulties"). After reverse-coding negative items (items 1, 2, 5, 6, 9, 12, 15, 16, 17, 21, 26, and 27), a global measure of resilience can be obtained by calculating the mean score of all 27 items, with higher scores indicating higher resilience. The original scale has been reported to have an adequate reliability (Cronbach's alpha, 0.85) and five-factor structure (five factors accounted for 52.40% of the variation). In the current sample, Cronbach's alpha for the entire questionnaire was 0.85, and ranged from 0.72 to 0.81 for the goal planning, affect control, positive thinking, family support, and help-seeking behavior subscales.

Mental Well-Being

Students' mental well-being was assessed using the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS; Tennant et al., 2007), translated into Chinese (Liu et al., 2016). The scale comprises 14 positively phrased items (e.g., "I've been feeling useful," "I've been able to make up my own mind about things," and "I've been feeling cheerful"), and measures the positive aspects of mental well-being in the previous 2 weeks. Each item is scored on a five-point scale ranging from 1 (*none of the time*) to 5 (*all of the time*), with higher scores indicating better levels of mental well-being. The original scale has been found to have an adequate reliability (Cronbach's alphas for a student sample and population sample were 0.89 and 0.91, respectively), test-retest reliability ($r = 0.83$), and construct validity (confirmatory factor analysis supported the single factor hypothesis). The Chinese version of the scale (Liu et al., 2016) has also been reported to exhibit an adequate reliability (Cronbach's alpha, 0.93) and test-retest reliability ($r = 0.79$). And a previous study showed that the Chinese version of WEMWBS had good reliability and validity for the assessment of mental well-being in Chinese adolescents (Zhao et al., 2019). In the current sample, Cronbach's alpha for the entire questionnaire was 0.88.

Statistical Analyses

The statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS, version 21.0). Descriptive statistics were computed for demographic data and all study variables. The associations between variables were assessed by Pearson's bivariate correlation, and the strength of these associations was classified according to the following standard: "small" for correlations around 0.10, "medium" for correlations near 0.30, and "large" for those at 0.50 or higher (Cohen, 1988). For testing mediating effects, the method of the bias-corrected bootstrap provides the most accurate confidence interval (CI) estimation and has the highest statistical efficacy (Fang et al., 2012). Therefore, in the current study, a bootstrapping analysis was conducted using the SPSS macro PROCESS Model 6 (with teacher support as the independent variable, mental well-being as the outcome variable, negative emotions and resilience as mediators, and gender and age as covariates) with 5000 resamples to test a serial mediation model, and to calculate the 95% CIs. Even more importantly, it is necessary to know to what extent do the three dimensions of negative emotions and the five factors of resilience contribute to the relationship between teacher support and mental well-being. Therefore, on the premise of the significant mediation of negative emotions and resilience, a bootstrapping analysis was conducted using the SPSS macro PROCESS Model 4 (with teacher support as the independent variable, mental well-being as the outcome variable, the three dimensions of negative emotions and the five factors of resilience as mediators, and gender and age as covariates) with 5000 resamples to test a parallel mediation. The indirect effect was considered statistically significant if the 95% bias-corrected CI did not contain zero (Hayes, 2013).

RESULTS

Descriptive and Pearson's Correlation Results

The descriptive statistics and Pearson's correlations for all of the assessed variables are presented in **Table 1**. Specifically, mental well-being was positively and strongly associated with both teacher support ($r = 0.47, p < 0.01$) and resilience ($r = 0.58, p < 0.01$). Likewise, a positive and strong relationship was also observed between teacher support and resilience ($r = 0.46, p < 0.01$). In addition, negative emotions were negatively and moderately correlated with both mental well-being ($r = -0.39, p < 0.01$) and teacher support ($r = -0.19, p < 0.01$). Negative emotions were negatively and strongly correlated with resilience ($r = -0.58, p < 0.01$).

Testing for a Serial Mediation Model

We tested a serial mediation model, which consisted of three indirect effects, as follows: (1) teacher support enhances mental well-being via negative emotions, (2) teacher support enhances mental well-being via resilience, and (3) teacher support enhances mental well-being via negative emotions and then resilience (**Figure 2**).

TABLE 1 | Descriptive statistics and Pearson's correlations between the study variables.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender	0.54	0.50	–												
2. Age	15.43	1.76	–0.01	–											
3. Mental well-being	3.47	0.60	0.07*	–0.12**	–										
4. Teacher support	3.81	0.85	–0.06	–0.16**	0.47**	–									
5. Resilience	3.34	0.55	–0.07*	–0.04	0.58**	0.46**	–								
6. Goal planning	3.43	0.74	0.03	–0.13**	0.51**	0.44**	0.63**	–							
7. Affect control	3.08	0.83	0.08**	–0.07*	0.46**	0.22**	0.68**	0.28**	–						
8. Positive thinking	3.93	0.77	–0.01	–0.03	0.39**	0.33**	0.58**	0.54**	0.28**	–					
9. Family support	3.35	0.83	–0.15**	0.14**	0.26**	0.30**	0.65**	0.26**	0.27**	0.22**	–				
10. Help-seeking behavior	3.11	0.98	–0.14**	–0.08**	0.32**	0.27**	0.69**	0.21**	0.31**	0.16**	0.29**	–			
11. Negative emotions	0.93	0.56	0.04	–0.05	–0.39**	–0.19**	–0.58**	–0.29**	–0.55**	–0.29**	–0.38**	–0.33**	–		
12. Depression	0.76	0.65	0.06*	–0.03	–0.43**	–0.21**	–0.58**	–0.35**	–0.47**	–0.34**	–0.39**	–0.34**	0.89**	–	
13. Anxiety	0.93	0.60	0.00	–0.06*	–0.31**	–0.14**	–0.47**	–0.21**	–0.45**	–0.22**	–0.32**	–0.28**	0.91**	0.70**	–
14. Stress	1.11	0.61	0.03	–0.04	–0.32**	–0.15**	–0.51**	–0.21**	–0.57**	–0.22**	–0.31**	–0.28**	0.91**	0.69**	0.77**

Gender: male = 1, female = 0; goal planning, affect control, positive thinking, family support, and help-seeking behavior belong to resilience. Depression, anxiety, and stress belong to negative emotions. * $p < 0.05$, ** $p < 0.01$.

After controlling for the effects of age and gender, the results showed a negative effect of teacher support on negative emotions, $B = -0.13$, $t = -7.00$, $p < 0.001$, and a positive effect of teacher support on resilience, $B = 0.23$, $t = 16.76$, $p < 0.001$. There was a negative relationship between negative emotions and resilience, $B = -0.50$, $t = -23.67$, $p < 0.001$. Moreover, both negative emotions and resilience significantly predicted mental well-being, $B = -0.13$, $t = -4.56$, $p < 0.001$ for negative emotions and $B = 0.42$, $t = 12.63$, $p < 0.001$ for resilience. The total effect of teacher support on mental well-being was statistically significant, $B = 0.33$, $t = 18.37$, $p < 0.001$. The direct effect of teacher support on mental well-being was also significant, even after controlling for the effects of negative emotions, resilience, age, and gender, $B = 0.19$, $t = 10.43$, $p < 0.001$.

Furthermore, the indirect effect of teacher support on mental well-being through negative emotions was significant, $B = 0.018$, $SE = 0.006$, 95% CI (0.008, 0.030). The mediation effect (teacher support → negative emotions → mental well-being) accounted for 5.45% of the total effect. Also, resilience mediated the relationship between teacher support and mental well-being, $B = 0.099$, $SE = 0.010$, 95% CI (0.080, 0.121). The mediation effect (teacher support → resilience → mental well-being) accounted

for 30.00% of the total effect. Finally, the indirect effect of teacher support on mental well-being through negative emotions and then resilience (i.e., a serial mediating effect) was also found, $B = 0.028$, $SE = 0.005$, 95% CI (0.019, 0.038). The mediation effect (teacher support → negative emotions → resilience → mental well-being) accounted for 8.48% of the total effect. The direct and indirect effects of negative emotions and resilience on the relationship between teacher support and mental well-being are shown in **Table 2**.

Since the three indirect effects (including the mediation effect of negative emotions in the relationship between teacher support and mental well-being, the mediation effect of resilience in the relationship between teacher support and mental well-being, and the serial mediation effect of negative emotions and resilience in the relationship between teacher support and mental well-being) were statistically significant, we examined whether these effects were significantly different in the mediation effects. There was no significant difference between the mediating effect of negative emotions and the serial mediating effect of negative emotions and then resilience, $B = -0.010$, $SE = 0.007$, 95% CI (–0.025, 0.002).

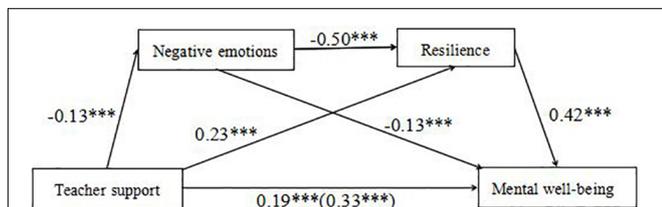


FIGURE 2 | Serial mediation model shows effects of teacher support, negative emotions, and resilience on mental well-being. $N = 1199$. The total effect of teacher support is shown in parentheses. Regression coefficients were obtained after controlling for age and gender in PROCESS Procedure for SPSS. *** $p < 0.001$.

TABLE 2 | Direct, indirect, and total effects of teacher support on mental well-being.

Model pathways	Estimated effect (β)	95% CI	
		Lower	Upper
Direct effect			
TS → MWB	0.186***	0.151	0.221
Indirect effects			
TS → NE → MWB	0.018**	0.008	0.030
TS → RE → MWB	0.099**	0.080	0.121
TS → NE → RE → MWB	0.028**	0.019	0.038
Total effect	0.144**	0.121	0.170

TS, teacher support; NE, negative emotions; RE, resilience; MWB, mental well-being; ** $p < 0.01$, *** $p < 0.001$.

However, the mediating effect of negative emotions was weaker than the mediating effect of resilience, $B = -0.081$, $SE = 0.014$, 95% CI $(-0.109, -0.054)$. Similarly, the mediating effect of resilience was stronger than the serial mediating effect of negative emotions and then resilience, $B = -0.071$, $SE = 0.010$, 95% CI $(-0.092, -0.053)$.

Testing for a Parallel Mediation Model

After controlling for the effects of age and gender, the results of parallel mediation are shown in **Figure 3**. Specially, teacher support had a positive effect on goal planning, $B = 0.38$, $t = 16.78$, $p < 0.001$; affect control, $B = 0.22$, $t = 7.86$, $p < 0.001$; positive thinking, $B = 0.31$, $t = 12.48$, $p < 0.001$; family support, $B = 0.32$, $t = 12.08$, $p < 0.001$; and help-seeking behavior, $B = 0.30$, $t = 9.16$, $p < 0.001$; and a negative effect on depression, $B = -0.17$, $t = -7.77$, $p < 0.001$; anxiety, $B = -0.11$, $t = -5.64$, $p < 0.001$; and stress, $B = -0.11$, $t = -5.37$, $p < 0.001$. Mental well-being was significantly predicted by goal planning, $B = 0.19$, $t = 8.22$, $p < 0.001$; affect control, $B = 0.16$, $t = 8.08$, $p < 0.001$; positive thinking, $B = 0.05$, $t = 2.25$, $p < 0.05$; help-seeking behavior, $B = 0.05$, $t = 3.54$, $p < 0.001$; and depression, $B = -0.17$, $t = -5.23$, $p < 0.001$. The direct effect of teacher support on mental well-being was significant, $B = 0.17$, $t = 9.79$, $p < 0.001$.

Furthermore, the indirect effect of teacher support on mental well-being through goal planning was significant, $B = 0.071$, $SE = 0.011$, 95% CI $(0.051, 0.094)$. The mediation effect (teacher support → goal planning → mental well-being) accounted for 21.52% of the total effect. Also, affect control mediated the relationship between teacher support and mental well-being, $B = 0.035$, $SE = 0.007$, 95% CI $(0.023, 0.050)$. The mediation effect (teacher support → affect control → mental well-being) accounted for 10.61% of the total effect. In addition, help-seeking behavior mediated the relationship between teacher support and mental well-being, $B = 0.015$, $SE = 0.005$, 95% CI $(0.007, 0.025)$. The mediation effect (teacher support → help-seeking

behavior → mental well-being) accounted for 4.55% of the total effect. However, the indirect effect of teacher support on mental well-being through positive thinking was not significant, $B = 0.014$, $SE = 0.008$, 95% CI $(-0.000, 0.029)$. The indirect effect of teacher support on mental well-being through family support was not significant, $B = -0.001$, $SE = 0.006$, 95% CI $(-0.013, 0.011)$. Finally, the indirect effect of teacher support on mental well-being through depression was also found, $B = 0.028$, $SE = 0.008$, 95% CI $(0.014, 0.046)$. The mediation effect (teacher support → depression → mental well-being) accounted for 8.48% of the total effect. The indirect effect of teacher support on mental well-being through anxiety was not significant, $B = 0.000$, $SE = 0.004$, 95% CI $(-0.008, 0.010)$. Also, the indirect effect of teacher support on mental well-being through stress was not significant, $B = -0.006$, $SE = 0.005$, 95% CI $(-0.016, 0.001)$. The direct and indirect effects of the three dimensions of negative emotions and the five factors of resilience on the relationship between teacher support and mental well-being are shown in **Table 3**.

Since the four indirect effects (including the mediation effect of goal planning, affect control, help-seeking behavior, and depression in the relationship between teacher support and mental well-being) were statistically significant, we examined whether these effects were significantly different in the mediation effects. There was no significant difference between the mediating effect of depression and the mediating effect of affect control, $B = -0.007$, $SE = 0.010$, 95% CI $(-0.027, 0.013)$. Similarly, there was no significant difference between the mediating effect of depression and the mediating effect of help-seeking behavior, $B = 0.013$, $SE = 0.010$, 95% CI $(-0.005, 0.033)$. However, the mediating effect of depression was weaker than the mediating effect of goal planning, $B = -0.042$, $SE = 0.014$, 95% CI $(-0.071, -0.016)$. The mediating effect of goal planning was stronger than

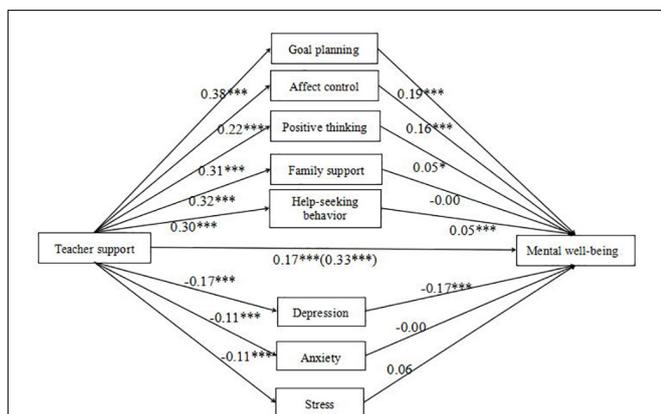


FIGURE 3 | Parallel mediation model showing the individual dimensions of negative emotions and resilience in the relationship between teacher support and mental well-being. $N = 1199$. The total effect of teacher support is shown in parentheses. Goal planning, affect control, positive thinking, family support, and help-seeking behavior belong to resilience. Depression, anxiety, and stress belong to negative emotions. * $p < 0.05$, *** $p < 0.001$.

TABLE 3 | Direct, indirect, and total effects of teacher support on mental well-being in the parallel mediation.

Model pathways	Estimated effect (β)	95% CI	
		Lower	Upper
Direct effect			
TS → MWB	0.174***	0.139	0.208
Indirect effects			
TS → goal planning → MWB	0.071**	0.051	0.094
TS → affect control → MWB	0.035**	0.023	0.050
TS → positive thinking → MWB	0.014	-0.000	0.029
TS → family support → MWB	-0.001	-0.013	0.011
TS → help-seeking behavior → MWB	0.015**	0.007	0.025
TS → depression → MWB	0.028**	0.014	0.046
TS → anxiety → MWB	0.000	-0.008	0.010
TS → stress → MWB	-0.006	-0.016	0.001
Total effect	0.156**	0.131	0.185

TS, teacher support; RE, resilience; MWB, mental well-being; goal planning, affect control, positive thinking, family support, and help-seeking behavior belong to resilience. Depression, anxiety, and stress belong to negative emotions. ** $p < 0.01$, *** $p < 0.001$.

the mediating effect of affect control, $B = 0.036$, $SE = 0.012$, 95% CI (0.012, 0.061), and the mediating effect of help-seeking behavior, $B = 0.055$, $SE = 0.012$, 95% CI (0.032, 0.082). In addition, the mediating effect of affect control was stronger than the mediating effect of help-seeking behavior, $B = 0.020$, $SE = 0.009$, 95% CI (0.004, 0.037).

DISCUSSION

The results of this study show that the mediating effects of negative emotions and resilience may contribute to understanding the relationship between teacher support and mental well-being in a sample of Chinese adolescents.

First, consistent with a prior study (Guo et al., 2018), we found that teacher support was a significant predictor of mental well-being. Together, this indicates that adolescents who receive more care and help from teachers tend to have a high level of mental well-being. This also provides further evidence for the positive effect of teacher support on adolescent mental well-being. Moreover, our results support our second hypothesis that negative emotions represent a potential underlying mechanism that could partially explain how teacher support is linked with adolescent mental well-being. The associations between teacher support, negative emotions, and mental well-being can be explained by the buffering model of social support (Gong, 1994). Teacher support, as a kind of social support, can keep adolescents healthy by reducing the influence of negative emotions on the body and mind. For example, when adolescents get along well with teachers and receive more care and help from teachers, they are more likely to feel that they are in a safe and friendly environment, which decreases negative emotions such as depression (Joyce and Early, 2014). Adolescents who receive more help from teachers also tend to have more self-awareness and positive self-evaluation. As a result, they may experience fewer negative emotions, especially lower depression. For example, researchers found that teacher support was negatively associated with depression in adolescents (Mizuta et al., 2017; Pössel et al., 2018). On the other hand, Moksnes et al. (2014) reported that negative emotions (e.g., depression) had a significant and negative association with mental well-being (e.g., life satisfaction) in adolescents. In the same way, adolescents who have a negative self-perception accompanied by depression, anxiety, and stress are more likely to have a low subjective evaluation of life satisfaction, which could be a predictor of mental well-being (Freire and Ferreira, 2016). Together, these observations suggest that adolescents who receive more help from teachers will tend to experience less negative emotions and be more satisfied with life, resulting in a higher level of mental well-being.

Second, in accordance with the framework of resilience in action (Li and Zhang, 2006) and the self-determination theory (Ryan and Deci, 2000), we identified a mediating role of resilience on the association between teacher support and adolescent mental well-being. In other words, promoting teacher support as a way to build up resilience could help to improve adolescent mental well-being. According to previous studies (Liebenberg et al., 2016; Rosenberg et al.,

2018), teachers can encourage adolescents to build resilience by establishing good quality teacher–student interactions and relationships. Adolescents with a high level of resilience are more likely to have confidence in dealing with adversity and challenges, and to be able to cope with difficulties; they tend to evaluate the self-perception of mental well-being with a positive attitude. Ho et al. (2015) also found that resilience can improve mental health in Hong Kong Chinese adolescents.

Third, in terms of our findings with the parallel mediation, teacher support improves adolescent mental well-being by increasing goal planning, affect control, and help-seeking behavior, and decreasing depression. That is, teachers can promote adolescents mental well-being by teaching them how to learn from individual experience, control themselves, ask for help, and regulate their negative emotions, especially depression. A 5-year longitudinal study evidenced that the decreased depression was predicted by increasing teacher support 1 year before (Pössel et al., 2013). In a word, teachers play a crucial role in adolescent healthy development. On the one hand, teachers provide adolescents with support that can be beneficial for improving adolescent mental well-being. On the other hand, teachers can also make a great contribution to increasing adolescent goal planning, affect control, and help-seeking behavior, and decreasing depression. What's more, in order to improve a higher level of adolescent mental well-being, teachers and schools ought to pay due attention to the specific aspects of resilience (i.e., goal planning, affect control, and help-seeking behavior) and negative emotions (i.e., depression). With more attention and help from teachers, adolescents can possess a higher level of mental well-being.

Finally, for the first time, we found support for the serial mediation model. Teacher support was indirectly associated with adolescent mental well-being through negative emotions and then resilience. Similarly, prior studies have consistently demonstrated that the current stressor and lower negative emotions can negatively influence resilience, and subsequently reduce the protective effect of resilience on mental health (Galatzer-Levy et al., 2013; Kim et al., 2015). In other words, adolescents who experience strong negative emotions may abandon themselves to sadness and feelings of misery, which undermine initiative and enthusiasm to solve problems. Generally speaking, this means that they cannot actively adapt to frustrations and difficulties and the building up of higher resilience levels is therefore inhibited. Furthermore, based on the framework of resilience in action (Li and Zhang, 2006), adolescents who experience less negative emotions are more likely to be able to generate happy feelings and experience satisfaction with life, which in turn will assist them in regulating their behavior and especially their emotions. Once adolescents become capable of emotional regulation, they can develop more confidence and inner resources, such as problem solving, self-consciousness, and self-efficacy, which can promote the development of resilience (Liu and Ngai, 2018).

The present study has several limitations that should be addressed. First, cross-sectional designs do not allow us to make causal conclusions about the relationships between variables, although our findings support the possibility of such

a relationship. Experimental or longitudinal studies could be carried out in the future to further investigate the causality of the relationships identified in the present work. Second, our results cannot be generalized to students in other grades or adolescents from other cultural backgrounds. Thus, future studies could use more diverse samples, such as those of different ages and from different cultures. Third, the present research focused on teacher support and did not consider the influence of social support from friends. In fact, peer acceptance could weaken the relationship between negative self-cognition and adolescent depression (Tang et al., 2018). Future work should therefore investigate the influence of peer support on mental well-being.

Despite these shortcomings, this study contributes to existing research into the relationship between teacher support and adolescent mental well-being, at least in China, and sheds light on similar topics in other cultures. Additionally, our findings provide insights about the steps that could be taken to improve adolescent mental well-being. As far as teacher-student relationships are concerned, schools could develop a prevention program to inform teachers that their care and help are extremely important for adolescent mental well-being. Hence, teachers should aim to build good teacher-student relationships and help adolescents with patience and kindness. In terms of the mediating role of negative emotions, schools should place an importance on good interactions and communication between teachers and adolescents, and encourage teachers to provide learning or emotional support that can help adolescents experience less negative emotions. Both schools and teachers should focus on adolescents' emotional changes and teach them different ways to regulate their negative emotions, especially depression. Researchers pointed that the process of affect (such as anxiety, joy, depression, and so on) regulation is applicable to promotion and restoration of mental well-being (Quoidbach et al., 2015; Gross et al., 2019). Moreover, our findings support the view that resilience plays an important role in the association between negative emotions and mental well-being. Thus, schools should also promote the development of adolescent resilience through activities and training, such as emotional regulation programs, courses

related with goal planning and help-seeking behavior, which would help to further improve the subjective perception of mental well-being.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, to any qualified researcher.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Anhui Normal University. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

JG: guarantor of integrity of entire study, study concepts, study design, literature research, data acquisition, data analysis/interpretation, statistical analysis, manuscript preparation, manuscript revision, and manuscript final version approval. LL: literature research, manuscript editing, manuscript revision, and manuscript final version approval. BZ: literature research, data interpretation, statistical analysis, manuscript preparation, and manuscript final version approval. DW: literature research, guarantor of integrity of the entire study, manuscript definition of intellectual content, manuscript editing, manuscript revision, and manuscript final version approval.

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Social Networking Sites and Youth Transition: The Use of Facebook and Personal Well-Being of Social Work Young Graduates

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Research on youth transitions, and the well-being of young people, has to take into consideration the digital context in which they are immersed. Digital interaction of young people increase year by year, social networking sites play a key role in their personal and professional relationships, and a very high percentage of jobs require digital skills. According to Eurostat (2019), participating on social networking sites (one of the most common online activities in the EU-28), is growing every year [more than half (56%) of individuals aged 16–74 used the internet for social networking sites], and this percentage increases among the younger generations. In this article, we present the results of our research on the digital skills and well-being of young people on Facebook, based on a survey with a sample of 126 young people graduated from the University of Málaga (School of Social Work) (Spain). Based on certain scales, the level of digital skills that students have on Facebook was measured, considering strategic aspects for information search, level of use and presence of Facebook in life, maintenance of relations and tolerance to diversity. Variables of psychosocial well-being were also measured (social capital, self-esteem, life satisfaction, and personal well-being). Variables of digital skills on Facebook were subsequently related to well-being variables. Results show that certain digital skills relate to the well-being of young people. In this sense, we deem it crucial to develop education policies that could provide young graduates with general digital skills to be used on social networking sites.

Keywords: digital skills, well-being, life satisfaction, self-esteem, social capital

INTRODUCTION

We are immersed in a digital society, in which our social relationships, communication, education, leisure and work are transformed. Our vital trajectories, our autonomy, and our well-being, are influenced by digitalization. To analyze the different dimensions of well-being such as environmental mastery or positive relationships (Ryff, 2019), it is necessary to take into account the technological environment and how young people participate, learn and interact on social networking sites. The new generations, intensive users of technology, are considered digital natives, and therefore digital competences play a key role in their well-being. Consequently, institutions and companies are focused on the development of these skills (Picatoste et al., 2018). To quote an example, the Council of the European Union included digital skills in their conclusions

related to education and training whereas the Europe 2020 strategy considers Information and Communication Technologies (ICTs) as a key element in the education reform.

Therefore, technology can be considered a driver for well-being as technology impacts on the experience of young across the world (Collin and Burns, 2009). A plethora of studies highlight the role of digital skills as drivers for well-being in Youth. ICTs promote well-being facilitating informal learning, building digital identities, improving competences required at the workplace or promoting meta-social skills, among others (e.g., Sánchez-Navarro and Aranda, 2013; Goldhammer et al., 2016; Martinovic et al., 2019). Additionally, identity is built during the transition to adulthood and digital skills can perform a crucial role in this process. In this sense, Mannerström (2019) showed that identity formation was related to digital practices and competencies. Along with this line, scholars suggest that there is a positive relationship between youth empowerment and certain uses of digital tools (Middaugh et al., 2017). Furthermore, ICTs enable well-being in the case of physical or intellectual disabilities (Pacheco et al., 2019) and are particularly important to support at-risk youth (Helsper and Van Deursen, 2015; Pienimäki, 2019). These benefits justify the inclusion of digital skills in formal and informal education. Nevertheless, a view from the dark side should be also evidenced. Equity and inclusion problems (Pagani et al., 2016), cyber-aggression (Mishna et al., 2018), technology addiction (Lachmann et al., 2018; Wang et al., 2018) or the negative effects of ICTs on learning and academic results (Hawi and Samaha, 2016) have been underlined as disadvantages of technology related to Youth.

From our point of view, social networking sites play a key role in the lives of young people, and digital skills are key to strengthening their vital trajectories, and therefore relevantly affect the different dimensions of well-being (Ryff, 2018). In this digital environment, below we present the results of our research on digital skills and the well-being of young people on Facebook, with a sample of 126 young graduates from the University of Málaga (School of Social Work) (Spain). Based on certain scales, the level of digital skills that students have on Facebook was measured, considering strategic aspects for information search, level of use and presence of Facebook in life, maintenance of relations and tolerance to diversity. Variables of psychosocial well-being (SW) were also measured [social capital, self-esteem, life satisfaction and personal well-being (PeW)]. Variables of digital skills on Facebook (DSF) were subsequently related to well-being variables. Results show that certain digital skills relate to the well-being of young people. In this sense, we deem it crucial to develop education policies that could provide young graduates with general digital skills to be used in social networking sites.

Social Work Young Graduates and Social Networking Sites

Connectedness between people and organizations has progressively and exponentially increased thanks to social networking sites, which have enabled interactive dynamics that were unimaginable until recently. Social networking sites have become a global social phenomenon. Facebook is one

of the main personal-profile networking sites and in 2016 it announced having reached the symbolic figure of two billion active users on a monthly basis. This makes Facebook the most used social networking site, as it gathers more than one fourth of the population worldwide. In Europe, Facebook enables five billion social connections (Filiz et al., 2016). More than 75% of the population use personal-profile networking sites on a daily basis and the average time spent has increased until reaching an average of almost 2 h per day (Roth, 2018). In sum, the number of users worldwide, the frequency of connection and the time spent make of Facebook a parallel universe for socialization (Wilson et al., 2012).

The presence of social networking sites is remarkably high in all sectors of society, and it is even higher when it comes to young people (Duggan and Smith, 2013). Young adults between 18 and 35 years reported being active on these sites over the past years (Pew Research Center, 2014). Young graduates tend to use social networking sites more intensively (Steinfeld et al., 2008). They have grown up with these social technologies and they are now being called “digital natives” (Prensky, 2001). However, young people do not constitute a monolithic group with universal talents to use these digital means. On the contrary, their relation with digital technologies is very varied (Selwyn, 2009). Because it is an emergent phenomenon, young people have adopted and use social networking sites spontaneously. Using these sites allows them to keep their relationships with friends (Wang and Edwards, 2016) and create new ones (Levine and Stekel, 2016), amongst other purposes. Nevertheless, these sites can also have some harmful effects or lead to deviant behaviors, particularly when there is a lack of training on the effects certain types of uses can imply.

Academic literature has reached a certain consensus on the fact that the impact online communication can have on well-being depends on each user’s aim, the nature of the communication exchange and the closeness between nodes (Burke and Kraut, 2013). This approach, which focuses on the importance of the type of use, that is, “for what purpose,” suggests that the different ways in which the population uses these means depend on the digital skills individuals have (Van Deursen and Van Dijk, 2015).

Social Work graduates and Social Work as a discipline cannot remain external to the impact of this phenomenon, particularly when it comes to the increase of socialization on social networking sites. This is mainly due to the fact that these sites promote one of the main activities of Social Work, which is to build relations. Addams (1910), foremother of Social Work and visionary, gave great importance to the construction and improvement of social relations between individuals as a way to face adversity. This is the reason why various Social Work institutions such as the National Association Social Work et al. (2017) are encouraging social workers to acquire the necessary digital skills in order to be able to use digital means to find solutions to social problems and empower citizens.

Digital Skills on Facebook

Having or not digital skills determines users’ access to resources, thus empowering those who have the appropriate skills to benefit

from the potentialities of digital means and leaving behind those who do not know how to leverage such advantages (Van Dijk, 2006). Digital skills are considered as “the capacity to respond pragmatically and intuitively to challenges and opportunities in a manner that exploits de Internet’s potential” (DiMaggio et al., 2004, p. 378). It is also defined as the “user’s capacity to find content on the Internet in an effective and efficient manner” (Hargittai, 2005, p. 372).

Digital skills can be analyzed and conceptualized according to various levels. One of these levels looks at operational abilities (Steyaert, 2002). These abilities refer to knowledge, interaction and use of applications and devices. Van Dijk (2005) defines these abilities as those used to operate computers – currently also smartphones – and which relate to hardware and software networks. These digital skills refer to the ability to handle the profuse amount of resources at hand, which is also known as hypermedia (Lee et al., 2005). Digital skills are key to search, select, process and apply means to an environment which is overloaded with opinions (Van Dijk, 1999). Hargittai and Hsieh (2010) measured these skills through a scale that considers knowledge of the language and use of basic functions of the Internet (PDF, JPG, Favorites, Reload, etc.). In the online universe of Facebook, these functions are constituted by Facebook’s language and functions (Timeline, Pages, Groups, Lists, etc.).

At a secondary level, digital skills concerning information search are considered. These skills refer to actions taken by users to satisfy their information needs (Jenkins, 2006). Knowing how to look for information by using applications and services on the Internet implies a certain level of skills to filter information (Marchionini and White, 2007) and awareness about the fact that the digital fingerprint left by the use of browsers and applications leads to be suggested specific personal profiles, products or recommended advertisements.

Hargittai and Hsieh (2010) established a scale comprising two types of activities on Facebook, making a distinction between actions related to strong ties (seeing friends’ pictures, sharing photos, sending private messages, making plans, etc.) and actions related to weak ties (seeing pictures from unknown people, meeting new friends, sharing information on a group, etc.). In order to perform these actions to achieve a specific goal, strategic digital skills are required (Correa, 2016). Optimal socialization on digital means can be key for users to feel part of the same community, thus promoting various forms of mutual support and carry out projects and new initiatives (Ellison et al., 2007).

Given the fact that social reality mirrors the offline reality (Subrahmanyam et al., 2008; Dunbar et al., 2015; Gillani et al., 2018), specific abilities allowing the development of appropriate connectedness patterns are required. These patterns must include certain tolerance to diversity, which would imply being surrounded by other people who might not share our own perspective and opinions about the world, thus avoiding being immersed in “filter bubbles” or “echo chambers” (Pariser, 2011). Hence, redundancy of content and relations leading to tribal mentality and degradation of online content’s quality, security and diversity would be avoided (Gillani et al., 2018).

Finally, Jenkins-Guarnieri et al. (2013) established a scale to measure the presence of Facebook in people’s lives. This scale

comprises variables that measure how people feel when they are not using Facebook or what is the role played by Facebook in people’s lives, amongst others.

Use of Facebook and Social Capital

Feeling connected to other people is considered an “essential human motivation” (Baumeister and Leary, 1995, p. 497). People use social networking sites massively and highly frequently because they feel a need to connect and to be in contact with others (Ellison et al., 2007; Quan-Haase et al., 2017). These sites are mainly used to maintain or strengthen offline relations, rather than meeting new people (Ellison et al., 2007; Quan-Haase and Young, 2010), and they faithfully mirror socialization in the offline reality (Dunbar et al., 2015). Socialization on social networking sites and the development of communities of support and learning (Hurt et al., 2012) promote the creation of information and knowledge that is spread through the Internet (Siemens and Weller, 2011; Dron and Anderson, 2014). Using them can help satisfy the needs for social relations and increase social capital (Gosling, 2009). In particular, there is proof that Facebook helps young people improve social capital (Grieve et al., 2013).

Bourdieu (1986) defined social capital as the set of resources (current or potential) that are embedded in our social networks and which can be accessed or mobilized when needed. This concept can be analyzed from different approaches. There are different forms of social capital. At an individual level, social capital is often divided between “bridging” and “bonding” (Putnam, 2000; Williams, 2006). Bonding social capital (BOSC) is found in individuals who have very close relationships and are emotionally close and it provides emotional support or access to scarce resources (Steinfeld et al., 2008). On the contrary, “bridging” social capital is found in individuals who have sporadic contact and it provides support for information and more diverse advice (Ellison et al., 2007). Bridging social capital (BSC) implies reaching more diverse information, being exposed to new ideas and have greater willingness to try different things. This form of social capital is related to well-being rates, such as self-esteem and life satisfaction (Bargh and McKenna, 2004; Huppert et al., 2004).

Use of Facebook and Self-Esteem

Particularly during transitions between the different stages of life and as a reaction to situations and events, young people have a vital need to maintain and/or reach self-esteem. Rosenberg (1965) defined self-esteem as negative and positive attitudes toward oneself. Self-esteem comprises all inner beliefs about ourselves. Kraut et al. (2002) formulated some hypotheses relating self-esteem, social capital and satisfaction with life. One of them, the so-called “social compensation,” explains that people with low self-esteem compensate for their difficulties by socializing on the Internet.

The second hypothesis, known as “the rich become richer” assumes that people with high levels of self-esteem also feel highly satisfied when they use the Internet; they are active online and have large amounts of friends. This means that those individuals who handle themselves well in the offline world will do so in

the online world. Zywicki and Danowski (2008) proved both hypotheses with a group of American students in the context of Facebook. They identified two groups of users: the first group comprised extroverted students, with high self-esteem and who were popular both in the offline and online worlds; the second group comprised introverted students, with low self-esteem and who tried to compensate for their lack of popularity in the offline world by being very active on Facebook. This might explain why Facebook users with low and high self-esteem use social networking sites.

Use of Facebook and Life Satisfaction

In the last decade, various studies have explored how the use of Internet could be related to psychological and social well-being, leading to diverse results (Kraut et al., 1998, 2002; McKenna and Bargh, 2000; Nie, 2001; Shaw and Gant, 2002; Valkenburg and Peter, 2007). One of these studies argues that the use of the Internet has a positive impact on psychological well-being (McKenna and Bargh, 2000; Shaw and Gant, 2002; Bargh and McKenna, 2004). Some research has proved, for instance, that the Internet could help people with low psychological well-being due to its socialization potential (Bargh and McKenna, 2004). Life satisfaction in relation with the use of Facebook in general has been frequently studied (Blachnio et al., 2016; Kross et al., 2013). Those individuals who are active on Facebook feel more satisfied with their lives as compared to those who do not use Facebook (Valenzuela et al., 2009; Oh et al., 2014). However, scientific evidence is still not conclusive about whether using Facebook enriches users' lives and makes them feel more satisfied with their lives (Kim and Lee, 2011).

Use of Facebook and Psychosocial Well-Being

Psychosocial well-being based on the use of social networking sites can be observed according to different aspects that relate to social support, perception of support, affection, company, and sense of community (Oh et al., 2014).

Research on social networking sites has identified social support as one of the most important reasons why people use these sites (Park et al., 2009). The perception of support received from the contacts individuals have on these sites is also a significant predictor for well-being (Vieno et al., 2007). Affection occurs as a result of interpersonal communication (Diener et al., 1991) and it is a combination of moods and emotional states that are considered on social networking sites as "the online assessment of life events" (Diener et al., 1999). Affection received from using social networking sites can be a key predictor for well-being.

Company is another factor that boosts well-being and it is obtained from using social networking sites (Hampton et al., 2011). Being together in these online environments can lead to a sense of community, which is defined as the feeling of belonging to a group or community whose members are perceived as interdependent and similar in terms of characteristics (Sarason, 1974). There are several studies on the relation between the sense of community and the use of social networking sites.

Results from these studies vary. However, in general terms, it has been found that when social networking sites are used, the sense of community is a predictor for satisfaction and well-being (Manago et al., 2012).

PURPOSE OF THE STUDY

Based on the theoretical framework analyzed, we focused our study on Facebook because it is a dominant social networking site. We presumed that DSF can be key variables for Social Work graduates to reach higher PeW. PeW was observed based on the variables of social capital, self-esteem, social satisfaction and SW. The aim was to find out whether Social Work graduates have the necessary digital skills to connect with their equals in a strategic manner, thus allowing them to obtain enough social capital, self-esteem, social satisfaction, and SW.

This assumption led us to verify the following hypothesis:

Social Work graduates who have enough digital skills can achieve social capital (Putnam, 2000), self-esteem (Rosenberg, 1989), life satisfaction (Pavot and Diener, 1993; Diener et al., 1997), and SW (Oh et al., 2014). These four measures are considered to provide well-being.

MATERIALS AND METHODS

Participants

The final strategic sample comprised 126 Social Work graduates from the University of Málaga (Spain). Participants were selected according to their group of age, from 21 to 23, with an average age of 21.6, and due to being considered as digital natives (Prensky, 2001). The assumption is that a series of innate abilities and practices related to the use of technology are conditioned by age, which is why the use of digital means occurs with greater spontaneity. We decided to confirm this hypothesis with Social Work graduates because socialization is considered a core element in Social Work. There were more women in the Social Work program. Analysing the sample according to participants' characteristics was not the aim of the study. However, we thought the presence of more women could strengthen the analysis given the fact that there is scientific evidence proving that women use Facebook toward achieving a goal and social capital more than men do (Garcia et al., 2016).

Instruments

In order to analyse the object a survey technique was used. Participants were previously requested their informed consent, thus allowing them to not fill in the questionnaire or leave it incomplete at any given moment.

A questionnaire was drawn up according to two main elements: DSF and PeW. PeW comprises the following variables: BSC and BOS, self-esteem (SE), life satisfaction (LS), and SW.

To assess the use of Facebook a scale comprising 40 items was drawn up. Items were adapted from the questionnaires of Hargittai and Hsieh (2010), Lampe et al. (2012), Jenkins-Guarnieri et al. (2013), and Ellison et al. (2014). These

questionnaires are answered through a five-step Likert-type scale. The dimensions to which questions relate are the following: DSF, strategic DSF, information search on Facebook, use and presence of Facebook in peoples' lives, actions toward maintaining relations on Facebook and tolerance to diversity on Facebook. **Table 1** shows descriptive statistics and Cronbach's alpha for these dimensions. All of them have good internal consistency, except for tolerance to diversity.

Social capital is assessed through a five-step scale comprising 14 items adapted from Ellison et al. (2007). They are related to two dimensions: BSC and BOSC. **Table 1** shows their statistics. Internal consistency of BSC is high, while it is more moderate for BOSC. Rosenberg's (1989) self-esteem scale was adapted, which comprises seven items with Likert-type format of five steps and which shows a good internal consistency, as it can be seen in **Table 1**.

The life satisfaction scale by Diener et al. (1997) and Pavot and Diener (1993) was also used. This scale comprises five Likert-type items of five steps and it shows a good internal consistency, as shown in **Table 1**.

Finally, the SW scale containing several questions was used (Oh et al., 2014). This scale comprises 13 items, whose statistics are shown in **Table 1**. It has also a good internal consistency rate.

Analysis Plan

Analyses were carried out through IBM SPSS Statistics 22. Descriptive statistics and correlations between variables were firstly calculated. **Table 1** shows descriptive statistics, Cronbach's alpha (α) and the matrix of correlations of DSF and PeW, which were used to carry out multiple regression analyses. Five multiple regressions were performed on the five digital skills considered as independent variables and subsequently as dependent variables, BSC and BOSC, self-esteem, life satisfaction, and SW.

RESULTS

Results obtained are shown in this section. Firstly, **Table 1** shows descriptive statistics and correlations. In this table it can be observed that intercorrelations between variables are high and statistically significant, except for self-esteem, satisfaction with life, and SW. Based on this matrix of correlations, the results from multiple regressions carried out are presented.

Table 2 comprises the six variables that refer to Facebook as predictors and BSC and BOSC as dependent variables. Both regressions are significant, although only strategic skills on Facebook predict significantly BSC. However, the effect on BOSC is lower (non-significant). DSF relate to a moderate increase (statistically non-significant) of both types of social capital. There is also a small relation between actions toward maintaining relations and BSC. Tolerance to diversity is weakly related to BSC.

Regressions were not statistically significant (see **Table 3**). Locally, it must be noted that strategic DSF increase self-esteem, life satisfaction and SW. Tolerance to diversity decreases self-esteem, SW (both significantly), and life satisfaction (moderately). The remaining relations are non-significant.

TABLE 1 | Matrix of correlations, descriptive statistics, and Cronbach's alpha (α) of digital skill on Facebook and personal well-being.

	1	2	3	4	5	6	7	8	9	10	11	M	SD	α
Digital skills on Facebook	1	0.418**	0.361**	0.348**	0.466**	0.403**	0.350**	0.271**	0.121	0.090	0.089	27.68	2.81	0.839
Strategic digital skills on Facebook	0.418**	1	0.502**	0.442**	0.508**	0.399**	0.421**	0.311**	0.153	0.129	0.160	37.47	9.42	0.891
Information search on Facebook	0.361**	0.502**	1	0.574**	0.591**	0.446**	0.355**	0.294**	-0.053	-0.009	0.052	11.08	4.37	0.833
Use and presence of Facebook in life	0.348**	0.442**	0.574**	1	0.590**	0.408**	0.363**	0.266**	0.002	0.031	0.032	28.06	9.51	0.914
Actions toward maintaining relations on Facebook	0.466**	0.508**	0.591**	0.590**	1	0.489**	0.429**	0.275**	-0.026	-0.014	0.009	17.68	4.91	0.884
Tolerance to diversity on Facebook	0.403**	0.399**	0.446**	0.408**	0.489**	1	0.328**	0.283**	-0.102	-0.060	-0.090	13.71	2.70	0.439
Bridging social capital	0.350**	0.421**	0.355**	0.363**	0.429**	0.328**	1	0.636**	-0.009	0.007	0.024	35.80	5.90	0.887
Bonding social capital	0.271**	0.311**	0.294**	0.266**	0.275**	0.283**	0.636**	1	0.058	-0.009	0.098	17.61	3.77	0.664
Self-esteem	0.121	0.153	-0.053	0.002	-0.026	-0.102	-0.009	0.058	1	0.474**	0.553**	30.48	3.78	0.786
Satisfaction with life	0.090	0.129	-0.009	0.031	-0.014	-0.060	0.007	-0.009	0.474**	1	0.844**	20.51	2.96	0.804
Psychosocial well-being	0.089	0.160	0.052	0.032	0.009	-0.090	0.024	0.098	0.553**	0.844**	1	31.52	4.85	0.771

** $p < 0.01$, * $p < 0.05$.

TABLE 2 | Multiple regression. Digital skills as predictor for bridging and bonding social capital.

Use of Facebook	Bridging social capital			Bonding social capital		
	B	SE	β	B	SE	β
(Constant)	16.563	4.721		7.635	3.238	
Digital skills on Facebook	0.247	0.196	0.118	0.145	0.134	0.108
Strategic digital skills on Facebook	0.129	0.062	0.206**	0.057	0.042	0.144
Information search on Facebook	0.041	0.146	0.030	0.081	0.100	0.095
Use and presence of Facebook in life	0.054	0.065	0.087	0.025	0.045	0.063
Actions toward maintaining relations on Facebook	0.201	0.137	0.167	0.002	0.094	0.003
Tolerance to diversity on Facebook	0.149	0.209	0.068	0.158	0.143	0.113
	$R^2 = 0.26$			$R^2 = 0.109$		
	$F = 7.13, p < 0.001$			$F = 3.54, p < 0.01$		

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE 3 | Multiple regression. Digital skills as predictor for self-esteem, satisfaction with life, and psychosocial well-being.

Use of Facebook	Self-esteem			Satisfaction with life			Psychosocial well-being		
	B	SE	β	B	SE	β	B	SE	β
(Constant)	26.125	3.374		18.008	2.702		28.308	4.382	
Digital skills on Facebook	0.222	0.140	0.165	0.116	0.112	0.110	0.170	0.182	0.099
Strategic digital skills on Facebook	0.100	0.044	0.249**	0.059	0.035	0.189*	0.110	0.057	0.214**
Information search on Facebook	-0.106	0.104	-0.122	-0.041	0.083	-0.060	0.042	0.135	0.038
Use and presence of Facebook in life	0.012	0.047	0.030	0.016	0.037	0.050	0.003	0.060	0.006
Actions toward maintaining relations on Facebook	-0.065	0.098	-0.084	-0.055	0.078	-0.092	-0.074	0.127	-0.075
Tolerance to diversity on Facebook	-0.259	0.149	-0.184*	-0.141	0.119	-0.128	-0.355	0.194	-0.197*
	$R^2 = 0.086$			$R^2 = 0.045$			$R^2 = 0.62$		
	$F = 1.86, p = 0.09$			$F = 0.938, p = 0.47$			$F = 1.31, p = 0.25$		

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

DISCUSSION

In little more than a decade, social networking sites have shaken up the way in which we interact and connect to each other. Their effect on PeW has been analyzed, leading to diverse results. Our approach suggested the novelty of finding out whether the different ways of participating in these socialization platforms can lead to achieving PeW. In order to do so, we considered digital skills as a relevant factor. Results show that when young people, in this case Social Work graduates, have the necessary DSF, they tend to establish and maintain strategic relations that provide key information and improve their social positions. This means that when young people know how to identify appropriate information, when they connect to their closest circle but also to those who they see occasionally, when they plan activities with opinions under their own initiative, when they participate in groups deliberately to achieve a specific goal, when they know who to add as a friend and who not to have amongst their contacts, based on the information shared by these, and when they know how to work together through Facebook, they reach social capital. Having strategic DSF also improves young graduates' self-esteem, life satisfaction and SW. This means that when young people acquire necessary strategic skills to use Facebook to achieve a specific goal, they feel better as they

have a more positive image of themselves. The sense of security provided by strategic digital skills can also encourage them to feel more satisfied with their lives. The psychosocial variable, which considers indicators of social support, perception of support, affection, company and sense of community has also been observed to increase when young people have such digital skills.

However, establishing relations and reaching social capital, which allows reaching more diverse information, does not imply being more tolerant to diversity. This suggests that higher tolerance to diversity makes individuals be exposed with higher intensity in the network to discrepant content that is contrary to their own opinions. This can lead to unease due to seeing their beliefs questioned and feeling that those other individuals are right and they are not. In sum, it seems that strategic digital skills can influence the well-being of Social Work young graduates.

LIMITATIONS

This study focuses on a group of very specific subjects, that is, Social Work young graduates. Despite the fact that such sample was deliberately chosen, we consider it convenient to broaden it and include young people from other disciplines, so a more diverse sample with varied sociodemographic characteristics can

be studied. In future studies, we must broaden the sample in order to find out if scientific evidence obtained from the present study apply to larger samples.

CONCLUSION

Social networking sites have become socialization tools that allow reaching information and establishing networks with certain orientation toward achieving specific goals. Promoting strategic digital skills from the educational Social Work is essential, as it allows students to understand how to use these tools for their own benefit and for the process of digital inclusion that they will have to carry out. Amongst young adults, relations with their peers on social networking sites are important for obtaining benefits in the offline reality, such as social capital and personal and SW (Steinfeld et al., 2008). Taking into consideration the academic context, Brown and Adler (2008) note that adopting these means requires a radical swift in the pedagogical approach with “revolutionary” consequences for academic institutions or, at least, to be considered by teachers. Junco (2014) noted that using these social means in higher education can lead to reconnect academic institutions with new generations of students. Increasing the use of social networking sites in education would make students be more engaged and determined with their studies (Junco, 2012). This is the reason why more and more researchers and education staff

are using social networking sites for the academic processes of teaching-learning (Bosch, 2009). This is even more important for disciplines such as Social Work and other social sciences, in which socialization and community promotion are core elements. It is essential to incorporate these skills in academic curricula in order to boost the benefits and mitigate the harm of using social networking sites.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Ethics Committee of University of Málaga. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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Young University Students' Academic Self-Regulation Profiles and Their Associated Procrastination: Autonomous Functioning Requires Self-Regulated Operations

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Students' autonomous self-regulation requires not only self-motivation but also volition or transforming motivation into specific behavioral intentions and following through. Self-regulation includes self-motivation (i.e., goal setting, learning from mistakes) and volitional regulation (i.e., strategic decision making). Furthermore, individual differences, like trait-level perseverance, significantly influence both motivation and volition. Procrastination has been defined as a volitional self-regulation problem, which involves delaying what one had intended to do, in spite of being motivated, and regardless of anticipating adverse consequences. Thus, it is a tendency toward dysregulated behavior - which may stabilize with age - in which subpar self-regulation may lead to procrastination. As a form of dysregulation, procrastination adversely affects young people's autonomy and well-being by limiting their personal growth. Previous research has confirmed a negative relationship between self-regulation and procrastination. However, more precision is demanded in: (a) examining the intertwined roles of motivational and volitional aspects of self-regulation for procrastination, and (b) distinguishing between different medium, and between medium and high levels of self-regulation. Consequently, it has been suggested that this could be accomplished by means of person-centered analyses, aimed at identifying distinct naturally occurring students' self-regulation profiles. These profiles would inform differentiated pedagogical approaches to promote self-regulation strategies counteracting procrastination tendencies. We used cluster analysis to identify academic self-regulation profiles and analyze their relationships with procrastination. Participants were 994 young university students from one public and one private university in Catalonia (41.0% men, 58.4% women, and 0.5% non-binary gender). Their age ranged from 18 to 24 years ($M = 19.69$, $SD = 1.41$). Sampling method was intentional, with proportional quotas by sex, academic year, and area of knowledge. The instrument used for data collection incorporated the Short Spanish Self-Regulation Questionnaire (SSSRQ), which includes four dimensions: perseverance, learning from mistakes,

goal setting, and decision making; and the Pure Procrastination Scale (PPS), which considers three dimensions: decisional procrastination, implemental delay and lateness. Results obtained by means of cluster analysis distinguished between high and low academic self-regulation profiles, and also between these and two different medium self-regulation profiles, each with specific emphases on particular volitional shortcomings (i.e., weaknesses in decision-making skills and perseverance). These profiles and their relations with procrastination dimensions allow a joint evaluation via structural equation modeling (SEM) to test cognitive motivational strategies (goal setting, decision making, learning from mistakes, and decisional procrastination) together with behavioral aspects (perseverance, implemental delay), considered in the constructs of academic self-regulation and pure procrastination. From this joint evaluation, guidelines are suggested for promoting autonomy among young university students to the detriment of procrastination, thereby – and in accordance with previous research – enhancing students' well-being and growth.

Keywords: autonomy, student, self-regulation, procrastination, youth, well-being

INTRODUCTION

Developing the capacity to exercise autonomy from a young age has been deeply studied with the self-determination theory (SDT; Ryan and Deci, 2017), as well as with other psychological approaches. According to SDT, autonomous functioning is an indispensable aspect of people's innate tendencies toward psychological growth, integration, and well-being. Based on the original works of Heider (1958) and De Charms (1968), SDT defines autonomy as the need to self-regulate one's experiences and actions, entailing a form of functioning associated with feeling volitional, congruent, and integrated (Ryan and Deci, 2017). By definition, autonomy depends on the capacity for self-reflective endorsement of one's actions, and autonomy need satisfaction depends on behavior being "self-endorsed or congruent" with "authentic interests and values" (Ryan and Deci, 2017, p. 10). Autonomy corresponds to people who willingly comply or wholeheartedly consent to engage in behaviors based on motives which they would also endorse if reflecting upon them autonomously (which do not need to be self-initiated or lack external inputs) (Ryan and Deci, 2006, 2017). Contrarily, people acting against their volition experience incongruence and conflict, thus limiting their well-being.

Autonomy Need Satisfaction Through Self-Regulation Operations

While autonomy can be considered a formal or abstract need [e.g., "the need for self-regulation of experience and action" (Ryan and Deci, 2017)], self-regulation can be understood as the capacity for exercising the operations which the satisfaction of this need entails. In other words, the need for being or feeling autonomous can only be satisfied through the exercise of self-motivation, volition, and behavioral self-regulation. In this regard, the construct of academic self-regulation has been defined – based on the operations it entails – as the "self-generated thoughts, feelings, and actions for attaining academic goals," which are "not only important during the

development of a skill" but also later during its performance (Zimmerman, 1998, p. 73). Consequently, autonomy need satisfaction in learning would mean being able to autonomously endorse thoughts, feelings, and actions oriented toward reaching goals in academic learning.

From a pedagogical standpoint, we argue that it is relevant to note that self-motivation, volition, and self-regulation of behavior are abilities based on operations, processes, and strategies and, as such, can be developed and improved through supportive conditions of social contexts (Ryan and Deci, 2017). We think that schools where students' autonomy is aided can help them in deploying self-motivation processes and self-regulation strategies, as it is at this operational level that students can act upon their autonomous functioning and improve it.

Educational research on self-regulation strives to understand proactive efforts in learning, such as personal initiative, resourcefulness, persistence, and responsibility (Zimmerman, 1998; Dewitte and Lens, 2000). These proactive properties of autonomous functioning can only arise if the learner is self-motivated and has competence for self-directed learning; thus, most models of self-regulated learning include these two aspects: self-motivation; and cognitive, metacognitive, and behavioral strategies and processes (Pintrich and De Groot, 1990; Zimmerman, 1995, 1998). Given that these strategies and processes can be learned and improved, self-regulation is "no longer viewed as a fixed characteristic of students but rather as a set of context-specific processes that are selectively used to succeed in school" (Zimmerman, 1998, p. 74).

Zimmerman (1998) argues that students learn best when able to self-regulate major dimensions of their learning (motives, methods, behaviors, environment, company, and time). This occurs in a four-step cycle including: (1) self-evaluation, (2) goal setting and strategic planning, (3) implementation, and (4) outcome evaluation. Analogously to this cyclical model suggested by Zimmerman (1998), recent research assessing self-regulation in university students has found a four-factor structure comprising of perseverance, goal setting, decision

making, and learning from mistakes (Pichardo et al., 2014). In this model, learning from mistakes can be understood as a last phase, which may blend into a renewed first phase of goal setting, with both of these phases representing a deliberative motivational dimension of self-regulation occurring before and after performance (Dewitte and Lens, 2000). Whereas the intermediate phase of decision making may represent the cognitive, meta-cognitive, and behavioral aspects of self-regulated learning implementation strategies, in other words, “self-generated thoughts, feelings, and actions” aimed at academic success (Pintrich and De Groot, 1990; Dewitte and Lens, 2000), spanning across initial goal pursuit, planning, avoiding temptations, controlling attention, and dealing with difficulties such as distal goals or fear of failure, while executing goal-oriented behaviors (Steel et al., 2018).

Both the motivational dimension, occurring “before” and “after” the actual practice, and the strategic-operational dimension, happening “during” implementation of behavior are indispensable for the cycle of self-regulation to influence learning outcomes positively; hence, these two dimensions are key considerations in models of self-regulated learning.

Recent research has found that three elements are key to understanding procrastination over time: pacing style (the pace and time at which the person decides, plans, and carries out courses of action), intention-action gap (the times the person fails to enact their own intentions), and goal striving (the effort exerted by the person over time to reach their goals) (Steel et al., 2018). Also, these three elements point in the direction of distinct dimensions having to work well together over time, such as having a timely strategy (which relates closely with constructs like goal setting, decision making, and learning from mistakes), and exerting effort over time (closely related with constructs such as perseverance). Thus, it is possible to expect that perseverance could be linked with goal striving, whereas goal setting, decision making, and learning from mistakes could potentially be linked with pacing style or intention-action gap through, for example, outlining the goals early, with a clear planning and intention-action gap risk assessment. Consequently, intention cannot be realized without strategy, nor will strategy ever yield results without perseverance or goal striving.

Furthermore, it has been argued that self-regulation includes personal characteristics such as “a person’s trait-level perseverance and passion for long-term goals” (Duckworth et al., 2007), sometimes referred to as *grit*, which is argued to be an individual trait and has drawn attention from educational researchers given its consistent prediction of study and achievement outcomes (Wolters and Hussain, 2015). Studies focusing on the relationships between perseverance and preference for long term goals, self-regulation, motivation, and procrastination suggest that perseverance or grit may influence variables such as self-motivation (including, for instance, goal setting and learning from mistakes) and use of cognitive and metacognitive strategies of self-regulated learning (spanning across aspects like goal setting, goal pursuit, and decision making), which in turn may potentially act as mediators between trait-level individual differences in perseverance and

outcomes such as learning, achievement, and procrastination (Wolters and Hussain, 2015).

Procrastination: Volitional Self-Regulation Failure Impairs Growth and Well-Being

The notion that self-regulation entails not only self-motivation and skill but also operations and strategies at the cognitive, metacognitive, and behavioral levels has come partly from studies focusing on volitional dysregulation, called procrastination, a consistent failure to do what one is supposed to do in order to reach their own goals (Lay, 1986). By showing that some students consistently outperformed their peers, regardless of similar motivation and skill, early studies showed that procrastination was indeed a distinct problem. These findings stirred interest in volitional differences in self-regulation, which may account for academic success or failure, that is, differences in dispositions or abilities to “follow through with one’s intentions” (Dewitte and Lens, 2000).

Procrastination has been found to be unrelated to general intelligence (Ferrari, 1991), and procrastinators report a similar number of study intentions than non-procrastinators, but the latter enact more of those intentions (Dewitte and Lens, 2000). Similarly, research has stressed that intention-action gaps, which is implementing a task with delay or being late, are explained by the failure to transform intention into action, but not by intentions, which show no differences between people who procrastinate and who do not (Steel et al., 2018). These antecedents show that volitional problems, such as procrastination, can independently predict variations in critical study outcomes, such as learning or performance, over and above motivation and skill, possibly even mediating between the latter and learning or achievement outcomes (Dewitte and Lens, 2000).

However, procrastination has proven to be a construct with multiple facets (Svartdal and Steel, 2017), including decisional procrastination, linked with subpar planning and decision making (Mann, 1982; Mann et al., 1997); general procrastination, centered on behavioral implemental deLay (1986); and a lateness factor, linked with failing to meet deadlines (McCown and Johnson, 1989).

Furthermore, cyclical models of self-regulation (Zimmerman, 1998) suggest that dysregulations such as poor decision-making skills or low perseverance may both lead to procrastination, low achievement and, thus, to frustration and lower well-being. As a result, procrastination may adversely influence self-evaluations and self-efficacy beliefs, and subsequent motivation and goal setting. Thus, failures in self-regulation are at the core of academic procrastination and pose serious threats to students’ academic achievement and subjective well-being (Steel and Klingsieck, 2016).

These antecedents highlight the pedagogical urgency in supporting young students’ autonomy, growth, and well-being by helping them in overcoming volitional problems, such as the difficulty to transform their intentions or motives into action (Lay, 1986), and the inability to create adequate mental representations of the operations required to successfully tackle

the target activity (Dewitte and Lens, 2000). In this regard, students who procrastinate typically face one of two problems. Sometimes, they fail to transform their motivation into volition by failing to convert their goals into precise implemental intentions aimed at enacting specific goal-oriented behaviors, in an adequate and timely manner; they also have been found to choose inadequate implemental intentions, goals, or methods, which grant little support for success. These two aspects, closely linked with goal setting, decision making, and learning form mistakes (which may overlap in time), have also been approached from a longitudinal perspective, in which goal choice and goal pursuit represent two distinct moments: choosing a goal and setting up an initial plan to pursue it (Steel et al., 2018).

THE PRESENT STUDY

This research combines the interpretations of data offered by the SEM and the cluster analysis. As justified in the following paragraphs – and demonstrated in the Results and Discussion sections – the use of both methods allows the visualization of both the combination between self-regulation and procrastination, and also the identification of how both constructs can manifest in the students. This could potentially offer, in future researches, the possibility of implementing differentiated strategies according to the profile of each individual.

Full Structural Equation Model for Self-Regulation and Pure Procrastination

The main goal of the present study was to test a structural model of self-regulation and procrastination. Self-regulation and procrastination are closely linked constructs (Steel and Klingsieck, 2016; Steel et al., 2018). Self-regulation includes a dimension of perseverance, as well as self-motivational and strategic aspects (Dewitte and Lens, 2000; Garzón-Umerenkova et al., 2017), whereas procrastination is a self-regulation failure (Steel, 2010), which includes a distinct emphasis on implemental or decisional delays, prompting the failure to meet deadlines, known as lateness factor (Svartdal and Steel, 2017).

However, the pathways through which procrastination may be counteracted by self-regulation are subject to much discussion (Dewitte and Lens, 2000; Svartdal and Steel, 2017). This is especially true given that self-regulation is based on conscious operations and strategies that can supposedly be learned and improved (Pintrich and De Groot, 1990; Zimmerman, 2008), whereas procrastination has been argued to be an irrational deLay (1986), rooted in personal trait-like individual differences (Steel, 2010).

Based on the measurement of three distinct facets of procrastination (implemental delay, decisional procrastination, and lateness; Svartdal and Steel, 2017) we hypothesized a structural model in which procrastination variations were predicted both by a pathway from trait-level perseverance (which is supposed to be difficult to influence, given that it is considered a trait) to implemental delay; and by a pathway from self-regulatory strategies, such as learning from mistakes, goal setting, and

decision making (which are supposed to allow for development and improvement) to decisional procrastination.

Self-motivation and use of self-regulated learning strategies have received insufficient empirical research regarding students' academic achievement (Wolters and Hussain, 2015). Consequently, we asked ourselves if only personal trait-like characteristics (such as perseverance) would account for procrastination variations, or if other distinct aspects of self-regulation, such as self-motivational aspects (goal-setting, learning from mistakes), or even strategic aspects (decision making), could also play specific roles.

The present work hypothesized that self-regulation strategies and processes, such as decision making, goal setting, and learning from mistakes, could be expected to counteract adverse procrastination tendencies in young adults to some extent, by counteracting decisional procrastination over and above the effects of personal trait-level differences, such as perseverance, which were also considered. Even though decisional procrastination has been linked with personal aspects of character (rather than context), explanations have also included aspects like the need for cognition and excessive (metacognitive) clutter, that distracts from decision making (Ferrari et al., 2018). In this regard, self-regulated learning strategies have been found to play critical mediation roles between people's beliefs about procrastination and decisional procrastination (De Palo et al., 2017), suggesting that, even if not the root of the problem, self-regulation strategies – especially time management – may be key in fostering its prevention. Furthermore, excessive meta-cognition or clutter may be responsible for decisional procrastination, thus, it has been reported that decisional procrastination could be alleviated by attention control (Fernie et al., 2016). Thus, we tested if decision making skills would counteract decisional procrastination through aiding students in keeping their attention under control, that is, focused on the task at hand, given that using cognition to decide and plan actions may help them maintain focus.

Furthermore, we tested if perseverance could positively influence these motivational and strategic aspects of self-regulation and if, in turn, self-regulation strategies could influence decisional procrastination, independent of the effects of trait-level perseverance.

Thus, to analyze particular pathways connecting specific aspects of self-regulation with relevant dimensions of procrastination, we examined three distinct models of self-regulation and pure procrastination via structural equation modeling (SEM).

Taking into account a four-factor self-regulation model (Pichardo et al., 2014; Garzón-Umerenkova et al., 2017) and a three-factor pure procrastination model (Svartdal and Steel, 2017), we hypothesized an integrated seven-factor model with the following characteristics.

The four factors proposed by Pichardo et al. (2014) and validated by Garzón-Umerenkova et al. (2017) seem theoretically appropriate to investigate self-regulation processes in young university students, given that these factors distinguish between a trait-like characteristic (perseverance), a self-motivation

dimension of deliberative nature (happening before-and-after action), including goal setting and learning from mistakes, and a strategic dimension, including decision making.

Perseverance has been found to be a stable trait-like characteristic linked with preference for long-term goals, which is expected to influence both student's motivation and use of self-regulation strategies; these theoretical links, however, have received scarce empirical research (Pintrich and De Groot, 1990; Wolters and Hussain, 2015). Consequently, we hypothesized that perseverance would positively influence self-motivation, such as learning from mistakes (H₁) and goal setting (H₂), and the use of self-regulation strategies, such as decision making (H₃). Furthermore, learning from mistakes (motivational deliberative state happening after action) has been reported to inform subsequent goal-setting and decision making (Zimmerman, 2008); thus we anticipated these paths in the model to be significant and positive: from learning from mistakes to goal setting (H₄) and decision making (H₅), as well as from goal setting to decision making (H₆).

As regards the connections between self-regulation and procrastination dimensions, and in line with theory (Lay, 1986; Svartdal and Steel, 2017), we hypothesized that perseverance would negatively and robustly influence implemental delay (H₇), given that, in order to be considered an irrational delay rooted in individual differences, significant amounts of the variance of this aspect should be explained through a direct path from trait-like perseverance, and this path should be independent of the strategic dimensions of self-regulation, because, contrarily, the latter can supposedly be learned and improved. As perseverance has been reported to influence not only behavioral dimensions but also cognitive dimensions of self-regulated learning through a greater awareness of and conscious centredness on intended action courses (Pintrich and De Groot, 1990; Wolters and Hussain, 2015), we also anticipated that perseverance would negatively and moderately influence decisional procrastination, given that perseverant students may maintain greater awareness of intended action courses, helping them in finding criteria for decision making from their already set goals and their planning (H₈).

Furthermore, we anticipated that a strategic dimension of self-regulation (decision making) would not only be influenced by motivational dimensions of learning from mistakes (H₄) and goal setting (H₆), but that, in turn, it would influence students' decisional procrastination negatively and robustly (H₉), thus alleviating implemental delay and lateness problems indirectly (see **Figure 1**). We expected decision making to influence decisional procrastination negatively and robustly (H₁₀).

In regards to mediation effects, we anticipated that a strategic dimension of self-regulation (decision making) would act as a mediator for motivational aspects (learning from mistakes and goal setting) to exert their protective effects against decisional procrastination, given that similar mediations of strategic self-regulation aspects between motivation and learning outcomes have been suggested to be relevant in academic learning (Pintrich and De Groot, 1990).

The goal of this theory-driven model is to inform the discussion about procrastination defined as an irrational

delay or volitional self-regulation problem, within which it is relevant to test: (a) pathways connecting self-regulation dimensions (learning from mistakes, goal setting, decision making, and perseverance) with procrastination dimensions (decisional procrastination, implemental delay and lateness); and (b) the potential mediating effect of decision-making strategies between motivational aspects of self-regulation and decisional procrastination.

Thus, this model allows for a discussion of the margins for conscious strategic self-regulated behaviors to counteract procrastination by comparing two distinct pathways connecting both personal trait like characteristics (perseverance) with implemental delay; and self-conscious dimensions of self-regulation (self-motivation, including learning from mistakes and goal setting, and decision making) with decisional procrastination.

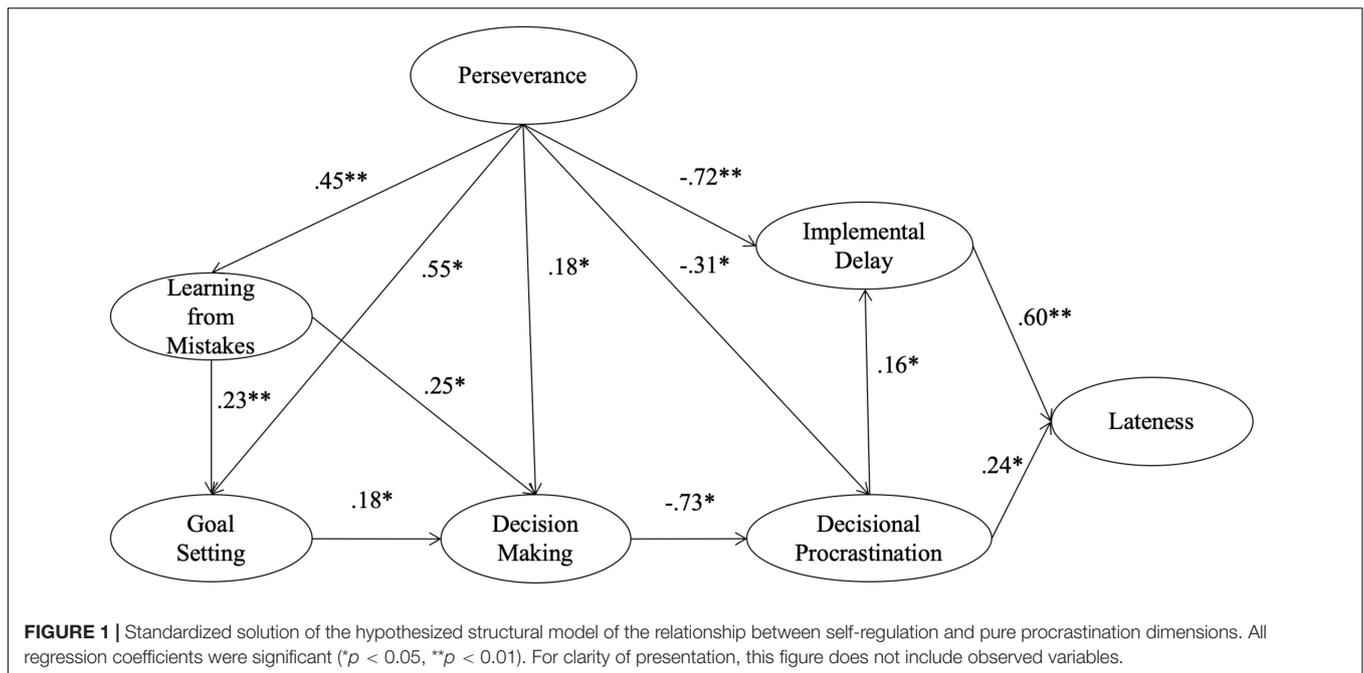
Cluster Analyses

Based on the two main pathways hypothesized to counteract procrastination in our proposed model (perseverance to implemental delay, and strategic aspects of self-regulation to decisional procrastination), we asked ourselves if groupings of students would naturally occur based on their levels of self-regulation dimensions of goal setting, decision making, learning from mistakes, and perseverance (bearing in mind that only the last factor is supposed to be a trait like characteristic, whereas the first three factors are supposed to be possible to be learned and improved).

Prior research has pointed toward difficulty in distinguishing between medium, and between medium and high levels of self-regulation, thus suggesting the use of a person-centered approach to address this issue (Garzón-Umerenkova et al., 2017). In line with this, it has been argued that procrastination-related typologies may address the complex multifaceted nature of procrastination in a more simple way, serving as orientation for pedagogues to inform their practice with empirically based and testable hypotheses (Steel and Klingsieck, 2016).

Thus, we used a person-centered approach (i.e., cluster analysis) to examine different self-regulation profiles, using four self-regulation dimensions (Pichardo et al., 2014; Garzón-Umerenkova et al., 2017) as partition variables (i.e., goal setting, learning from mistakes, decision making, and perseverance), in order to examine distinct naturally occurring academic self-regulation profiles, with distinct shortcomings, among young university students. Regarding self-regulatory strategies, we anticipated that decision making skills would be critical in differentiating between students with medium levels of self-regulation, as strategic aspects of self-regulatory behaviors happen during practice (and not only at an intention level before or after practice, in which procrastinators and non-procrastinators have not been found to diverge). Furthermore, we used emerging profiles to examine between-group differences in procrastination and its dimensions of decisional procrastination, implemental delay, and lateness.

Results from the full structural model and from the cluster analyses are discussed with the goal of informing pedagogues who want to address volitional self-regulation problems in order to



support young student's autonomy and well-being in simplified and group-specific adapted ways.

(15/1999: Jefatura del Estado, 1999), and the Declaration of Helsinki (World Medical Association, 2013).

MATERIALS AND METHODS

Participants

Participants were 994 young university students from one public and one private university in Catalonia (41.0% men, 58.4% women, and 0.5% non-binary gender). Their age ranged from 18 to 24 years ($M = 19.69$, $SD = 1.41$). Sampling method was intentional, with proportional quotas by sex, academic year (first, second, or third), and area of knowledge.

Procedure

We contacted regular teachers in one public and one private university and asked them to allow researchers to address their students during class. Students voluntarily and anonymously participated by completing standardized 12-minute questionnaires, via an online platform, which was made available to them through a link for the duration of each data collection session.

The ethical requirements of the Ethics Committee of the University of Barcelona (University of Barcelona's Bioethics Commission, CBUB – Institutional Review Board IRB00003099) were applied to the current study, which meant that additional approval for the research was not required because the data obtained did not involve animal or clinical experimentation. Additionally, this study complies with the recommendations of the General Council of Spanish Psychological Associations (Consejo General de Colegios de Psicólogos), the Spanish Organic Law on Data Protection

Instruments

The instrument used for data collection incorporated two scales. Firstly, the *Spanish Short Self-Regulation Questionnaire* (SSSRQ), proposed by Pichardo et al. (2014), derived from Brown et al. (1999) and validated through Rasch analysis, for Spanish speaking participants, by Garzón-Umerenkova et al. (2017). Evidence for the reliability of this questionnaire has been provided in the original study (i.e., Garzón-Umerenkova et al., 2017) with alphas ranging from 0.71 to 0.81 in its four dimensions and 0.87 in the total questionnaire. The SSSRQ is composed of 17 items divided into four dimensions: goal setting (e.g., "I set goals for myself and keep track of my progress"); perseverance (e.g., "I have a lot of willpower"); decision making (e.g., "I have trouble making up my mind about things"); and learning from mistakes (e.g., "I don't seem to learn from my mistakes"). The answers are collected on a Likert scale ranging from 1 (not at all like me) to 5 (very much like me).

Secondly, we used the *Pure Procrastination Scale* (PPS; Steel, 2010; Svartdal and Steel, 2017) consisting of 12 items stemming from the General Procrastination Scale (Lay, 1986), the Decisional Procrastination Questionnaire (Mann, 1982; Mann et al., 1997), and the Adult Inventory of Procrastination (McCown and Johnson, 1989), translated into Spanish by Díaz-Morales et al. (2006), which has shown its relevance compared with other measures via factor analysis (Steel, 2010; Svartdal and Steel, 2017). The PPS (Svartdal and Steel, 2017) includes three dimensions: decisional procrastination (e.g., "I delay making decision until it's too late"), implemental delay (e.g., "I am continually saying 'I'll do it tomorrow'."), and lateness (e.g.,

“I don’t get things done on time”). Evidence for the reliability of this scale has been provided in the original study (i.e., Svartdal and Steel, 2017) with alphas ranging from 0.83 to 0.87 in the dimensions and 0.92 in the total questionnaire. The answers are collected on a Likert scale ranging from 1 (very seldom or not at all like me) to 5 (very often or very true of me).

Data Analysis

Statistical analyses were performed with IBM SPSS Statistics version 20 and IBM SPSS AMOS version 24. Data was screened to delete unfinished and unengaged responses (excluding questionnaires reporting only two or less response categories throughout one whole scale). Based on the resulting participant base ($N = 994$) we examined means, standard deviations, and bivariate correlations between study variables. Cronbach alpha coefficients, composite reliability (CR), and extracted mean variance (AVE) were also examined (Table 1).

Three different self-regulation and pure procrastination measurement models were compared via confirmatory factor analysis (CFA) in order to proceed to a full structural equation modeling (SEM) phase that would test the theoretical pathways connecting both constructs.

Furthermore, we conducted Ward’s method hierarchical cluster analyses, based on squared Euclidean distances, using dimensions of self-regulation as partition variables, in order to identify naturally occurring groups of students with distinct self-regulation profiles. Based on fusion coefficients and on the proportions of variance explained in partition variables, we chose the four-cluster solution for further analysis. Subsequently, iterative K-means clustering analyses were conducted, using final cluster centers from the hierarchical clustering as initial cluster centers for the iterative method, in order to yield more precise groupings and confirm the stability of the solutions by means of Cohen’s kappa. The final cluster solution is depicted in Figure 1, based on Z-values of the final cluster centers in partition variables. Lastly, between-groups differences in dimensions of self-regulation and procrastination were analyzed with ANOVA, as evidence contributing to convergent validity.

RESULTS

Descriptive Statistics, Reliability and Bivariate Correlations

Table 1 shows overall mean scores, standard deviations, range, skewness, kurtosis, Cronbach’s alphas, average variance explained (AVE), and composite reliability (CR) for the study variables. With respect to self-regulation dimensions, students’ responses showed that values for the self-motivational aspects of goal setting and learning from mistakes were above the mean value of the questionnaire, while perseverance and the strategic aspect of decision making were under the mean value. In relation to the dimensions of pure procrastination, students’ reported values in lateness were below the mean value of the questionnaire, whereas decisional procrastination and

implemental delay were above this value. The internal reliability coefficients for all the scales and subscales were adequate. Cronbach’s alphas and composite reliability ranged from 0.68 to 0.85, whereas AVEs ranged from 0.36 to 0.60 (Table 1). The convergent validity of a construct can be considered adequate when AVE is less than 0.50 but CR is higher than 0.60 (Fornell and Larcker, 1981).

Gender-differences (not tabulated) showed men’s greater tendency toward procrastination and were found for implemental delay ($M_{\text{men}} = 3.38$, $SD_{\text{men}} = 0.99$; $M_{\text{women}} = 3.18$, $SD_{\text{women}} = 1.05$; $t = 2.891$, $p = 0.004$), lateness ($M_{\text{men}} = 2.21$, $SD_{\text{men}} = 0.85$; $M_{\text{women}} = 1.97$, $SD_{\text{women}} = 0.81$; $t = 4.194$, $p < 0.001$) and overall pure procrastination ($M_{\text{men}} = 2.81$, $SD_{\text{men}} = 0.76$; $M_{\text{women}} = 2.66$, $SD_{\text{women}} = 0.77$; $t = 3.039$, $p = 0.002$). However, decisional procrastination showed no gender-differences. Regarding self-regulation, women showed greater scores than men in goal setting ($M_{\text{men}} = 3.37$, $SD_{\text{men}} = 0.87$; $M_{\text{women}} = 3.59$, $SD_{\text{women}} = 0.83$; $t = -3.736$, $p < 0.001$) and perseverance ($M_{\text{men}} = 3.01$, $SD_{\text{men}} = 0.85$; $M_{\text{women}} = 3.23$, $SD_{\text{women}} = 0.82$; $t = -2.523$, $p = 0.012$), but lesser scores in decision making ($M_{\text{men}} = 3.02$, $SD_{\text{men}} = 0.85$; $M_{\text{women}} = 2.88$, $SD_{\text{women}} = 0.89$; $t = 2.280$, $p = 0.023$). Furthermore, no gender-differences were found in learning from mistakes. As a result, overall self-regulation scores showed no gender-differences.

Table 2 shows bivariate correlations between study variables. The four dimensions of self-regulation and the three dimensions of procrastination, respectively, showed robust internal consistency. Because inter-factor correlations are below 0.85 and following Kline (2005) criteria, factor discrimination can be established among the instruments’ dimensions, providing evidence of discriminant validity. Overall, and as expected, self-regulation and its dimensions were robustly and negatively correlated with pure procrastination and its corresponding dimensions.

Three Measurement Models and One Full SEM for Self-Regulation and Pure Procrastination

Prior to analyses concerning the hypothesized structural model, we compared three measurement models (Table 3) to check the factorial structure of the questionnaires. Measurement model 1 comprised seven factors, considering the four-factor self-regulation model (Pichardo et al., 2014; Garzón-Umerenkova et al., 2017), and the three-factor pure procrastination model (Svartdal and Steel, 2017). Measurement model 2 comprised five factors, considering four factors for self-regulation, but one single factor for pure procrastination. Measurement model 3 comprised four factors, considering three factors for pure procrastination, but one single factor for self-regulation.

Measurement model 1 showed better fit to the data than models 2 or 3 (Table 3). However, five items did not perform well and were dropped (see Appendix) in line with recommendations from the authors of the SSSRQ questionnaire, arguing that a smaller number of items, reflectively explaining equal or greater amounts of variation in a factor

TABLE 1 | Descriptive statistics and reliability of study variables ($N = 994$).

	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Skew</i>	<i>Kurtosis</i>	<i>Alpha</i>	<i>AVE</i>	<i>CR</i>
<i>Self-Regulation</i>	3.27	0.62	1.21	4.83	-0.26	-0.06	0.85	0.57	0.85
Goal setting	3.54	0.79	1	5	-0.52	-0.03	0.83	0.55	0.83
Perseverance	3.18	0.82	1	5	-0.12	-0.42	0.72	0.46	0.72
Decision making	2.91	0.93	1	5	0.00	-0.60	0.78	0.53	0.77
Learning from mistakes	3.45	0.88	1	5	-0.28	-0.54	0.82	0.60	0.82
<i>Pure procrastination</i>	2.73	0.76	1	5	0.15	-0.46	0.84	0.55	0.84
Implemental delay	3.25	1.02	1	5	-0.17	-0.82	0.81	0.51	0.81
Decisional procrastination	2.86	0.97	1	5	0.16	-0.61	0.70	0.44	0.70
Lateness	2.08	0.84	1	5	0.67	-0.10	0.68	0.36	0.68

Range variables: 1–5. *AVE* = average variance extracted; *CR* = composite reliability.

TABLE 2 | Bivariate correlations between study variables ($N = 994$).

	1	2	3	4	5	6	7	8
1. <i>Self-Regulation</i>								
2. Goal setting	0.75**							
3. Perseverance	0.73**	0.51**						
4. Decision making	0.70**	0.32**	0.30**					
5. Learning from mistakes	0.72**	0.39**	0.36**	0.33**				
6. <i>Pure procrastination</i>	-0.70**	-0.50**	-0.60**	-0.53**	-0.39**			
7. Implemental delay	-0.58**	-0.45**	-0.61**	-0.33**	-0.30**	0.84**		
8. Decisional procrastination	-0.63**	-0.39**	-0.41**	-0.64**	-0.35**	0.80**	0.48**	
9. Lateness	-0.48**	-0.37**	-0.42**	-0.29**	-0.31**	0.79**	0.53**	0.44**

** $p < 0.01$ (2-tailed).

TABLE 3 | Three measurement models and one full SEM for self-regulation and pure procrastination.

	<i>CMIN/DF</i>	<i>TLI</i>	<i>CFI</i>	<i>SRMR</i>	<i>RMSEA</i>	<i>90% CI</i>	<i>PCLOSE</i>
Model 1	3.912	0.889	0.903	0.0538	0.054	0.051–0.057	0.011
Model 2	5.622	0.824	0.841	0.0656	0.068	0.065–0.071	0.000
Model 3	9.333	0.683	0.710	0.0806	0.092	0.089–0.094	0.000
Model 1 B	3.846	0.915	0.929	0.0462	0.054	0.050–0.057	0.058
Full SEM	3.798	0.916	0.927	0.0470	0.053	0.049–0.057	0.081

may be seen as an improvement in measurement (Garzón-Umerenkova et al., 2017), if – desirably – at least three items are kept per factor (Bollen, 1989). These theoretically acceptable modifications (deleting five items) produced the final Model 1 B, increasing model fit significantly, as reported in **Table 3**. Thus, structural equation modeling (SEM) was employed to assess the hypothesized seven-factor structural model (see **Figure 1**).

The SEM for the hypothesized model (see **Figure 1**) indicated that perseverance positively and robustly influenced both self-motivational aspects of self-regulation (learning from mistakes and goal setting), as well as the strategic aspect (decision making). Perseverance also showed a negative influence on both decisional procrastination and implemental delay, the latter being more robust. Learning from mistakes positively influenced both aspects of self-regulation (goal setting and decision making). Decision making was also positively influenced by goal setting, although to a lesser extent than by learning

from mistakes. Furthermore, decisional procrastination was negatively and robustly influenced by decision making but with a smaller coefficient; perseverance also influenced decisional procrastination negatively. Decisional procrastination positively influenced implemental delay and, lastly, lateness was positively influenced by decisional procrastination and implemental delay, the latter showing a stronger coefficient.

Table 4 shows standardized indirect effects and significance levels of the hypothesized structural model. Perseverance showed the biggest indirect coefficient on lateness, followed by decision making, both negatively influencing lateness. Furthermore, decision making and perseverance also showed significant indirect effects on implemental delay. Decisional procrastination received indirect negative significant effects from perseverance and from both motivational aspects of self-regulation (learning from mistakes and goal setting). Lastly, perseverance showed indirect positive effects on decision making and goal setting.

TABLE 4 | Indirect effects of the hypothesized structural equation model.

Independent – Dependent variables	Standardized coefficient
Perseverance – Lateness	–0.64*
Learning from Mistakes – Lateness	–0.07*
Goal Setting – Lateness	–0.05*
Decision Making – Lateness	–0.25*
Decisional Procrastination – Lateness	0.10*
Perseverance – Implemental Delay	–0.10*
Learning from Mistakes – Implemental Delay	–0.04**
Goal Setting – Implemental Delay	–0.02*
Decision Making – Implemental Delay	–0.12*
Perseverance – Decisional Procrastination	–0.31**
Learning from Mistakes – Decisional Procrastination	–0.21*
Goal Setting – Decisional Procrastination	–0.13*
Perseverance – Decision Making	0.23**
Learning from Mistakes – Decision Making	0.04**
Perseverance – Goal Setting	0.10**

* $p < 0.05$; ** $p < 0.01$.

Cluster Analysis: Self-Regulation Profiles

As a first step in the cluster analysis, we used Ward's method hierarchical clustering, which combines the two most similar clusters, based on their squared Euclidean distance, starting with $N = 994$ single-person clusters, and ending with one single cluster containing all participants. We observed a clear jump in fusion coefficients (Table 5) when collapsing four groups into three, arguing for the presence of at least four natural groupings.

As a second step, we applied K-means iterative clustering procedure for a four-group solution, using cluster centers resulting from the hierarchical clustering, as initial centers in a subsequent iterative procedure, taking eight iterations until the largest change in any of the cluster centers was less than 2% of the initial smallest distance. The stability of both solutions was tested through Cohen's Kappa, which showed an acceptable level ($\kappa = 0.67$).

Between-group effects explained 40% of variations in overall self-regulation, 38% in goal setting, 42% in perseverance, 72% in decision making, and 47% in learning from mistakes. Between-group differences also accounted for 31% in overall pure procrastination variance, 39% in implemental delay, 44% in decisional procrastination, and a more modest 17% in lateness.

TABLE 5 | Fusion coefficients.

Group number	Fusion coefficient
1	2906.02
2	2098.70
3	1827.56
4	1580.98
5	1453.45
6	1356.97
7	1267.25
8	1197.93

Four Self-Regulation Profiles

Table 6 shows final cluster centers for self-regulation dimensions, based on four-group cluster membership: a *de-regulated* cluster, scoring low on all partition variables; a *self-regulated* cluster, scoring high on all self-regulation dimensions; a *low motivation* cluster, characterized by subpar motivation (goal setting, learning from mistakes) and low perseverance; and a *low strategy* cluster, characterized by average motivation (goal setting, learning from mistakes) and medium perseverance, but low decision making.

Figure 2 depicts Z-values in goal setting, perseverance, decision making, and learning from mistakes for the four emerging self-regulation profiles. Low motivation students (alongside de-regulated) reported below-average goal setting and perseverance; low strategy students (alongside de-regulated) reported below-average decision making.

Figure 3 shows a line diagram depicting four self-regulation profiles based on their Z-scores in self-regulation dimensions (partition variables). *Post hoc* tests (using Bonferroni for homogeneous variances and Dunnett's T for non-homogeneous variances, as judged by Levene's test) revealed significant differences ($p < 0.001$) in all partition variables between all pairs of groups, except between de-regulated students and low strategy students in decision making ($p = 0.163$). Interestingly, low strategy students scored higher than low motivation students in all partition variables except decision making, where this pattern reversed itself, with decision making, thus, acting as the most important differentiating aspect between groups with medium levels of self-regulation. Lastly, overall self-regulation also revealed significant differences between all groups except between low motivation and low strategy ($p = 1.000$).

Procrastination Among Four Self-Regulation Profiles

Table 7 shows means in procrastination and its dimensions for each of the four self-regulation profiles. De-regulated students reported the highest mean scores of the four groups in implemental delay, decisional procrastination, lateness, and pure procrastination, but even their reports of lateness were below a neutral score of three points, manifesting a skew in self-reporting. Low motivation students' mean scores in procrastination dimensions were average, however, slightly above in implemental delay and slightly below in decisional procrastination. Inversely, low strategy students' mean scores were slightly below-average in implemental delay, but above-average in decisional procrastination.

Figure 4 shows a line diagram depicting Z-values in pure procrastination and its dimensions for the four self-regulation profiles. *Post hoc* tests (using Bonferroni for homogeneous variances and Dunnett's T for non-homogeneous variances, as judged by Levene's test) revealed significant differences ($p < 0.001$) in pure procrastination and all its dimensions between all pairs of groups, except between low strategy and low motivation students in implemental delay ($p = 0.912$) and in lateness ($p = 0.884$). Interestingly, low strategy students scored higher than low motivation students in decisional procrastination and overall pure procrastination, marking the

TABLE 6 | Final cluster centers on partition variables for four self-regulation profiles.

	De-regulated	Low motivation	Low strategy	Self-regulated	<i>M</i>	<i>SD</i>
Goal setting	2.70	3.42	3.71	4.17	3.54	0.79
Perseverance	2.43	2.85	3.32	3.93	3.18	0.82
Decision making	2.10	3.54	2.21	3.68	2.91	0.93
Learning from mistakes	2.50	3.27	3.72	4.11	3.45	0.88
<i>N</i>	224	232	259	279	994	

relevance of subpar self-regulation strategies such as decisional procrastination for differentiating among groups with medium levels of procrastination.

DISCUSSION

Pedagogues want to support young university student's autonomy and well-being by helping them in overcoming volitional self-regulation problems like procrastination, which create frustration, as well as lessening performance, academic achievement, self-efficacy beliefs, and subsequent motivation. Teachers seek simplified and group-specific strategies to understand and counteract students' procrastination tendencies. However, the discussion about the margins for consciously counteracting implemental delay and decisional procrastination based on self-regulated learning deserves more detailed attention. Consequently, our full SEM model allows for a discussion of the margins for conscious strategic action against procrastination.

According to Model 1B, perseverance positively influences both motivational self-regulation factors (learning from mistakes, goal setting) and strategic aspects (decision making). More perseverant students, therefore, are expected to report higher motivation for self-regulated learning. In turn, self-motivational aspects also exert significant positive effects on the strategic aspect of decision making.

Furthermore, comparing between resulting self-regulation clusters, perseverance, and motivational aspects (learning from mistakes, goal setting) increased or decreased concomitantly, whereas decision making manifested high or low levels, independent of the levels of self-motivation and perseverance of that cluster. It was the strongest variable to differentiate between medium-level profiles of self-regulation.

The two most important paths connecting self-regulation and procrastination dimensions were the strong negative path from perseverance to implemental delay, and the strong negative path from decision making to decisional procrastination. The first path serves as evidence that more perseverant students may remain more aware of their goals, preventing them from slipping into irrational implemental delays. However, as this path roots on personal characteristics, it is still worthwhile to explore alternative paths to counteract procrastination through self-regulation strategies.

The second path suggests that decisional procrastination (and its contribution to implemental delay and lateness) may be prevented via strategic decision-making skills, which could

be improved consciously. This strategic dimension of self-regulation seems to be acting as a mediator between self-motivational antecedents (learning from mistakes, goal setting) and decisional procrastination. Noteworthy is the fact that the strongest predictor of decision making in the model was learning from mistakes, which influenced both goal setting and decision making positively. In this regard, we want to stress that learning from mistakes and decision making are two dimensions of self-regulation which cannot be detached from autonomy, given that their operations rest on it.

To a lesser extent, decisional procrastination was also directly influenced by perseverance and, in turn, decisional procrastination influenced implemental delay positively. Furthermore, the lateness factor received the most robust causal path from implemental delay. These findings suggest that decisional delays may be the cause of lateness, and also serve as grounds for implemental delays; the strongest lateness predictor, however, was still perseverance-related implemental delay.

The model supports the argument that strategic decision-making skills may act as a partial mediator between motivational aspects of self-regulation and decisional procrastination. It also supports the belief that both motivational and strategic self-regulation operations may act as partial mediators between perseverance and decisional procrastination, allowing for the discussion of potential conscious and intentional self-regulation strategies to counteract procrastination tendencies and their adverse impact on young university students' autonomy, growth, and well-being.

Furthermore, the present study provides a person-centered analysis of four distinct students' self-regulation profiles and their associated procrastination. By means of a cluster analysis we identified a self-regulated and a de-regulated group, respectively, with the highest and the lowest scores on all self-regulation dimensions. Furthermore, we also differentiated two medium level self-regulation groups, whose main diverging factors were distinct shortcomings, respectively, in perseverance and decision making.

Of the two medium self-regulation groups, low strategy students scored above average in perseverance and in motivational aspects of self-regulation (learning from mistakes, goal setting), but considerably below average in the strategic dimension of decision making (as low as de-regulated students). Consequently, they also scored higher in decisional procrastination than did low motivation students. As a result, notwithstanding the optimistic outlook of their higher motivation (learning from mistakes, goal setting), low strategy students' overall pure procrastination scores were higher than

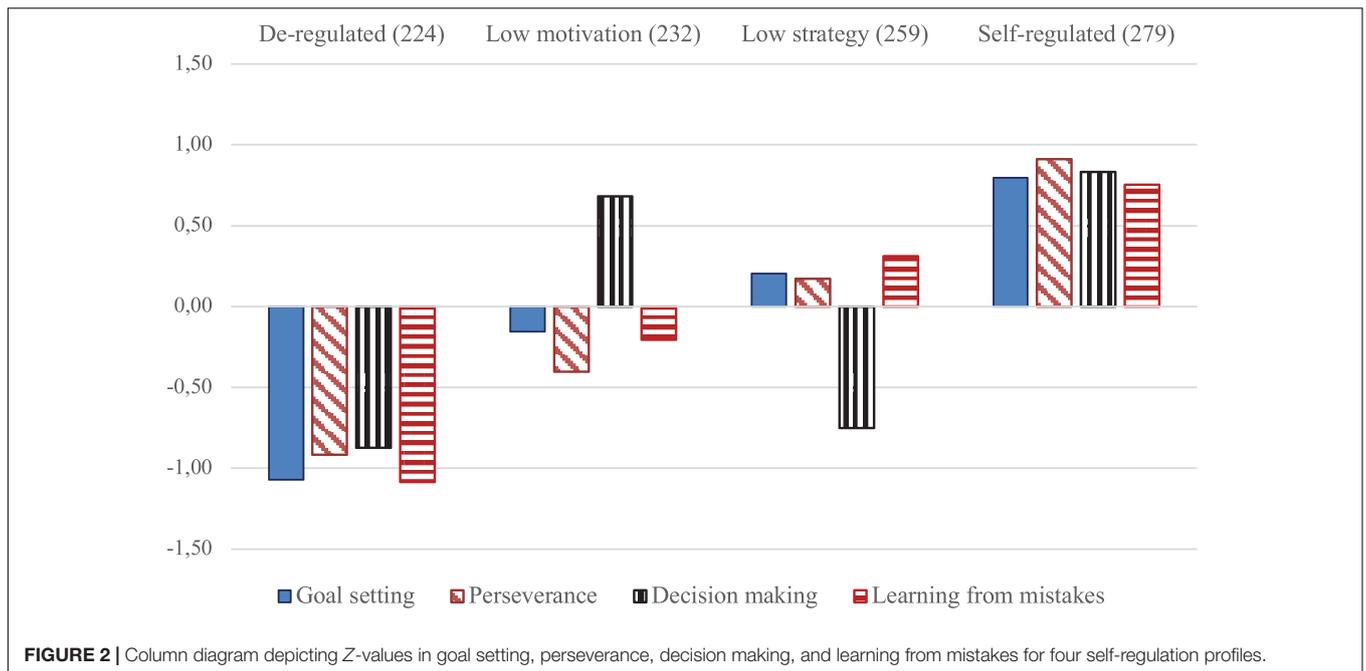


FIGURE 2 | Column diagram depicting Z-values in goal setting, perseverance, decision making, and learning from mistakes for four self-regulation profiles.

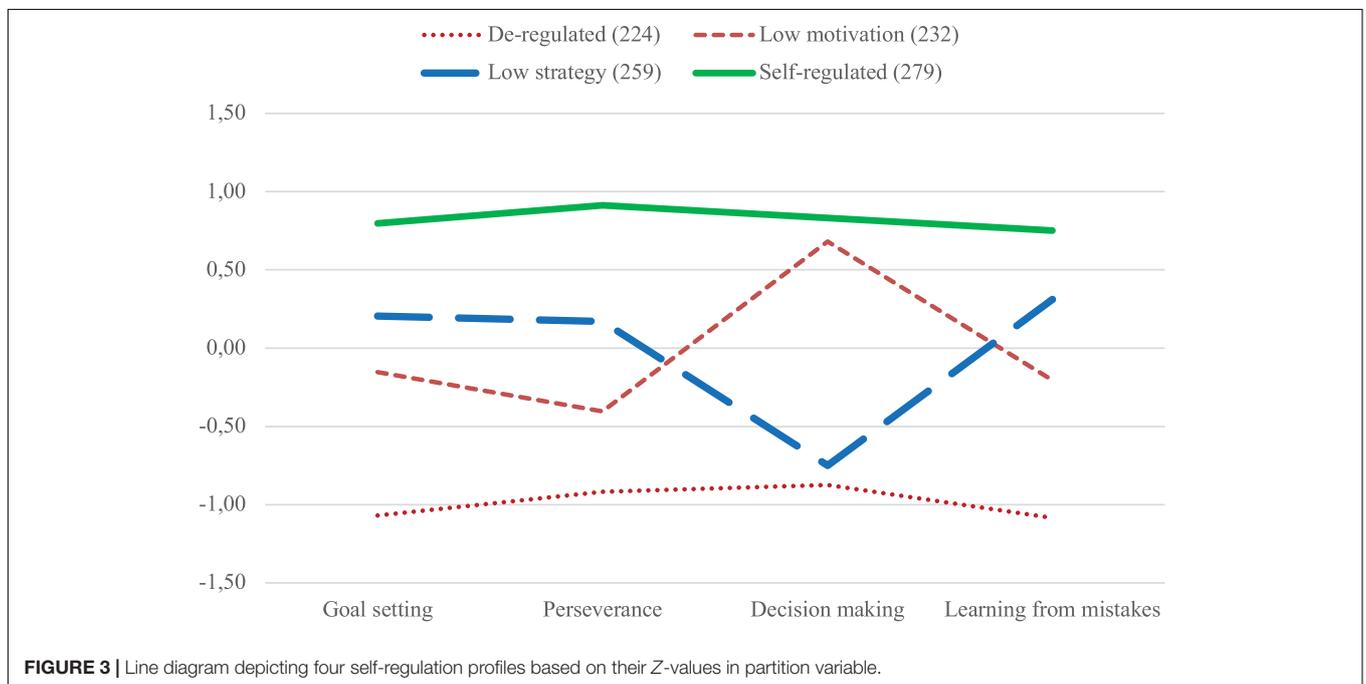


FIGURE 3 | Line diagram depicting four self-regulation profiles based on their Z-values in partition variable.

TABLE 7 | Four self-regulation profiles and their procrastination dimensions.

	De-regulated	Low motivation	Low strategy	Self-regulated	M	SD
Pure procrastination	3.45	2.10	2.68	2.83	2.73	0.76
Implemental delay	4.05	2.53	3.33	3.25	3.25	1.02
Decisional procrastination	3.68	2.17	2.55	3.17	2.86	0.97
Lateness	2.62	1.60	2.15	2.08	2.08	0.84
N	224	232	259	279	994	



their low motivation peers'. In contrast, low motivation students (notwithstanding their lower motivation and perseverance), scored similarly to their low strategy peers on implemental delay and lateness, and lower on overall pure procrastination. These findings stress the notion that procrastination is not a problem of motivation but rather a failure of strategic volitional self-regulation.

Combining the interpretations of the structural model (Model 1B) and cluster analyses, we provide an account of the pathways connecting self-regulation dimensions (learning from mistakes, goal setting decision making, perseverance) with procrastination dimensions (decisional procrastination, implemental delay, lateness). This account enables the discussion about particular shortcomings in self-regulation operations (perseverance versus strategic and motivational aspects), linking these with specific facets of procrastination (implemental and decisional delays). We understand that irrational delay occurs when conscious volitional self-regulation operations fail; thus, we argue that providing young students with autonomy support and rationales, aiding their design of autonomous strategies (including abilities for promoting both their motivation and decision making skills), may help them maintaining conscious goal centeredness and strategy engagement, thus, preventing the irrational slip into procrastination.

It has been discussed that procrastination may be linked with personal trait-like characteristics such as perseverance and low ability for emotional regulation, which producer an irrational delay and thus leave little margin for other causal explanations or even for counteracting the behaviors through conscious behavioral regulations. In this regard, it may be true that – in retrospective – procrastination is always rooted in irrational dysregulation, but the question of whether it can be consciously prevented – in our opinion – still holds sway.

It has been argued that procrastination may be promoted by sub-par mental representations of required or viable operations

necessary for target activities. Could this mean that there is space for strategies of self-regulated learning to gain terrain on this potential realm of irrational delay, through increasing and maintaining conscious centeredness on adequate goals and strategies? Furthermore, it has been reported that procrastination tendencies may interact with contextual-factors such as teacher autonomy support or control (Codina et al., 2018). Thus, supporting young university students' autonomy, by facilitating self-regulation, may promote timely goal setting, initial goal pursuit, decision making, planning, and goal striving (Steel and Klingsieck, 2016; Steel et al., 2018). We argue that increased goal centeredness and awareness of self-regulation strategies may, therefore, potentially counteract procrastination tendencies; future research is needed, however, to further address this point.

An important issue to put to test by future studies would be if greater awareness of the self-motivational and strategic dimensions of self-regulation can be fostered through the support of young students' autonomy, and by facilitating their psychological processes of learning from mistakes, goal setting, and decision making. Given that making successful strategic decisions requires careful self-examination and adequate mental representations of tasks and person-context interactions, we argue that facilitating students' self-awareness and enhancement of their own motivations, abilities, and strategies, may prevent them from slipping into the realm of irrational delay, by facilitating the inverse processes of autonomous self-regulation.

FINAL REMARKS

The four emerging self-regulation profiles and the seven-factor structural model connecting self-regulation and procrastination suggest that low strategy students (low in decision making) may benefit from interventions that help them develop adequate

mental representations of tasks and person-context interactions, and consider their autonomous goals and past experiences. These students carry above-average self-motivation but below-average strategic self-regulation, thus separating themselves from self-regulated students in regard to general self-regulation and procrastination.

Findings also suggest that low motivation students' above average reports of decision making may be insufficient for their academic adjustment, given that these students are also characterized by below average goal setting and learning from mistakes, and these variables exert significant indirect effects on decisional procrastination through decision making. Low motivation students' self-regulation shortcomings stemmed greatly from their below average perseverance and self-motivation, thus these students could benefit from support in building up a repertoire of autonomous pursuits, which they value personally, and which depend on autonomous reflection upon previous goal-oriented experience (learning from mistakes).

Cyclical models of self-regulation suggest that, in order to avoid frustration and a consequent decrease in subsequent motivation, it would be of cardinal importance that these students accomplish their autonomous goals, thus, adequate guidance or support for the optimal selection and scaffolding of initially attainable goals may be key to increased academic success among these students.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The Ethical requirements of the Ethics Committee of the University of Barcelona (University of Barcelona's Bioethics

Commission, CBUB – Institutional Review Board IRB00003099) were applied to the current study, which meant that additional approval for the research was not required because the data obtained did not involve animal or clinical experimentation. Additionally, this study complies with the recommendations of the General Council of Spanish Psychological Associations (Consejo General de Colegios de Psicólogos), the Spanish Organic Law on Data Protection (15/1999: Jefatura del Estado, 1999), and the Declaration of Helsinki (World Medical Association, 2013). The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

RV contributed to the conception and design of the study, organized the database, performed the statistical analysis, and wrote the first draft of the manuscript. NC conceived and designed the research, drafted the work, and revised it critically for important intellectual content. IC was responsible for supervising the analysis and interpretation of data gathered, revising it critically. JP contributed to the conception and design of the study, wrote sections of the manuscript, and revised it critically. All authors contributed to manuscript revision, read and approved the submitted version.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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APPENDIX

The following are the scale construction decisions made in the research:

- (1) Implemental delay item: “I often find myself performing tasks that I had intended to do days before” was dropped, given that its squared multiple correlation was <0.3 ($= 0.022$) and its standardized regression weight on its factor was <0.4 ($= 0.15$); as a result, the alpha for implemental delay increased from 0.74 to 0.81.
- (2) Decision making item: “I have so many plans that it’s hard for me to focus on any one of them” was dropped, given that its squared multiple correlation was <0.3 ($= 0.117$), and its standardized regression weight on its factor was <0.4 ($= 0.34$). One more decision making item was dropped: “Little problems or distractions throw me off course,” given that its standardized residual covariance with two other items was > 3.0 ($= 6.348$ with perseverance item: “I get easily distracted from my plans”; and 4.695 with goal setting item: “I have trouble making plans to help me reach my goals.” Worth is noting that in the Spanish version “off-course” is translated as “disoriented,” which might lead attention away from the notion of “action course” – as relevant in decision making – and toward the notion of “chaos and confusion,” consequently, interacting with perseverance and goal setting items. As a result of deleting these two items the alpha for decision making increased from 0.76 to 0.78.
- (3) Similarly, goal setting item: “If I make a resolution to change something, I pay a lot of attention to how I’m doing” was dropped, given that its standardized residual covariance with a perseverance item was > 3.0 ($= 3.953$ with perseverance item: “I have a lot of will power”). Worth is noting that in the Spanish version the phrasing “resolution to change something” was translated as “determination of doing something” subtracting the notion of “change,” thus, reflecting on an aspect less linked with self-motivation and more with strategy.
- (4) Lastly, another goal setting item: “I usually keep track of my progress toward my goals” was dropped, given that the absolute value of its standardized residual covariance with a decision making item was > 3.0 ($= -3.636$ with item: “I have trouble making up my mind about things”). Worth is noting that the Spanish version of this goal setting item includes the notion of “study goals,” not just “goals”; and that this decision making item replaces the notion “make up my mind” – unavailable in Spanish – with the phrase: “decide about things,” thus interacting with goal setting dimension.



Basic Psychological Needs, Physical Self-Concept, and Physical Activity Among Adolescents: Autonomy in Focus

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The contribution of this research lies in its dual approach to the question of physical activity (PA) among adolescents, combining objective measurement of PA by teenagers and a comparison of psychological satisfaction through physical activities involving differing degrees of autonomy (i.e., organized or unstructured). Using the conceptual framework of Self-Determination Theory, the analysis also examines the relationship between levels of PA among adolescents and physical self-concept and satisfaction of basic psychological needs during exercise. The study surveyed 129 first-year higher secondary education students from schools in the city of A Coruña. Satisfaction of basic psychological needs during organized and unstructured physical activities was measured using the Basic Psychological Needs in Exercise Scale. PA levels were assessed based on step count per day for a week as measured by an accelerometer. The results show that the daily step average recorded by students (7,400) is below the minimum recommended levels of PA for this age group, that students are more active on weekdays than at the weekend, and that there is no significant difference in PA levels between male and female subjects ($T = 0.23, p < 0.05, d = 0.04$). Findings from the comparative analysis of the three basic psychological needs show greater satisfaction of the need for autonomy during unstructured activities ($T = 6.15, p < 0.001, d = 0.68$), and greater satisfaction of the need for competence during organized activities ($T = -2.50, p < 0.05, d = 0.27$). No variation in terms of sex was found in relation to satisfaction of the need for autonomy or relatedness from unstructured activities; however, girls showed notably lower satisfaction than boys in relation to the need for competence ($T = -2.62, p < 0.01, d = 0.49$). Self-esteem was found to play an important mediating role and observed to be strongly related to sex ($T = -5.16, p < 0.001, d = 0.90$). Organized PA was found to provide greater need satisfaction among boys than girls across all categories. The study showed no relationship between psychological variables and objectively measured PA (Pillai's trace: $F = 0.86, p > 0.05, \eta^2 = 0.08$, observed power = 0.66). Basic psychological needs show significant positive interrelation between them and a significant positive relationship between them and physical self-concept, as expected based on previous literature.

Keywords: basic psychological needs, physical self-concept, physical activity, autonomy, adolescence, self-determination theory

INTRODUCTION

Adolescence is a period of transition between childhood and adulthood when the influence of the family starts to fade and the peer group takes over as the main socializing force in a young person's life (Martínez-Martínez and González-Hernández, 2017, 2018). The increasing number of decisions they begin to take autonomously transforms their daily routines and how they organize their time (Jose et al., 2011).

Numerous studies have demonstrated the importance of leisure activities during adolescence (Pronovost, 2013; Roberts, 2014; Gómez-Granell and Julià, 2015; Caballo et al., 2017), two of the core principles of which are freedom of choice and self-determination. The ability to choose how they spend their leisure time gives young people a sense of freedom, which in turn leads to greater personal development (Munné and Codina, 1996; Caldwell and Witt, 2011; Kleiber et al., 2014). Satisfying leisure experiences help to promote autonomy, formation of self-identity, social engagement and sense of achievement. Adolescence is vital time of discovery of new interests and affirmation of personal and social values and ideals (Roult et al., 2016). The transition from childhood to adolescence is a gradual process in which behaviors from both life stages coexist for a time. Of the many different leisure activities engaged in by young people, sporting and physical activity (PA) is by far the most popular (Ahedo and Macua, 2016; Fraguera-Vale et al., 2018). PA provides a range of physical, social and psychological benefits, including improved health and quality of life (Janssen and Leblanc, 2010; Ponce de León and Sanz, 2014; Vagetti et al., 2014). However, despite the numerous health benefits of PA and its high ranking among the leisure preferences expressed by young people, studies show that participation in PA during adolescence is low (e.g., Strauss et al., 2001; Barranco-Ruiz et al., 2018).

The passage from childhood to adolescence is characterized by a marked drop in PA (Abralde and Argudo, 2009; Cairney et al., 2014; Gómez et al., 2017; Fernández-Prieto et al., 2019). To account for the sudden decline in participation at this critical point in young people's lives, the factors associated with PA participation must be investigated and evaluated, including commonly cited variables such as sex, self-esteem, motivation and needs satisfaction (Martín-Matillas et al., 2011; Ponce de León and Sanz, 2014).

A number of studies on PA use Self-Determination Theory (SDT) to analyze motivation and psychological processes that underlie well-being (Deci and Ryan, 1985, 2000, 2002; Moreno et al., 2008a,b; Ntoumanis and Standage, 2009; Franco et al., 2017). SDT is a macro-theory of motivation and personality that can be applied to different contexts and cultures. As explained by Stover et al. (2017), SDT is based on the assumption that people have a natural tendency toward growth, and actively seek to manage their environment and interactions and integrate new experiences into their sense of self. Satisfaction of their needs and their motivation to carry out or engage in different activities is therefore subject to a combination of internal, external and contextual factors. SDT comprises six mini-theories, which correspond to different aspects of the relationship between motivation and emotion, behavior and well-being

(Deci and Ryan, 2008; Krause et al., 2019). Causality Orientations Theory (COT) describes the different orientations in people's personalities that affect their response to environmental stimuli, and how this impacts on their capacity to make decisions and regulate their behavior (Moreno and Martínez, 2006; Stover et al., 2017). Cognitive Evaluation Theory (CET) specifies factors associated with variability in intrinsic motivation, based on the assumption that innate interests may vary depending on environmental factors and their psychological effect on the individual (Moreno and Martínez, 2006; Stover et al., 2017). Organismic Integration Theory (OIT) details the different forms of extrinsic motivation, and the contextual or social forces which may support or impede the individual's capacity to internalize and integrate the regulation of these behaviors (Ryan and Deci, 2000; Stover et al., 2017). Goal Contents Theory (GCT) distinguishes between extrinsic and intrinsic goals and examines their effect on behavior and well-being. While extrinsic goals focus on interpersonal comparison and other people's reactions, intrinsic goals are more associated with satisfaction of basic psychological needs and greater psychological well-being. Relationships Motivation Theory (RMT) broadens the scope of relatedness as a basic psychological need, explaining that satisfaction of the need for relatedness is determined by the quality of the relationship and the mutuality of perceived autonomy and autonomy support between partners (Deci and Ryan, 2014).

The last of these mini-theories, and the one on which this study is based, is Basic Psychological Needs Theory (BPNT), which postulates competence, autonomy and relatedness as innate, universal and essential needs upon whose satisfaction our health and well-being depend. Competence refers to the ability to perform tasks of varying complexity, and is positively associated with the ability to regulate stress, self-esteem and well-being; low competence is associated with depression, anxiety and low self-esteem (Parfitt et al., 2009). Autonomy refers to the feeling that the locus of causality for the things one does is internal: that one's actions are one's own and not due to external factors (Ryan and Deci, 2007). Perception of autonomy is a positive predictor of satisfaction of both competence and relatedness, which in turn is a positive predictor of self-determined motivation (Castillo et al., 2002; Standage et al., 2006). Relatedness is the extent to which a person feels securely part of a group or connected with others within his or her social context. Basic psychological needs are considered necessary to mediate intrinsic and extrinsic motivation and demotivation.

Basic Psychological Needs Theory provides the theoretical framework for the research instruments used for this study, some of which are focused specifically on PA. The study used the Spanish version (Sánchez and Núñez, 2007) of the Basic Psychological Needs in Exercise Scale (BPNES) (Vlachopoulos and Michailidou, 2006). According to BPNT, respondents who report satisfaction in relation to the three dimensions tested by the scale (autonomy, competence, and relatedness) show higher levels of intrinsic motivation and therefore greater self-determination, which in turn leads to greater participation in PA and improved health (Almagro et al., 2011; Sánchez-Oliva et al., 2013; Sicilia-Camacho et al., 2014; Morillo et al., 2018).

Nevertheless, scores obtained from BPNES testing are dependent on a wide array of variables, including sex, age, type of activity, and how the activity is organized (Lamoneda and Huertas-Delgado, 2019). In relation to sex, while some studies report a tendency for boys to score higher than girls across all three dimensions (Brunet and Sabiston, 2009), others show variation between results only in relation to perceived autonomy and competence (Gómez-Rijo et al., 2014). Sex considerations aside, these studies all highlight the importance of BPNES values as predictors of participation in PA.

One important line of research in Spain has been the adaptation of BPNES to Physical Education teaching in schools in an attempt to encourage participation in PA outside of school by increasing satisfaction of psychological needs (Méndez-Giménez et al., 2015). A recent study by Pineda-Espejel et al. (2019) has developed a Spanish version of the scale adapted to sports. In research involving adults, analysis of variables such as level of organization show that participants in more structured activities (Hellín et al., 2006) or federated sports (Edmunds et al., 2007) display higher levels of perceived competence. One of the central research questions of this study is to compare satisfaction of basic psychological needs through unstructured PA with that achieved through more organized, often institutionalized PA.

Research has also shown a link between competence, autonomy, and relatedness with engagement in PA by teenagers. Babic et al. (2014) report a direct association between higher levels of PA and higher values of perceived competence in physical exercise, fitness, appearance, and physical self-concept. There is little information, however, regarding the directionality of this relationship, which may be one of interdependence in certain cases. It is also unclear whether PA has a positive influence on physical self-concept, or if people with higher perception of their motor competence are more likely to engage in PA (De la Torre-Cruz et al., 2018). The question of autonomy is linked to the gap in biological maturity that emerges in adolescent girls and boys of a similar chronological age (Cairney et al., 2014). The fact that girls mature earlier than boys means that they also begin to make more autonomous decisions about their leisure time at a younger age, leading to differences between the two in their leisure time and PA choices. This contrast is caused not only by the different preferences of boys and girls, therefore, but also by the latter's earlier cognizance of the leisure habits and routines of adult life. Teenage girls tend to opt for non-structured types of PA, while their male peers continue to take part in more organized, often competitive forms of PA (García-Moya et al., 2012; Castro-Sánchez et al., 2016; Fraguera-Vale et al., 2020). Finally, the need for relatedness is a strong inducement to engage in physical exercise owing the significant positive psychological effect it has on those who do. The perception of relatedness is associated with a sense of connection and acceptance by others, and its satisfaction leads to greater well-being, security and unity between members of the community (Sánchez and Núñez, 2007), as well as a greater propensity to participate in PA (Peres et al., 2012). In fact, certain studies have found that emotional bonds with family members and peers are an important factor in young people's self-determined motivation

to participate in PA and thereby strengthen their emotional ties and build up social support networks (Balaguer et al., 2008; Cheng et al., 2014).

The present study also assessed physical self-concept, as one of the main mediators between psychological variables (in this case, basic psychological needs) and participation in PA. Franco et al. (2017) highlight the influence of physical self-concept on the intention to engage in PA, observing that teenagers with higher self-concept are more likely to continue to engage in daily PA in the future. Physical self-concept is influenced by subjects' self-perception of their physical appearance, level of fitness, sporting ability and strength (Goñi et al., 2004), with the highest scores in relation to self-concept and PA recorded among subjects who have been engaged in PA for longer (Reigal et al., 2012; Reigal-Garrido et al., 2014; López-Cazorla et al., 2015; Kyle et al., 2016). Research focusing on teenagers reveals that the relationship between PA and physical self-concept in adolescence is also significant, with factors such as age and sex playing decisive roles in this association (Fernández-Bustos et al., 2019).

In most of the studies cited thus far as evidence of the relationship between PA and psychological variables (basic psychological needs, physical self-concept, motivation, etc.), PA levels are measured indirectly using self-reporting instruments completed by subjects. The results in relation to PA participation in these studies show a clear relationship between PA and psychological variables, in keeping with the postulates of BPNT. More recently, however, studies in Self-Determination Theory and its mini-theories have begun to use objective measurement of PA, the findings of which reveal a much less clear-cut relationship between PA and psychological variables. In their review of research into the relationship between PA and self-concept, for example, Babic et al. (2014) advise caution based on their finding that 84% of the studies analyzed contained a high risk of bias owing to the use of self-reporting tools. As well as creating the possibility of bias (social desirability and cognitive difficulty), the use of self-reporting for both PA and physical self-concept also produces higher correlations between the two. The few studies which do use objectively measured PA data focus on the relationship between PA and self-esteem, and show contrasting results: while some find little or no solid evidence of a relationship between psychological variables and exercise (Raustorp et al., 2005; Cuddihy et al., 2006), others report a strong link between objectively measured PA and self-perception (Morgan et al., 2008).

For this study, therefore, it was judged particularly important to include objective measurement of PA and to compare these data with the psychological variables of BPNT. Recent research has identified step counting as a valid, objective standard of measurement of daily PA, particularly in the light of studies by leading authors in this area, such as Tudor-Locke and her colleagues. Since the publication of their review of the existing literature to determine the minimum number of steps needed by children and adolescents to be equivalent to 60 min of moderate to vigorous PA (Tudor-Locke et al., 2011), advances in wearable technologies have given us highly accurate measuring devices that

can be worn during almost any activity (Hibbing et al., 2016). For this reason, more and more authors are now adopting objective step counting as a method of quantifying PA in research ranging from PA promotion programs for young children (Cameron et al., 2016) to the categorization of adolescents as active or inactive (Benítez-Porres et al., 2016).

The significance of this study lies in its dual approach to the question of PA among adolescents, which combines objective measurement of PA by teenagers, and a comparison of psychological satisfaction levels achieved from PA based on the degree of autonomy involved (organized or unstructured) during a period of transition toward less structured exercise. In addition, the study also examines to what extent physical self-concept among adolescents and satisfaction of their basic psychological needs through exercise are affected by their level of participation in PA. Based on the evidence presented in this introduction, we propose the following hypotheses: (1) that the level of participation in PA by adolescents is lower than the recommended amount of healthy daily exercise; (2) that satisfaction of the need for autonomy is greater when achieved through unstructured PA, while the effect of exercise on the need for competence and the need for relatedness is the same whether organized or unstructured; and (3) that objectively measured PA levels have little or no influence on the satisfaction of basic psychological needs through exercise.

METHODOLOGY

Participants

The study sample was selected using non-probability sampling based on the criterion of convenience of accessibility. The study involved 129 first-year higher secondary education students from three schools in the city of A Coruña. The sample comprised participants with an average age of 16.07 years ($SD = 0.70$), 66 girls (51.2%) and 63 boys (48.8%), from two state schools (72.9%) and one state-funded private school (27.1%). The proportion of students in each of the three study tracks was as follows: Science and Technology, 37.2%; Humanities and Social Sciences, 60.5%; Arts, 2.3%.

Measurement Instruments

The research was carried out using the following instruments:

Basic Psychological Needs in Exercise Scale (BPNES)

The study used the Spanish version (Sánchez and Núñez, 2007) of the Basic Psychological Needs in Exercise Scale (BPNES) (Vlachopoulos and Michailidou, 2006). The instrument comprises twelve items, divided into three dimensions (four items per dimension): autonomy (“The exercise program I follow is compatible with my choices and interests”; “The way I exercise matches perfectly the way I like to exercise”; “The way I exercise meets my desires”; “I get to choose how I exercise”); competence (“I feel I have made great progress toward achieving my goals”; “I do the exercises effectively”; “Exercise is an activity I do very

well”; “I feel that I can meet the requirements of my training program”); and relatedness (“I feel very comfortable when I do exercise with the rest of the exercise participants”; “I have a very friendly relationship with the other exercise participants”; “I feel that I can communicate freely with the other exercise participants”; “I feel very comfortable with the other exercise participants”). The introductory phrase for each item is “When I do exercise. . .” Responses were scored using a Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The alpha reliability coefficients obtained were 0.74 for autonomy, 0.87 for competence, and 0.81 for relatedness.

In order to measure the satisfaction of psychological needs through PA carried out with differing degrees of autonomy, participants were asked to complete two scales: one for unstructured exercise, and one for more organized exercise (usually institutional and adult-led). Respondents without participation in one or either of the two types of activity were instructed to leave the corresponding scale or scales blank. All participants were advised that the subject of Physical Education should be not be taken into account in their assessments, as Physical Education is a compulsory form of PA. The Cronbach’s alphas obtained for each of the three dimensions in relation to unstructured exercise were as follows: autonomy, 0.74; competence, 0.76; and relatedness, 0.90. Reliability coefficients in relation to organized exercise were: autonomy, 0.63; competence, 0.77; and relatedness, 0.85.

Physical Self-Concept

Physical self-concept was measured using the corresponding items from Garcia and Musitu’s (2014) AF5: Self-concept form 5 (Autoconcepto Forma 5), which measures academic, social, emotional, family, and physical self-concept. The scale comprises thirty items, six per dimension, with a response scale ranging from 1 to 99. AF5 is one of the most widely used measuring instruments for self-concept among Spanish-speaking samples (e.g., Lila et al., 2000; Pellerano et al., 2006; Méndez-Giménez et al., 2013; Martínez-Martínez and González-Hernández, 2017, 2018; Onetti-Onetti et al., 2019). The structure of the scale has been empirically tested using exploratory factorial analysis (García and Musitu, 2014) and confirmatory factorial analysis (García et al., 2006, 2011). Cronbach’s alpha coefficient for physical self-concept is reported in these studies as 0.73 in the Spanish context.

For this study, participants were asked to answer only the six items corresponding to physical self-concept: “I’m good at sports”; “I like myself physically”; “I’m attractive”; “People look for me to do sports activities”; “I look after myself physically”; and “I consider myself elegant.” Cronbach’s alpha coefficient for physical self-concept was 0.79.

Physical Activity (PA) Levels

The level of daily PA among students over the course of a week was measured using a wristband with a built-in ADXL362 three-axis accelerometer. Findings from previous studies have demonstrated the precision and reliability of accelerometers as a method of measuring objective PA (Ling et al., 2015; Eyre et al., 2016; Alvis-Chirinos et al., 2017). During the first hours

of wearing, users can often be very conscious of the wristband device, the novelty value of which may act as a temporary motivation to engage in PA. To minimize the impact of this response, data from the 1st day of wearing were not included in the analysis. The same exclusion was applied to the day the wristbands were collected, on the grounds that the data for that day were incomplete. Subjects' levels of PA were thus measured for a full week, not counting these discounted days. Where researchers were advised by participants that their accelerometers were not counting their steps properly and the problem of miscounted steps was confirmed, all affected data were eliminated from the analysis. Participants were requested to indicate on the questionnaire if they had forgotten to activate their accelerometer for any significant period of time (more than 3 h), so that data from that day could be omitted from the total activity score. Atypical daily step values (less than 350, more than 35,000) were isolated and also removed from the analysis.

To avoid the impact of seasonal variation on PA levels (Carson and Spence, 2010; Rahman et al., 2019), all PA measurements were carried out at the same time of year (autumn 2019). Weather conditions can also have a significant influence on PA levels (Rahman et al., 2019), so provision was made for the elimination of data recorded on days when conditions were especially adverse (e.g., intense rain or cold). However, no data were required to be removed on these grounds.

In addition to calculating the average number of steps taken by participants, the analysis also grouped results according to the index categories established by Tudor-Locke and Bassett (2004): "sedentary" (<5,000 steps per day), "low active" (5,000–7,499 steps), "somewhat active" (7,500–9,999), "active" (10,000–12,499), and "highly active" (>12,500). In view of the low number of participants in the final two ranges, these scores were classed together as "active or highly active."

Number of Physical Activities Carried Out

Participants were asked to state the different physical activities performed over the course of the week. Spaces were provided in the questionnaire for two unstructured activities and two organized activities on weekdays, and two unstructured activities and two organized activities on the weekend. The range of values for each type of activity was 0–4, with a maximum total value of 8 as the sum of the week's activities.

Level of Autonomy in Physical Activities Carried Out

Level of autonomy was calculated based on the number of activities carried out. Participants who practiced just one activity were classified as "unstructured" or "organized" depending on the type of activity performed. Where the difference between activity types was more than 1, participants were classified according to the higher scoring activity. Where the difference between activity types was less than or equal to 1, participants were classified as "mixed" (both unstructured and organized).

Procedure

The principals of the schools selected for the study were contacted and informed of the objectives and procedure of the study. Once the schools' agreement had been obtained, permission for

students to participate in the study was requested from their families using an informed consent form, to be taken home, signed by parents or guardians, and returned (if favorable).

Following selection of the group of participants from each establishment, two members of the research team were sent out to the schools to fit participants one-by-one with their accelerometer (i.e., activity wristband), and distribute and collect the questionnaire. The whole process was overseen by the group's Physical Education teacher and the two research team members, who also dealt with any questions the students might have. Eight days after this first encounter, one member of the research team returned to the school to collect the wristbands.

Data Analysis

Data were analyzed using IBM SPSS Statistics V25 (Armonk, NY, United States) and G*Power 3.1 (Faul et al., 2007).

Descriptive analysis was used to ascertain the number of steps per day, the level of satisfaction of basic psychological needs in unstructured and organized activities, and participants' physical self-concept.

Since different scales were used to measure dependent and independent variables, the data were normalized by converting scale scores into standardized Z scores. In view of the variable nature of the dependent variable (daily PA by adolescents of different ages), a Kolmogorov–Smirnov test was run to determine the normality of the sample. The results confirm that the sample shows a normal distribution of values for the variables "total weekly steps," "weekday steps," and "weekend steps" ($p > 0.05$) and that parametric testing is therefore possible.

Inferential analysis was used to confirm the existence of linear correlation between psychological variables (basic psychological needs and physical self-concept) and objectively measured PA. To compare the difference between satisfaction of basic psychological needs through unstructured PA and through more organized PA, a Paired Samples *t*-Test was applied. To study the influence of sex on psychological variables and PA, an Independent Samples *t*-Test was applied. In both instances, effect size was calculated using G*Power 3.1 based on power ($1-\beta$), $\alpha = 0.05$ and two queues, to quantify the magnitude of the difference between the two averages and the *post hoc* statistical power of the tests. A chi-squared test was used to examine the relationship between level of autonomy in PA and sex; a Mann–Whitney *U* test was run to study the effect of sex on the number of weekly physical activities performed, and a Wilcoxon signed-rank test was carried out to compare the number of unstructured and organized activities recorded.

To assess the influence of PA on perceived satisfaction of basic psychological needs and physical concept, a multivariate analysis of variance (MANOVA) was carried out using the psychological variables as dependent variables, and the summary measure of steps taken by adolescents over the course of a week as an independent variable. As advanced in the introduction, the sex of participants was analyzed as a co-variable owing to its possible influence on the relationship between PA and psychological variables.

RESULTS

Physical Activity

The results (Table 1) show that the average number of steps taken by students per week is around 7,000. Students are more active on days when they have classes than on the weekend. As expected, a high correlation was found between the weekly step count average and the daily step count averages for weekdays and the weekend. However, the study also showed a correlation between weekday values and weekend values that suggests the existence of a pattern of behavior in relation to PA according to which very active subjects remain very active throughout the week, and very inactive subjects maintain consistently high levels of inactivity.

Based on the indexing criteria for weekly step counts set out in the methodology section, the distribution of subjects by step index category is as follows: 23.1% sedentary, 37.6% low active, 23.1% somewhat active, and 16.2% active or very active.

Regarding the number of activities performed, the average for unstructured activities was 2.57 (*SD* = 1.31) out of a possible 4, indicating that participation in this type of PA extends to both weekdays and weekends. The average number of organized activities was 1.46 (*SD* = 1.30). The Wilcoxon signed-rank test shows a highly significant difference between participation in each type of activity ($Z = -6.05, p < 0.001$). The adolescents surveyed in this study thus present a clear preference for unstructured activities over institutionalized activities. The overall average number of activities (both structured and unstructured) was 3.99 (*SD* = 1.95) out of a possible 8.

A similar distribution of values was obtained among subjects at the more autonomous end of the scale, with 48.8% classed as unstructured only and 43.9% as mixed. Only 7.3% of the sample reported participating in organized PA only.

The comparison of PA levels according to sex (Table 2) reveals a largely homogeneous group, with little significant difference between average step counts for male and female subjects, either on weekdays or at the weekend. It is important to note, however, the high dispersion of the dataset, as denoted by the very high standard deviation across all parameters.

Regarding the number of activities carried out by each sex (Mann–Whitney *U* test: $Z = -4.36, p < 0.001$), however, differences in terms of sex were more pronounced, with female subjects reporting an average of 3.29 (*SD* = 1.88) activities per week, compared to 4.73 for their male counterparts (*SD* = 1.75).

A chi-squared test was used to assess the relationship between sex and level of autonomy in PA. In view of the

low number of respondents in the “organized PA” group, these subjects were grouped together with the “mixed” participants to permit a comparison between subjects whose PA habits include unstructured activities only and subjects whose PA habits include some organized activities. The results reveal the influence of sex on autonomy of PA (chi-squared = 5.94, $p < 0.05, w = 0.26$), with girls tending to be more autonomous in their practice and boys more likely to opt for organized activities only or a combination of both types.

The study thus reveals a distinct pattern of PA practice among girls, consisting of fewer and less varied (mostly unstructured) types of activities, yet similar overall levels of PA participation across both sexes.

Basic Psychological Needs and Autonomy in PA

As Table 3 shows, satisfaction of basic psychological needs through exercise (organized or unstructured) is consistently high, while results for physical self-concept show values of just 60 out of a maximum 99.

As expected, satisfaction of the need for autonomy is significantly higher in unstructured activities than in organized ones (Table 4), and effect size is high (Cohen, 1988). Differences are also observed in relation to satisfaction of the need for competence, with organized activities appearing to satisfy the need for competence more than unstructured activities. The significance of this difference should be interpreted with caution, however, as effect size in this case is small.

TABLE 1 | Mean ± SD, asymmetry and correlation between total weekly, weekday, and weekend steps.

PA (steps)	1	2	3	<i>M</i>	<i>SD</i>	<i>As</i>	<i>K</i>
(1) Weekly	–			7428.08	3197.22	1.13	1.49
(2) Weekday	0.96***	–		8295.71	3585.12	1.30	2.44
(3) Weekend	0.71***	0.49**	–	5187.05	3375.77	0.61	–0.22

** $p < 0.01$, *** $p < 0.001$; *M* = mean; *SD* = standard deviation; *As* = asymmetry; *K* = kurtosis.

TABLE 2 | Physical activity (PA) comparison between male and female subjects.

PA (steps)	Sex	<i>N</i>	<i>M</i> (<i>SD</i>)	<i>T</i>	<i>d</i>	<i>P</i>
Weekly	Female	60	7494.09 (3268.83)	0.23	0.04	0.07
	Male	57	7358.60 (3147.58)			
Weekdays	Female	60	8301.11 (3721.95)	0.02	0.00	0.05
	Male	57	8290.00 (3468.30)			
Weekend	Female	57	5551.72 (3409.37)	1.21	0.23	0.32
	Male	48	4753.99 (3318.72)			

M, mean; *SD*, standard deviation; *T*, *T*-values (Independent Samples *t*-test); *d*, Cohen’s *d*; *P*, observed power.

TABLE 3 | Satisfaction of basic psychological needs in unstructured and organized activities, physical self-concept, and weekly PA.

	<i>M</i>	<i>SD</i>	<i>As</i>	<i>K</i>
Autonomy (U)	4.13	0.77	–1.10	1.99
Competence (U)	3.80	0.82	–0.74	–0.81
Relatedness (U)	4.38	0.85	–1.86	3.29
Autonomy (O)	3.62	0.71	–0.36	–0.08
Competence (O)	4.04	0.76	–0.63	–0.42
Relatedness (O)	4.40	0.78	–1.38	1.05
Physical self-concept	60.27	20.06	–0.49	–0.28

U, unstructured PA; *O*, organized PA; *M*, mean; *SD*, standard deviation; *As*, asymmetry; *K*, kurtosis.

No significant differences are observed in relation to the effect of activity type on satisfaction of the need for relatedness.

Table 5 summarizes the results of the comparison of male and female subjects in relation to all the psychological variables discussed above. Values for satisfaction of the need for autonomy and relatedness through unstructured activities are similar for both groups of subjects. For all the other parameters, the results show higher levels of satisfaction of psychological needs for male subjects than for their female counterparts. Results for physical self-concept also show significant variation between male and female participants, with values for the former scoring close to 70 points out of a possible 99, and the latter averaging just over 50. This is the only case in which a large effect size is observed.

Basic Psychological Needs, Physical Self-Concept and PA

The different parameters of satisfaction of basic psychological needs show significant positive interrelation between them and a significant positive relationship between them and physical self-concept (**Table 6**). None of the psychological variables (basic psychological needs and physical self-concept) show a correlation

TABLE 4 | Satisfaction of basic psychological needs for unstructured and organized PA.

	PA	N	M (SD)	T	d	P
Autonomy	Unstructured	83	4.16 (0.72)	6.15***	0.68	0.99
	Organized		3.61 (0.71)			
Competence	Unstructured	83	3.85 (0.81)	-2.50*	0.27	0.68
	Organized		4.04 (0.76)			
Relatedness	Unstructured	81	4.38 (0.82)	0.30	0.03	0.05
	Organized		4.36 (0.81)			

p* < 0.05, **p* < 0.001; *M*, mean; *SD*, standard deviation; *T*, *T*-values (Paired Samples *t*-test); *d*, Cohen's *d*; *P*, observed power.

TABLE 5 | Satisfaction of basic psychological needs and self-concept for male and female students.

	Sex	N	M (SD)	T	d	P
Autonomy (U)	Female	61	4.02 (0.86)	-1.42	0.26	0.41
	Male	59	4.22 (0.65)			
Competence (U)	Female	61	3.60 (0.84)	-2.62**	0.49	0.85
	Male	59	3.99 (0.74)			
Relatedness (U)	Female	57	4.23 (1.02)	-1.89	0.35	0.59
	Male	58	4.53 (0.62)			
Autonomy (O)	Female	38	3.39 (0.85)	-2.50**	0.55	0.81
	Male	51	3.78 (0.53)			
Competence (O)	Female	38	3.84 (0.88)	-2.02*	0.44	0.66
	Male	51	4.18 (0.61)			
Relatedness (O)	Female	38	4.17 (0.99)	-2.20*	0.49	0.73
	Male	51	4.56 (0.52)			
Physical self-concept	Female	66	52.19 (21.37)	-5.16***	0.90	0.99
	Male	63	68.71 (14.49)			

p* < 0.05, *p* < 0.01, ****p* < 0.001; *U*, unstructured PA; *O*, organized PA; *M*, mean; *SD*, standard deviation; *T*, *T*-values (Independent Samples *t*-test); *d*, Cohen's *d*; *P*, observed power.

TABLE 6 | Correlation analysis between the variables.

	1	2	3	4	5	6	7	8
(1) A (U)	-							
(2) C (U)	0.61***	-						
(3) R (U)	0.60***	0.55***	-					
(4) A (O)	0.37***	0.37***	0.31**	-				
(5) C (O)	0.41***	0.60***	0.50***	0.68***	-			
(6) R (O)	0.32**	0.35***	0.67***	0.52***	0.63***	-		
(7) PSC	0.24**	0.50***	0.33***	0.50***	0.62***	0.46***	-	
(8) PA	0.04	0.11	-0.03	-0.06	0.03	-0.07	0.12	-

p* < 0.01, *p* < 0.001; *A*, autonomy; *C*, competence; *R*, relatedness; *PSC*, physical self-concept; *U*, unstructured PA; *O*, organized PA.

with PA (average steps per week). High correlations (>0.50) are observed between the three dimensions tested by the BPNES in relation to both organized and unstructured PA. Competence and relatedness show a high correlation (>0.60) in relation to both types of activity. However, the same is not true of autonomy, the correlation for which, though still significant, is only 0.37.

To determine the influence of PA on psychological variables, a multivariate analysis of variance (MANOVA) was carried out. Box's *M* test shows that the covariance matrices of the dependent variables are equal across groups (*p* < 0.05). Levene's test of equality of error variances shows that error variances are equal across groups (*p* > 0.05), except in relation to autonomy for unstructured PA (*p* < 0.05).

The MANOVA found that the interaction of dependent (psychological) variables was not affected by PA levels (Pillai's trace: *F* = 0.86, *p* > 0.05, η^2 = 0.08, observed power = 0.66). In contrast, the sex of participants, analyzed here as a co-variable, was found to have a significant principal effect (Pillai's trace: *F* = 2.93, *p* < 0.01, η^2 = 0.24, observed power = 0.90).

The paired comparison shows variation due to sex in relation to satisfaction of competence through unstructured PA among sedentary and low/somewhat active subjects (*p* < 0.05).

Results from a multiple regression analysis conducted are not displayed here since the analysis yielded no significant results owing to the lack of correlation between PA and the different parameters of satisfaction of basic psychological needs and physical self-concept.

DISCUSSION

One of the main objectives of this accelerometry-based research has been to "translate" the daily step targets recommended by the World Health Organization (World Health Organization [WHO], 2010) for children and teenagers, and to determine the minimum number of steps needed to be considered "active." In Spain, Parra et al. (2018) propose a threshold of approximately 10,000 steps per week for adolescents (11,000 for boys and 10,500 for girls), yet research shows that the tendency is actually for PA levels to decline significantly during the transition between primary and secondary school (Lau et al., 2017). Step averages recorded by the adolescent participants in our research were found to be below the minimum recommended levels of PA

for this age group, thus confirming the first hypothesis of our study. Research in this area suggests that this finding is in keeping with the prevailing trend in other developed countries (Cameron et al., 2016).

Results from other studies also highlight significant quantitative variability between weekday and weekend PA among adolescents (Pelclová et al., 2010; Manzano-Sánchez and Valero-Valenzuela, 2018). Nor is the phenomenon confined to teenagers: Czajka et al. (2015) have observed a similar trend in childhood, which they attribute to the influence of the children's parents. In the case of adolescents, other factors, such as access to night-time leisure activities, may also affect their weekend levels of PA. Adolescents are therefore more active on school days and less likely to engage in PA at the weekend, when, conversely, they have more free time available.

The study showed little variation between girls and boys in relation to step count. These results are in line with the findings of authors such as Tudor-Locke et al. (2011), whose often-cited review of research into PA and step count among different age groups finds variation between step indices for male and female subjects to be lowest among pre-school and adolescent populations. In contradistinction to this view, numerous other studies report variation in step count results for male and female adolescents (Adams et al., 2013; Barreira et al., 2015; Hubáčková et al., 2016).

Although girls took part in fewer activities during the week, their overall PA levels were comparable to those of their male peers. Despite the distinct participation profile exhibited by each group (males and females), their overall amount of PA (number of steps) was similar. The difference between them may be attributed to two factors. The first factor refers to the traditional preference among girls for individual, unstructured and less competitive physical activities, in contrast to the male preference for more organized, collective, competitive PA. The second factor relates to the different experience of adolescence by girls and boys: whereas girls at this age appear to be developing more individual, independent, adult-like attitudes to PA, boys show more prolonged involvement in the sporting and PA routines of their childhood and less progress toward more adult forms of physical leisure. In this way, boys' routines show a more even balance between organized and unstructured activities, while girls display a clear preference for more self-managed, non-institutionalized PA.

In order to establish which basic psychological needs are satisfied by organized PA and which by unstructured PA, the variables were analyzed separately in relation to each type of activity. As predicted by the second hypothesis of this research, the comparative analysis shows highly significant differences in relation to satisfaction of the need for autonomy through unstructured activities. This result is especially significant considering that the comparison applied only to participants with involvement in both organized and unstructured activities, not to participants whose PA habits include unstructured activities only. The findings from this mixed group show a higher level of satisfaction of the need for autonomy from unstructured activities. The second hypothesis has proved only partially accurate, however: in contrast to the assumption that both

types of activity would affect satisfaction of the remaining two basic psychological needs equally, the results of the study show greater satisfaction of the need for competence from organized activities. The effect size for this difference is small, however, so its significance should be interpreted with caution.

The results in relation to sex confirm the idea that boys tend to score higher across all three dimensions of the scale (Brunet and Sabiston, 2009; Gómez-Rijo et al., 2014). In this study, organized PA was found to provide greater need satisfaction among boys than girls in all categories. In unstructured activities, boys and girls showed similar satisfaction levels in relation to the need for autonomy and relatedness, but girls showed notably lower scores in relation to the need for competence. Self-esteem was found to play an important mediating role and observed to be strongly related to sex: the results revealed that both physical self-concept (Malo et al., 2011) and satisfaction of the need for competence (through both organized and unstructured activities) were significantly lower among female subjects. Lower physical self-concept may account, at least in part, for the difficulty experienced by girls in finding forms of PA that satisfy their need for competence. Our results are consistent with the findings of Lamoneda and Huertas-Delgado (2019), who recommend the implementation of measures to satisfy the need for competence as a strategy to increase levels of PA among adolescents, especially girls. The question of exercise intensity is another possible factor to explain the differences observed between the two sexes in relation to satisfaction of basic psychological needs and physical self-concept. Girls tend to participate in fewer and more unstructured activities, which are in turn of a generally low intensity (e.g., walking). Boys, on the other hand, participate in more activities, frequently of an organized nature and a higher intensity. It may be that higher intensity activity has a greater positive effect on self-concept and satisfaction of basic psychological needs than its lower intensity equivalents (Candel et al., 2008; Parfitt et al., 2009; Goñi and Infante, 2010).

Much of the research on the relationship between PA and the psychological variables of BPNT measure PA indirectly using data from self-reporting instruments. The emergence in recent years of a growing number of resources for measuring PA objectively has opened up a new line of research in this area. While data from comparative studies of psychological variables and objectively measured PA are still sparse, the findings so far are inconclusive and even contradictory.

The Basic Psychological Needs mini-theory of Self-Determination Theory postulates a positive relationship between satisfaction of the three basic psychological needs (autonomy, competence, and relatedness) and greater intrinsic motivation to engage in PA, leading to greater self-esteem and a higher level of participation in PA (Franco et al., 2017). The mini-theory is based on the general assumption that satisfaction of basic psychological needs and higher intrinsic motivation make young people more likely to participate in healthful physical activity (Almagro et al., 2011; Sánchez-Oliva et al., 2013; Sicilia-Camacho et al., 2014). Our data, however, show no such relationship between psychological variables and objectively measured PA, as predicted by our third hypothesis. The three dimensions tested by the BPNEs are positively interrelated

and show a positive relationship with physical self-concept, as predicted by BPNT, but there is no corresponding correlation with the different levels of PA recorded in the study. This outcome is in keeping with the findings of other studies using objective measurement instruments to quantify daily PA, where no significant relationship is observed between steps per day and psychological variables (Raustorp et al., 2006, 2009; Raustorp and Lindwall, 2014).

The absence of a clear relationship between psychological variables and objectively measured PA is not surprising, given that objectively measured daily step counts take into account activities not traditionally reported as PA. Everyday activities such as walking the dog (Wohlfarth et al., 2013) or walking to and from school (Baig et al., 2009) can make a significant difference to recorded PA, especially among less active groups, and even more so when repeated over the course of several days. As regards the possible limitations or inaccuracy of objectively measured PA, it is important to point out that pedometers and accelerometers tend to underestimate levels of PA achieved through sports and are unable to measure activity intensity, which in the case of organized PA tends to be higher than that associated with everyday activities such as walking. As people age and organized sports activities assume less prominence in their daily routines, step counting becomes a truer reflection of the amount and pace of PA. To increase the accuracy of our instruments, the relationship between psychological variables and PA must be reinterpreted from a new perspective that takes into account the concept of everyday PA. When participants are surveyed regarding their perceptions about physical activity, a significant correlation between psychological variables and physical exercise is observed. However, data relating to the actual physical activity performed may see some subjects classed as less active, despite engaging in levels of activity similar to or higher than those of subjects classed as “active or highly active.” The diversity of factors and situations present in this type of research makes it difficult to establish an accurate system of categories and correlations.

STRENGTHS AND WEAKNESSES

This research has a number of strengths and weaknesses which should be acknowledged and taken into account in future studies.

One of the strengths of the study is the use of accelerometers to obtain objective data regarding habitual PA among the study

sample. Nevertheless, it is important to highlight the limitations associated with this type of device (Cain et al., 2013), such as its inability to measure certain types of PA (e.g., bicycle, cross-trainer, and strength training) and the need to remove it during high-intensity activities involving physical contact. As a result of these restrictions, recorded PA may sometimes be lower than the subject's actual level of activity (Cuddihy et al., 2006), especially in the case of high-intensity activity.

One weakness associated with this strength is the limited size of the sample. A larger sample size would make it possible to draw more consistent conclusions from the data analysis, especially in relation to multivariate testing.

DATA AVAILABILITY STATEMENT

The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

ETHICS STATEMENT

No ethical review or approval was required for this study on human participants, in accordance with the local legislation and institutional requirements. As the participants were under 18 years of age, written informed consent was obtained from the parents or guardians of each participant, in accordance with the local legislation and institutional requirements. In accordance with the Helsinki Declaration World Medical Association (2013), all participants were informed in advance of the aims of the study and the voluntary nature of their participation, and assured of the confidentiality of their answers and personal information. The research was carried out in accordance with the University of A Coruña Code of Research Ethics (https://www.udc.es/export/sites/udc/investigacion/_galeria_down/hrs4r/Codigo-etico-ENG.pdf_2063069299.pdf).

AUTHOR CONTRIBUTIONS

RF-V and EP-R conceived the hypotheses for the research and analyzed the data. RF-V, LV-G, and MC-G were involved in data collection and wrote the manuscript with substantive input from EP-R. All authors contributed to the interpretation and discussion of the statistical analysis data, and read and approved the final manuscript.

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Transition to Adulthood Autonomy Scale for Young People: Design and Validation

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Given that autonomy is a fundamental process in the transition to adulthood, there are several scales that measure the concept as a main construct or a constituent feature of broader constructs. However, most of these scales are based on a notion of autonomy focused on the individual, while the proposed scale aims to incorporate the idea of the individual mediated by others and society. This article aims to show the results of the design and validation process of the Transition to Adulthood Autonomy Scale (EDATVA), which was developed using this approach. A group of 61 items with a Likert-type response scale of four options was used on a sample of 1,148 Spanish and Colombian individuals, aged between 16 and 21. A systematic process was performed using an exploratory factorial analysis. Additional indexes were calculated from the Rasch Model. The matrices obtained from the factorial analysis gave rise to a 4-factor structure comprising a total of 19 items with weights >0.3 . In the case of Spain, the KMO test returned a value of 0.80 and in the case of Colombia, 0.83. In the Rasch model, the Item Separation Reliability (0.99) indicates that the items constitute a well-defined variable that meets the local independence assumption. Cronbach's alpha for the Spanish sample was 0.86 and for the Colombian sample 0.85. In conclusion, this new scale consists of four dimensions: self-organization, understanding context, critical thinking, and socio-political engagement. The scale is easy to use and interpret, especially considering the age range of the target population and its possible uses within the contexts of assessing and intervening in young people's behavior. Due to its characteristics, it can be used in family, educational, and social contexts. This scale is valuable for research because its optimal psychometric properties provide an alternative way of understanding autonomy.

Keywords: autonomy, young people, assessment, orientation, transition to adulthood, validation, scale

INTRODUCTION

The transition to adulthood is an emerging and rapidly growing field of research, which aims to address the many challenges young people face during their development (Casal et al., 2015; Melendro and Rodríguez-Bravo, 2015; Courtney et al., 2017; Mann-Feder and Goyette, 2019). In order to achieve a successful transition from adolescence to adulthood, young people must endeavor to master the processes linked to autonomy. These processes enable young people to make decisions in complex situations that will have a fundamental bearing on their adult lives. Such situations include moving away from the family environment to build an independent life,

potentially raising a new family, entering the labor market, continuing in education, organizing personal finances, self-care, forming social networks, solving everyday problems, inter alia (Álvarez, 2015; Esteinou, 2015; Ferraris and Martínez, 2015; Bernal, 2016; Moleiro et al., 2016; Garberoglio et al., 2017; Hernández, 2017; Linne, 2018; Okpych and Courtney, 2019).

Given the widely accepted importance of the processes in the human lifecycle linked to autonomy, a variety of measures have been designed to assess their impact. Below is a review of just some of the measures that have been used as references to design the model used in this study, the Transition to Adulthood Autonomy Scale, in Spanish *Escala de Autonomía en el Tránsito a la Vida Adulta* or EDATVA.

To begin with, there are a series of questionnaires that assess autonomy based on adolescents' self-perception. This is the case of the Adolescent Autonomy Questionnaire (Noom, 1999), which aims to assess functional, emotional, and attitudinal autonomy from the perspective of adolescents aged 12–15. The Adolescent Autonomy Behavior Questionnaire (Fleming, 2005), used with individuals aged 12–17, also focuses on young people's self-assessment of their own actions. A more recent measure, but still in the revision process, is the Autonomy Questionnaire (Martínez-Torres and Ojeda-Gutiérrez, 2016), which aims to measure autonomy in reference to four contexts: education center; personal milieu; academic learning, and social environment. Lastly, the Ansell-Casey Life Skills Assessment (ACLSA) scale (Nollan et al., 2001) aims to assess the functional autonomy of young people aged 14–21; the questionnaire must be completed by the individual and their guardian, and includes the following dimensions: daily living activities, self-care and healthcare, housing and community resources, budgeting and paying bills, maintaining healthy relationships, and work and study habits.

Other types of measures assess emotional autonomy. One of the most important is the Emotional Autonomy Scale (EAS) (Steinberg and Silverberg, 1986), which measures four dimensions in adolescents aged 14–18: individuation, deidealization of parents, non-dependence on parents, and perceptions of parents as individuals. In turn, other measures focus on cognitive autonomy, such as the Cognitive Autonomy and Self-Evaluation (CASE) inventory (Beckert, 2007), which is targeted at adolescents and has includes the following components: evaluative thinking, voicing opinions, decision making and comparative validation.

There are also a number of models that deal with measuring autonomy in interrelation to other constructs, such as the Sociotropy-Autonomy Scale (SAS), which comprises two subscales: sociotropy and autonomy. The first measures sociopathic attitudes, such as fear of criticism and rejection, and a preference for affiliation. The second measures autonomic attitudes through individualistic achievement and freedom from control (Beck et al., 1983). Also in this group is the Autonomy-Connectedness Scale (ACS-30) (Bekker and van Assen, 2006), which comprises three sub-scales for individuals aged 18–59: self-awareness, sensitivity to others, and capacity for managing new situations. And lastly, the Satisfaction of Proximity/Autonomy Needs Scale (ERSN-P) (Bernardo and Branco, 2015), targeted

at young adults, measures the satisfaction of needs from two subscales: proximity and autonomy.

Another group of models measures autonomy as part of a larger construct. *Épreuve de Développement Psychosocial*, DPS-66 (Cited in Behar and Forns, 1984) measures three dimensions: behavioral autonomy, social integration and social intelligence, although it focuses more on childhood than adolescence. These dimensions, as discussed in Behar and Forns (1984), were later included in *Épreuve de Développement Psychosocial* (EDPS/74) (Coulbaut, 1981), which measures psychosocial maturity in adolescents aged 12–18. In turn, the Psychological Maturity Questionnaire (Morales et al., 2012) measures the capacity of young people aged 15–18 to make responsible decisions, in other words, to analyze the consequences before making a decision. This model comprises three dimensions: orientation toward employment, autonomy, and identity. Also important to mention is the Model of Psychological Well-being (Ryff, 1989). Although this model focuses on measuring psychological well-being, it presents a subscale that measures autonomy in the form of independence, understood as resisting social pressure in order to make decisions based on personal standards. The Motivational Profile Analysis (APM) (Valderrama et al., 2015) can be used on individuals from the age of 16 and measures 10 dimensions: affiliation, autonomy, power, cooperation, achievement, hedonism, exploration, security, contribution, and conservation.

And lastly, there are also a series of models that measure constructs that can be considered similar to autonomy. The Emotional Dependency Questionnaire (Lemos and Londoño, 2006) measures young people's (aged 16–18) level of dependence based on self-perception, perception of others, threats, and interpersonal strategies. The Sociopersonal Factors Test for Labor Insertion (Martínez-Rodríguez and Carmona, 2010), also designed for young people, is structured in five sections. One of which, personal qualities to access employment, recognizes autonomy as an important variable, although it should be noted that in this case autonomy is a feature that is exclusively related to employment. The Adaptive Behavior Assessment System (ABAS II) (Oakland and Harrison, 2011) does not measure autonomy, but gauges adaptive behavior from birth to age 89 with the aim of assessing an individual's abilities to live independently. In this model, adaptive behavior is measured based on functional skills such as: communication, use of community resources, functional academic skills, home and study life, health and safety, leisure, self-care, self-direction, and employment.

After reviewing these and other methods of measuring autonomy, we identified three different approaches, which coincide with those described by various authors as subjective spaces or representations of reality (Boudon, 1995; Krakov and Pachuk, 1998; Jodelet, 2009; Kaës, 2015; Ferreira et al., 2016). This, in turn, infers different approaches to autonomy: (1) as a personal, subjective or intrasubjective process; (2) as an intersubjective construction, which requires relationships with others to make sense, and (3) from a trans-subjective perspective, as the interaction between individuals and the society in which they live.

In the first, the personal or intrasubjective approach, the definitions of autonomy focus on the individual's capacity and skills to self-govern (Sandhu and Kaur, 2012; Conill, 2013; Bussi eres et al., 2015; Majorano et al., 2015; Fern andez-Garc a, 2016), which entails processes of self-determination, self-sufficiency and self-regulation (Markus and Wurf, 1987). Authors such as Inguglia et al. (2015) define this same approach from the perspective of an individual's will and self-organization. The intrasubjective approach has been primarily used in designing measures of autonomy, some of the most important being: the Adolescent Autonomy Questionnaire (Noom, 1999), a model that integrates the principal intrasubjective perspectives (attitudinal, emotional and functional); the Sociotropy-Autonomy Scale (SAS) (Beck et al., 1983), which measures sociotropy and autonomy, and the Model of Psychological Well-being (Ryff, 1989), a subscale which measures autonomy in the form of independence, understood as resisting social pressure in order to make decisions based on personal standards (Garc a-Alandete, 2013).

The second, the relational or intersubjective approach, analyzes different aspects of relationships between individuals such as: cooperating in the development of personal attitudes, knowledge and competences (Thomas and Da Costa, 2014); promoting the transmission and dissemination of information and mechanisms of reciprocal influence (Jodelet, 2009), and encouraging "co-autonomy," which involves compassion and reciprocal recognition (Cortina, 2017) especially in the family (Esteinou, 2015; Van Petegem et al., 2015; Duineveld et al., 2017; Garberoglio et al., 2017; Kiang and Bhattacharjee, 2018) and educational environments (Barker, 2014; Bustamante et al., 2014; Hein and J oesaar, 2015; Antunes and Correia, 2016) both of which are privileged spaces for the study of this type of autonomy. This approach, which appears on many occasions to complement the intrasubjective approach or other constructs relating to autonomy, has given rise to models which provide interesting and differential contributions, such as: the Autonomy-Connectedness Scale (ACS-30) (Bekker and van Assen, 2006) which includes a subscale focusing on sensitivity to others, and the College-Student Scale/Parental Behavior Questionnaire/Perceptions of Parents Scale (Campione-Barr et al., 2015), which focus on family relationships between parents and children.

The third, the social or trans-subjective approach, studies the processes of autonomy from the perspective of the interaction between individuals and their society, as well as the important influence of educational, social, media, economic, and political factors as facilitators or obstacles of decision making (C aliz et al., 2013). In this approach, the definitions of autonomy focus fundamentally on the interaction of the individual with other contexts in two complementary ways:

(1) the construction of autonomy as a product of the individual's interactions with the environment, including the idea of social responsibility (Mazo, 2012; D'Angelo, 2013; Posada, 2013) or as a factor of social transformation (Mu oz-L opez and Alvarado, 2011), and (2) the limits placed on autonomy that are generated by the different contexts in which the individual interacts (C aliz et al., 2013;  lvarez, 2015). There are

few models that follow this focus in their structure and item design, and limited significant contributions. Notwithstanding, worth highlighting are the Ansell-Casey Life Skills Assessments (ACLSA) (Nollan et al., 2001), which assesses the individual's relationship with community resources, and *Une  preuve de D veloppement Psychosocial (EDPS/74)* (Coulbaut, 1981), which is based on three dimensions, one of which is "social integration," "which analyses the individual's participation in collective life" (Behar and Fornis, 1984).

Consistent with the literature and measures reviewed and mentioned above, the objective of this study was to determine the design and validation process of a new scale, the Transition to Adulthood Autonomy Scale (EDATVA). This scale brings to the construct of autonomy the idea that an individual's decisions are also mediated by others and society, and not just by the individual themselves. Moreover, this process occurs at a fundamental evolutionary, social and educational period in the lives of adolescents and young people—the transition to adulthood.

STUDY 1: SCALE DESIGN AND CONSTRUCTION

Materials and Methods

Participants

In the first study, in which an initial EDATVA design was used, 160 young people aged 17–19 from Colombia were selected using convenience sampling (Mean = 18.2, SD = 0.7), 106 female (66.3%), 53 male (33.1%), and 1 transgender (0.6%). Of this group, 85% were studying, 12.4% working and studying, 1.3% working, and 1.3% were not engaged in any of the two activities. The majority were living with their parents or relatives (92%) and 5% stated that they were living alone. The only selection criteria stipulated for EDATVA was age range.

EDATVA Item Proposal

The initial proposal for the EDATVA items was obtained by following the steps below.

Concept Definition

A literature review was performed to determine how different authors have defined autonomy. For this study, autonomy is understood as a complex process, which is in continuous development throughout an individual's lifetime and via interaction with others (Mu oz-L opez and Alvarado, 2011; C aliz et al., 2013; Posada, 2013) and involves procedural elements such as: (1) to question and reflect on one's own life in relation to others, (2) to make interdependent decisions and assume the consequences, and (3) to practice self-eco-organization (relating to oneself, others and society).

Based on these characteristics, we created three dimensions for autonomy. The first considers the processes of reflection and decision making with respect to the subject. The second considers these processes as regards close "others" (family, friends, partner), and the third as regards community and social references.

Review of Measures and Item Selection

A review of existing measures aimed at assessing autonomy was performed. On the basis of this review, a scale was drawn up to group the previously mentioned conceptual elements. In principal, the elements, which were deemed fundamental to the study, were targeted at young people in their transition to adulthood.

A group of seven experts and researchers, with extensive experience in working with young people and academic backgrounds in the subject of autonomy and the transition to adulthood, designed a total of 68 items taking into account the conceptual, procedural, and self-eco-organization elements in the proposal. They also took into consideration items and dimensions from other measures aimed at assessing autonomy or similar constructs (Nollan et al., 2001; Fleming, 2005; Díaz et al., 2006; Aparicio, 2010; Gobierno, 2012; Larimore, 2012; Berzin et al., 2014; Verdugo et al., 2014; Bussièrès et al., 2015; Oudekerk et al., 2015; García, 2016; Moleiro et al., 2016).

The aim was to generate a group of items three times larger than those required for the scale, following recommendations from several authors on the subject (Aiken and Groth-Marnat, 2005; Wendler and Walker, 2006).

Peer Review

For this stage, a group of experts was selected based on their knowledge and experience on the subject of autonomy and working with young people, either as researchers or as caregivers. Experts with experience in developing tests and psychometry were also included. In total, the panel consisted of seven experts, three Spanish and four Colombian. Each was given a protocol to assess the wording, understanding and coherence of the 68 items, scoring each on a scale from 1 to 5. In addition, they were able to record their observations and suggestions for the items on the format. Indices were calculated by unanimous agreement of the panel (Aiken's V) for each of the aspects assessed. All the scores obtained with Aiken's V were >0.8 (in wording and coherence >0.8 , and in comprehension >0.9). In addition, small changes were made to the wording of some of the items and one was relocated to another dimension which the panel considered a better fit.

Pilot Questionnaire Design

In order to categorize the sample, some questions on sociodemographic data were included. A 4-point Likert scale was used for the EDATVA items: from 1 strongly disagree to 4 strongly agree. The items were organized in an online questionnaire to facilitate use, and a printed format was made available for those participants without access to an electronic device.

Procedure

A number of institutions were approached and negotiations held in order to process the corresponding guarantees required for young people to participate in the study. In addition, informed consents and approvals (depending on the circumstances) were given to each participant and/or their legal representative. Most of the submissions were administered in groups in

sessions that lasted approximately 15 min. Printed and online forms were available, depending on the needs of the participants.

Data Analysis

A number of indices were calculated to assess how the questions would initially perform, including the discrimination index, the test-item correlation and Cronbach's alpha. In addition, the comments made by some of the participants about the items on the survey were reviewed.

Results and Discussion

The following criteria were taken into account to interpret the indices: (1) items whose discrimination index was <0.2 (Ebel and Frisbie, 1986); (2) items with test-item correlation values >0.30 , consistent with Nunnally (1970), and (3) items that, when eliminated, give rise to improvements in Cronbach's alpha for the test at 0.80.

As a result, a total of seven items were excluded from the original 68 items: "I'm capable of living independently from my family"; "I decide how to spend my money"; "I'm capable of avoiding harmful substance consumption (tobacco, alcohol, drugs)"; "My mistakes help me to learn"; "The best groups are those where all the have the same opinion"; "I value what I post on social media," and "I don't participate in associations or social organizations because they're not worth it."

None of the participants expressed difficulty in understanding the items on the survey. However, they did make observations or comments about some of the sociodemographic questions.

Thus, the initial structure proposed for EDATVA contained a scale of 61 items, distributed in three dimensions: (1) autonomy centered on the subject (intrasubjective), comprising 21 items; (2) autonomy in relation to close "others" (intersubjective), comprising 23 items, and (3) autonomy in relation to community and society (trans-subjective), comprising 17 items.

The design aims to reach a balance between items relating to the intra, inter and trans-subjective approaches mentioned in the introduction to this paper. The incorporation of the latter, which is relatively infrequent in autonomy scales, constitutes one of EDATVA's contributions to the field.

This approach responds to the reconceptualization of the construct of autonomy, understood as a complex process based on the assumption that the subject makes decisions mediated by others and by society. It is a key approach to contextualize and interpret the results obtained in the period for which EDATVA is designed: the transition to adulthood between the ages of 16–21.

STUDY 2: VALIDATION

In order to verify the structure, composition and reliability of the 61-item EDATVA (construct validity), data were collected from a new, much larger sample and an exploratory factorial analysis was performed. Some indices were also calculated using the Rasch model.

Materials and Methods

Participants

The sample consisted of 1,148 young people, 508 (44.3%) Spanish and 640 (55.7%) Colombian selected using convenience sampling, with ages ranging from 16 to 21 ($M = 18.2$; $SD = 1.8$). The total group comprised 690 females (60.1%), 456 males (39.7%) and two participants who did not complete the data. Less than half of the sample (41%) consisted of university students, and nearly 56% were in some level of secondary education. A total of 2.5% stated that they were working, 76.2% exclusively engaged with study, 18.1% working and studying, and 3.2% were not engaged with either of the two activities. Lastly, 83.3% of the participants stated that they were living with their parents or relatives, and 8.7% in out-of-home placements.

In addition to age, literacy was taken into account as a criterion for inclusion, as it was a prerequisite for completing the survey. In turn, the presence of physical or mental functional diversity was considered an exclusion criterion, given that this aspect could give rise to processes of autonomy with very different characteristics. In order to verify this criterion, data was provided by the participants' teachers or caregivers from the various institutions participating in the study.

In order to obtain the sample, contact was made with various types of educational institutions, state agencies responsible for the care of young people at risk, and selected companies and social entities. It also involved applying for the corresponding permits, if and when applicable.

Procedure and Measures

Institutions were again approached and discussions held in order to contact potential participants. Informed consent from each of the participants was obtained and they were presented with the survey, which began with a section of sociodemographic questions that were followed by the EDATVA items. The survey was presented in its modified version following the results of Study 1: 61-items distributed in three dimensions: (1) autonomy focused on the subject, (2) autonomy in relation to close "others," and (3) autonomy in relation to community and society. On this occasion, most surveys were completed using the printed form; the online version was only used in those cases where there was easy access to a computer or electronic device. Participants took an average of 15 min to complete the entire survey.

Data Analysis

An exploratory factorial analysis (EFA) was performed for the total sample and for each country. Despite having a large number of items (61), the sample size (both in the total sample and at country level) was within the limits recommended for this method (Lloret-Segura et al., 2014). Cronbach's alpha and test-item correlations were calculated. Several indices were also calculated using the Rasch model owing to how they might contribute to the item analysis (Bechger et al., 2003; Abedalaziz and Leng, 2013) once the corresponding fit for the model was verified according to Linacre (2019)—infit and outfit values between 0.5 and 1.5 (see **Table 1**).

TABLE 1 | Rasch fit statistics for selected items.

Item	Spanish sample		Colombian sample	
	Infit	Outfit	Infit	Outfit
25	0.74	0.72	0.78	0.75
26	0.75	0.71	0.85	0.79
27	0.74	0.74	0.68	0.69
28	0.70	0.70	0.57	0.57
29	0.64	0.65	0.68	0.67
35	0.91	0.91	0.85	0.80
56	0.82	0.80	0.69	0.70
57	0.85	0.82	0.76	0.75
49	0.73	0.68	0.68	0.67
59	1.19	1.11	1.07	1.11
50	0.84	0.84	0.77	0.76
51	0.97	0.99	0.93	0.91
52	0.92	0.93	0.83	0.83
36	1.07	1.11	1.06	1.06
40	1.09	1.08	0.92	0.90
53	1.15	1.18	1.00	1.00
54	1.36	1.41	1.19	1.21
55	1.04	1.04	1.01	1.01
9	0.79	0.79	0.87	0.88

Results and Discussion

Test-item correlations were calculated to identify values <0.30 , consistent with Nunnally (1970). Only three items with values below this limit were maintained (items 8, 14, and 15) when analyzing the groups separately (Colombia and Spain). Furthermore, in the total sample the three items contributed to good indices and their content was considered significant for the scale. The items would later show their significance in the constitution of the definitive factors in the exploratory factorial analysis (EFA).

The correlations between the items and measures obtained from the Rasch model were also analyzed. The criterion for positive correlations was considered >0.2 (Linacre, 2019). As the Rasch model assumes that all items are aligned in the same direction in the latent variable, it is vital that all items meet this criterion.

Exploratory Factorial Analysis

After refining the initial results, the matrices obtained gave rise to four consistent factors and their corresponding items (19 in total) with weights >0.3 in all cases (see **Table 2**). In the case of Spain, the KMO index returned a value of 0.800, where the first four factors explain 30.098%. In the case of Colombia, the KMO index returned a value of 0.834, where the first four factors explain 28.783%. Other groupings were also observed in neighboring components. However, they did not contribute significantly to the increase in the explained variance and included items which had specific issues. The fifth component in Colombia's matrix (equivalent to the eighth component in Spain's matrix) contained four items. On reviewing the statements, it was observed that they had a high degree of social desirability

TABLE 2 | Weights for each item selected in the factors from the Colombian and Spanish samples.

Items	Spanish sample				Colombian sample			
	1	2	3	4	1	2	3	4
28	0.771				0.719			
27	0.728				0.622			
26	0.661				0.598			
25	0.592				0.708			
29	0.588				0.66			
35	0.377				0.359			
57		0.804				0.697		
56		0.753				0.75		
49		0.576				0.509		
59		0.355				0.468		
51			0.816				0.690	
36			0.749				0.692	
50			0.551				0.57	
52			0.524				0.637	
40			0.481				0.534	
53				0.807				0.800
54				0.753				0.809
55				0.748				0.755
9				0.346				0.534

bias (e.g., “the country’s problems should be solved by the government alone”). As a result, it was decided not to include them in the final selection. There was also a group of items in the sixth component of Colombia’s matrix (equivalent to the sixth component in Spain’s matrix) that alluded to independence in romantic relationships. However, this is related to the second component that was selected when defining the concept of autonomy (see Study 1), in other words, it is grouped with the processes of decision and reflection in relation to “others.” This dimension includes not only romantic partners, but also family and friends. Consequently, the component became too specific with respect to the objective of the study. And lastly, the seventh component did not contribute significantly to the increase in the explained variance. No relationship was found between the elements of the components between Spain and Colombia, and a theoretical relationship could not be established (see **Appendix 1**).

After analyzing the factors, the dimensions were refined as follows: (1) self-organization; (2) critical thinking; (3) understanding context, and (4) socio-political engagement. The distribution of the items that comprise the four dimensions, in the procedural and contextual frameworks that form part of the theoretical proposal of this study (see Study 1) can be observed in **Table 3**.

The exploratory analyses were repeated, but this time only with the items of the first four factors identified. As a result, it was observed that the amount of variance explained by the factors increased to 53%. Cronbach’s alpha for this final set of items was 0.84 for the total sample (0.83 for Spain and 0.84 for Colombia) and for each of the factors identified was 0.80 (self-organization),

TABLE 3 | Distribution of the definitive items for the proposed dimensions and theoretical frameworks.

Dimension	Procedural framework			Contextual framework		
	Self-reflection	Decision making	Assuming consequences	Intra	Inter	Trans
Self-organization		26		26		
	27			27		
	28			28		
	29			29		
			35	35		
			25	45		
Critical thinking		49				49
	27		56		56	
		57				57
			59		59	
Understanding context			50			50
	51					51
		36				36
		52				52
	40					40
Socio-political engagement	9					9
		53				53
			54			54
		55				55

0.70 (critical thinking), 0.74 (understanding context), and 0.77 (socio-political engagement).

Rasch Model Analysis

In the Rasch model it was observed that the item separation index was quite similar in both groups: 10.05 for the Colombian sample and 10.04 for the Spanish sample, indicating that the items discern between different levels of autonomy for the subjects in the study.

Global reliability or Item Separation Reliability was excellent (0.99). The separation index for the subjects is 2.21 for the Colombian sample and 2.24 for the Spanish sample, which indicates the extent to which the test is able to discern differences in the sample at sufficient levels for the purpose of the study. In this case, the values obtained indicate that in the samples studied, EDATVA is able to discern at least two levels (subjects with low and high autonomy). The average person reliability index (Person Separation Reliability) for both samples was appropriate (0.83 in both cases).

Consequently, in Study 2 the number of items in the EDATVA scale was significantly reduced, from 61 to 19, and the structure modified, from three to four dimensions. The scale proved to be a good model, which adapted to the Spanish-Colombian sample. Specifically: (1) the exploratory factorial analysis gave rise to four consistent factors, which form part

of the theoretical proposal of the study; (2) the Rasch model verified that the items discern differences at least between two levels of autonomy, subjects with low and high autonomy, and (3) Cronbach's alpha for the final set of 19 items was 0.84 for the total sample.

Lastly, it should be noted that the EDATVA items were generated after an exhaustive validation process to adapt them to the construct and the population under study. The measure was specifically adapted to the linguistic and cultural characteristics of the Colombian and Spanish populations, which may favor the application and comparison of the results in different territories—especially the Spanish-speaking population—always taking into account social and cultural characteristics (see **Appendix 2**).

CONCLUSION AND GENERAL DISCUSSION

In conclusion, the 19-item EDATVA is a reliable and valid model for measuring the autonomy of young people in their transition to adulthood, between the ages of 16 and 21. It presents a structure of four dimensions, which are vital factors for attaining autonomy in the transition to adulthood: (1) self-organization; (2) understanding context; (3) critical thinking, and (4) socio-political engagement. These dimensions are expressed as capacities for autonomy, which we understand in the sense proposed by Oshana (2016), who argues that autonomy “consists of the minimum qualities a person must possess in order to lead a self-governed life” (p. 6). Suárez et al. (2007) complete this concept of capacities highlighting that attaining autonomy involves “complex psychological formations [...] with a predominantly executor character, the premise and result of the successful realization of a subject's action and the creation of something new” (p. 32–33).

The model has a clear and well-defined structure, which was verified during the study, as well as excellent reliability (internal consistency), a satisfactory item separation index, and test-item correlations within the recommended values. Similarly, the indices calculated from the Rasch model were also adequate. This was observed in both the Spanish and Colombian samples.

EDATVA was designed as a comprehensive and multidimensional scale, from an approach that balances intra, inter and trans-subjective elements based on the knowledge acquired in a systematic, international and interdisciplinary process of reviewing the literature and measures on autonomy.

In reference to the dimensions recognized in EDATVA, the first two—self-organization and critical thinking—comprise items present in most of the autonomy models reviewed: self-organization is one of the main aspects contemplated in the characterization and measurement of autonomy, while critical thinking is also contemplated from different perspectives. However, the latter dimension provides a novel perspective, with a clear inter and trans-subjective component, which contemplates the rights of the subject and social justice as references. This is represented by the items that deal with the

defense of one's own rights in decision making or the response to their violation.

In turn, the dimensions of understanding context and socio-political engagement incorporate a series of elements that not only refer to autonomy as a product of interactions with others, but also take into consideration interactions with the environment and the limits generated on a subject's autonomy by the different contexts in which they interact: the system in which they live. In this regard, this is the first time that autonomy has been measured on a scale that clearly and predominantly incorporates approaches and elements such as these, fundamentally trans-subjective. This is in line with proposals by authors already mentioned in the introduction to this study, and others such as Thomas and Da Costa (2014), who identify autonomy as cooperation with others; D'Angelo (2013), who argues that autonomy implies “interlinking” with contexts, and Cáliz et al. (2013), who consider that decision making implies reaching a balance between one's own well-being and that of others. In this regard, autonomy is not an individual characteristic, but emerges from interdependent relationships (Parron, 2014). As Morin states: “the notion of human autonomy is complex because it depends on cultural and social conditions [...] as such we make our own choices within the assortment of existing ideas and reflect independently...” (Morin, 2005, p. 97–98).

Some of the measures of autonomy reviewed also present similar elements, although in a more limited way. Worth mentioning is the study by Moleiro et al. (2016); the Autonomy-Connectedness Scale (ACS-30) by Bekker and van Assen (2006), which includes a subscale on “sensitivity to others,” and the EDPS/74 questionnaire which analyzes the subject's participation in social life. Although none of them incorporates the trans-subjective perspective in the same in-depth way as EDATVA, which incorporates items referring to events “in my country” as important data for making future decisions, or the idea that the community in which the subject lives “improves if I'm part of the activities that happen there” or if “I've got initiative to carry out proposals or ideas” that can improve it.

EDATVA therefore aims to contribute significantly to the knowledge and understanding of autonomy and, in this regard, provides a valuable model for research based on a construct with optimal psychometric properties that provide an alternative way of understanding autonomy. It also promotes the gathering of objective and consistent data on the characteristics of young people with different profiles and from different environments in their transition to adulthood.

Lastly, due to its characteristics this measure can be used in the diagnosis, orientation, and assessment of individuals, families and groups in the fields of psychology, education, sociology and/or social work.

In the case of the relationship between autonomy and the family, numerous studies highlight the influence of family educational styles and certain family characteristics on young people's autonomy (Ponciano and Féres-Carneiro, 2014; Campione-Barr et al., 2015; Esteinou, 2015; Van Petegem et al.,

2015). With reference to the relationship between autonomy and formal education, research has highlighted its influence on academic success and on the role of teachers (De Carvalho and De Almeida, 2011; Bustamante et al., 2014; Hein and Jøesaar, 2015).

EDATVA can also support the design of strategies in the field of psycho-social-educational intervention with young people. In this regard, it is important to consider that this model is targeted primarily at the younger population (16–21), although it could be very useful for tackling different types of actions with young people at risk. Research can also be found on autonomy relating to socio-educational intervention with this study population, as well as social protection programs and the acquisition of personal, social and functional skills (Barker, 2014; Gibson and Cartwright, 2014; Livindo De Senna Corrêa et al., 2014; Antunes and Correia, 2016; Longas and Riera, 2016; Marques et al., 2016; Zamith-Cruz et al., 2016; Pini and Valore, 2017).

Although EDATVA has many strengths, it also has some limitations. Evidently, by selecting the initial samples for our target population the results cannot be generalized to populations in different cultures, times or age groups. Future studies replicating EDATVA will therefore be required to continue exploring its reliability and validity in larger samples and with different sociocultural groups. In turn, and unlike most other measures of autonomy, EDATVA contemplates intrasubjective aspects in a more limited way. This was a conscience decision made by the research team, nonetheless new versions of the scale could contribute important aspects to the field.

Lastly, it should be noted that the language used in the 19-item EDATVA is that same language used by young people themselves, which has proved to be easy for them to understand. The scale is easy to use and interpret, especially considering the age range of the target population and its possible uses within the contexts of assessing and intervening in young people's behavior.

DATA AVAILABILITY STATEMENT

The data supporting the conclusions of this paper will be made available to any professional researcher without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Ethics Committee of the Universidad Santo

Tomás (Bogotá, Colombia) and the Ethics Committee of the Universidad Nacional de Educación a Distancia (Madrid, Spain). Written informed consent to participate in this study was provided by the participants, or their legal guardian/next of kin in the case of minors.

AUTHOR CONTRIBUTIONS

TB led the project and initiated the model design, with the support of MM, and with the collaboration of the research team. CC created the database and performed the statistical analysis. TB and CC wrote the first draft of the article, which was later reviewed by all three authors. TB and MM obtained financial support for the study.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.00457/full#supplementary-material>

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Self-Managed Leisure, Satisfaction, and Benefits Perceived by Disabled Youth in Northern Spain

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Positive leisure is widely accepted as contributing to the development of self-autonomy and well-being of young people during their transition to adulthood (Glendenning et al., 2003; Coleman, 2011). However, there has been little research on these issues among young people with disabilities. In this study, we analyzed the relationship between self-managed leisure, satisfaction with leisure, and emotional, cognitive, and behavioral benefits as perceived by young people with disabilities. The sample consisted of 400 young people (48.8% female) with disabilities (hearing, physical, intellectual, and visual), aged between 15 and 29 years, who live in the Basque region of northern Spain. Results revealed the following conclusions. First, gender and type of disability relate to the degree of self-management associated with leisure. Second, there was a significant association between the degree of satisfaction with leisure and level of self-management associated with leisure and this relationship varied by disability type but not gender. Third, leisure independently organized by young people (self-managed) was associated with higher perceived psychological benefits (emotional and cognitive) connected with their leisure engagement.

Keywords: leisure, youth, disability, benefits of leisure, self-managed

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INTRODUCTION

Adolescence and early adulthood crucial and sensitive stages in the progression toward maturity. These are not only periods of rapid physical change but also important stages in personal, cognitive, and social development (Kristis, 2018). During youth, people explore their potential, develop diverse social roles, construct their personal identity, accept and reject habits, values and beliefs, socialize and build a lifestyle that typically remains, to some degree, for their entire lives (Berg et al., 2014; Mary, 2014; Gradaïlle et al., 2016).

In addition to the family, other agents have an increasing impact on socialization, such as peer groups, the educational system, mass media, and social networks (Elzo and Silvestre, 2010; Aristegui and Silvestre, 2012). For some authors, the main agent of socialization is the peer group (Elzo, 2004; Rabino and Serra, 2017), they affirm that among young people and adolescents of the so-called post-modernity, in the occidental context, socialization is more carried out from group experimentation (sharing and rehearsing conducts and values) with other adolescents and young people and not so much from the reproduction of what has been transmitted by other historical instances of socialization such as family, school, churches, political parties and even media.

Leisure is one of the most important areas in young people's lives. Fine et al. (1990) defined leisure as the social institution most closely associated with the world of adolescence and young people. Leisure is increasingly recognized as having a critical role in personal development during childhood and youth. It is an aspect of human development that offers anyone, including adolescents and young people opportunities to express themselves, demonstrate skills, and connect with others (Caldwell and Baldwin, 2003).

Numerous studies highlight the value of leisure for young people (e.g., Caldwell and Witt, 2011; Roberts, 2014; Gomez-Granell and Juliá, 2015). These experiences are beneficial because of opportunities for socialization and peer interaction. Leisure offers opportunities to experiment with diverse social roles, identification of individual preferences, exchange of experiences, development of skills to respond collaboratively to diverse situations, and development of friendships (Byrne et al., 2006). This period of life is particularly appropriate for discovering new interests and affirming personal values and other social ideals (Roult et al., 2014).

Within the growing body of literature in positive psychology, participation in leisure is recognized as providing opportunities for young people to engage in positive relationships, which helps in regulating emotional development, empathy, and prosocial self-efficiency (Osgood et al., 1996; Larson, 2000; McDonough et al., 2013). Thus, the participation in positive leisure offers young people potential for the exercise of self-determination (Anderson, 2017).

Experiencing positive emotions facilitates the construction of lasting personal resources, ranging from physical and intellectual resources to social and psychological resources (Fredrickson, 2001). Results of investigations suggest that leisure is associated with positive social and emotional development, and is part of the maturity process and increasing autonomy (Leversen et al., 2012; King and Church, 2015). In this sense, Caldwell and Smith (2006) suggest that, through participation in leisure, positive social interactions give young people the potential to develop skills and autonomy.

However, the transition from childhood to adolescence and young adulthood does not guarantee the capacity for participation and autonomy. According to Larson (2000), adolescents and young adults have limited opportunities to develop their decision-making skills due to the demands of school work and structured leisure organized by others, and therefore lack sufficient opportunities to develop autonomy. The most appropriate context for development of autonomy seems to be voluntary activities, experienced as leisure, such as sport, the arts, and participation in non-government or non-profit organizations.

During adolescence and youth, individuals are required to complete increasingly complex tasks and be involved in higher levels of decision-making (Eccles and Barber, 1999). Various studies (e.g., Flanagan et al., 1998; Flanagan and Gill, 1999) show how participation in community groups and institutions (e.g., school or youth organizations, and cultural, environmental, political, and religious communities) promotes social integration. Today, there is a wide range of practices and spaces in which youth can invest their time.

However, this participation varies depending on the degree of autonomy, development of activity, or use of times and spaces. Thus, there coexists a gradation of activities that move from monitoring (under the supervision of a responsible adult) to self-management (Berrio-Otxoa et al., 2002; CEIC/IKI, 2005; Comas, 2011; Tejerina et al., 2012). Specifically, development of the young person relates closely to what some authors call the autonomous capacity for action (Ryan, 1993; Deci, 1995; Brandtstadter, 1998).

When young people and adolescents are very interested in leisure, their personal satisfaction grows. That is, an adolescent's level of intrinsic motivation has a positive influence on satisfaction with leisure (Hills et al., 2000). Along the same lines, some studies indicate that young people report greater satisfaction with leisure in which they acquire greater autonomy and opportunities for self-management (Ortega et al., 2015). Thus, young people participate more and with higher levels of satisfaction in leisure they share with their peers and in which they assume higher levels of self-management or participation.

Many researches have examined benefits of leisure. Driver et al. (1991) defined benefits as changes seen as advantageous for improving the condition, an increase, or a progress, a change that is seen as advantageous for an individual, a group, society, or another entity. Driver and Bruns (1999) describe benefits of leisure in three ways: as improvement of a condition or situation in the framework of generative or proactive leisure; as prevention of an unwanted condition and/or maintenance of a desired condition in the context of a preventive or sustained leisure; and as attainment of satisfactory psychological experiences in the framework of an adjusted or autotelic leisure.

Different authors have studied the benefits of leisure and have organized and categorized them differently. However, most of them mention indicators related to physical benefits: improvement of physical condition, physical effort, physical well-being, new experiences and challenges, physical potential or being an active person (Gorbeña, 2000; Tinsley, 2005).

In addition, several studies describe aspects related to social benefits: interpersonal relationships and social skills or aptitudes, socialization processes, friendship, affiliation, behaviors that promote family and group functioning, group work skills (O'Morrow and Reynolds, 1989; Gorbeña, 2000; Tinsley, 2005; Barnett, 2013; Sibthorp et al., 2013).

In addition, there is research focusing on psychological benefits (O'Morrow and Reynolds, 1989; Tinsley, 2005; Sibthorp et al., 2013), whether they are behavioral (adjusted behavior, problem solving, perceived competence, desire to explore), cognitive (learning acquisition, challenges, new skills) and emotional, especially psychological well-being (Iso-Ahola, 2006; Trainor et al., 2010; Sonnentag, 2012; Sibthorp et al., 2013; Kim et al., 2016), as well as self-esteem, sensitivity, hedonism, and intrinsic reinforcement.

Research on perceived benefits or perception of benefits in the field of leisure focuses on a specific activity such as golf (Han et al., 2014) or those studies that have focused on specific population groups: young people (Oh et al., 2002); pregnant women (Da Costa and Ireland, 2013); adults (Stutts, 2002); older people (Dergance et al., 2003); or people with a disability such as spina bifida (Williams et al., 2014).

Positive effects of leisure on physical and mental health have been a consistent finding in different investigations. For example, Tinsley (2005) investigated how satisfaction of personal needs through participation in leisure contributes to improving mental and physical health. All adolescents and young people, including those that happen to have disabilities, experience benefits of leisure. As with any young person, young people with disabilities are a heterogeneous group with a diverse repertoire of needs depending on their characteristics, age, and stage of development.

The current concept of disability, and the degree to which people with a disability participate under equitable conditions, results from interaction between people and the environment (physical, social, and attitudinal). The extent to which people are impacted by their disability is determined by the capacity of each person to conduct tasks in different environments, along with the environmental elements that facilitate or limit their capacity (World Health Organization [WHO], 2001), and the needs and supports required by each person.

The study of the needs for leisure among young people with disabilities must be based on human rights, with the framework provided by: the International Convention on the Rights of Persons with Disabilities (United Nations [UN], 2006), the World Disability Report (World Health Organization [WHO] and Mundial Bank, 2011), the European Strategy on Disability 2010–2020 (European Union, 2010), the Spanish Integral Strategy for Culture for All (Government of Spain, 2011b), the Spanish Strategy on Disability 2012–2020 (Government of Spain, 2011a), and the General Law on the Rights of Persons with Disabilities and their Social Inclusion (Government of Spain, 2013). Accordingly, young people with disabilities demand access to, and active participation in, leisure based on equitable opportunities. For this reason, it is necessary to promote positive and satisfactory experiences of inclusive leisure as a source of enjoyment and development in the community, for all citizens.

Research conducted in the last decade has studied the psychological, physical, and emotional benefits of leisure to different groups of people with intellectual or physical disability (Badia et al., 2013; King et al., 2013; Powrie et al., 2015). There has also been an increase in research supporting benefits of integration and inclusive in leisure, both for people with disabilities and those without disabilities (Lin-Ju Kang et al., 2010; Dattilo, 2018). Group leisure pursuits, in which people with and without disabilities participate, provide a context for all participants to increase self-esteem, improve acceptance of each other, and promote the creation and subsequent maintenance of friendship between children and young people with and without disabilities (Bowman et al., 2014; Bult et al., 2014).

More specifically, for people with disabilities, the benefits derived from leisure relate to more positive personal identity, greater personal adjustment, increased social skills, improved self-concept, more adaptive behavior, increased interactions and general improvement in skills (Kleiber et al., 2011; Kleiber and McGuire, 2016). Leisure provides an external stimulus that benefits the lives of people with disabilities in multiple areas (Sánchez and Rodríguez, 2008). It helps to develop physical, mental, emotional, and interpersonal capacities, such as generating greater self-confidence and improving

socialization processes (Duquette et al., 2015). Larson et al. (2004) highlighted the positive consequences of leisure during adolescence: development of personal initiative, promotion of intrinsic motivation, acquisition of skills, respect for diversity and cultivation of responsibility. Furthermore, leisure provides social benefits such as harmony, cohesion, and positive social change (Ramos et al., 2012). It also provides personal benefits that enable fun, learning, mental development, psychological health and personal growth (self-identity and self-affirmation).

Finally, despite an array of studies (e.g., Jessup et al., 2013; Bowman et al., 2014; Law et al., 2015) highlighting the importance of leisure for young people with disabilities, these studies focus mainly on disability in general, or on a specific type of disability (hearing, physical, intellectual or visual). Few studies focus on participation in leisure, accounting for the effect of different types of disability.

The review of the literature shows that positive leisure is widely accepted as experience that contribute to development of autonomy, understood as the ability to self-organize, and to the well-being of young people in the transition to adulthood. However, leisure in the live of youth with disabilities is not well understood (Glendenning et al., 2003; Coleman, 2011).

Quantitative methods were used in this study to increase understanding of the leisure of young people with disabilities in the Basque region of northern Spain. In this text, we analyzed the relationship between self-managed leisure, understood the degree to which participants organized their leisure, with the satisfaction and perception of emotional, cognitive and behavioral benefits of young people with disabilities.

The aims of this work are threefold. First, to assess if gender and type of disability are associated with participation in self-managed leisure (organized by young people themselves). Second, to analyze if degree of participation in the organization of their own leisure influences satisfaction, and if there are variations according to gender and type of disability. Third, to assess if leisure independently organized by young people correlate with perceptions of psychological benefits (emotional, behavioral and cognitive).

METHODOLOGY

Population and Sample

For the current study, a representative sample was selected with the following parameters: sampling error of 4.8 sigmas, 95% confidence level, and the assumption that $p = q = 0.5$.

The sample consisted of 400 participants: 51.3% male and 48.8% females. We collected a stratified random sample of the population of young people with disabilities (15–29 years old) living in the Basque region of northern Spain. The sample was evenly distributed among the four types of disability (hearing, cognitive, physical and visual), 100 cases each.

Instrument and Variables

For the purpose of this study, we created an *ad hoc* questionnaire, the aim of which was to assess the leisure of young people with disabilities and determinate how it relates to perceived

benefits. The instrument was reviewed through the judgment of 20 experts in the field of leisure and disability, prestigious academics and researchers in leisure studies from various Spanish universities and several disciplines (social pedagogy, education, social psychology), as well as professionals with a long career in the third sector and the management of leisure services for people with disabilities were selected. The experts were informed of the group under study, the objectives and the hypotheses of the study, the questionnaire and the application instructions, accompanied by a script for its evaluation. The considerations made by the expert group were taken into account and the questionnaire was modified.

The questionnaire was validated through a pilot test with 150 young people with disabilities. During the pilot test, research team applied the questionnaire, taking into account the characteristics of the group under study, the objective was to test the functioning of the questionnaire in the field, that is, whether the wording of the questions was adequate for a good understanding of them, as well as to verify the time of application. A first descriptive and inferential analysis of the data was also carried out. The results of the pilot test suggested some modifications on the writing of some of the questions and the extension of the questionnaire, before carrying out the complete sampling.

This paper is based on six variables derived from the questionnaire:

- 1 – Individual responsibility for leisure. This variable assesses the participation of young people with disabilities in the organization of their own leisure (level 1 = self-managed) or whether other agents (peer group – level 2; family or association – level 3) organize them. A single response option was allowed for each of the eight recreation activities identified.
- 2 – Satisfaction with leisure. This variable assesses the degree of enjoyment with leisure. They identified their eight most important recreation activities and, then, they indicated the degree of satisfaction through a five-point Likert scale.
- 3 – Perception of the relationship between the enjoyment of an activity and individual responsibility for organizing their activities. This variable assesses the perception of the participants of whether greater level of participation in organizing each activity influences satisfaction with the activity. Responses were rated on a five-point Likert scale (1 = None, 2 = A little, 3 = More or less, 4 = A lot, and 5 = A lot).
- 4–6 – Positive impact of leisure. This comprised three dichotomous (yes, no) variables, which assess participants' perception of emotional, cognitive, and behavioral benefits of their leisure.

Field Work

The ethics committee of the University of Deusto evaluated the design of the research and provided necessary permits for its development. To recruit participants to this study, we identified all registered organizations for people with disabilities in the Basque region. We contacted the boards of directors for each

entity, explained the purpose of the study, and guaranteed that data would be confidential and that all necessary permits were granted. Participation of the young people was voluntary, with legal guardian authorization required in the case of minors under the age of 18.

A member of the research team trained professionals from each disability organization to administer the questionnaire. The training lasted one day, during which the objective of the study, each question of the questionnaire and the instructions for its application (multiple answers, scales, support tables) were explained to the interviewers, followed by at least two application tests with each interviewer to check and correct the application mode. The professionals of the leisure services of the disability organization administered the questionnaire. The data collection process began in September 2016 and lasted until December 2016.

Data Analysis

Several descriptive and inferential analyses were conducted to determine if stated objectives were achieved. For the first objective, frequencies of identified benefits were calculated, whether the activities were self-managed or not. Chi-square tests were calculated to test a possible relationship between the identified benefits and self-management.

With respect to the second objective, frequencies of sex at each level of self-management were calculated, as well as the frequencies of type of disability at each level of self-management. Chi-square tests were also calculated to test for a relationship between sex, on the one hand, and the type of disability, on the other, and self-management.

Finally, with regard to the third objective, the means and the standard deviations were calculated to determine mean levels of satisfaction with leisure at the different levels of self-management. To test for an effect of sex and type of disability, an analysis of variance was conducted, as well as testing the effect size for gender and Scheffé's *post hoc* test for type of disability. Level of significance established for this study was $p < 0.05$.

RESULTS

The first hypothesis was that gender would determine their participation in leisure independently organized by young people (self-management). The second hypothesis stated that the type of disability of young people determine their participation in leisure independently organized by young people.

The data show that there was a relationship between gender and self-management of leisure (**Table 1**), with women reporting higher levels of self-management for leisure (self-managed-level 1) (84.1%) than men (72.3%). Similarly, there was a relationship between the type of disability and self-management of leisure (**Table 1**). Young people with physical disabilities reported higher levels of self-management (level 1) (88.1%).

The third hypothesis stated that there would be a significant association between satisfaction with leisure and level of self-management, and that these results would vary according to gender and type of disability. Level of participation in organizing leisure was categorized into three levels. The first level

corresponds to leisure independently organized by the young person (level 1 – self-management). The second level corresponds to leisure organized by peer group (level 2 – peer group). Finally, the third level corresponds to leisure in which the young person does not organize the activity, and family or disability association organizes the experiences.

In the analysis of the variation in satisfaction according to gender (Table 2), there were no significant differences between men and women, regardless of the degree to which the organized their leisure (level 1 – self-managed; peer group – level 2; family or association – level 3). High scores were observed at all levels, with the latter being quite similar, and indicating that gender does not differ in the levels of satisfaction, regardless of the degree to which they organized their leisure.

However, with regard to the association between satisfaction with leisure and type of disability, there were statistically

significant differences depending on the degree to which they organized their leisure (Table 3). Therefore, the satisfaction of young people with disabilities with self-managed leisure differs according to the type of disability. Scheffé's *post hoc* test showed the visual disability group was significantly different from each of the other types of disabilities ($p = \leq 0.001$ in all cases), with the effect size being very high in all cases ($d_{visual-physical} = 1.18$; $d_{visual-hearing} = 1.19$; $d_{visual-intellectual} = 1.27$).

Regarding leisure organized by the peer group (level 2) and by external agents (level 3), there were significantly different scores in the satisfaction among the different types of disability (Table 3). For example, in the activities managed by the peer group, the average level of satisfaction among young people with physical disabilities was considerably higher than the average for the total sample ($m_{physical} = 4.41/m_{total} = 4.25$).

There were no statistically significant differences between different types of disability. Therefore, if the peer group and/or external agents manage the leisure the levels of satisfaction did not differ according to type of disability. Therefore, regarding the third hypothesis, there was a significant association between degree of satisfaction with leisure and the level of self-management of these experiences, and that these results varied by type of disability but not gender.

The final hypotheses stated that the level of self-management of leisure would determine participants' perception of psychological benefits. Three types of benefits were assessed: emotional, behavioral, and cognitive.

Results showed (Table 4) significant relationships between perceived emotional and cognitive benefits and level of self-management of leisure. Perceived cognitive benefits showed the strongest relationship with self-management of leisure ($\chi^2 = 40.88$; $p = \leq 0.001$). In the case of perceived behavioral benefits, no significant relationship with self-management was found ($\chi^2 = 2.81$; $p = 0.60$).

TABLE 1 | Participation in self-managed leisure activities depending gender and type of disability.

	Total		Self-managed activities		Activities organized by others		χ^2	<i>p</i>
	<i>N</i>	<i>n</i>	%	<i>n</i>	%			
Gender								
Male	205	146	72.3	56	27.7	9.51	0.002	
Female	195	164	84.1	31	15.9			
Type of disability								
Physical	101	89	88.1	12	11.9	8.85	0.031	
Visual	100	73	73	27	27			
Hearing	100	75	75	25	25			
Intellectual	99	73	73.7	26	26.3			

$\chi^2 =$ Chi-square test; *p* = significance value.

TABLE 2 | Degree of satisfaction with leisure activities depending type of disability and degree of self-management.

	Total (<i>n</i> = 208)		Women (<i>n</i> = 107)		Men (<i>n</i> = 101)		<i>F</i>	g.l.	<i>p</i>	<i>d</i>
	<i>M</i>	<i>DE</i>	<i>M</i>	<i>DE</i>	<i>M</i>	<i>DE</i>				
Satisfaction (spanning 1–5) Level 1 – self-managed	3.98	1.10	3.97	1.15	3.98	1.05	0.01	1.206	0.962	0.01
	Total (<i>n</i> = 164)		Women (<i>n</i> = 84)		Men (<i>n</i> = 80)		<i>F</i>	g.l.	<i>p</i>	<i>d</i>
	<i>M</i>	<i>DE</i>	<i>M</i>	<i>DE</i>	<i>M</i>	<i>DE</i>				
Satisfaction (spanning 1–5) Level 2 – peer group	4.25	0.83	4.19	0.96	4.30	0.66	0.76	1.162	0.383	0.13
	Total (<i>n</i> = 189)		Women (<i>n</i> = 99)		Men (<i>n</i> = 90)		<i>F</i>	g.l.	<i>p</i>	<i>d</i>
	<i>M</i>	<i>DE</i>	<i>M</i>	<i>DE</i>	<i>M</i>	<i>DE</i>				
Satisfaction (spanning 1–5) Level 3 – family or disability association	4.19	0.89	4.11	0.93	4.28	0.85	0.01	1.187	0.206	0.19

M = mean; *DE* = standard deviation; *F* = Snedecor's *F*; g.l. = degrees of freedom; *p* = significance value; *d* = Cohen's *d*.

TABLE 3 | Degree of satisfaction with leisure activities depending type of disability and degree of self-management.

	Total (n = 208)		Physical disability (n = 54)		Visual disability (n = 46)		Hearing disability (n = 64)		Intellectual disability (n = 44)		F	g.l.	p
	M	DE	M	DE	M	DE	M	DE	M	DE			
Satisfaction (spanning 1–5) Level 1 – self-managed	3.98	1.10	4.28	0.90	2.96	1.35	4.17	0.72	4.38	0.83	22.35	3.204	≤0.001
	Total (n = 164)		Physical disability (n = 38)		Visual disability (n = 21)		Hearing disability (n = 72)		Intellectual disability (n = 33)		F	g.l.	p
	M	DE	M	DE	M	DE	M	DE	M	DE			
Satisfaction (spanning 1–5) Level 2 – peer group	4.25	0.83	4.41	0.80	4.13	0.94	4.22	0.66	4.22	1.08	0.66	3.160	0.574
	Total (n = 167)		Physical disability (n = 50)		Visual disability (n = 23)		Hearing disability (n = 66)		Intellectual disability (n = 50)		F	g.l.	p
	M	DE	M	DE	M	DE	M	DE	M	DE			
Satisfaction (spanning 1–5) Level 3 – family or disability association	4.19	0.89	4.17	1.01	4.18	0.86	4.13	0.78	4.32	0.93	0.44	3.185	0.720

M = mean; DE = standard deviation; F = Snedecor's F; g.l. = degrees of freedom; p = significance value; d = Cohen's d.

TABLE 4 | Perception of psychological benefits depending the degree of self-management of leisure activities.

	Total		Self-managed activities		Activities organized by others		χ^2	<i>p</i>
	<i>N</i>	<i>n</i>	%	<i>n</i>	%			
Psychological benefits								
Emotional								
Yes	330	272	87.7	58	64.4	26.22	≤0.001	
No	70	38	12.3	32	35.6			
Behavioral								
Yes	78	66	21.3	12	13.3	2.81	0.060	
No	322	244	78.7	78	86.7			
Cognitive								
Yes	185	170	54.8	15	16.7	40.88	≤0.001	
No	215	140	45.2	75	83.3			

χ^2 = Chi-square test; *p* = significance value.

Based on the results, it is possible to accept the hypothesis that the degree to which young people organized their leisure influences their perception of psychological benefits, although only in the case of emotional and cognitive benefits, not so in the case of behavioral benefits.

DISCUSSION

This study demonstrates that both gender and type of disability correlate with self-management of leisure. Young women with disabilities reported a higher level of self-management than young men with disabilities did. In addition, people with physical disabilities reported greater self-management of their leisure compared to people with visual, hearing, or intellectual disabilities. For leisure with greatest degree of self-management, gender was not correlated with level of satisfaction. On the other hand, the type of disability was related to levels of satisfaction.

In the same way that, for several decades, leisure services for other young people have incorporated processes in which young people decide and organize their leisure, entities of people with disabilities should include these same participatory processes since they generate emotional benefits, in the satisfaction with their leisure, and provide them with capacities for decision making. In the study, some results vary according to gender and type of disability, so these variables must be considered in these processes.

To solve this situation Arellano and Peralta (2016), propose the application of Person Centered Planning (PCP) in the field of education and leisure, as a paradigm of inclusion improving the self-determination of people with disabilities (Brown et al., 2007). Arellano and Peralta (2016) apply this method to people with intellectual disabilities, since they consider that it is in the groups with greater difficulties of autonomy where the greatest benefits can be extracted, as well as in other groups with specific needs.

Results of this study reveal that, among young people with disabilities in the Basque region of Spain, the level of satisfaction

with their leisure is high. However, level of satisfaction differs depending on the level of self-management of leisure, when young people organize their leisure, they show higher levels of satisfaction. These results are consistent with previous findings that the social and emotional development of young people is linked to the capacity for autonomous action (Ryan, 1993; Deci, 1995; Brandtstadter, 1998) and that leisure offers opportunities to acquire greater autonomy and self-management (Ortega et al., 2015).

Therefore, it would make sense to strengthen the provision of inclusive and person-centered public and private leisure as a substantial element in the development of the autonomy of people with disabilities, considering that it is not a sole group, but instead each person has different needs that must be taken into account in the design of leisure offerings. Furthermore, it is necessary to include information and data collection elements to improve inclusion in educational and leisure projects, as proposed by Booth and Ainscow (2011).

Finally, we can confirm the importance of including gender and type of disability in studies on the benefits of leisure people with disabilities. Both gender and type of disability were associated with satisfaction with leisure, and higher satisfaction was associated with greater perceived benefits of leisure. These findings are consistent with numerous studies indicating that leisure have a positive effect on emotional development and self-determination (Osgood et al., 1996; Larson, 2000; Leversen et al., 2012; McDonough et al., 2013; King and Church, 2015; Anderson, 2017).

Many studies have analyzed leisure and their benefits among people with disabilities (Lin-Ju Kang et al., 2010; Bowman et al., 2014; Bult et al., 2014; Kleiber and McGuire, 2016; Dattilo, 2018). A contribution of this study is the finding that, in the case of young people with visual disabilities, their degree of satisfaction was significantly lower than young people with physical, hearing or intellectual disabilities, after taking into account the leisure with a greater degree of self-management. Furthermore, this leisure is associated with the perception of emotional and cognitive benefits. It is necessary to delve into the origin of this difference and, consequently, incorporate new methods such as Person Centered Planning in the education of the persons with visual disabilities and assess whether it improves their satisfaction with self-managed activities.

Finally, on the one hand, it can therefore be stated that leisure, both organized by young people and by other agents, generates benefits, mainly emotional and cognitive, thanks to the interaction with other people with and without disabilities. On the other hand, it is important to design and develop leisure offerings that improve and advance achieving behavioral benefits among the group of young people with disabilities, as a step forward in the provision of services.

The present study has several limitations that should be addressed. First, the results do not allow us to make causal conclusions about the relationships between the variables (degree of self-management, benefits and satisfaction), although our findings support the possibility of such a relationship. Future studies could be conducted to further investigate the causality of

the relationships identified in the present work paper. Second, the sample size does not allow to generalize the results by type of disability. Thus, in future studies, larger samples could be used in each type of disability.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the ethics committee of the University of Deusto. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

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AUTHOR CONTRIBUTIONS

IL and AM conceived the objective of the work and the methodological design. JD, IL, and AM designed the tool and participated in the validation. JD contributed to the data collection and analysis of the results. JD, IL, and AM were responsible for writing the manuscript and critically reviewing it for important intellectual content, all authors discussed the results and contributed to the final manuscript.

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Sex and Relationship Education for the Autonomy and Emotional Well-Being of Young People

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In the transition to adulthood, sexuality and emotional relationships constitute one of the most important dimensions for the achievement of personal autonomy and emotional well-being. Despite advances in sex education, sexuality, and relationships remain conflictive areas in the development of young people. Inequalities between men and women, gender identities and sexual violence, along with the beliefs and expectations surrounding these issues, persist as handicaps to having a fulfilling relationship and sex life. At this stage, emotional well-being is also consolidated by one's perception of sexuality and relationships from models learned in childhood, in which gender stereotypes and sexuality based on relationships of domination and discrimination persist. Therefore, we examined how the sexual beliefs and practices reported by young people correlate with their level of personal autonomy and responsibility in terms of risky behaviors and toxic relationships. The study shows the extent to which sexual beliefs and habits are linked to decision-making, personal development and social problems derived from conflictive relationships, affecting young people's overall well-being. A questionnaire was developed based on the theoretical constructs of comprehensive sexuality and equality education (United Nations Educational Scientific and Cultural Organization [UNESCO], 2010, 2018; World Health Organization [WHO], 2010) with the following dimensions: *sex education, sexual habits and practices, motivations, concepts, and beliefs about sexuality*. It was distributed in institutions of higher education (N579) in Spain, Portugal, Argentina, and Brazil, and the results revealed a discrepancy between the reported practices and behaviors and the beliefs and models of reference. Key issues included sexuality and relationships as an aspect of personal life that generates confusion and conflict, as well as the propagation of gender and sexist stereotypes that influence young people's emotional well-being, particularly important aspect in those young people who are training as future education professional.

Keywords: young people, autonomy, emotional well-being, relationships, sexuality, education

INTRODUCTION

The World Health Organization (WHO) describes sexual health as a state of physical, emotional, mental, and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences,

free of coercion, discrimination, and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected, and fulfilled (World Health Organization [WHO], 2002, p. 5).

Sexual health is therefore a permanent experience of physical, psychological and sociocultural well-being. Such is the case that we can observe subjects' level of sexual health based on their responsible sexual behaviors. The latter include not only safe sexual relations, but also sexual behaviors in which autonomy, maturity, honesty, respect, consent, protection, and the pursuit of well-being come into play.

It is currently argued that sexuality is a basic human function involving physiological, emotional, and cognitive factors and connected to other personal and psychological aspects such as well-being, health and quality of life. In this study, we understand sexual satisfaction as the level of pleasure, well-being, and adjustment observed during a sexual interaction (Rodríguez, 2010).

Sexual satisfaction constitutes a human right and a key element of quality of life associated with a better state of physical and mental health (Whipple et al., 2003; Moore and Davidson, 2006; Levin, 2007; Scott et al., 2012). Connections between sexual satisfaction, physical health, psychological health, general well-being (Scott et al., 2012), and quality of life (Davidson et al., 2009) have been identified.

Also, the relationship between sexual satisfaction and psychological variables, including body image and self-esteem, has been widely studied. In this regard, higher self-esteem has been found to be associated with lower body dissatisfaction (Mellor et al., 2010; Salvador et al., 2010). When the relationship between sexual satisfaction and self-esteem has been explored, positive correlations have been found between these variables (Calado et al., 2004).

Unawareness of the emotional, mental, and psychological aspects of sexual health is highly problematic. If young people are uninformed of the importance of these aspects and of sexual pleasure and how that pleasure can be achieved and maintained, they may, as evidenced by the findings of Bakker and Vanwesenbeeck (2006), fail to seek help in the face of problems with sexual function. In the absence of a broader education on sexual health, young people are likely to perceive sexual problems as normal and run the risk of experiencing physical and psychological side effects.

The United Nations Educational Scientific and Cultural Organization [UNESCO], 2010 highlights the need to implement effective sexuality education, given that the cultural values and religious beliefs of all people (and particularly young people) have a major impact on the understanding of this issue and on relationships with other adults and their communities. Comprehensive sexuality education (CSE) responds to this demand, empowering young people to make informed decisions about relationships and sexuality while providing them with the necessary knowledge and skills to lead a satisfactory personal, social, and sex life.

In general, a sense of well-being is an indicator of quality of life that may be understood as the result of the perception of quality of life. In other words, well-being is an interpretation of

quality of life based on subjective experience and environmental and personal filters (Langlois and Anderson, 2002). And psychological well-being emphasizes the attainment of values that make people feel alive and authentic, that allow them to grow as individuals, more than activities that give them pleasure or take away pain (Zubieta et al., 2012). Psychological well-being focuses on the study of personal growth, positive experiences, subjective well-being or happiness level and the optimal functioning of people, communities, and society (Duckworth et al., 2005; Snyder and Lopez, 2005).

The study of sexuality and its relationship with well-being has been a recurring research theme for decades (Munhoz and Revenga, 2005; Borrego and Enríquez, 2013). Also, in its 2010 report, the WHO recommends appropriate sex education for individuals' level of development, based on gender equality, self-determination and acceptance of diversity and backed by scientific knowledge (Martínez-Ailvarez et al., 2012). However, it was not until a few years ago that scientific and academic interest in issues such as gender experienced a considerable boom, due largely to the crusade undertaken by multiple social movements (Platero and Rosón, 2012).

Knowledge of and attitudes toward sexuality adopted as an individual matures are largely derived from what is transmitted by the different social-educational contexts to which the subject is exposed during his or her socialization process. On the other hand, the vast majority of studies have focused almost exclusively on the behavioral component of sexuality, such as types of sexual behavior, contraceptive use, risks, number of partners, etc. (Santín et al., 2003; Alencar et al., 2008; Altmann, 2009; Andrade et al., 2009; García-Vega et al., 2010, 2012; Kornblit and Ezequiel, 2015; Martín et al., 2018; Nascimento et al., 2018).

Scientific literature shows that young people adopt liberal, erotophilic attitudes toward sexuality, and especially toward what is more socially visible and acceptable, such as heterosexuality or coitus (García-Vega et al., 2017). However, their attitudes are less positive toward other issues not linked to the dominant norm, such as some sexual practices or the expression of sexual and gender diversity (Claramunt and Huertas, 1999). In addition, numerous stereotypes and myths associated with sexuality are perpetuated due to a lack of education, the view of sexuality as taboo and the predominance of normative values associated with conservative and religious morality (López, 2015).

In line with the above, it appears that overall, young people continue to assign stereotypical roles to men and women in relation to their experience of sexuality. In this regard, Sierra et al. (2007) studied the attitudes of 400 Spanish university students toward sexuality and concluded that; in general, sexist attitudes persist in which the possibility of gender equality is not considered.

Several studies have found gender differences in terms of both behaviors and feelings around sexuality, where women seem more focused on emotional issues and men on sexual behaviors (Friedrich et al., 2000; Faílde et al., 2008; López et al., 2011; Larrañaga et al., 2012). Men begin having sexual relations sooner and have more sex partners and more casual encounters (Faílde et al., 2008; Petersen and Hyde, 2010). In addition, having

sexual relations with different partners continues to be seen more positively by men than by women (Crawford and Popp, 2003).

In this sense, many differences are rooted in the different socialization processes for men and women, which demonstrate the importance of considering sociocultural factors when analyzing such differences (Li et al., 2017).

In addition, gender and the experience thereof, or of non-normative sexuality, appears as one of the main focuses of discrimination, especially in educational contexts (Generelo, 2016). In this sense, discrimination based on sex or gender is maintained by its invisibility or by maintaining active discriminatory behaviors (European Union Agency for Fundamental Rights, 2014).

At this time, sex education generally pivots on the coexistence of the moral-conservative model and the risk model (Carrera-Fernández et al., 2012). Therefore, it is essential that a high-quality relationship and sex education that contemplates sexuality as an inherent aspect of the human being (Fallas-Vargas et al., 2012; Rodríguez-Carrión and Traverso-Blanco, 2012) be integrated into the core educational process. Sex education is an essential support for the achievement of well-being and quality of life, as well as a right whose exercise allows informed decisions to be made (World Health Organization [WHO], 2010).

The World Health Organization [WHO], 2018 recommends implementing CSE programs that allow subjects to enjoy health, well-being and dignity, becoming aware of how the decisions they make affect not only their own well-being, but also that of other people. Meanwhile, the United Nations Educational Scientific and Cultural Organization [UNESCO] (2018) states that CSE programs are central to preparing young people for a safe, productive and full life. Marí et al. (2019) point out the importance of acquiring through these programs skills and competencies that allow subjects to discover and develop their own autonomy and well-being in relation to others, where sexuality, self-knowledge and personal relationships are points of reference to express themselves as well-rounded human beings. By promoting positive relationships between the subject and his or her surroundings, they promote positive, healthy changes, leaving behind the sex education models focused on the presence or absence of disease (Viejo et al., 2018).

METHODOLOGY

Our initial hypothesis is that the sex education young people receive and the beliefs and sexual behaviors derived from it have an impact on their emotional well-being as individuals and in their social relationships. We start with the premise that, as indicated by WHO and UNESCO, sexuality is a part of and necessary for emotional well-being in youth, influencing aspects related to health, social bonds, and personal autonomy. In addition, we agree that sexuality develops and is in turn influenced by the perceptions that young people have of it, based on educational models on topics such as *ideology*, *gender equality*, *emotional bonds*, and *social relationships*. Therefore, emotional well-being at this stage of life is presumably subject to a double need: *the construction of personal identity* (with sexuality as

an important dimension of it) and *social acceptance*, especially by one's peer group. In the study, we explore the extent to which young people's perceptions, practices, and beliefs about their sexuality converge with those recognized by the WHO and UNESCO as positive for sexual fulfillment and emotional well-being at this stage of life.

Following the WHO's reports we share evidence that sexuality remains a social taboo that, in most societies, prevents educational institutions from providing a comprehensive education from early childhood that would enable one to approach one's first sexual relations with confidence, autonomy, and security. It is also observed that gender inequalities and the greater social vulnerability of girls persist as a problematic or risk factor in sexual relations. Taboos, preconceived ideas about what sex is and an incomplete sex education, or one limited to aspects concerning reproduction or health protection, have been identified. According to these reports, a heteronormative discourse persists that focuses mainly on genitality while excluding a positive, diverse view of sexuality that allows young adults to grow from their own sexual experiences confidently and autonomously.

The WHO and UNESCO indicate that sexuality affects young people's emotional well-being because relationships can become problematic if sexual experiences generate personal conflict, insecurity or submission to social models that contradict a young person's own identity, due to:

1. A lack of information and of a thorough, high-quality education.
2. Mental maps and distorted beliefs about sexuality.
3. Inappropriate or risky behaviors due to a lack of education, communication, and autonomy.
4. The (distorted) sexualization of society, which implies its genitalization, its masculinization (women as objects), the dichotomy between sexual and emotional relationships and the linkage of the latter to the stable partnership.

Study Population and Sample

1. The sample focuses on the university population of two countries in Europe (Spain 26.3%; Portugal 20.5%) and two countries in Latin America (Brazil 35.3%; Argentina 17.9%), with a total of 579 respondents among university students in 2017. The following parameters were established for the representative study sample: sampling error of ± 2.7 sigmas, confidence level of 95%. The questionnaire was completed by a larger number of women (male representation was 4.3%, an aspect that limited the interpretation of the results from a gender perspective and the explanatory nature of the sex variable (therefore the different weight of the sample does not allow for a gender analysis). The selection of this sample regarding its autonomy and emotional well-being linked to sexuality is defined by the great importance of this group, as future trainers and workers with children and teenagers since, whether or not explicitly, they will contribute through their practice to the sex education of the next generations. From a gender perspective, encompasses much more than biological

sexual division. We have tried to show this in the dimensions studied, especially those relating to affective beliefs, behaviors, and relationships, and how gender identity and its expression is strongly linked to emotional and social well-being at this stage of life. Regarding age, 54.1% of the participants were in the under 25 age group and 45.9% were over the age of 25. The criteria used to define the study sample were: (a) the minimum range: over 18 years old, since they were university students. (b) Regarding the maximum strip: up to 30 years. Being the most unifying criterion in most countries, which in the case of Argentina (National Youth Directorate) and Brazil (National Secretary of Youth) would be 29 years and in the case of Spain and Portugal (EU) would be 30 years, as pointed out in the European Union Strategy for Youth 2019–2027. According to the IEO, an Organization for Ibero-American States, which also includes Spain and Portugal, the United Nations defined youth in 1985 between the ages of 15 and 24. However, according to the 2008 report, which came into force, the Ibero-American Convention on Youth Rights (CIDJ) came into force, it is noted that in Europe the age is up to 29–30 years (due to the prolongation of schooling and the delay of the age of formation of own families).

Instrument, Categories and Analysis Procedure

The study was carried out through an *ad hoc* questionnaire based on the categories defined by the WHO and UNESCO regarding emotional well-being linked to sexuality in young adulthood.

- Education received.
- Sexual practices and habits.
- Beliefs and expectations regarding sexuality.
- Emotional relationships.

WHO's categories define emotional well-being and mental health around sexuality within socio-cultural framework that influences each of the above dimensions in young people's personal development, such as:

- The social and cultural norms of the environment (beliefs, religion, and politics).
- The sociopolitical context (human rights and legislation).
- Gender or sociocultural inequalities (education level and gender).
- Sexual function and psychosexual orientation.
- Policies to prevent gender-based violence and aid its victims and to prevent and control the spread of HIV and other sexually transmitted diseases.

For its part, the UNESCO defines sex education as a necessary resource backed by scientific evidence and aimed at promoting young people's health and well-being. In this regard, emotional well-being arising from sex education would be founded on:

- Comprehensive sex education backed by proven knowledge.
- Development of a sex-positive attitude.
- Safe sex practices and access to contraceptive methods.

- Incorporation of the gender perspective.

Based on these premises, we configured the dimensions of analysis for the data collection instrument and the variables that represent each dimension studied. This allowed us to examine young people's perceptions of each one in relation to the categories that define emotional well-being (WHO), as illustrated by the following list:

Dimension 1. Education sources: level and experience of sex education received. Associated variables:

1. *Educasex*: information and instruction on sexuality received in formal and informal educational contexts.
2. *Personaldev*: impact of education received on personal development.
3. *Informalcompare*: comparison of categories 1 and 2.

Dimension 2. Habits: sexual behaviors and practices. Associated variables:

4. *Firstsex*: first sexual relations.
5. *Numpartners*: number of partners to date.
6. *Freqsex*: frequency of sexual practices.
7. *Orgasm*: relationship between sexuality and pleasure.
8. *Contraceptives*: safe sex and/or risky habits and practices.
9. *Masturbation*: practices and perception of autoerotism.
10. *Fidelity*: association of sexuality with stable partner relationships.
11. *Samesex*: perception and assessment of sexual relations with same-sex partners.

Dimension 3. Motivations: expectations of sexual relations. Associated variables:

12. *Attractiveness*. Qualities of the other person.
13. *Personalpleasure*. Seeking one's own satisfaction.
14. *Otherperspleasure*. Giving pleasure.
15. *Bothpleasure*. Giving and receiving pleasure.
16. *Emoinvolve*. Emotional involvement and intimate bonds.
17. *Reproduction*. Pregnancy and offspring.

Dimension 4. Sexual and gender identity concept: perception of sexual diversity. Associated variables:

18. *Sexualiden*. Sexual identity.
19. *Gay*. Homosexuality.
20. *Lesbian*. Lesbianism.
21. *Transex*. Transsexuality.
22. *Ofgender*. Gender identity.
23. *Bisexual*. Sexual relations with members of either sex.
24. *Sexism*. Prejudices based on gender.
25. *Homophobia*. Prejudices toward sexuality with same-sex individuals.
26. *Transphobia*. Prejudices toward transsexuality.

Dimension 5. Values regarding sexuality. Beliefs and values regarding sexuality.

Associated variables:

27. *Varioussex*. Having sexual relations with different partners at the same time.

28. *Lesscommit*. Dissociation of sexuality and emotional or committed relationships.
29. *Sexproblem*. Promiscuity as a source of problems in relationships.
30. *Immormasturb*. Masturbation as a reprehensible practice.
31. *Premarital*. Assessment of sexual relations before marriage or stable partnership.
32. *Withpeople*. Experience and assessment of sexual relations with same-sex partners.
33. *Prostitut*. Perception and assessment of prostitution.
34. *Eroticmat*. Perception and assessment of the use of erotic toys.
35. *Sexlove*. Assessment of the link between sexuality and emotional bonds.
36. *Otheroptions*. Respect for sexual diversity.
37. *Sexpleasure*. Assessment of pleasure in sexual relations.
38. *Menmore*. Perception of the importance of sexuality linked to biological sex.

First, a descriptive analysis was conducted to calculate the contrast of means in order to describe the behavior of each dimension's variables in relation to the differentiating variables based on sex, age group, and continent. After this descriptive analysis, we performed the correlation analysis (Pearson's r coefficient), where we determined a possible relationship between the different variables designed for each of the five components of well-being according to the WHO and UNESCO criteria. The probability value established for this study was $p < 0.05$. Finally, we performed a factor analysis of rotated components and principal components and KMO test in order to determine the main components for the development of discourses within the predictive rotation of the relationship between variables. Regarding the analysis procedure, descriptive statistics were prepared with the IBM SPSS statistics 22 program.

RESULTS

Contrast of Means Results

After applying the contrast of means across all dimensions and their variables, and with age and continent serving as differentiating variables of the mean, the results were statistically significant to our study. The results exhibit significance in all variables and all cases with regards to differences by age group and by continent.

Dimension 1. Education Sources: Level and Experience of Sex Education Received

In particular, all categories associated with the Education dimension have a perfect result and, as illustrated in **Table 1**, the young women especially value the formal education received above learning in informal contexts, particularly in Argentina and Brazil. Likewise, individuals under the age of 25 respond positively to this education. Individuals over the age of 25 (1.78) and Europeans (1.78) attribute greater importance to

academic education than individuals under the age of 25 and Latin Americans (1.39). In contrast, individuals over the age of 25 (1.64) and young Latin American women (1.77) assign greater importance to *sex education contribution to personal development*. Finally, in terms of formal versus informal sex education, by age group, to people over the age of 25 (1.76) than to younger respondents (1.63); and by continent, to Latin Americans (1.83) than to Europeans (1.62).

Dimension 2. Habits: Sexual Behaviors and Practices

In terms of the sexual habits reported by the young people surveyed, statistical significance was found based on age group, the statistically significant variables were 5, 6, 7, and 8: *number of partners* (significance 0.001), *frequency of sexual relations* (significance 0.023), *orgasm* (significance 0.000), and *contraception* (significance 0.003). In addition, looking at differences by continent, the results have greater statistical significance in variables 5 and 6: significance 0.036 and 0.029, respectively. In other words, in all categories that clearly link sexuality to pleasure-seeking and personal satisfaction in all groups and countries.

Dimension 3. Motivations: Expectations of Sexual Relations

We found perfect significance levels in relation to age groups, we find important data in relation to variables 15 and 17: *pleasure of both* (significance 0.036) and *emotional involvement* (significance 0.032). Regarding continent of origin, we observe statistical significance in variables 12 and 15: *partner attractiveness* (significance 0.025) and *pleasure of both* (significance 0.005). In terms of personal motivation to have sexual relations, pleasure from the relations and the possibility of reproduction, are more important in this dimension.

Dimension 4. Sexual and Gender Identity Concept: Perception of Sexual Diversity

In the contrast of means, we find relevant results with perfect significance levels when differentiating by continent in variables 19 and 20: *gay concept* (significance 0.000) and *lesbian concept* (significance 0.000). Also noteworthy is the high statistical significance of variables 23 and 24: *bisexuality* (significance 0.037) and *sexism* (significance 0.002). If we differentiate by age groups, the significant variables are 19 and 23: *gay* (significance 0.005) and *bisexuality* (significance 0.045). In this regard, the results show a largely heteronormative, traditional perception of sexuality. Sexual diversity is accepted but barely represented as a value in one's own sexual experience.

Dimension 5. Values Regarding Sexuality. Beliefs and Values Regarding Sexuality

The contrast of means yields relevant results when differentiating by continent in variables 28, 29, and 37: *better sexuality with less commitment* (significance 0.000), *youth promiscuity as problematic* (significance 0.001), and *sex linked to pleasure* (significance 0.008), which is also statistically significant with respect to age (significance 0.000). Regarding the variable 33 relating to *prostitution*, this is little accepted

TABLE 1 | Contrast of means – sex education sources.

	Age group		Continent			
		Mean	Significance	Mean	Significance	
Academic sex education	<25	1.78	0.000	Eu	1.78	0.000
	>25	1.45		Am	1.39	
Contribution of sex education to personal development	<25	1.50	0.008	Eu	1.47	0.000
	>25	1.64		Am	1.77	
Formal sex education versus informal	<25	1.63	0.004	Eu	1.62	0.000
	>25	1.76		Am	1.83	

Source: authors (1 = low well-being/2 = high well-being).

by the young women surveyed and that they give less importance to sex (variable 38). Beliefs and values regarding sexuality thus show, in all cases, that sexuality is perceived in terms of satisfaction and pleasure, and at the same time, that these variables are associated with the perception that women have about men.

Correlation Results

We applied Pearson’s correlation analysis to determine the strength of the relationship between the described variables and the study dimensions. First, the results yielded a strong positive correlation between formal sex education versus informal and the contribution of sex education to personal development ($r = 0.417$; significance 0.000) (Table 2).

When the correlation between the variables comprising dimension 2 (sexual habits) is calculated, as illustrated in Table 3, the data has strong statistical significance for the relationship between no. of partners and religion ($r = 0.0497$; significance 0.000) and to a lesser extent, age of first sexual relations ($r = 0.0266$; significance 0.000), frequency of sexual relations ($r = 0.235$; significance 0.000), and Orgasm ($r = 0.0224$;

significance 0.000). In the case of the orgasm variable, the only statistical significance concerns frequency of sexual relations ($r = 0.239$; significance 0.000) and to a lesser extent, age of first sexual relations ($r = 0.161$; significance 0.000). The rest of the variables do not show important correlations in this case.

Table 4 contains the correlation results for dimension 3 (motivations). The greatest statistical significance is observed between partner’s pleasure and personal pleasure ($r = 0.404$; significance 0.000). Also, a negative correlation appears in the case of partner’s pleasure and reproduction ($r = -0.200$; significance 0.000). The rest of the variables do not yield statistically significant results for this dimension.

In dimension 4 (sexual and gender identity concepts), we find a strong correlation between lesbian concept and gay concept ($r = 0.781$; significance 0.000), and to a lesser extent, between the sexism concept ($r = 0.166$; significance 0.042) and the lesbian concept variables. It is important to highlight the inverse correlation with the gender identity concept ($r = -0.163$; significance 0.044). When we focus on religion, the data is statistically significant for the sexual identity concept and the

TABLE 2 | Correlations for the education dimension.

		Religion	Academic sex education	Formal sex education versus informal
Contribution of sex education to personal development	Pearson correlation	0.105	-0.170	0.417
	Significance (one-tailed)	0.043	0.000	0.000
	N	270	545	545

Source: authors.

TABLE 3 | Correlations for the habits dimension.

		Religion	Age first sex R	Frequency sex R	Orgasm in sex R
No. of partners	Pearson correlation	0.497	0.266	0.235	0.224
	Significance (one-tailed)	0.000	0.000	0.000	0.000
	N	289	579	579	579
Orgasm in sex R	Pearson correlation	-0.066	0.161	0.293	
	Significance (one-tailed)	0.133	0.000	0.000	
	N	289	579	579	

Source: authors.

TABLE 4 | Correlations for the motivations dimension.

		Personal pleasure	Reproduction
Partner's attractiveness	Pearson correlation	-0.146	0.094
	Significance (unilateral)	0.000	0.012
	N	579	579
Partner's pleasure	Pearson correlation	0.404	-0.200
	Significance (unilateral)	0.000	0.000
	N	579	579

Source: authors.

gay concept and to a lesser extent for the transphobia concept ($r = 0.142$; significance 0.155), as we can see in Table 5.

Finally, in Table 6, the analysis of correlations for dimension 5 (beliefs and values regarding sexuality), we find a statistically significant relationship between permissiveness toward occasional promiscuity and promiscuity as problematic ($r = 0.230$; significance 0.000) and a negative correlation between the former and permissiveness toward prostitution ($r = -0.219$; significance 0.000). There is also a positive correlation between premarital sex and the use of erotic materials ($r = 0.212$; significance 0.000). There is a negative correlation between permissiveness

toward prostitution and premarital sex ($r = -0.181$; significance 0.000), use of erotic materials ($r = 0.207$; significance 0.000), and sex = love ($r = -0.210$; significance 0.000). Use of erotic materials is directly related to premarital sex ($r = 0.212$; significance 0.000) and sex associated with love ($r = 0.148$; significance 0.000) and shows a negative correlation with promiscuity as problematic ($r = -0.106$; significance 0.005) and with permissiveness toward prostitution ($r = -0.207$; significance 0.000). The sex = love variable shows a strong correlation with promiscuity as problematic ($r = 0.222$; significance 0.000), premarital sex ($r = 0.153$; significance 0.000), and use of erotic materials ($r = 0.148$; significance 0.000) and a negative correlation with permissiveness toward prostitution ($r = -0.210$; significance 0.000).

Factor Analysis Results

After applying the factor analysis to each dimension to establish the possible discourses that appear in the predictive rotation of the relationship between each dimension's variables (concerning potential differences based on age, country, and continent), statistically significant data was obtained.

As observed in Table 7, when we analyze the results relating to the first dimension, education sources, the data in the case of Europe and Spain, surpasses 75% of the variance explained. Spain follows that same trend being the country that makes the most difference in this issue.

TABLE 5 | Correlations for the sexual and gender identity concepts.

		Sexual identity concept	Gay concept	Gender identity concept	Sexism concept	Transphobia concept
Religion	Pearson correlation	0.251	0.230	0.055	-0.017	0.142
	Significance (one-tailed)	0.035	0.049	0.347	0.452	0.155
	N	53	53	53	53	53
Lesbian concept	Pearson correlation	-0.036	0.781	-0.163	0.166	0.047
	Significance (one-tailed)	0.354	0.000	0.044	0.042	0.314
	N	110	110	110	110	110

Source: authors.

TABLE 6 | Correlations for the beliefs and values about sexuality dimension.

		Youth promiscuity as problematic	Premarital sex	Permissiveness prostitution	Use of erotic materials	Sex = love
Permissiveness toward occasional promiscuity	Pearson correlation	0.230	0.171	-0.291	0.080	0.245
	Significance (one-tailed)	0.000	0.000	0.000	0.027	0.000
Premarital sex	Pearson correlation	-0.001		-0.181	0.212	0.153
	Significance (one-tailed)	0.486		0.000	0.000	0.000
Permissiveness prostitution	Pearson correlation	-0.008	-0.181		-0.207	-0.210
	Significance (one-tailed)	0.423	0.000		0.000	0.000
Use of erotic materials	Pearson correlation	-0.106	0.212	-0.207		0.148
	Significance (one-tailed)	0.005	0.000	0.000		0.000
Sex = love	Pearson correlation	0.222	0.153	-0.210	0.148	
	Significance (one-tailed)	0.000	0.000	0.000	0.000	

Source: authors.

If we focus on the second dimension, *sexual habits*, only Portugal and Brazil (and the two South American countries together) surpass 65% of the rotation (Table 8).

However, in the case of dimension 3, *motivations*, Portugal and Argentina are the ones that approach 75% of the variance explained (Table 9).

Regarding dimension 4, *gender and sexuality concept*, it should be noted that all elements approach 60% (Table 10).

Finally, when we look at *values and beliefs*, the case of Argentina stands out at more than 70% of the variance explained (Table 11).

TABLE 7 | Factor analysis education dimension.

Variable	% of variance explained
Total matrix	0.489
≤25	0.476
>25	0.492
Spain	0.781
Portugal	0.512
Brazil	0.439
Argentina	0.525
Europe	0.796
Ibero-America	0.564

Source: authors.

TABLE 8 | Factor analysis habits dimension.

Variable	% of variance explained
Total matrix	0.525
≤25	0.406
>25	0.527
Spain	0.421
Portugal	0.674
Brazil	0.696
Argentina	0.655
Europe	0.415
Ibero-America	0.651

Source: authors.

TABLE 9 | Factor analysis motivations dimension.

Variable	% of variance explained
Total matrix	0.466
≤25	0.645
>25	0.641
Spain	0.472
Portugal	0.736
Brazil	0.573
Argentina	0.750
Europe	0.472
Ibero-America	0.647

Source: authors.

TABLE 10 | Factor analysis gender and sexuality concept.

Variable	% of variance explained
Total matrix	0.621
≤25	0.629
>25	0.633
Spain	0.521
Portugal	0.658
Brazil	0.632
Argentina	0.697
Europe	0.627
Ibero-America	0.633

Source: authors.

TABLE 11 | Factor analysis values – beliefs dimension.

Variable	% of variance explained
Total matrix	0.466
≤25	0.474
>25	0.669
Spain	0.479
Portugal	0.658
Brazil	0.531
Argentina	0.732
Europe	0.471
Ibero-America	0.525

Source: authors.

Results of Factor Analysis by Components

Dimension 1. Education Sources

The component that appears in the total matrix introduces variables 1, 2, and 3, *academic sex education, contribution of sex education to personal development, and assessment of formal versus informal learning* as significant, with a % of variance explained of 0.489. In the University students, variables 2 and 3 stand out as the first component, the item's correlation weight shows a negative factor, the % of variance is explained by 0.0490. By ages and in all cases, the first component includes the three variables concerning the importance of education received. This variable is also the first component in three of the four countries studied, and it is not valued in Spain.

Dimension 2. Habits: Sexual Behaviors and Practices

Regarding sexual habits, the total matrix shows the three components as clearly differentiated. The first with respect to variables 5, 7, and 6: *frequency of sexual relations, orgasm, and number of partners*. The second concerns variables 10, 11, and 9, *fidelity, sexual relations with same-sex partners, and masturbation*; and the third relates to variables 8 and 4, *contraceptive use and age of first sexual relations*. On the other hand, for the young women surveyed, significant differences can be seen in the importance attached to *orgasm* and the *frequency of sexual relations*, leaving

component 9, which concerns masturbation, to the second component, as less significant. *Contraceptive use* is the third component.

In this dimension, the differences based on age should be noted: while respondents under the age of 25 emphasize variables 5, 7, 6, and 4 (*number of partners, orgasm, frequency of sexual relations, and age of first sexual relations*) first, those over the age of 25 highlight variables 11, 9, and 10 (*relations with same-sex partners, masturbation, and relations with third parties*), and 11 and 9 correspond to the second component for those under that age. The second component is associated with *first sexual relations, number of partners, and contraceptive use*, and the third with *orgasm and frequency of sexual relations*.

When comparing countries, the most important components in Portugal and Spain were variables 5, 7, 4, and 6 (*number of partners, orgasm, first sexual relations, and frequency of relations*), while in Brazil and Argentina, they were variables 10 and 1 (*relations with third parties and sexual relations with same-sex partners*). Also noteworthy are the differences among countries regarding the perspective on contraceptive use, which is the second component in Spain and Portugal and the third in Brazil and Argentina.

Dimension 3. Motivations: Expectations of Sexual Relations

Regarding habits, the total matrix exhibits a single component with variables 14, 13, 17, and 12 (*other person's pleasure, personal pleasure, reproduction, and partner's attractiveness*). By age groups, respondents under the age of 25 considered the other person's pleasure to be more relevant, followed by personal pleasure and reproduction in the third place. For those over the age of 25, aside from the other person's pleasure, personal pleasure stood out compared to the other group. In all countries, the other person's and personal pleasure were emphasized, followed by reproduction and attractiveness as first components, with slight differences in the order of importance. In Brazil and Argentina, more importance was assigned to the partner's attractiveness. In all countries, emotional involvement in sexual relations appeared as the second component.

Dimension 4. Sexual and Gender Identity Concept: Perception of Sexual Diversity

In the total matrix, we find four components: the first with *gay and lesbian*, the second with *transphobia and bisexuality*, the third with *homophobia and sexism*, and the fourth with the *sexual identity, transsexuality, and gender inequality* concepts. For the first component, the people surveyed emphasize the *lesbian and gay* concepts. In the second component, *sexism and homophobia* stand. The third component corresponds to *sexual identity and bisexuality*. For the fourth component, overlap with *gender inequality*, and the latter add *transphobia*.

Looking at ages, it is important to note that younger respondents also emphasize variables 20 and 19, *lesbian and gay*, as the first component, although they diverge in the second

component, as variables 26, 23, and 22 (*transphobia concept, bisexuality, and gender inequality*) are relevant to those under the age of 25, versus variables 25, 24, and 18 (*homophobia, sexism, and sexual identity*) for older respondents. Likewise, in the third and fourth components, differences based on age are observed. In the third, the relevance of sexism and homophobia stand out for those under the age of 25, versus sexual identity and transsexuality for the older group. In the fourth component, sexual identity and transsexuality are highlighted for those under 25, versus gender identities and transphobia for older respondents.

All countries also coincide with *lesbian and gay* concepts in the first component. For the second component, Spain and Portugal coincide with *homophobia, sexism, and gender inequality*, although Spain adds the *transphobia* concept. Brazil exhibits *gender inequality and transsexuality* versus Argentina with *homophobia, transphobia, and transsexuality*.

Dimension 5. Values Regarding Sexuality. Beliefs and Values Regarding Sexuality

The values of the total matrix exhibit two clear components. The first one corresponds to variables 34, 33, 31, and 37 (*use of erotic materials, permissiveness toward prostitution, premarital sex, and sex for pleasure and not reproduction*). The second component relates to variables 29, 36, 38, and 35: *promiscuity as problematic, respect for sexual diversity, greater male sexuality, and sexuality associated with love*; along with the assessment of premarital sex and sex associated with pleasure. As for the second component, the students indicate: *permissiveness toward prostitution, use of erotic materials, and promiscuity as problematic, casual relations*. And the viewpoint that *men have greater sexuality* define this area, with *respect for sexual diversity* corresponding to the third component. In fourth place, a fourth component appears concerning pleasure and love with variables 28, 37, and 35.

In the two age groups, those under the age of 25 exhibited in the first component more permissiveness toward occasional promiscuity and a stronger association of sexuality with pleasure and love, but not with reproduction. However, in this regard, the older group emphasized promiscuity as problematic and greater sexual activity in men. Secondly, the variables relating to the use of erotic toys, sex with third parties, and premarital relations (variables 34, 27, and 31) appeared as significant in both groups.

In terms of responses by country, the first component is the acceptance of casual relations with other people (variable 27) and a higher appreciation of sex associated with love (variable 35) but not reproduction. Prostitution is not viewed negatively in any country, and permissiveness toward its practice is observed in all of them. There is a positive assessment of sexual diversity (variable 36), although it appears in the third or fourth component in all of them. In both Spain and Portugal, the first component corresponds to permissiveness toward casual relations and the link between sex and love, which is the third component in Brazil and Argentina, which value the use of erotic materials (variable 34 in Brazil), the masculinization of sexuality

(variable 38), and the problem of promiscuity (variable 29) as the first component.

DISCUSSION: PERCEPTION AND EXPERIENCE OF SEXUALITY AMONG YOUNG PEOPLE

The following is a discussion of the results in each dimension of our study as they relate to the emotional well-being of young people and the categories based on the WHO's recommendations (2010, 2018). The latter are linked to the sex education that the United Nations Educational Scientific and Cultural Organization [UNESCO] (2009) studies and other recent research have found to be important to young people's development in terms of sexuality.

Dimension 1. Education Sources: Level and Experience of Sex Education Received

Our study shows the importance and assessment of the sex education received by the young people we surveyed in four countries. In all cases, this instruction was provided mainly in secondary school and considered significant for personal development. It is relevant that when asked about the value of academic education versus information/learning obtained in informal contexts, the respondents clearly placed more value on the latter from the perspective of well-being and development, and this was especially the case of those under the age of 25. As the United Nations Educational Scientific and Cultural Organization [UNESCO] (2009) indicates, a comprehensive education based on scientific evidence is necessary from early childhood to encourage greater autonomy and safety during young adulthood. In this regard, education defines a higher degree of emotional well-being by providing more knowledge and a *positive attitude toward sexuality*.

Dimension 2. Habits: Sexual Behaviors and Practices

In general, concerning sexual behaviors and habits, the results reveal a clear link between sexuality and the pursuit of pleasure and personal satisfaction in terms of the frequency of sexual relations and the number of partners; these aspects are more relevant than those linked to reproduction or stable relationships. Orgasm and autoerotism were key references in the minds of young people in this dimension. Masturbation appears as a habitual and recognized practice, although, as we will see in dimension 5 concerning values and beliefs about sexuality, it is viewed less positively. It should also be noted that prevention or contraceptive use was not a central or relevant theme for sexual habits, although it was more marked for those under the age of 25. Although one of the factors of emotional well-being around sexuality, according to the WHO, concerns prevention, including both safe sex and contraceptive use, the study reveals that risky habits persist in the youth population surveyed. This is linked to sexuality in which the frequency of sexual intercourse and the number of partners prevail over safety in the pursuit of

satisfaction. In this regard, when observed in detail, there are some clear differences in sexual habits among the countries in our study, reflected in both the component and correlation tests: while in Portugal and Spain, frequency and number of partners are key aspects of sexual behavior, in Brazil and Argentina, relations with third parties and homosexual relations stand out first, although religion and, to a lesser extent, the age of first sexual relations have a significant correlation with perceived sexual behaviors. In this regard, the study showed that most young people have their first sexual experiences between the ages of 15 and 18. Following the guidelines of the United Nations Educational Scientific and Cultural Organization [UNESCO] (2018); Fonner et al. (2014), educational programs designed to provide more information combined with instruction that delays the age of first sexual relations result in safer practices. It should be noted that early sexual relations carry a higher probability of risky behaviors and unsafe practices and reduce emotional well-being for the young person in the long term.

Dimension 3. Motivations: Expectations of Sexual Relations

According to the results of our study, in terms of motivations, the most emphasized aspects concern to one's own satisfaction and pleasure and that of one's partner, together with emotional bonds, and to a lesser degree, reproduction, which correlates negatively with sexual satisfaction. In this sense, emotional factors were more important to women, a fact that coincides with the results of several recent studies (Friedrich et al., 2000; Larrañaga et al., 2012; López et al., 2011). The young students showed a stronger inclination toward emotional and relationship and valued that men are more directly oriented toward excitement and pleasure (Faílde et al., 2008). However, reproduction was an inverse factor to pleasure, exhibiting a clear separation of these two aspects for all the young people surveyed.

In different countries, emotional involvement appears as a second component to shared pleasure with one's partner and the importance of giving pleasure in the case of women. Own orgasm was equally important for all age groups, yet more significant in those under the age of 25. It should be noted that the attractiveness of one's partner did stand out more as a motivation for sexual relations in countries such as Brazil and Argentina. Motivations toward sexuality reveal the extent to which young people perceive sexual function as an important dimension of their relationships. In this regard, one of the categories established by the WHO for young people's emotional well-being around sexuality links motivations to the expectations learned in the social and community context (*WHO recommendations on adolescent sexual health and reproductive health and rights*, 2018 and the importance of the environment in encouraging young people's habits and behaviors. Therefore, beyond the heterogeneity exhibited by the different countries in our study, CSE takes on great importance in this area, as it defines aspects concerning gender differences and the importance of emotional bonds and reproduction. This makes an impact on young people's emotional development and safety,

especially at a stage of life in which these aspects seem less important to them.

Dimension 4. Sexual and Gender Identity Concept: How Sexual Diversity Is Perceived

The results of the questionnaire indicate that the perception of sexuality and emotional-sexual diversity and gender identity is quite varied, containing some heteronormative biases. Although sexual diversity is accepted, it is barely represented as a value in one's own sexual experience. Young people adopt liberal attitudes toward sexuality and especially toward what is more socially visible and acceptable (García-Vega et al., 2017). The discourse of young university students about sexual diversity is becoming more variable and dynamic, perhaps because they are beginning to accept and integrate behaviors that fall outside of the norm dictated by the patriarchy or dominant hegemony. However, we can still see that transsexuality remains hidden and barely accepted, potentially, as López (2005) points out, due to the predominance of normative values associated with conservative morals.

Also noteworthy is the prevalence of low-intensity sexism, given that the variables related to gender inequalities did not have a prevalent place among women in any of the countries analyzed, appearing only as a secondary component in the tests performed. The fact that the study also reveals a certain degree of permissiveness toward prostitution indicates that young women are more vulnerable than men in their relationships, which can impact their health, safety, and personal well-being. This is a sign of the emergence of new scenarios of vulnerability for young people in increasingly globalized societies, with gender violence and sexual exploitation as some of their most worrisome manifestations (Melendro et al., 2018). The World Health Organization [WHO] (2018) points out in this regard that the permanence of conditions of social inequality increases violence toward women, especially at this stage of life. Therefore, all its recommendations include the gender perspective in sex education starting in childhood.

Dimension 5. Values Regarding Sexuality. Beliefs and Values Regarding Sexuality

Finally, in terms of young people's beliefs about sexuality, the results of this study indicate that sexuality is far more associated with pleasure and love than with reproduction. In modern society, according to Beck and Beck-Gernsheim (2001), there is no competent external moral authority on matters of love. Sexuality occupies a space of its own within the process of defining one's identity and as an instrument of the free expression of desires. Young people have free reign of their bodies, allowing them to experience sexual pleasure with a spontaneity unencumbered by cultural and reproductive restrictions (Giddens, 2004).

At the same time, as pleasure is pursued, there is a relaxation of the norms of sexual exclusiveness between partners sexual exclusiveness here has a role in the relationship to the degree

to which the partners mutually deem it desirable or essential (Giddens, 2004, p. 64). Although promiscuity is negatively assessed as a source of problems in young people, our study also reveals a certain degree of tolerance toward casual relations, or toward sexual relations with third parties even in the context of a stable relationship, especially for those under the age of 25. Reproduction is no longer linked to sexuality and relationships, although this aspect was more relevant in Spain and Portugal than in other countries.

Another noteworthy aspect of the results is the relevance of masturbation: young people report it as a habitual practice, although it appears undervalued. This perspective is perhaps still conditioned by orthodox religious positions and traditional cultural constraints that associate it with multiple negative connotations (Patton, 1986). Due to these ideas, circulated in Western society for decades, in many situations (for example, a stable relationship), masturbation generates feelings of sexual guilt (Santos et al., 2013).

In conclusion, our findings point to the need to expand young people's knowledge and awareness of the complexity of sexuality and sexual health, linking it to emotional and relational aspects. It is necessary to implement CSE, as recommended in the guidelines of the World Health Organization [WHO] (2018) and United Nations Educational Scientific and Cultural Organization [UNESCO] (2018), that corrects stereotypes about diversity or equality that persist in educational institutions (Bejarano, 2017). The goal is to provide young people with knowledge, skills, attitudes, and values that empower them, allowing them to enjoy sexuality in a safe, healthy way and with a high level of long-term emotional well-being. Our study shows that although the sexual practices of young university students are more open and diverse today, they are not free from conflicts and problems associated with the experiences they entail. There is a clear dissociation between the reported behaviors and the values with which these behaviors are judged or perceived. The social and cultural context defines the mental framework from which one's own sexual relations are experienced according to hegemonic social normativity. This is reflected in the fact that issues such as sexual diversity, equality in relationships between men and women, and practices outside the predominant heterosexual models did not have a very central position in any of the dimensions analyzed. On the other hand, the study also indicates a divergence among expectations regarding emotional relationships, love, reproduction, and sexual pleasure.

A comprehensive, complex and pluralistic vision of sexuality, as reflected in the baseline categories of the WHO and UNESCO in this study, would mean the integration of all these aspects into sexual experiences. This would result in a higher level of emotional well-being in young people by encouraging them to explore sexuality in a way less conditioned by the sociocultural parameters still in force. According to the World Health Organization [WHO] (2010), the resistance to CSE starting in childhood stems from a prejudiced assessment thereof; as a result, sexuality is still approached tangentially in academic and social education in most societies. As demonstrated, sexuality education does not imply greater sexualization at an early age, but quite

the opposite: it ensures a higher level of health and safety, better preparation to position one's sexual experience in a respectful relational framework, and acquisition of solid knowledge that allows one's own identity and sexual experience to be explored autonomously during this stage of life.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written, informed consent was inferred through the completion of the questionnaire.

AUTHOR CONTRIBUTIONS

All the authors of this article have made an equal contribution to its completion and to the research process: literature review, methodological and instrument design, field work, analysis, and discussion of the results.

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Dropout, Autonomy and Reintegration in Spain: A Study of the Life of Young Women on Temporary Release

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This study analyses the psycho-educational and social paths of women prisoners after the time they drop out of school as minors, based on different variables related to autonomy and their preparedness to face temporary release.

Methods: Qualitative and quantitative methods were used to analyse a national sample of 310 women prisoners (30.1% of the population) in 31 prisons through a mixed-mode questionnaire and interview. We analysed the significant association of variables related to dropout and obtained a log-linear model that relates dropout to recidivism and Roma culture. Work experience was analysed using the McNemar test, and variables influencing the participant's job at the time of the study were analysed by applying cluster analysis.

Results: Young women comprise 66.6% of individuals who drop of the education system as minors (primary 49.3% and secondary 22%). They drop out between the ages of 7 and 17, and have traits of greater vulnerability than those who stayed in school until adulthood. In this population, we find a significant association with various factors: belonging to Roma culture, having family members in prison and delinquent recidivism; and higher unemployment (43.4%) and low income before entering prison. This situation is increasing today. In prison, these women had more connection to education/training, which can improve their employability. They also encounter difficulties with personal security, decision-making, personal/professional dependence, planning for the future, administrative matters and handling information and communication technologies, job-seeking skills, etc. Their self-perceived strengths are, however, assuming responsibility, taking orders, respecting schedules and timetables, working on a team and feeling prepared to start a job, as well as having optimistic convictions about the future.

Conclusion: The vulnerabilities and risk factors studied have a negative influence primarily on processes of personal, social and job autonomy in female minors who

left the education system. Yet these minors show factors of protection and resilience. On temporary release at the time of the study, they face the consequences that their prison terms and incarceration have for their perceptions, attitudes, competencies and future prospects, as well as social marginalization and stigma. Early, coherent socio-educational interventions are thus needed to improve social integration-reintegration.

Keywords: young people, school dropout, women, prison, autonomy, work, social reintegration, education

INTRODUCTION

The topic of education is sometimes questioned or provided in unfavourable conditions, depending on the contexts in which it occurs. Yet education is a human right (ONU, 1948) that nations are required to protect and enforce, independently of context. It should transcend the barrier of prison walls or environments of confinement (Añaños et al., 2019). In Spain, in fact, the goals of punishment that deprives people of freedom are oriented to social reintegration and re-education of convicts (Spanish Constitution, 1978; *Ley Orgánica 1/, 1979*).

The prison population in Spain is 58,917, of whom 92.55% are men and 7.45% women (Secretariat-General of Prisons [SGIP], 2019a). This figure is one of the highest in Europe, after the United Kingdom, France, Germany and Italy. The total world prison population is around 10.74 million, and the countries with the largest prison populations are the United States of America, China, Brazil, the Russian Federation, Thailand, Indonesia, Turkey, Iran, Mexico and the Philippines (Walmsley, 2019). Women prisoners number 714,000, constituting 6.9% of the global prison population (Walmsley, 2018). These figures reveal the tremendous importance of and need to understand educational careers prior to prison and the role of the penal institution in this matter.

This study analyses early school dropout, taking as reference the age at which the person dropped out, considering that education levels prior to higher education generally end at 18. At the same time, it analyses the different risk factors that influence the person's situation and the impact of prison itself (all of which are related to personal, social and job autonomy for women on temporary release in Spain) and the influence of temporary release on social reintegration.

Remaining in the System or Dropping Out: Factors That Influence Personal Autonomy

The current Spanish Education System is governed by the Organic Law for the Improvement of Educational Quality 2013 (*Ley Orgánica 8/, 2013*), which is divided into two parts, compulsory (6–16 years of age) and non-compulsory. Non-compulsory education generally includes pre-school (0–4 years of age), non-compulsory secondary education (university-preparatory and vocational training, 16–18 years of age), and subsequently university, as well as adult education, which is governed by its own law.

According to the (*Ley Orgánica 8/, 2013*), basic compulsory education includes the acquisition of a set of legally established competencies, and education systems in the European Union

have strict legislation requiring students to attend this schooling (Martínez and Echeverría, 2009; González Losada et al., 2015). This approach leads students to remain in school even when their performance is not necessarily associated with success (Morales Sequera and Pérez Sparrels, 2011). Merely remaining in school without academic achievement (failure) can become a risk factor for interrupting the educational itinerary of non-compulsory instruction (dropout).

Failing in school is defined as a situation in which the student does not achieve the goals generally established for the age group (Sarceda-Gorgoso et al., 2017). Failure can occur at different levels of compulsory education. It is the result of a long process (Janosz et al., 2013) or “continuum” that goes beyond the individual decision taken at a specific moment (Jimerson et al., 2000) and involves making mistakes, losing self-confidence, feeling discouraged, investing less effort and increasing the possibilities of failing again (Kamal and Bener, 2009). It may also involve disagreements with the school and its labelling dynamics (Mena Martínez et al., 2010).

The decision to drop out can be conditioned, among other factors, by personal circumstances and perspectives, which are often associated with loss of confidence or lack of motivation (Kamal and Bener, 2009), the influence of a family and social context that does not prioritize school (Melendro, 2008; Añaños-Bedriñana, 2013; García-Vita, 2017) or disagreements with the school itself and its dynamics (Cohen, 2006; Rue, 2006). Dropping out can be understood as an expression of autonomy in young people and adolescents, especially for women. At the same time, dropout affects young women's development multidimensionally and in its different dimensions (Casanova, 2016).

Autonomy during adolescence has three dimensions (Noom et al., 1999; Parra et al., 2015): behavioural (capability to act independently), cognitive (acquisition of competencies) and emotional (self-concept, self-confidence, relationships with an egalitarian and symmetrical emotional foundation). Dropout is also intimately related to the meaning that the student gives to his/her experience (Crozier, 2001). Thus, the most disadvantaged groups perceive school as an environment that does not attend to their personal needs (Willis, 1988), generating a clear culture of resistance to prevailing legitimation (Escudero Muñoz, 2005). Repeated and prolonged negative experience leads to processes characterized by early dropout, and thus the impossibility of passing or obtaining a specific accrediting degree.

In the case of the most vulnerable populations, young people who have stayed in the education system (typically until 18 years of age) without success or who have dropped out and ended up

in prison have a series of characteristics that put them at higher social risk (contexts with situations of family breakdown, conflict, violence, addiction, delinquency, prior incarceration, culture that does not bid for school, etc. (Añaños-Bedriñana, 2012, 2013; Añaños-Bedriñana et al., 2019; Añaños et al., 2019). These individuals face, if possible, even greater consequences – not only lack of educational competencies but also greater difficulties in obtaining personal and social development. These stages of development are, specifically (Parra et al., 2015), the capability to act independently and to take control of one's own life, and the perception of independence through self-confidence.

This reality means having fewer opportunities for active participation in economic life, as well as precarious opportunities for work and less stability in each opportunity (Fortin et al., 2005). We can also infer that such individuals have not acquired the skills needed to participate in other vital phases of life, skills such as healthy leisure and involvement in civic and cultural affairs (Ferguson et al., 2005). Ultimately, the person in this situation has serious difficulties acquiring a series of rights that should be guaranteed through education (Bernstein, 1996).

All of these factors related to failing in school, remaining in the system without a degree or early dropout and its consequences also compromise autonomy and the processes needed to live a decent life in contemporary society. This study shows the differing paths of women who dropped out of the education system as minors and of women who remained in the system at least to the age of 18, all of whom are now serving a sentence in the Spanish prison system.

Prison and Autonomy: Impact on the Life of the Person and Education Possibilities

The concept of autonomy has been developed extensively through different disciplinary approaches and in different contexts and populations, but few of this focus on the context of prison. Kantian autonomy involves self-governance and self-control according to principles one has chosen for oneself. This means that moral agents are subject to objective, rationally moral principles (Power et al., 1989; McDonough, 2005). Authors such as Piaget and Kohlberg, who ground their ideas in Kant, describe autonomy as the capability to create moral norms that we live by. This perspective is qualified by authors like Gilligan (1982), who introduce questions of attachment into the theory, structuring it around the category of gender and rejecting an individualistic focus. All of this theoretical corpus requires adjustments to make it relevant when studying an inmate population in a prison setting. As Parrón (2014) argues, autonomy is contextualized by and connected to different areas of life. Prison, however, assumes functions of attention, care and control of the life of its inhabitants, relativizing autonomy although not negating it.

The topic of autonomy in prison has also been approached from the perspective of the increase in studies of incarceration. Authors such as Goffman (1987) and Clemmer (1958) reveal the patent difficulty for inmates of exercising and developing autonomy on entering the prison or carceral subculture, where the question of the relationship between adaptation and preservation of identity and autonomy emerges. The less one

fits or adapts to the prison culture, the greater one's degree of autonomy (Goodstein, 1979).

Characteristics of a context of confinement are unified and institutionalized, in turn presenting a multiplicity of opportunities and diverse experiences. The prison sentence in Spain is oriented to achieving rehabilitation reintegration and re-education of people who serve the sentence (Art.25.2 Spanish Constitution, 1978; Ley Orgánica 1/, 1979; Real Decreto 190/, 1996). Achieving this goal involves understanding the process of the prison sentence – in the terms of the legislation it self – as an instrument of personal change that goes beyond mere punishment (Gil Cantero, 2010; Añaños-Bedriñana, 2013).

According to Toch (1975), from an ecological-systemic perspective, adjusting to the penitentiary environment is a dynamic transaction between person and environment. Autonomy is not understood as a mere individual process of decision making but is grounded in the relational (Ennuyer, 2002) and in the presence of interdependence among choices, skills and resources (Le Coadic, 2006). If we analyse this specific factor inside prisons, we run up against the constant need to obey orders and premises as measures for achieving proper organization of prison life and maintaining security (Hinojosa, 2009; Gallego et al., 2010). Subjects who live together in prison depend on the channels established by the institution itself, which leads to a process characterized by depersonalization and high degrees of stress and anxiety (Arroyo-Cobo and Ortega, 2009; Galán Casado, 2015). Further, autonomy should occur free of external pressures, such as group pressure, or internal pressure, such as feelings of guilt, shame and anxiety (Radel et al., 2013). These conditions are difficult to fulfil in an environment where human relationships are distorted, organized hierarchically, intensified and institutionalized (García-Vita and Melendro Estefanía, 2013).

In order to avoid this destabilizing effect, it is important to stress one of the main instruments for acquiring values, knowledge, competencies, skills and attitudes: education. Incarceration can be a turning point for some people (Johnson and Dobrzanska, 2005), an opportunity to increase pro-social attitudes and improve emotional well-being (Wormith, 1984; Zamble and Porporino, 1988; Zamble, 1992). The activities inherent in the prison routine – such as work, educational or sociocultural activities, and the relationships established with the prison staff – are positively related to feelings of autonomy and well-being of the male and female inmates (Goodstein et al., 1984; Gover et al., 2000; Liebling, 2004; García-Vita and Melendro Estefanía, 2013; Van der Laan and Eichelsheim, 2013).

Along these lines, education in penal environments serves as a refuge (Ruess, 1997), a safe space (Szifris, 2017; Ruíz Cabello and López-Riba, 2019) that distances the inmate from other dynamics resulting from unemployment and the complex power relationships that dominate prison life (Clemmer, 1958); but above all education in prison is an educational time and place (Núñez, 2010). This situation is actually the first step toward preparing for life in freedom, since the mere fact of living for a long period of time in the prison lifestyle generates a series of routines that will not work in the environment outside prison and that become obstacles for optimal resocialization.

The educational model in Spanish prisons is organized around two complementary channels, a formal channel that corresponds to the official education system and a second channel involving treatment-based intervention in the prison.

The first group of options includes adult education. Inside the prison, inmates are provided basic education, divided into two stages. Level I is oriented to literacy and Level II to more specific and extensive content (García-Tardón, 2019). Compulsory secondary education (ESO), which constitutes the second stage of compulsory education (in this case, termed Compulsory Adult Education (ESA), is delivered in a mixed distance and classroom format. Subsequently, the inmate can pursue non-compulsory education, such as non-compulsory university-preparatory education, to obtain the degree that permits access to higher education; or Vocational Training (FP). At this middle level (secondary, not higher, education) students can only pursue mid-level educational cycles (of 2 years), and these are only available in a limited number of prisons. The last option is university or higher education, delivered by the Spanish National Distance Education University (UNED), through the specific modules imparted, each with its own organization and structure (Secretariat-General of Prisons [SGIP], 2019b).

The second group contains various types of so-called specific programmes – work-related, socio-educational, etc. – as part of the institution’s treatment-related intervention. These programmes are organized into four major sections (Secretariat-General of Prisons [SGIP], 2018): programs for cultural enrichment, libraries and the promotion of reading, recreational sports activities and competitive sports programmes. The activities are proposed by collaborating organizations, the inmates and the prison itself. Both formal education and the treatment-based activities form part of the Personalized Treatment Plan (PIT) that each inmate develops. The inmate’s development and evolution relative to this plan are evaluated by the Treatment Board¹ to monitor the individual’s prison life and corresponding decisions.

MATERIALS AND METHODS

This study was conducted within the framework of the Spanish National Research Plan, “Processes of socio-educational reintegration and mentoring of inmates on temporary release”/“Procesos de reinserción socioeducativa y acompañamiento a reclusas en semilibertad,” REINAC (Ref.EDU2016-79322-R). The study was supported and approved by the Secretariat-General of Prisons and the Council for Justice of the Generalitat de Catalunya (Catalan regional government, the only entity with legal power in matters regarding the region’s prison system). The project studied 31 prisons.

Goal

This study analyses early dropout, taking as reference the age at which basic levels of education are completed in the educational

system (up to 18), the different risk factors influencing education, and the impact of prison on personal, social and job autonomy of women on temporary release in Spain. It also analyses the influence of these factors on social reintegration.

Methods and Instruments

The study used qualitative and quantitative methods, applying them complementarily to the 310 mixed questionnaires and the 67 semi-structured interviews, designed *ad hoc* at a single point in time.

Participants and Sample Design

The participating population consisted entirely of women in the second or third special level of the process of temporary release within the open environment of the Spanish prison system. The general sample was composed of 310 women inmates (30.1% of the total female population) in 31 prisons (5 in collaborating entities and 26 in the prison system).

The prisons represent the different resources available for serving one’s sentence in an open mode. These are termed Social Integration Centres, Open Sections, Outside Units for Mothers and entities collaborating with the prison environment. They are distributed across 13 of the 17 regions of Spain (Andalusia, Aragón, Principality of Asturias, Balearic Islands, Canary Islands, Castile and León, Catalonia, the Valencian Community, Extremadura, Galicia, the Community of Madrid, Murcia and the Basque Country).

To obtain the sample, we followed two-phase sampling:

- (1) Selection of prisons according to regional representation and highest ratio of women.
- (2) Once we entered the centres selected, random sampling criteria from among the women who wanted to participate and who fulfilled the requirement of having been imprisoned under the ordinary prison regime prior to temporary release.

The margin of error for the data (confidence level 95%) is 4.5 points.

Procedure

This research was approved by the Ethics Committee of the General Vice Presidency for Institutional Relations and Regional Coordination, the Secretariat-General of Prisons, and the Council of Justice of the Generalitat de Catalonia, and governed by the University of Granada’s ethical principles for studies and research with human subjects.

The procedure for obtaining access to the participants was developed in coordination with each participating prison, which defined the different forms of contact based on the cases:

- In prisons with resident inmate population, the women were assembled in a specific place during times that the prison’s team deemed appropriate and that did not interfere with activities.
- If the women were working or had activities outside the prison, they were visited after they returned to the prison or before leaving it.

¹Treatment Board: A professional entity composed jointly of the technical team and the prison’s leadership to evaluate the case of each inmate.

- The women who lived entirely outside the prison (serving their sentence by distance or on conditional release) and who returned for a regular appointment every 15 days or once a month (terms differed for different individuals) were phoned individually to request their participation and, if possible, to advance their regular appointment. In this way, we were able to create groups to facilitate the technical fieldwork by consolidating the team's visits on specific days.

In all cases, we obtained voluntary formal written consent from all women in the sample.

The questionnaires were administered in person or in small groups and could be completed by the inmates themselves, with either full guidance (for participants who did not speak enough Spanish – 9.7% of the sample – or who had only rudimentary reading ability and/or comprehension) or partial guidance (completed by the individual or with help) as needed. We recognise that self-report bias can occur in self-completed questionnaires. To reduce the possibility of this bias, the authors implemented the study with a qualitative approach through interviews. Further, self-report is common practice in the literature, as it enables the extrapolation of results by observing consistency among the different studies that work with these variables and in future research (Moret-Tatay et al., 2016). The interviews were performed in isolated places directly between the participant and the interviewer, taking care that no prison personnel were present. The interviews were audio-recorded and lasted approximately 30–40 minutes. As the women interviewed had already completed the questionnaire, the interview focused on specific questions about their experiences prior to and during their life in prison, the consequences of prison and their current situation.

Measurements – Data Analysis

The study analysed 308 questionnaires, completed by women who were old enough to remain in the education system (no university education, up to age 18). We created an SPSS database, and responses to the qualitative questions were transcribed and classified for subsequent content analysis. Based on these analyses, we distinguished the following subgroups:

- (1) Women who had left the education system as minors (before the age of 18).
- (2) Women who had stayed in or dropped out of the system as adults (18 years or older).

We applied descriptive statistics methods and independent contrasts to analyse the association of significant variables with school dropout, obtaining a log-linear model that related dropout to recidivism and Roma culture.

The average age of the women in the sample was 42.19 years, with a S.D. of 10.7. By country of origin, 71.8% were Spanish and 28.2% foreign, with 76.5% holding Spanish citizenship at the time of the study.

The questionnaire posed some questions that enabled us, after examination of the data and the personal interview, to establish subpopulations of “women who dropped out

TABLE 1 | General sociodemographic traits in the two subpopulations.

	Dropout	
	Minor	Adult
Age (average)	41.81 years (S.D. 10.523)	43.01 years (S.D. 11.078)
Marital status: partner	75 (37%)	31 (30%)
Marital status: no partner	128 (63%)	72 (70%)
Stable relationship	138 (67.3%)	60 (58.3%)
Children	182 (88.8%)	75 (72.8%)

Source: the authors.

of school as minors,” a subpopulation totalling 205 women (66.6%); and “women who dropped out of school as adults,” 103 women (33.4%). Since only two women did not answer these questions, the final sample analysed in the study was composed of 308 women.

The subpopulations studied had some common characteristics at the time the questionnaire was administered, enabling comparison in terms of consistent educational and family data. The women had similar average ages, marital status and family situations (see data in **Table 1**).

As to jobs, in addition to the methodology used in other procedures, we analysed the changes in the women's job status using the McNemar test to confirm significant changes between their previous job status and status at the time of the study. The factors with a positive influence on finding a job were classified using cluster analysis.

RESULTS

Education Level and Variables Associated With Dropout

Table 2 shows a description of the data on education level, divided according to age at which the person dropped out of the education system and whether or not she had completed a specific level of education.

The results show that the women's education level is matter for concern – and of even greater concern for the first subgroup of young women, who left the system as minors or did not attend school directly (16.6%). More women pursued primary education (49.3%) and secondary education (22%), although in both cases did not complete it. The reasons the participants in the 67 interviews gave for dropping out indicate predominantly economic problems in the family and the need to work, followed by situations that required them to help care for siblings and do house work, having a boyfriend and/or getting married, and, to a lesser extent, not wanting to study or not understanding the material taught.

This situation changes in the second subgroup of young women, who stayed in school for a longer portion of non-compulsory education (vocational training 16.5%, college-preparatory 25.2%), entering higher education in 34% of the cases, with the majority earning their degrees.

To define the profile of women who dropped out as minors or adults, we analysed the factors and consequences significantly

TABLE 2 | Education level before prison in the two subpopulations.

Education/Dropout age	Minor			Adult		
	Total	Incomplete	Complete	Total	Incomplete	Complete
No education	34 (16.6%)	34 (16.6%)	–	–	–	–
Primary	101 (49.3%)	57 (27.8%)	44 (21.5%)	2 (1.9%)	2 (1.9%)	–
Secondary (ESO/BUP)	45 (22%)	29 (14.1%)	16 (7.9%)	23 (22.3%)	12 (11.7%)	11 (10.6%)
Vocational training (FP, official non-university)	12 (5.9%)	7 (3.4%)	5 (2.5%)	17 (16.5%)	6 (5.8%)	12 (10.7%)
Non-compulsory secondary, COU –university-preparatory	13 (6.3%)	8 (4%)	5 (2.3%)	26 (25.2%)	7 (6.8%)	19 (18.4%)
Higher education	–	–	–	35 (34%)	8 (7.8%)	26 (26.2%)
Total	205 (100%)	135 (65.9%)	70 (34.1%)	103 (100%)	35 (34%)	68 (66%)

Source: the authors.

TABLE 3 | Factors related to dropout in the two subpopulations.

	Dropout			p-value	Odds-ratio
	Total	Minor	Adult		
Relationship to Roma culture	130 (42.2%)	110 (53.7%)	20 (19.4%)	8.071*10 ⁻⁹	4.88
Criminal record	95 (30.8%)	76 (37.1%)	19 (18.4%)	0.001	2.63
Family members in prison	138 (44.8%)	114 (56.7%)	24 (23.3%)	7.1345*10 ⁻⁸	4.31
Children	257 (83.4%)	182 (88.8%)	75 (72.8%)	0.000376	2.95
Recidivism	75 (24%)	65 (31.7%)	10 (9.7%)	0.000022	4.32
Primary or secondary education in prison	176 (44.4%)	136 (66.3%)	40 (38.8%)	0.000023	3.14
Unemployment	114 (37%)	89 (43.4%)	25 (24.2%)	0.008	2.45
No job contract	63 (32.8%)	50 (40.2%)	13 (16.8%)	0.000174	3.78

Source: the authors.

related to dropout age in the subpopulations studied. **Table 3** displays the percentages of women in each of the variables analysed. The percentages were compared using Chi-square independence contrast, obtaining *p*-values displayed in the fourth column. In all cases, these proportions differ significantly and are higher in the first subpopulation. The last column shows the odds-ratio, indicating for the variable analysed the ratio of higher incidence of this factor in the first subgroup than in the second.

Throughout the study, we provide detailed analysis of each of these factors and its relationship to dropout. Some of the general traits are:

Belonging to Roma Culture

42.2% of the women belonged to Roma culture. This percentage was 10 points higher in the first subgroup of women. The proportion of women leaving school as minors is 4.88 times higher if they belong to Roma culture. This risk factor thus has a very strong relationship to school dropout.

Criminal Record

30.8% of the women had a criminal record before entering prison. This percentage is 7 points higher in the first subgroup.

Family Members in Prison

44.8% of the women had or had had family members in prison, although these percentages differed greatly in the subgroups considered. In the first subgroup, 56.7% of the women had or had had family members in prison vs. 23.3% in the second subgroup.

When both groups were asked which family members were in prison, the most common responses were “more than one family member” (40.4% of cases) and “partner” (29.2% of cases) for the first and second subgroups, respectively.

Children

83.4% of the women had children. Comparison of the percentages of the two groups shows a higher percentage for the first group, which also had on average more children (2.98 vs. 2.16). Overall, 40% of the women had adult children. As women were on average in their 40s, this means that they were young mothers, a fact that could have influenced why they dropped out of school early.

Recidivism

24% of the participants were recidivists. If we compare the percentages in the two groups, the risk that women return to prison is 3.26 times greater for women who dropped out of school as minors. These women had also committed more prior offences before entering prison and served more sentences.

The following sections describe the other main results presented in **Table 3**, complementing the analysis with other tests and data.

Life in Prison: Education, Employment and Autonomy

School Education in Prison

Table 4 shows the formal education provided within the prison system.

TABLE 4 | Education level: Formal education pursued in prison and during temporary release at time of study for the two subpopulations.

	Education in prison				Current education			
	Minors		Adults		Minors		Adults	
	N	%	N	%	N	%	N	%
Primary	86	61	9	25	25	62.5	1	1.1
Secondary (ESO)	37	26.2	7	19.4	8	20.0	2	2.2
Non-compulsory secondary	6	4.3	3	8.3	3	7.5	1	1.1
Higher education	4	2.8	7	19.4	1	2.5	5	5.6
Official language school	8	5.7	10	27.8	3	7.5	0	0
Total	141	100.0	36	100.0	40	100.0	9	100.0

Source: the authors.

While serving the sentence, 57.1% of the women (177) received education in prison (during their ordinary sentences) or were receiving it when they were on temporary release at the time of the study. While they were in prison, the first subgroup of women stressed that they pursued basic levels of education (61% primary and 25.7% secondary, or ESA/“Secondary Adult Education” since they were over 18). The second subgroup pursued higher education or language study at the official language school.

In the interviews, the number of women in the subgroup who dropped out of school as adults and answered that they had pursued these levels of compulsory education (primary and secondary) gave as their reason the need to occupy their time or to return to or update forgotten knowledge. In some cases, due to the limited educational opportunities provided, they had to repeat stages of education they had already passed. Although this schooling was not formally recorded, the women attested that they had taken these courses.

Next, we analyse the results concerning the women’s work situation prior to and while they were serving the sentence.

Unemployment

37% of the women were unemployed before entering prison. This percentage is nearly double in the first subgroup. Among the working women, the largest number worked in the hotel sector, the second-largest part of the first subgroup in cleaning and the second subgroup in caring for people.

No Job Contract

32.8% of the women who had worked before entering prison had no job contract, and this percentage was higher in the first subgroup of women. In this case, it is striking that 76.6% of the women with more education who had been working before entering prison had contracts, evidence of a clear difference in the two groups’ job stability. The differences in economic income were also considerable, as **Table 5** shows.

The women’s job status at the time of the study was different; the percentage of unemployed women had grown to 60.4%, yet only 10.1% had no contract; that is, the women had less work, but those with jobs worked in better conditions.

TABLE 5 | Economic income in the two subpopulations.

	Dropout/Economic income			
	Minors		Majors	
	N	%	N	%
Under 1000 euros	144	70.2	49	47.6
1000 – 2000 euros	42	20.4	34	33
2000 – 3000 euros	7	3.4	12	11.6
Over 3000 euros	3	1.5	5	4.9
Legally	8	3.9	3	2.9
DK/NA	1	0.5	0	0
Total	205	100.0	103	100.0

Source: the authors.

Analysing the change in the job situation (see **Table 6**) for each group separately, we obtain the following conclusions:

The marginal distributions show clear change. The McNemar test is significant and the *p-value* = 0.001 (minors), confirming the change in trend. Of these women, 29.8% had lost their jobs, while 13.7% had found work and 23.9% had maintained their jobs. Those who stayed in school until they were adults showed considerable changes in job status (*p-value* < 0.001): 39.8% of the women lost their jobs, only 4.9% found jobs and 35.3% kept their jobs.

Examination of the two groups shows that the percentage of women who dropped out of school as adults and lost their jobs is greater among women who dropped out of school as adults. These percentages are reversed, however, when it comes to finding a job. This phenomenon can be explained in this case by the fact that the women who dropped out of school as minors received more job training (69.3 vs. 52.4%), that is, were more predisposed to education than the women with a higher education level. In other words, women with higher education levels have more difficulty integrating into the job market after prison.

Table 7 shows that having taken a job training course influenced whether the women in both groups had jobs at the time of the study. Significant differences emerge within the total sample of women. Of the women who were employed at the time of the study, 68.4% had taken training courses, and 31.6% had not. In the individual analysis of the groups, we see that this difference is even greater – and statistically significant (*p-value* = 0.02) – for the women who dropped out of school as minors. In this group, the percentage of women who had jobs at the time of the study and had received training was 78.9%, as opposed to 48.8% who had not.

We used cluster analysis to define the profile of the women currently working. The results show that the women who were working before they entered prison received vocational training courses, were not recidivists and had not dropped out of school as minors. Those who did not have jobs, in contrast, belonged to Roma culture, were recidivists and had family members in prison.

Detailed analysis of the relationship between the factors of belonging to Roma culture and being a recidivist in the total group of women show that this relationship is significant. On

TABLE 6 | Working or not working prior to prison and currently in temporary release for the two subpopulations.

Were you working before you went to prison?	Minors				Adults			
	No	Yes	NA	Total	No	Yes	NA	Total
No	61 (29.8%)	28 (13.7%)	0	89 (43.4%)	20 (19.6%)	5 (4.9%)	0	25 (24.3%)
Yes	61 (29.8)	49 (23.9%)	3 (1.5%)	113 (55.1%)	41 (40.2%)	36 (35.3%)	0	77 (74.8%)
NA	2 (1%)	0	1 (0.5%)	3 (1.5%)	0	0	1 (0.9%)	1 (0.9%)
TOTAL	124 (60.5%)	77 (37.6%)	4 (2%)	205 (100%)	61 (59.3%)	41 (39.8%)	1 (0.9%)	103 (100%)

	Minors			Adults		
	Value	Df	Asympt.signif. (bilateral)	Value	Df	Asympt.signif. (bilateral)
McNemar-Bowker Test	17.236	3	0.001	4.59	–	<0.001
N valid cases	205			103		

Source: the authors.

TABLE 7 | Training for employment in prison and current job.

Dropout age before entering prison		Minor		Adult		Total		
		Current job Yes	p-value	Current job Yes	p-value	Current job Yes	Total p-value	
Had taken classes or received job training	No	N	16	0.02	21	0.547	37	0.151
		%	21.1%		51.2%		31.6%	
	Yes	N	60		20		80	
		%	78.9%		48.8%		68.4%	
Total	N	76		41		117		
	%	100.0%		100.0%		100.0%		

Source: the authors.

considering the groups based on dropout age, however, we find a real significant association among these factors for women who dropped out as minors but not for those who remained in school until the age of 18. Nearly three times the number of women who were recidivists belonged to Roma culture (73.8 vs. 26.2%). The inverse relation holds, however, if the women ceased their education when adults, as only 10% of these women were of Roma culture. To contrast whether the analysis of these variables is accurate, we considered the multiple combinations of log-linear models that can be obtained with these three variables. The best-adapted model was the one with the lowest Akaike Information Criterion (AIC).

Table 8 shows the results of comparing the different models obtained, identifying the variables with codes for simplicity:

The best model has as generative class [12][13][23] the model of partial association, or model of absence of interaction, among the three factors. That is, there is a significant relationship between each pair of variables, as we concluded from the individual pairwise analyses.

Autonomy for Reintegration and Facing Life in Freedom

In the preceding section, we described the women’s situation concerning schooling, job training and having or not having a job

TABLE 8 | Log-linear models applicable to relationship structure among the 3 variables.

Model	GL	Statistic	p-value	AIC
[12][13][23] Pairwise independence	1	4.768	0.029	2.768
[12][13] Conditional independence	2	15.1	0.001	11.1
[12][23] Conditional independence	2	15.555	<0.0001	11.555
[13][23] Conditional independence	2	30.606	<0.0001	26.606
[3][12] Partial independence	3	35.252	<0.0001	29.252
[2][13] Partial independence	3	50.303	<0.0001	44.303
[1][23] Partial independence	3	50.758	<0.0001	44.758
[1][2][3] Global independence	4	70.455	<0.0001	62.455

1: Dropout age. 2: Relationship to Roma culture. 3: Recidivism profile. Source: the authors.

at this advanced stage of their sentence – temporary release. We must also consider other elements, however, elements related to attitudes and expectations concerning full freedom.

Among these factors, maintaining our focus on capability for reintegration in the job force, we asked the women about their attitudes toward employment (see Table 9). The items that showed significant differences (20–40 points of difference between the populations) were knowing how to prepare a CV

TABLE 9 | Skills and competences for current educational/work-related autonomy.

Attitude	Minor	Adult	p-value
1. I know how to write or adapt my CV for a specific job	129 (62.8%)	88 (85.5%)	<0.0001
2. I know how to handle a job interview	164 (79.8%)	95 (92.2%)	0.009
3. I feel prepared and trained to start working	185 (90.3%)	93 (90.3%)	0.87
4. I take orders at work	195 (95.1%)	95 (92.2%)	0.33
5. I respect work hours (starting time, breaks, leaving time)	195 (95.1%)	101 (98%)	0.28
6. I assume responsibilities	199 (97.1%)	100 (97%)	0.78
7. I work and cooperate on a team	193 (94.1%)	101 (98%)	0.17
8. I use a computer	91 (44.4%)	92 (89.3%)	<0.0001
9. I use internet	110 (53.6%)	95 (92.2%)	<0.0001
10. I use mobile devices	156 (76.1%)	98 (95.1%)	<0.0001

Source: the authors.

TABLE 10 | Facing freedom, and personal and social autonomy.

	Dropout			
	Minor		Adult	
	N	%	N	%
1. I am afraid of what I will find out there when I am finally released	65	31.7	37	36
2. It is hard for me to manage administrative matters (make doctor's appointments, social services, employment services, etc.)	58	28.3	27	26.2
3. I feel insecure when I go out on the street and encounter new things	45	22	23	22.4
4. I feel insecure about making decisions	62	31.7	33	32.1
5. I need the help and encouragement of others to make decisions	68	33.2	34	33
6. I have accepted letting my family/others make decisions for me	60	29.3	28	27.2
7. I have a hard time performing basic activities of everyday life (cooking, hygiene, getting enough rest)	15	7.4	9	8.7
8. I cannot manage my own affairs (professionals and other people continue to do it for me)	41	20	15	14.5
9. I solve day-to-day problems, and it is hard for me to plan for the future because I don't know what is going to happen	112	54.6	43	41.8
10. It is hard for me to adapt to work routines	14	6.9	18	17.5
11. When I am finally free, everything will go well	171	83.4	86	83.5

Source: the authors.

for a specific job, handling a job interview and using a computer, internet or mobile devices.

We also performed cluster analysis to identify which items (in **Table 10**) were more closely related in women who were working at the time of the study. This analysis shows that these women

TABLE 11 | Self-evaluation of preparation for freedom.

	Minor		Adult	
	Frequency	%	Frequency	%
Very poor	3	1.5	3	2.9
Poor	4	2.0	3	2.9
Fair	35	17.1	15	14.6
Good	71	34.6	29	28.2
Very good	88	42.9	53	51.5
No answer	4	2.0	0	-
Total	205	100.0	103	100.0

Source: the authors.

clustered around items 4, 5, 6, and 7. In last place was item 9, an attitude of believing they are less prepared.

No significant differences emerge in the two subgroups of women for questions of facing life in freedom, with the exception of the question of adapting to work routines (*p-value* = 0.003). In general, these low percentages mean that the women adapt well to work routines, but the women with a higher education level from the second group show a higher percentage, more than double that of the first subgroup.

Note that the women with the lowest percentages had the greatest difficulty adapting to work routines and performing basic activities of everyday life. Those with the highest percentages were very optimistic, thought that everything would go very well and believed that they were capable of solving day-to-day problems (see **Table 11**).

Both groups evaluated their preparation for life in freedom as very good; 78.6% of the women rate this preparation as good or very good. The two things that the women indicate would help them to prepare for life in freedom were, first, "family support" (35.1%) and "having work" (26%), factors evaluated equally by both groups of women; and second, for the women who dropped out of school as minors, the choices "love of my family" (17.1%) and "having a job" (13.7%); and for the women who dropped out as adults, the choices "having a job" (13.6%) and "love of family" (11.7%).

The participants also evaluated the consequences that having been in prison would have for their lives. The items with the highest percentages of positive responses in women who dropped out of school as minors were related to situations not experienced in freedom; the sound of the bars (67.5%), the sound of the loudspeakers (66%) and the anxiety caused by gatherings (60.5%). Among the second subgroup of women, the most significant items were also related to the sounds of prison (67 and 67.9%, respectively) and the fear or shame of having been in prison (62.2%). All of these factors correspond to the psychological pressure that these women feel at having been in prison, and they are frightened when they face life outside prison.

DISCUSSION

By examining the results of the variables significantly related to dropout when one is a minor or an adult, we can establish

a risk-consequences relationship that enables us to understand the life trajectories of the women sentenced to prison from their childhood and youth until the time of the study (Figure 1).

We start by exploring the realities of prison. In addition to loss of freedom, these realities are shaped predominantly and in themselves by histories prior to the sentences, realities permeated by disadvantaged personal, social, economic, educational and other contexts (Añaños-Bedriñana, 2013). The rate of early dropout in the women studied is a very important indicator or factor (66.6%) relative to the general Spanish population: 14.0% in 2018, the year of the study (INE, 2018). We also see that minors have a lower level of primary education (no or incomplete education) in 29.6% of the cases, while 13.3% did not complete secondary education. Of the other group of adults, in contrast, 29.2% pursued and completed secondary study, vocational training or higher education. One's career record in the education system has historically been considered a fundamental indicator of the subsequent path of adolescents and young people (Nieto, 2011). These data confirm the force of its importance. A low or medium-level educational profile reveals the urgent need to strengthen adherence to basic education levels and to foster and protect the right to education in the prison environment (Añaños et al., 2019).

The results show, first, that *Roma culture* is one of the most prevalent traits in early dropout (4.88 times higher than non-Roma participants). Our sample contained 130 Roma women (42.2%). In this subgroup, 110 (85%) had left school as minors and only 20 (15%) had completed basic education. Belonging to this ethnic group coincides with minimal or no attendance of compulsory levels of education. Even outside prison, Roma show high percentages of absenteeism and early dropout – up to 96%. Only 17% of the Roma population over 16 has completed ESO or higher education levels (De la Rica et al., 2019).

If we also consider gender, we see that these Roma women suffer from fourfold discrimination stemming from their social condition, their ethnicity, having been in prison and being women (Pérez de la Fuente, 2008; Añaños-Bedriñana, 2012). At the public level, being a woman is perceived as an important agent of social change, but women in the private sphere are conceived as the weakest and most oppressed party in Roma society (Ayala Rubio, 2014). Cárdenas-Rodríguez et al. (2019) find that absenteeism has been eradicated in primary education but that female Roma students usually have a higher dropout rate in subsequent stages (around 15–16 years of age), since families view this as the age at which to get married, care for the family or household, and reduce likelihood of a future with low expectations for education. Spain's National Roma Integration Strategy 2012–2020 aims to strengthen completion of compulsory education among the Roma, especially women.

Although the Roma ethnic group has advanced significantly, it continues to be one of the sectors with the greatest difficulty participating in society (Laparra and García, 2011). Roma are Spain's main indigenous minority (Gamella, 2011), and they continue to experience processes of structural exclusion (Latorre-Arteaga et al., 2017). All of these factors influence various personal and social dimensions. No official data exist on the Roma ethnic group in the prison environment. Collecting such

data would be unconstitutional, as it exposes or makes visible a discriminatory conception of ethnicity (Article 14 of the Spanish Constitution). Based on the Map of Housing and Roma Community (Ministerio de Sanidad, Seguridad Social e Igualdad [MSSSI], 2012), we estimate a population of approximately 516,862 (Fundación Secretariado Gitano, 2016). When related to this study, in which Roma women represent 42.2% (130 women), this figure shows a disproportionately high presence of Roma women in the prison system. The Asociación Pro Derechos Humanos de Andalucía (2020) also indicates a high number of women of Roma ethnicity in prison in Spain, 25% in 2005.

Having a family member in prison (44.8%) is another risk factor (Nieto, 2011) in 56.7% of minors and 23.3% of adults. We infer that the environment surrounding the person, especially the young person, has a significant influence on disposition to commit crimes, and that close family members (siblings, parents) and partners are especially influential. The data are similar for *criminal record* (30.8%). Of the women who had committed formally reported crimes prior to the current sentence, 37.1% were from the first group and 18.4% from the second. Later we will detail how these situations relate to the consequences of dropout, resulting in 24% *recidivism* (31.7% in minors, 9.7% in adults).

Early dropout, not having a degree or failing in school have been defined in the literature as possible risk factors for crime (Aaltonen et al., 2011; Bäckman and Nilsson, 2011). Studies such as Sweeten et al. (2009) establish that individuals who have dropped out of secondary school are more likely to commit crimes (Deming, 2011). They also establish that quality of education can be a predictor of subsequent criminal behaviour. Anderson (2012) proposes that school can encourage one to occupy one's time and thus reduce opportunities to commit criminal acts, confirming the importance of the education process as a tool for preventing risk behaviour.

Another consequence is *young motherhood*, which is more frequent in women and girls who drop out of school (88.8 vs. 72.8%), as is having a larger number of children (2.98 vs. 2.16) and having independent children (40% of the women). The average age of the women studied (40 years old) suggests that they became mothers very young, a factor that may have influenced early dropout. Motherhood involves adaptation to a new situation that requires new strategies, as social condition is a significant determining factor (Mercer, 2004). Roma women are prepared for this process (Fernández Morate, 2000), since they are educated culturally to become mothers and wives (Márquez and Padua, 2009; Montañés Álvarez, 2011) at a very young age, but the difficulty of succeeding in the education system and socially grows significantly.

Dropping out of school plays a determining role in *conditions for entering the labour market* (Fortin et al., 2005; Eckert, 2006). First, the women have fewer skills and attitudes that are advantageous for re-entering job market, with differences between the two subpopulations (20–40 points) and higher levels of recidivism (3.26 greater than those who continued school until the age of 18). Second, being unemployed, having job insecurity or not having a work contract are intimately related to fragility of both the social and the educational support (Salvá, 2009) that

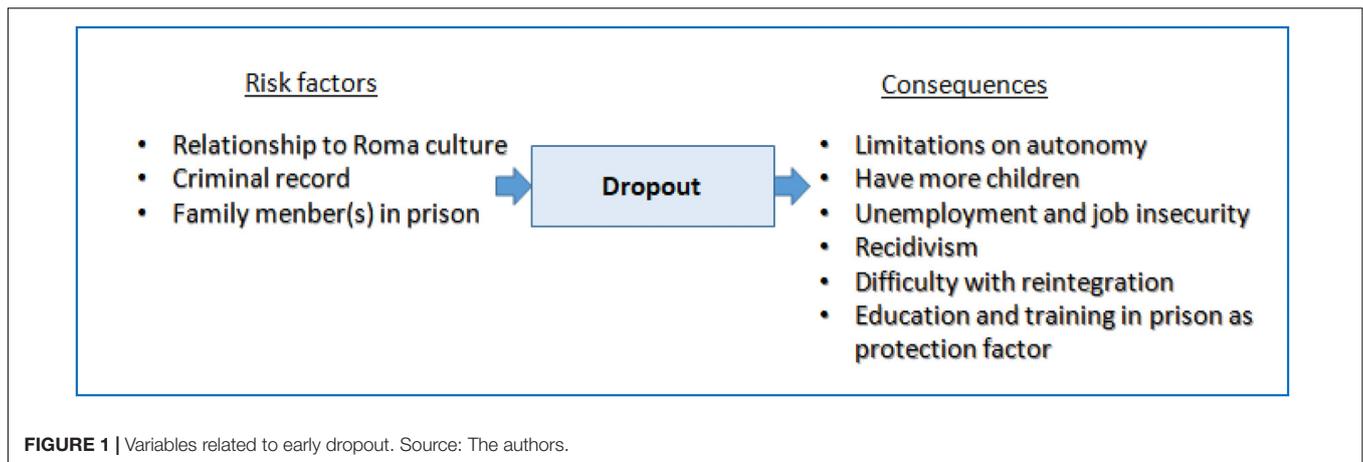


FIGURE 1 | Variables related to early dropout. Source: The authors.

motivate one to perform other kinds of activities as a means of subsistence. In the study, 37% of the total sample and 43.3% of those who dropped out as minors were unemployed before entering prison, and of the women who had jobs, 32.8% had no contracts. Of those who did have contracts, however, 76.6% belonged to the second group. Unemployment has currently grown to 60.4%. Only 3.9% of the women had jobs both before entering prison and at the time of the study, and of those working, only 10.1% had no contract. These data confirm a change in labour trends, but precarity, early disadvantages and/or exclusion can intensify these trends (Fortin et al., 2005; Añaños-Bedriñana, 2012, 2013; Esteban et al., 2014), adding the risk of crime and further increasing social stigma.

Socioeconomic level combined with a lower cultural level can thus result in low school performance (Ruiz, 2001; Vera et al., 2005). The reasons the women in the study mentioned for dropping out of school were fundamentally socioeconomic, explained by the minimal importance school had for them. School did not generate immediate wealth, whereas criminal activity yields greater income more quickly to help the family and to help them meet their expenses (Henríquez, 2017). We see that 70.2% of minors vs. 47.6% of adults earned a salary under 1000€ in the entire family unit, an income insufficient to support quality of life that satisfies all basic needs.

Once in prison, the women's *educational careers changed*. We find 57% who had received formal education. According to their self-perceptions, this education provided them with more entertainment, occupied their minds and helped them to recall learning received in the past. The positive side of this situation is that it signified an enriching use of time and provided emotional well-being (García-Vita and Melendro Estefanía, 2013; Monteserín and Galán Casado, 2013; Añaños-Bedriñana and García-Vita, 2017). This approach mitigates the perspective of the prison environment and its routines, which infantilizes and institutionalizes, since socio-educational intervention and daily activities can encourage association with autonomy and well-being (Goodstein et al., 1984; Gover et al., 2000; Liebling, 2004; García-Vita and Melendro Estefanía, 2013; Van der Laan and Eichelsheim, 2013). These effects in turn give inmates more structure to their lives in prison and positive interactions with prison personnel and fellow inmates, producing positive effects

once the legal punishment ends (Van der Laan and Eichelsheim, 2013). Education also provides quality of life during the inmates' lives together in the prison environment.

This line of argument illustrates the *difficulty of inclusion, development and exercise of autonomy*, as well as deprivation of freedom. First, those who drop out as minors have more limited skills and competencies to face searching for and performing a job (knowing how to adapt one's CV, performing an interview and especially handling ICTs – computers (55.6%), internet (46.4%) and mobile devices (23.9%). Second, at the personal level, difficulties arise in managing and facing freedom, difficulties related to solving everyday problems and planning for the future (46.4%), fear of uncertainty about what will happen (31.7%) and limitations in personal self-management (20%). We do not find differences in the two subgroups' insecurity in decision-making; family and other people intervene in their decisions, and they show greater dependence on other people and professionals, indicating difficulties not only with personal autonomy but also with relational autonomy and interaction of choices, skills and resources (Ennuyer, 2002; Le Coadic, 2006). Despite these data, 78.6% of the two subpopulations evaluated themselves very positively concerning their preparation for and facing of freedom, and the belief that life in freedom would go well (83.5%). These self-perceived strengths indicate their preparedness to start a job, take orders at work, respect schedules, assume responsibilities and work on a team. Such qualities show some beneficial effects to mitigate the destabilizing effect of the prison environment (Wormith, 1984; Zamble and Porporino, 1988; Zamble, 1992; Johnson and Dobrzanska, 2005).

We thus find somewhat contradictory perspectives on these women's realities and initial situations, and the expectations and circumstances they face in their current everyday lives. It is clear that the prison environment does not encourage a normalized lifestyle, that it affects – among other issues – decision-making and the free development of autonomy, since inmates are conditioned to the established routines and itineraries as part of life in prison (Johnson and Dobrzanska, 2005), as well as to multiple rules and controls for security and constraints on living together. In these conditions, the better one fits into or adapts to the prison culture, the less one develops autonomy (Goodstein, 1979).

The women studied evaluate the job training they obtained in prison positively. Of the women who had jobs at the time of the study, 68.4% had taken these courses, and this figure increases in the case of the women who dropped out of school as minors (78.9%). The main characteristics related to job status were whether the women had jobs at the time of the study, had jobs before entering prison, had taken vocational training courses in prison, had not been recidivists in crime and did not drop out of school as minors. Those who did not have jobs either belonged to Roma culture, had a recidivist profile or had family members in prison. These findings show that participation in such training programs has given the women more opportunities to find work after prison, even though they have a lower education level. We must clarify, however, that the jobs they find are low-skilled and precarious. Precarity can lead to job dissatisfaction (Roulstone and Warren, 2006), raising further interconnected personal, emotional and social problems.

Job training activity – whether delivered in treatment programmes (educational, job training or specific programmes) typically located in the school and/or sociocultural spaces or in the workplace itself – can be understood as a factor that encourages autonomy (Parrón, 2014) and helps the women to acquire strategies for a more normal life adapted to the context they will enter in freedom. Thus, education is a fundamental support enabling the person to achieve greater control of his/her life, both in prison to avoid or minimize behaviours such as prisonization (Goodstein, 1979) and outside prison (Johnson, 2002). To these factors, we must add the formation of values, networks, attitudes, competencies, projections, etc. that encourage social reintegration.

The evidence obtained indicates that dropout or failure occurs due to the influence of individual, social, economic and cultural factors that combine simultaneously (Rumberger and Lim, 2008; Espínola and Claro, 2010). In all cases, the exposure and vulnerability of individuals who cease their education as minors is greater than that of those who stay in school longer. Many of these women surely return or will return to their initial environments and the situations described above after their sentences, and these environments are risk factors if the women have not previously undertaken psychoeducational and social work for real social integration-reintegration and prevention of recidivism. Further, society labels these women, stigmatizes and excludes them (Migallón and Voria, 2007; Añaños-Bedriñana, 2012, 2013), influencing or limiting their development toward assuming a sense of belonging to the community (Western et al., 2015), of which they are still a part.

In sum, educational activity, combined with social support, mentoring and socio-job-related counselling (Laub and Sampson, 2001; Sampson and Laub, 1993; Petersilia, 2003), as well as various social and community resources, can encourage processes of successful transition, leading to reduction of vulnerabilities and improvement of individual and social opportunities (Caride and Gradaille, 2013). Actions taken from multiple professional perspectives in the prison environment, among which we stress socio-educational action, should thus be oriented to developing autonomy and empowerment,

recognizing these qualities as agents of change (Valderrama, 2013; Behan, 2014; Añaños-Bedriñana and García-Vita, 2017), and awakening social consciousness and responsibility (Rotman, 1986) so that inmates can decide for themselves and participate critically in society (Martín et al., 2013). These premises agree with other studies that show that engaging in such processes enables inmates to improve their personal condition while also giving meaning to the sentence imposed (Viedma, 2013; Vázquez Cano, 2013), making these processes a factor for preventing delinquency (Sweeten et al., 2009; Aaltonen et al., 2011; Bäckman and Nilsson, 2011; Deming, 2011). Such work is not easy. As mentioned at the start of this study, the very nature of prison as an institution and the impact of its subculture on inmates interferes with efforts to empower them for the free exercise of autonomy (Clemmer, 1958; Goodstein, 1979; Goffman, 1987).

The school, personal and social paths analysed significantly limit the trajectories of these women's lives and directly impact their autonomy and capability for participation as citizens in a demanding society in constant change. This situation calls on us to address the challenge of proposing educational, social, psychological and other types of processes that, combined with quality education suited to people's real situation, encourage these women to achieve factors that protect against and reduce or counter the risk factors. All of these conclusions directly imply greater autonomy for inclusion and social integration-reintegration under better conditions and opportunities, conditions that go beyond mere satisfaction of needs for material autonomy (work, housing, food, resources, follow-up support for the women's social reintegration, etc.). Further, these premises enable individuals to grow by developing themselves in a liberating process of emancipation as human beings, as individuals who create their own sustainable, autonomous path in life (Añaños-Bedriñana, 2013; Huber, 2016). And education can help them to fulfil this process.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité Ético de la SGIP and Consejería de Justicia de la Generalitat de Cataluña. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

FA: theoretical framework, discussion, and PI of the project. MG-V: theoretical framework, discussion, and interpretation of the results. DG-C: theoretical framework and discussion. RR-M: statistical analysis of the data and interpretation of the results.

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Financial Independence and Academic Achievement: Are There Key Factors of Transition to Adulthood for Young Higher Education Students in Colombia?

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Autonomy is conceptualized as the need for agency, self-actualization, and independence. Nowadays, financial independence and academic achievement for young populations may be considered as key aspects in the transition to adulthood in response to some contextual demands of different cultural environments. By means of a multi-level model, the present study aims to determine the influence and contribution of factors at individual level (e.g., sex, age, socioeconomic status, family financial support, awarded scholarships, personal finance, student loans) and school level (e.g., program quality, online programs, face to face programs) on the academic achievement of young higher education Colombian students. Data come from the scores of the national standardized academic achievement test administered in 2018 in Colombia. The sample included 234,386 students enrolled in 3,389 higher education institutions in Colombia. After controlling the effects of program quality, and the student's previous academic abilities and socio-economic conditions, results showed that students with scholarships had higher scores than financially dependent students (those who had student loans) and financially independent students (those who self-funded their studies or who worked during the week) who had low scores in the national standardized academic achievement test.

Keywords: psychological autonomy, self-determination, human agency, academic achievement, transition to adulthood, financial independency

INTRODUCTION

Moving on into adulthood implies to learn building a personal life project facing, progressively, the need for an increasing psychological and social independence. It requires learning to recognize the personal aims and the moral criteria and standards we will follow to achieve those aims, balancing the satisfaction of own needs against other people's needs and aims (Chirkov, 2011).

This process of moving from a childhood dependence status to one of adulthood independence is especially linked to the autonomy development understood as the capability of self-determination (Ryan and Deci, 2002), personal agency (Martin et al., 2010), and self-sufficiency (Shim et al., 2010).

Although there are cultural differences that may indicate different ways and times, the entrance into the labor market is generally used as a reference for the transition

to autonomy for youth (Bea and Yi, 2018). However, social changes have gradually enabled young people to access to university education and, as a consequence, the economic dependence has been prolonged, in such a way that some authors have proposed an intermediate developmental stage named emergent adulthood (Arnett, 2000).

But what happened to youngsters who must combine their university studies with work against those who continue being economically dependent during this stage? Will living this experience accelerate their autonomy, positively affecting variables such as academic performance, when assuming their studies with increased responsibility? Is it necessary and desirable to prolong adolescence dependence in emergent adulthood (Carlson, 2014) in terms of making optimal use of the university experience?

For that reason, it is important to carry out research that may explain the possible impact of financial independence and academic success in university students. Some researchers have examined this association (Canton and Blom, 2010; Melguizo et al., 2016). However, existing literature about this topic is limited (Canton and Blom, 2010).

Academic Performance and Autonomy: School and Students Factors

According to Yu and Levesque-Bristol (2018) and Yu and Levesque-Bristol (2020), autonomy has a greater impact on academic performance than other personal factors. Thus, its development has become one of the main aims of all education levels (Zimmerman, 2002; Toro, 2004).

There are educational scenarios that contribute to develop autonomy because they offer the students decision-making possibilities. Yu et al. (2018) state that students of social sciences and humanities tend to be more self-determined and autonomous when comparing to students of careers related to business. Thus, they highlight the importance of promoting more humanistic learning environments in certain academic disciplines.

Concerning the modality of academic programs, in all of them, students need regulate their learning process, but some research has found that educational environments offering high flexibility degrees, as it occurs in virtual programs, provide greater opportunities to make decisions independently (Sauerwein, 2017; Yuan and Kim, 2018; Bonem et al., 2019), and make learners assume regulatory behaviors to obtain an impact on their achievement and performance (Cazan, 2014; Roddy et al., 2017). This is reinforced by Mostrom and Blumberg (2012) and Ryan and Deci (2017), who claim that self-regulatory learning behavior is important in off-campus programs and is associated with higher academic performance when it is compared to more controlled environments, as face-to-face programs. However, in virtual and distance-learning modalities, it is necessary to have greater autonomy and responsibility for achieving learning objectives when assuming regulatory behaviors. On the other hand, according to Dziuban and Moskal (2011a; 2011b), what has been demonstrated is that modality is not an effective predictor of academic success, and that

the stronger predictor is the previous academic performance (Dziuban and Moskal, 2011a; Xiao, 2018; Paul and Jefferson, 2019; Torres and Parra, 2019).

According to Kirmizi (2013), in traditional distance-learning education, autonomy acquires more importance because students manage and lead their learning process; they are alone and far from their classmates and tutors, and without the technological mediation that facilitates the permanent interaction among the actors of the process, it could be favored learning process desertion. Thus, learners must have the necessary abilities to lead their learning process (Roddy et al., 2017). Gottardi (2015) considers that autonomy in distance education is developed during all the formation. In the research by Leaño and Jaramillo (2018), it could be appreciated that some students, in the most advanced levels, in this modality show typical abilities of autonomy in their process of formation.

Financial Independence as Key Element for the Development of Autonomy and Academic Performance for Emerging Adults

Some authors (McGoldrick et al., 2016; Watson and Barber, 2017) claim that becoming a fully functional autonomous adult requires the criterion of being economically independent. In this regard, grant aids may be considered as a key factor for promoting equality, diversity and financial well-being for emerging adults (Alon, 2007). Alon (2005, 2007) developed a conceptual framework to assess the impact of financial aid on academic outcomes taking into consideration the blending effect of aid eligibility and types of aid (i.e., grants, loans, work-study) after controlling key students' characteristics (i.e., race/ethnicity, sex, SAT scores, college grade-point average, need-based financial aid status, and date of graduation, parental education, and others). In terms of grants, the author highlights that it is important to distinguish between need-based vs. merit-based aid because of the individual characteristics of the recipients (Alon, 2005). Individual characteristics like race, ethnicity, and disadvantage in economic status may affect negatively academic outcomes (i.e., retention, graduation rates), especially for minority students like African-Americans and Hispanics living in disadvantaged conditions in the U.S. who tend to be more sensitive to the accessibility to grant aids (Alon, 2007).

A recent systematic review by Nguyen et al. (2019) concluded that grant financial aid has a positive effect on a number of postsecondary academic outcomes such as persistence and degree completion. Zhu et al. (2019) recognize these positive effects in the academic outcomes of University students from Texas, beneficiaries of the SCOPE grant program for STEM programs.

Regarding loans, Canton and Blom (2010) reported that Mexican college students who have access to financial aid, package (loans and scholarships) through the program "Society for the Promotion of Higher Education" (SOFES, for its acronym in Spanish), funded by the World Bank, increased the grade point average by 0.17 on a 10 point-scale, which is a 3% improvement. SOFES recipients reported higher academic performance than students without credit from SOFES. Melguizo et al. (2016)

examined the impact of the program “Access with Quality to Higher Education” (ACCESS for its acronym in Spanish) on academic outcomes in low-income college students in Colombia (i.e., enrollment rates, percentage of courses passed, dropout rates). Findings showed that access to ACCESS, which is the national-level subsidized loan program, increased the percentage of courses passed by the students at the margin by 3% points approximately. Overall, the ACCESS recipient increased by 4% points the proportion of courses passed. In the U.S., Denning (2017) examined the effect of financial aid for financially independent students on their graduation and college enrollment. Using a sample of students enrolled in US public universities, the author found that the students who receive financial aid are more likely to graduate in the year they turn 24 than those who do not receive loans. Finally, a recent study carried out by Graziosi et al. (2020) with a sample of Italian university students also showed a positive effect of receiving grant financial aid on the likelihood of graduating, achieving a higher number of credits, and avoiding dropout.

On the other hand, Bennett et al. (2015) reported that students in the U.S. who received loans may be worried about paying for their college debts. In fact, these groups of students showed 4.5% points lower in economic course grades than their counterparts. Fuse (2018) examined the effect of university debts on academic performance, which is low especially for students of low socioeconomic status. Besides, a greater amount of owned debts seems to be related to lower academic performance (Alon, 2007) in college students and greater distress (Shim et al., 2009; Fuse, 2018). Overall, these findings showed that financial stress negatively affected college students' academic performance (e.g., Rafidah et al., 2009; Bennett et al., 2015), especially minorities, women, and first generation of immigrants who have shown higher levels of financial stress and lower scores (Bennett et al., 2015).

When the family subsidizes the university studies, the student has the option of studying in his/her place of origin or going to another place. Family support is an important factor that can provide socioemotional support and economic support in college (Cheng et al., 2012; Cui et al., 2019); however, this postpones the financial independence of the emerging adult. Cheng et al. (2012) reported that college students' cumulative GPA scores were not predicted by the perceptions of family economic support; however, the interaction of family economic support and family support is a significant predictor of students' grade point average. Hamilton (2013) explained a negative relationship between family economic support and grades in a national representative sample. The author reported that when parental economic support increased, a student's grade point average decreases ($b = -2.233$, $p < 0.001$), especially women and older students from Hispanic nations who significantly showed lower grade point averages than their counterparts. This is contrary to the findings by Dahl and Lochner (2012) and Cui et al. (2019) that state that young adults from rich families have a better academic performance. On the other hand, Roksa and Kinsley (2019) reported that there was no significant association between family financial support and grade point average in a sample of low-income college students in the U.S. Overall, there is a

lack of inconsistent evidence about financial-economic support in college students (Cheng et al., 2012; Hamilton, 2013).

University students who migrate with financial family support show a significant tension between autonomy, considered from the self-sufficiency, and dependence, strengthening confidence and determination (Gamallo and Nuñez, 2013; Torcomian, 2016; Rangel et al., 2019). However, migration may generate negative effects on academic performance (Edwards and Baker, 2014; Muñoz Montes and Marín Catalán, 2018).

Another way of achieving financial independence is the tying of emergent adults to the labor market. In Western societies, the economic weight of financing university studies is supported by family rather than the State (Darmody and Smyth, 2008), and in poor countries, as the majority of Latin American countries and Colombia is not the exception, this economic weight is displaced to the student. The literature shows that the phenomenon of financial independence is more marked on young people coming from the poorest and more vulnerable sectors (Dovey et al., 2017). When the family cannot support the cost of university education, it is the student who assumes this cost. As it is claimed by Fuse (2018), university young people who work part-time or full-time, especially in Western societies, do it because of financial need. This situation makes them become financially independent and/or financially responsible for others; as Hardin (2008) states, this is identified as a risk factor for the academic performance of university students.

Results about the effects of working on university students are contradictory (Padgett and Grady, 2009). Carrillo and Ríos (2013) state that there is no difference between students who work and those who do not. In the same way, Arano and Parker (2008) claim that the difference will only happen if the number of hours is above the threshold. About this topic, Greenberger and Steinberg (1986) and Barling et al. (1995) place the threshold that balances the study, work, and other life activities, in 20 h, while Choy (2002) place it about 15–25 h per week. Beyond this threshold, negative effects may occur (Curtis and Williams, 2002). One of these affects the academic performance (Chinyakata et al., 2019; Vicencio and Banaag, 2019). Bradley (2006) refers to the affectation to students' physical, mental and emotional health caused by an increasing number of hours devoted to work.

About the effect on academic performance, Wenz and Yu (2010) state that this impact will depend on the reason the students have to decide to work. Wang et al. (2010) and Carrillo and Ríos (2013) assert that such an impact may be conditioned by other factors such as the quality or the kind of work carried out. About the former, Bradley states that the satisfactory quality of work generates positive effects on students' results. About the latter, Bradley (2006) and Cheng and Alcantara (2007) link these effects to the proximity or association of the type of work to the university career. In general, Dundes and Marx (2006) recognize the positive effects of work in university students. Fazio (2004) points out at the work positive incidence on the students when the working time is moderate, especially if the work is associated with a professional career.

Among the advantages the work may generate is recognizing the self-confidence (Bradley, 2006), specifically the leadership (Salisbury et al., 2012). At the same time, the leadership

is associated to the autonomy, which improves the general academic performance (Deng et al., 2020). Salisbury et al. (2012) state that the work may generate positive effects on autonomy development. They mention the benefits for the development of confidence and self-sufficiency when working during the studies. However, they assert that excessive work may limit students' participation in co-curricular activities and peer interaction.

Finally, the achievement of financial independence for college students may be determined by socio-cultural and/or economic conditions (Blakemore and Mills, 2014; Carlson, 2014; Vera, 2014; Apeltauer and Senyildiz, 2015; Arnett, 2015; Fuse, 2018), which affect academic performance (Alon, 2007; Canton and Blom, 2010).

According to the context described, the study aims to determine the influence and contribution of factors at individual level (e.g., sex, age, socioeconomic status, family financial support, awarded scholarships, personal finance, student loans, students who prepared themselves for national tests) and school level (e.g., online programs, face-to-face programs) on the academic achievement of young higher education Colombian students.

MATERIALS AND METHODS

Design and Measure

The study used a quantitative research approach with a correlational scope. It aims at discriminating adequately the effect of financial autonomy on Colombian university students' learning result. Characteristics of both subjects and academic programs were jointly analyzed because these two units of analysis belong to different levels of aggregation. Variables of 139,143 students who took the *ICFES SABER PRO* (Instituto Colombiano para la Evaluación de la Educación – ICFES, 2019) test in 2018 were analyzed. Complete information about them was available, as well as the possibility of having access to their academic background when they took the test *SABER 11* applied at the end of secondary school, about 2006–2014 (Level 1). This population was distributed in 3,389 university programs registered in the Information National System of Higher education (Level 2).

Following the Colombian legal norms, the State Examination for higher education, *SABER PRO*, is mandatory to obtain the title at the pre-graduate level. This text is oriented at proving the development degree of generic and specific competencies of students who have approved at least 75% of the academic credits of the program they are studying (Instituto Colombiano para la Evaluación de la Educación – ICFES, 2019).

According to this and considering that the use of linear regressions in hierarchical structures of variables may be inadequate¹ when the aim is to analyze two analysis units in conjunction (Murillo Torrecilla, 2008), in this study, multilevel or

linear hierarchical models were used. These models enable us to address variables in diverse levels of aggregation simultaneously, and they are well-recognized for their usefulness when the units of analysis are organized in hierarchical structures (Grilli and Rampichini, 2009; Mertens, 2014; Jongbloed and Lepori, 2015), as the case of academic institutions and programs. Essentially, multilevel models are a set of classical linear models for each level, where models of both levels are related in such a way that the coefficient of the first one is incorporated in the second level as explanatory variables.

Procedure

This study aims at determining if the performance in the assessed competencies in the State Examination *SABER PRO* is related to students' financial autonomy, once other relevant characteristics regarding the social and educational context, and conditions of the program in which they have studied, are considered. The information about these variables was obtained from the databases of the Colombian Institute for Evaluation of Education (ICFES, by its acronym in Spanish) collected during the application of State Examinations at the end of the secondary school (*SABER 11*) and the end of the professional training (*SABER PRO*). The variables used in the study are as follows:

Level 1-variables (students)

- SPRO: Average score of generic competencies assessed in *SABER PRO*: critical reading, quantitative reasoning, writing, citizen competencies, and English.
- INSE: Students' socio-economic level calculated from information about holding goods and services, collected in the inscription forms
- S11: Index of *Saber 11* results in the areas of the common nucleus, Language, Mathematics, Social Sciences, Natural Sciences, Philosophy, English
- AGE: Student age in years.
- SCH: The student finances their studies by a scholarship.
- LAN: The student finances their studies by a loan.
- OWN: The student finances their studies by own resources or income.
- WRK: Student's working time in the week.
- HOM: The student lives in a temporary home.
- HEA: The student is financially responsible for the home in which they live.
- CIT: The student lives in the city in which the program is offered.

Level 2-variables (Program)

- ACC: Certification of High Quality by the National Minister of Education
- MOD: Program modality or methodology (face-to-face, distance, or virtual education)

Because it is not possible to have a direct measure of the financial autonomy, the variables AGE, SCH, LAN, WRK, HOM, HEA, and CIT will be assumed as proxies of this phenomenon, while the variables INSE, S11, ACC, and MOD will enable us to

¹These models are supported on the assumption of independence of the observations, and as sharing the same context produces dependence of data which correspond to individuals, estimated standard errors of the traditional statistical test are underestimated, which will cause a significantly spurious result (Murillo Torrecilla, 2008).

control the important effects on the score that may derive from students and program characteristics.

Level 1 model gives an account of the estimation of SABER PRO global score of the student *i* in the program *j* considering their characteristics (*x*), their previous academic abilities (Saber 11), their socio-economic level, and the variables referent to financial autonomy. To predict students' overall Saber Pro scores, we were based on a vector of covariates that include student-related control variables (level 1): prior cognitive outcomes (S11), socioeconomic conditions (INSE), and program conditions (level 2): certification in quality (ACC) and methodology (MOD). By controlling the effect of these covariates, the incidence of the variables of interest, related to economic independence, in this case AGE, SCH, LAN, OWN, WRK, HOM, HEA, and CIT, will be estimated.

Data organization, as well as the descriptive analysis and the estimation of the models, was carried out by using the statistical packages Stata 15 and SPSS 25.

RESULTS

This section has been divided into two parts. Firstly, it shows the general behavior of the variables of interest related to the financial autonomy found in SABER PRO database. Secondly, it shows the results of multilevel model estimates, which report about the effect of some characteristics related to autonomy on the result of the measure of competencies at the end of the professional training.

Variables Related to Students' Financial Autonomy

Table 1 shows the distribution of assessed students according to each variable HOM, HEA, CIT, SCHO, LOAN, and OWN, as well as the average score for each case.

TABLE 1 | Profile of students' variables: HOM, HEA, CIT, SCHO, LOAN, and OWN.

Variable	Group	n	%	Mean SPRO	Mann-Whitney test asymp. sig. (2-tailed)
HOM	No	19,629	18.95	149.30	0.000
	Yes	83,934	81.05	150.84	
HEA	No	93,778	90.55	151.64	0.000
	Yes	9,785	9.45	140.10	
CIT	No	31,916	30.82	145.21	0.000
	Yes	71,647	69.18	152.92	
SCHO	No	86,153	83.44	149.96	0.000
	Yes	17,101	16.56	153.56	
LOAN	No	69,144	66.96	151.70	0.000
	Yes	34,112	33.04	148.23	
OWN	No	66,022	63.94	153.56	0.000
	Yes	37,234	36.06	145.22	

Source: Authors based on the data of Instituto Colombiano para la Evaluación de la Educación – ICFES (2019).

It can be observed that the students who do not live in the city in which the program is offered, who live in a temporary home, and those who are financially responsible for their family or home, had lower average scores (SPRO). Regarding financing, scholarship students represent 16.6% of the population; these students achieve an average score significantly higher than the rest of the population. On the other hand, students who resort to other sources to finance their studies, such as loans or own resources, have lower scores, even though considering these financing alternatives are not mutually exclusive. Besides, certain trends regarding students' age (AGE), and the working time during the week (WORK) can be identified, both variables being key in the transition from higher education to the productive life. Concerning age, a negative correlation with the global score ($r = -0.268, p = 0.000$) is observed, with significant decreases in the global score from 24 years (see Table 2).

Regarding working hours, two-thirds of students say they work full-time or part-time. About 40% of them worked 30 or more hours per week. As for the academic result, a negative trend is observed, with significant differences between those who do not work and those who do it. It is noteworthy that the differences among the scores tend to decrease between those working full-time and part-time (Table 3).

Estimate of Effects of Financial Autonomy on SABER PRO Results

Below are the results of the adjusted model that includes the variables of level 1 and 2, where the students' characteristics (INSE, SB11) are controlled. Regarding this, it is observed that the effect of students' previous academic antecedents is the variable that most affects the result: in the same way, their socio-economic conditions have a negative effect on Saber pro average.

TABLE 2 | Age range and SPRO average.

Age (years)	Mean	N	Std. deviation
<=19	160.33	54	25.407
20–21	156.85	18,490	22.661
22–24	155.59	34,137	24.005
25–26	146.97	36,201	22.370
27–28	141.39	11,612	21.278
29+	133.06	3,069	21.490

$N = 103,563; F = 1527,275; p\text{-value} = 0.000. \eta^2 = 0.262; \eta^2 \text{ Squared} = 0.069.$
Source: Authors.

TABLE 3 | Working hours per week and SPRO average.

Hours worked per week	Mean	N	Std. deviation
Not work	156.07	23,947	24.843
<10	150.11	12,909	25.409
11–20	149.32	18,814	23.805
21–30	148.41	15,608	22.828
+30	148.37	32,285	21.611

$N = 103,563; F = 447.422; p\text{-value} = 0.000. \eta^2 = 0.130; \eta^2 \text{ Squared} = 0.017.$
Source: Authors.

In summary, higher scores in Saber 11 (previous academic antecedent for entrance to university), as well as better socio-economic conditions, are related to higher scores in the test applied at the end of the professional training.

Regarding the characteristics of the programs, it is observed that better quality conditions (ACC) evaluated from the perspective of the country's quality assurance system lead to higher average scores in the test. As regards the type or modality, it is found that virtual programs have higher scores than traditional distance programs (between 2.45 and 4.3 points) and lower scores than face-to-face programs. However, the difference between virtual and face-to-face programs could not be conclusive considering the p -value and the confidence intervals link to the estimator of this variable (Table 4).

Once the effects of relevant characteristics of students and programs were controlled, each variable available in Saber Pro measurement related to financial autonomy was examined. Firstly, it was found the age (AGE): according to the model results, one year more of a student's age causes a decrease in the average score close to 1.4 points. As mentioned earlier, the decrease in scores is more pronounced 24 years when the differences between the average scores are statistically significant. On the other hand, a negative effect on the average score of those students who live in temporal homes (HOM) and/or those who study in a place different to their place of residence (CIT) was observed.

As regards financing mechanisms, results show that once the most relevant contextual variables are controlled, students who finance their education through a scholarship achieve higher scores in SABER PRO test by about 1 and 1.5 points. By contrast, the study found a negative effect on the global score in those students who finance their studies by own resources (OWN). About loans, although a possible negative effect (LOAN) is observed, the associate p -value estimator of this variable is higher than 0.05. Similarly, evidence of a negative effect of full-time or part-time work (WORK) on the average score was found.

DISCUSSION

The current study examined the association between the scores of national standardized learning tests and a set of variables associated with the dependence-independence finance in college students, starting from the supposition that independence, which is characteristic of a complete adulthood (Arnett, 2000), would promote students' greater autonomy that in turn would impact positively on their academic results.

However, in this research as in other previous ones (Bradley, 2006; Chinyakata et al., 2019; Vicencio and Banaag, 2019), findings show that those students with financial autonomy, who support their studies with own resources or working full-time or part-time, achieved lower scores in the State Examination than their granted peers (Hossler et al., 2009), regardless of the form of financial aid (need-based vs. merit-based aid).

Other studies have also found that students who have access to this type of financial aid increased their academic performance (Canton and Blom, 2010; Melguizo et al., 2016). For instance,

Canton and Blom (2010) reported that Mexican college students who are SOFES (loans and scholarships for Mexican Higher of Education funded by the World Bank) recipients increased their grade point average more than students without a credit from SOFES. In the Colombian context, Melguizo et al. (2016) showed that ACCESS program recipients (national-level subsidized loan program) increased the percentage of courses passed at the margin by 3% points approximately. It is important to highlight that these research studies conducted in Latin countries did not measure academic performance using the scores of national standardized learning tests, which might suggest that loans could influence academic performance in different ways depending on the selected outcome to operationalize the construct. Additionally, the current study did not examine the association between academic performance and each type of loan program like private loans and/or national-level subsidized loans, which also could address different findings.

Of course, it cannot be stated that the great autonomy, both economical and personal, of students who work is a variable that negatively affects the scores achieved in the examination at the end of their careers. It is likely to hypothesize that the influence weight of this variable is lower than the others (e.g., time devoted to study) that at the end act against their academic results (Rafidah et al., 2009; Bennett et al., 2015). For example, Bennett et al. (2015) reported that students in the U.S. who received loans may be worried about paying for their college debts. Unfortunately, the perception of financial worries is not a variable included in the national database; for this reason, it was not examined in the current model.

It seems that although the early entrance into the labor world could promote autonomy, it should come at its right time because to mix the academy with the work may fall away their possible positive effects. On the other hand, prolonging the dependency may have undesirable social consequences, for example, deficiency to act as a responsible citizen who makes social and political decisions independently. To balance the pros and cons, this greater transition time could and should be exploited as a crucial period for exercising the co-autonomy that eases the step from the dependence to the total autonomy.

Findings seem to be consistent with the hypothesis that the extent of studies until university level has conditioned the emerging of the intermediate stage of emergent adulthood (McGoldrick et al., 2016; Watson and Barber, 2017) that prolongs the adolescent dependency for the sake of achieving academic aims.

This hypothesis seems to be confirmed when analyzing another variable being that theoretically linked to a great autonomy; it was expected to have a positive effect on academic results: living outside the family nucleus while studying in the university. Nevertheless, as with economic independence, to study far from the family seems to negatively affect academic results.

It could be supposed that the absence of family emotional support could be the key factor causing this effect, but there are studies for Alnabhan et al. (2010) and against it (Hamilton, 2013). Muñoz Montes and Marín Catalán (2018) found that the students who migrate for studying have lower academic results

TABLE 4 | Estimate of the model.

Parameter	Estimate	Std. error	Standardized coefficients	df	t	p-value	95% Confidence interval	
							Lower bound	Upper bound
Intercept	178.965	0.857		12284.473	208.923	0.000	177.286	180.644
INSE	0.183	0.006	0.008	101075.116	30.730	0.000	0.171	0.194
SB11	19.004	0.076	0.805	102755.959	248.995	0.000	18.855	19.154
ACC (Yes)	0.615	0.128	0.026	92445.597	4.788	0.000	0.363	0.867
MOD (Campus)	1.096	0.443	0.051	90417.070	2.476	0.013	0.228	1.963
MOD (Distance)	-3.367	0.467	-0.142	93135.065	-7.206	0.000	-4.283	-2.451
MOD (Virtual)								
AGE	-1.435	0.022	-0.060	103210.555	-64.283	0.000	-1.478	-1.391
HOM (Temporary)	-1.379	0.122	-0.057	103216.223	-11.301	0.000	-1.618	-1.140
HEA (Yes)	-0.953	0.168	-0.040	103088.883	-5.683	0.000	-1.282	-0.624
CIT (Different)	-0.709	0.115	-0.029	102981.272	-6.178	0.000	-0.934	-0.484
SCHO (yes)	1.164	0.130	0.049	103226.560	8.970	0.000	0.910	1.418
LOAN (yes)	-0.295	0.106	-0.013	103090.693	-2.781	0.005	-0.502	-0.087
OWN (yes)	-0.206	0.110	-0.007	103206.366	-1.879	0.060	-0.421	0.009
WORK (yes)	-0.937	0.116	-0.038	103134.686	-8.072	0.000	-1.165	-0.710

$N = 103,342$; $ICC = 0.084$.

when they are compared to those who do not do it. But Edwards and Baker (2014) argued that Caribbean students that go out of their home to go to study in the United States are characterized by levels of self-determination and maturity, which positively impact their academic performance. These results are similar to those of Aguiar (2017) and Rangel et al. (2019).

Gamallo and Nuñez (2013) have found that their sample of university students valued the positive impact of migrating on their growing and autonomy development, but they also recognized that there continues to be a high dependence due to the need for family support.

Our hypothesis is that again the negative effect may be more associated with the time factor than to other variables. Torcomian (2016) also concluded that studying away from home implies an abrupt step from dependence to self-management, which supposes moving from adolescence to emergent adulthood in activities that go beyond the customary ones.

Another result was that age is a variable that seems to affect academic results because students older than 24 years achieved lower scores than their younger counterparts. Given that it was not possible to carry out a more detailed analysis of this relation, we can only hypothesize possible explanations for this finding. In this age group, it is likely that a great percentage of students with academic backwardness have diverse difficulties that at the end negatively affect their academic results. Besides, at this age, it is more probable that additional responsibilities such as parents' role appear and, at the time passing, the importance of test results starts to be relativized.

The autonomy commonly considered as a predictor variable of academic success in virtual programs against face-to-face ones (Mostrom and Blumberg, 2012; Cazan, 2014; Roddy et al., 2017; Ryan and Deci, 2017) is not overwhelming in this study. In our findings, there is no conclusive evidence that supports the

hypothesis that face-to-face programs have better results than their virtual counterparts. There are no educative models that are better than others. Everything depends on the quality criteria associated with each modality, in such a way that results and high performance in students' education in virtual modality may be associated with factors like motivation, self-efficiency, and persistence (Francis et al., 2019).

As a relevant element, findings suggest that the context variables with greater weight in the result are university students' academic antecedents as Dziuban and Moskal (2011a); Xiao (2018), Paul and Jefferson (2019), and Torres and Parra (2019) suggest, and the quality conditions of both institution and programs (Saavedra, 2009; Balapumi et al., 2016).

In general, there are at least two limitations to interpret results. The first one is related to the impossibility of stating that the increase of autonomy through self-management of different life aspects (studies, expenses, and so on) has a positive effect on the measure. The second limitation is that the test is not designed to collect directly these aspects – although it is defined as a competency test that informs, at least partially, about elements of know-how. However, it gives variables that allow recognizing valid patterns associated with its behavior in sound terms. Despite these limitations, the study is the first step to analyze certain types of autonomy concerning the results of the process of professional training in terms of learning. Future research might give light about the role of HEI about the strengthening of abilities, such as autonomy, which favor the healthy move to adulthood.

DATA AVAILABILITY STATEMENT

Publicly available datasets were analyzed in this study. This data can be found at the ICFES web page (www.icfes.gov.co and

ftp.icfes.gov.co). It is important to highlight that original data have been modified and transformed in order to guarantee the confidentiality of unit of analysis. ICFES authorizes the use, transformation, and analysis of the information contained in its official web page provided that the source is quoted as ftp.icfes.gov.co. The contact is the Colombian Institute for Education Assessment – ICFES – solicitudesinformacion@icfes.gov.co (www.icfes.gov.co).

ETHICS STATEMENT

Ethics approval was not required as data employed is extracted from a public repository. Similarly, according to numeral 7th of article 12 of Law 1324 of 2009, one of the functions of ICFES is to carry out research and studies about the assessment of education quality including both quantitative and qualitative aspects. In the same way, this regulation states that the great amount of data generated by these assessments constitutes a valuable input to carry out research about education quality that produces

knowledge about relevant aspects of the education agenda and may help in the design of public policies and scholar practices. As a consequence, ICFES authorizes the use, transformation, and analysis of the information contained in its official web page provided that the source is quoted as ftp.icfes.gov.co.

AUTHOR CONTRIBUTIONS

M-PB led the manuscript writing process, theoretical framework construction, and participated in data analysis and discussion. CR co-conceptualized the research study, participated in data analysis, and discussion. EE-B led the methodological approach, participated in theoretical framework construction, data analysis, and contributed to the writing process. JV led the data analysis, co-led methodological approach, discussion, and contributed to the writing process. JA co-conceptualized the research study, co-led the theoretical framework construction, and contributed to the writing process, data analysis, and discussion. All authors contributed to the article and approved the submitted version.

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Trends in Socioeconomic Inequalities in Norwegian Adolescents' Mental Health From 2014 to 2018: A Repeated Cross-Sectional Study

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Background: Adolescents' mental health, and its consistent relationship with their socioeconomic background, is a concern that should drive education, health, and employment policies. However, information about this relationship on a national scale is limited. We explore national overall trends and investigate possible socioeconomic disparities in adolescents' mental health, including psychological distress and symptoms of depression, anxiety, and loneliness in Norway during the period 2014–2018.

Methods: The present study builds on data retrieved from five waves of the national cross-sectional Ungdata survey (2014–2018). In total 136,525 upper secondary school students (52% girls) completed the questionnaire during the study period. Trends in socioeconomic inequalities were assessed using the Slope Index of Inequality (SII) and the Relative Index of Inequality (RII).

Results: The prevalence of students with moderate to high symptoms score and mean symptoms scores of psychological distress (in terms of symptoms of depression, anxiety, and loneliness) increased among girls and boys during 2014–2018, with girls showing higher rates. Our results suggest distinct, but stable, inequalities between socioeconomic groups, both in absolute and relative terms, among girls and boys during the study period.

Conclusion: Rising rates of adolescents' psychological distress, particularly among girls, may have long-term consequences for individuals involved and the society as a whole. Future studies should investigate the causes of these results. We did not find evidence of any change in inequalities in adolescents' mental health between socioeconomic groups, suggesting current strategies are not sufficiently addressing mental health inequalities in the adolescent population and therefore a significant need for research and public health efforts.

Keywords: trends, socioeconomic inequalities, adolescents, mental health, depression, anxiety, loneliness

INTRODUCTION

Young people growing up today are generally in good health and experience a high quality of life, especially in high-income Western countries like Norway. However, their health status at birth, risk, and resilience factors during childhood and adolescence and their future life chances are distributed and shaped according to the social gradient (Marmot, 2005; Marmot et al., 2008; Evans et al., 2012). Inequities in the socioeconomic status (SES) in which people are born, live, work, and age, driven by inequities in resources, money and power, result in inequities in health. And these inequities can also affect young people's opportunities for education, access to health care, leisure activities, occupation, and fulfillment (Marmot, 2005; Viner et al., 2012; Hjorth et al., 2016; Moscelli et al., 2018; Sallis et al., 2018). Patterns that systemically disfavor young people with lower SES are present within and between countries, municipalities, and neighborhoods (Inchley and Currie, 2013; Barbalat and Franck, 2020).

A World Health Organization report (Inchley and Currie, 2013) documenting persistent and increasing social inequalities in a wide range of self-reported health issues and health determinants also shows growing prevalence of non-communicable diseases (NCDs), including mental health problems in the young population. Deteriorating psychological health among children and adolescents in high-income countries has been widely documented (Kosidou et al., 2010; von Soest and Wichstrøm, 2014; Potrebny et al., 2019). Moreover, studies have suggested that national income inequality is related to physical health symptom loads, lower physical activity, higher body mass index, and higher mental health symptom loads (World Health Organization [WHO], 2008; Viner et al., 2012; Elgar et al., 2015). However, the relationship between mental health problems, educational attainment, and non-participation in work/education is complex (De Ridder et al., 2012, 2013). There is a strong and bidirectional association between mental health problems and secondary school dropout (De Ridder et al., 2013; Esch et al., 2014). Non-completion of secondary school is one of the major risk factors for permanent exclusion from the labor market (OECD, 2018a,b) and low education and adverse living conditions increase the risk for developing mental health problems (Elstad, 2008). Moreover, poor mental health influences the wider health and development of adolescents and is also associated with higher alcohol, tobacco, and illicit substances use, adolescent pregnancy, and anti-social behaviors. Together, these factors may result in a downward spiral, increasing socioeconomic inequalities in health during the life course (Haas, 2008; Allen et al., 2014; Kim and Radoias, 2019).

Mental health problems, covering a wide range of illnesses, from mild or moderate anxiety and depression disorders, drug and alcohol use disorders to more severe depression, bipolar disorders and schizophrenia, are one of the leading causes of disability in children and youth (OECD, 2018b). Children and adolescents from minority groups, such as cultural/ethnic minorities or children with disabilities, are particularly vulnerable to experiencing mental health problems and challenges with participation in work, education, and leisure activities (Ytterhus

et al., 2008; Viner et al., 2012; Allen et al., 2014). Several mental illnesses are more common in teenage girls and women, such as anxiety, depression, and bipolar disorders (Albert, 2015; Riecher-Rössler, 2017; Yu, 2018), while drug and alcohol use disorders are overrepresented in the male population (Foster et al., 2015).

Mental health problems account for a quarter of all years lived with disability globally (World Health Organization [WHO], 2008; Viner et al., 2012). In 2016 more than one in six (17.3%) people living in European countries suffered from a mental health problem, and the prevalence was even higher in Norway, at 18.5% (OECD, 2018b). In Norway, the prevalence of mental health complaints is increasing, especially among young people and marginalized groups (OECD, 2018b; Potrebny et al., 2019). A study by Bøe et al. (2012), of a Norwegian sample of children found that low family income predicted mental health problems. This is supported by a recent study by Zhou et al. (2018) who found that family SES had a significant impact on depressive symptoms. Moreover, national surveys of adolescents' health in Norway show a particularly worrying trend in which girls in upper secondary school showed a sharp increase in the incidence of a high level of psychological distress, from 25.7% in 2011 to 29.3% in 2017 (Bakken, 2018). During the same time period rates of mental disorder diagnosis in girls 15–17 years climbed from 5 to 7% per year (Norwegian Institute of Public Health, 2017). Mental health problems, especially depression, have been identified as the largest cause of disability among young people in all regions in Norway (Brage and Thune, 2015). During the transition from adolescence to young adulthood, loneliness, defined as a subjective feeling of distress arising when social connections are perceived to be inadequate or unfulfilling (Matthews et al., 2016), has been identified as a specifically strong and prevalent risk factor for depression (Cacioppo et al., 2006; Qualter et al., 2010; Matthews et al., 2016). Although the prevalence of loneliness varies with age, mainly due to the fact that an individual's social needs will shift over the course of life, its association with depression remains stable during the life course (Cacioppo et al., 2010). Children and adolescents who experience loneliness are often also at risk for anxiety and suicidality (Gallagher et al., 2014; Junker et al., 2017).

Several theories address how SES affects children's cognitive and socioemotional development, and a general difference between them is whether they are based on social determinants (i.e., that socioeconomic conditions affect health) or social selection (i.e., that health affects SES) (Adler and Ostrove, 1999). However, these two perspectives are not mutually exclusive and affect each other within given social contexts and across generations (Conger et al., 2010; Reiss, 2013). The complex interplay between social determinants and social selection is, for example, well-described in the life course perspective, a framework considered important for understanding the development of mental health (Fryers and Brugha, 2013). A number of studies suggest that, in addition to biologic aspects, the most important mediating variables between SES and young people's mental health are related to their parents and the family environment (Conger et al., 1995, 2010; Costello et al., 2003; Masarik and Conger, 2017; Akee et al., 2018). Two dominant perspectives for understanding the role of parents

in this complex relationship are the family process model (Conger et al., 1994) and the family investment perspective (Haveman and Wolfe, 1995), which, respectively, highlight the impact of the family's affective and structural components in children's cognitive and socio-emotional development. Reviews of studies applying the family process model, or the family stress model (Conger et al., 2010; Masarik and Conger, 2017) display substantial empirical support for the family stress pathways and show that the model has been expanded upon and strengthened. Advancements have, for instance, articulated more fully accounts of family stress processes and included feedback loops from parents' relationship dynamics, adult psychological functioning, and economic problems (Masarik and Conger, 2017). As a result, the model provides a more complete understanding of how economic stress influences child development across many domains through a variety of mechanisms. The family process model and the family investment perspective both assume that SES plays a major role when it comes to family functioning and the lives of family members (Conger et al., 2010). Although the family environment is considered most crucial for children's and youth's development, it is reasonable to assume that more distal surroundings such as their neighborhood and school peers also strongly influence adolescents. For example, according to the relative deprivation theory (Adjaye-Gbewonyo and Kawachi, 2012; Mishra and Carleton, 2015), how disadvantaged adolescents perceive their situation relative to others is crucial to its effect on their psychological health.

Health and health behavior correlate strongly from adolescence to adulthood and thus such disparities appear to persist throughout the life course (Marmot et al., 2008). Evidence indicates that about half of all lifetime mental health problems start by mid-teens (Kessler et al., 2007). Given that adolescence is a critical stage of the life-course when patterns that determine current and future health outcomes are established (Fletcher and Sarkar, 2013), examination of the mental wellbeing and health in this population-group is vital. Moreover, analyzing trends in the populations' health and health inequalities is a prerequisite for examining whether interventions and policy have been successful in addressing them. The aim of the present study is to explore national trends and detect possible socioeconomic inequalities in psychological distress, depressive and anxiety symptoms, and loneliness among adolescents in Norway during the period 2014–2018 and whether patterns differ by gender. We hypothesized, first, that average mental health worsened. Second, that girls' mental health would worsen more than boys' mental health. Third, and finally that inequalities according to socioeconomic position would widen over time. Findings, by illuminating adolescents' mental health conditions in relation to their socioeconomic background, should drive changes in education, health, and employment policies.

MATERIALS AND METHODS

Study Design and Participants

This study uses data collected in five waves (2014–2018) of the cross-sectional Ungdata survey (Bakken, 2016, 2018). Ungdata is

a quality assured and standardized system designed to conduct local surveys among adolescents attending lower and upper secondary school in Norway (Frøyland, 2017). The survey is conducted by the Norwegian Social Research institute (NOVA) in cooperation with regional centers for drug rehabilitation (KoRus) and is financed by the Norwegian Directorate of Health. The school administrators in all Norwegian municipalities may order the survey free of charge. The students' participation is voluntary and informed consent was obtained from the students, as well as from parents if the student was under 16 years of age. The Ungdata survey covers different aspects of young people's lives – including school issues, leisure time activities, relationships with parents and friends, local environment, and physical and mental health – and is thus an important source of information on adolescents' health and well-being, both at municipal and national levels. A detailed description of the content and theoretical framework of the Ungdata survey is available elsewhere (Frøyland, 2017).

In this study we included all students in upper secondary school who completed the Ungdata survey in the period 2014–2018. The response rate of the surveys varies between different surveys, schools, and school year. The overall response rate among upper secondary school students was 66 per cent across the surveys conducted in 2014–2016 (Bakken, 2016) and 69 per cent across the surveys in 2016–2018 (Bakken, 2018). In total, 144,239 students completed the Ungdata survey in the period 2014–2018. We excluded individuals with missing information on gender ($n = 6,072$), school year ($n = 955$) and family affluence ($n = 687$). The final data set contained 136,525 individuals (52% girls) who completed the Ungdata survey in 2014 ($n = 13,345$), 2015 ($n = 25,569$), 2016 ($n = 22,752$), 2017 ($n = 37,208$), and 2018 ($n = 17,911$). The sample was further reduced in the parametric estimations because of the individuals missing information on total mean scores of psychological distress ($n = 10,136$), symptoms of depression ($n = 9,079$), symptoms of anxiety ($n = 10,083$) and loneliness ($n = 9,490$).

Measures

Family Affluence as a Proxy of Socioeconomic Status

We measured family SES using four items of the Family affluence scale II of material assets or common indicators of wealth (Currie et al., 1997, 2008). The four items were as follows: “Does your family have a car?” “Do you have your own bedroom?” “How many times have you traveled somewhere on holiday with your family over the past year?” and “How many computers or tablet computers does your family have?” This scale has been validated along with several other measures of adolescents' SES. Compared to measures of SES where adolescents report their parents' occupation, educational attainment or household income, this scale has been found to have better criterion validity and less susceptibility to non-response bias (Torsheim et al., 2004).

Since 2014 the Ungdata survey also includes other measures of adolescents' SES, such as parental education levels, number of books in the home, and a subjective assessment of the family's financial situation. In this study, we used a collective socioeconomic measure based on the questions about parents'

education level, the number of books in the home and the questions from FAS II, developed by Bakken et al. (2016) to reflect families' affluence level. A mean sum score, ranging from 0 to 3, was calculated and then split into five family affluence groups of equal size (cut-off at the 20th, 40th, 60th, and 80th percentile, with the wealthiest representing the lowest group).

Psychological Distress, Symptoms of Depression, and Anxiety

Psychological distress was measured using the 10-item Hopkins Symptom Checklist, consisting of two subscales: a depression dimension (six items that constitute the "Depressive Mood Inventory"), an anxiety dimension (4-items, $\alpha = 0.82$) and in addition to a total mean score (10-items, $\alpha = 0.93$) (Derogatis et al., 1974; Strand et al., 2003).

The adolescents were asked if they had experienced each of the following symptoms during the preceding week: "Felt that everything is a struggle," "Had sleep problems," "Felt unhappy, sad or depressed," "Felt hopelessness about the future," "Felt stiff or tense," "Worried too much about things," "Suddenly felt scared for no reason," "Felt constant fear or anxiety," "Been nervous or felt uneasy," and "Felt worthless." Each item/symptom was answered on a four-point scale ranging from "Not at all" (1) to "Very much" (4).

Separate measures for depressive and anxiety symptoms were constructed by adding up the scores (1–4) on all the items covering each dimension (10 items in total; 6 items for depression and 4 for anxiety) and dividing it by the number of completed items, given response to at least half of the statements for each scale. This resulted in two mean symptom scale scores, one for depression and one for anxiety, each ranging from 1 to 4. A total mean score "Psychological distress" was constructed by combining the depression and anxiety symptom scores. In addition to the mean score, a validated cutoff score of ≥ 1.85 was used for identifying adolescents reporting moderate to high symptom load related to overall psychological distress, depression, and anxiety symptoms (Strand et al., 2003).

Loneliness

The prevalence of loneliness in the adolescent population is increasing (Madsen et al., 2019) and several studies report associations with other psychological measures, in particular depressive symptoms (Cacioppo et al., 2010). Symptoms of loneliness was measured by asking the adolescents to rate, on a four-point scale ranging from "Not at all" (1) to "Very much" (4), whether they had "Felt lonely" during the last week. In addition, we constructed a dichotomous variable identifying adolescents who reported that they had felt lonely "very much" during the last week.

Statistical Methods

Mean average symptoms scores in all mental health domains – psychological distress, depressive and anxiety symptoms and loneliness – was calculated for each gender and adjusted for the respondent's school year and whether the respondent lives in Oslo. In addition, we calculated gender-specific prevalence

of adolescents reporting moderate to high symptom loads for each of the indices.

We calculated the Relative Index of Inequality (RII) and Slope Index of Inequality (SII) in order to measure the magnitude of relative and absolute socioeconomic inequalities in the four mental health outcomes. Mackenbach and Kunst (1997) recommends using RII and SII when making comparisons across population groups or over time. Rather than comparing the two most extreme groups, these two regression-based indices take into account the entire socioeconomic distribution of the population. In this study, family affluence (proxy for SES) was transformed into a weighted summary measure scaled from 0 (highest level of affluence) to one (lowest level of affluence), to reflect the proportion of the sample represented at each affluence level. Finally, a modified ridit-score based on the midpoint of the range in the cumulative distribution of the population at a given wealth level was assigned to the population at each affluence level.

In line with recommendations in the literature (Barros and Hirakata, 2003; Spiegelman and Hertzmark, 2005), we used generalized linear models with a logarithmic link function to calculate RIIs (rate ratios) and with an identity link function to calculate SIIs (rate differences). Both SIIs and RIIs were estimated with 95% confidence intervals. We examined trends in RII and SII over time by including a two-way interaction term between the ridit-score and survey cycle (coded 1, 2, 3, 4, or 5) for each of the mental health outcomes. A statistically significant coefficient for the interaction term would indicate an upward or downward trend in the SII or RII. P -values < 0.05 (two tailed) were considered significant. All analyses were stratified by gender. In addition, supplementary analyses exploring potential gender differences for SIIs and RIIs were performed and are presented in **Supplementary Table S1**. Gender differences in RII and SII at each survey were specified by the inclusion of a two-way interaction term between the ridit-score and gender in each survey. Data management and statistical analyses was carried out using STATA version 13.

RESULTS

Sample Characteristics

Descriptive statistics are shown in **Table 1**. Mean family affluence was stable (1.87–1.99) during the study period. More first-year secondary school students (47.4%) completed the questionnaire than second- (32.8%) and third-year students (19.8%). Respondents from Oslo, the capital of Norway, were included in 2015 and 2018. **Table 2** shows that mean psychological distress, depressive, and anxiety symptoms as well as loneliness increased among girls and boys in all family affluence groups (not shown in table) during the study period. The prevalence of secondary school students with high symptom loads in all four mental health domains showed similar patterns.

Psychological Distress

As shown in **Table 2** and summarized in **Figures 1, 2**, average scores of adolescents' psychological distress increased both among girls (2.04–2.20, $p < 0.001$) and boys (1.58–1.73,

TABLE 1 | Unadjusted sample characteristics ($n = 136,525$) by survey year.

	2014 ($n = 14,518$)	2015 ($n = 27,990$)	2016 ($n = 24,495$)	2017 ($n = 39,482$)	2018 ($n = 30,040$)
Gender					
Boys	7,301 (50.3)	13,894 (49.6)	12,245 (50.0)	19,608 (49.7)	14,715 (49.0)
Girls	7,217 (49.7)	14,096 (50.4)	12,250 (50.0)	19,874 (50.3)	15,325 (51.0)
School year					
First year	6,629 (45.7)	13,026 (46.5)	14,152 (57.8)	18,389 (46.6)	12,189 (40.6)
Second year	4,62 (31.8)	8,909 (31.8)	8,302 (33.9)	12,746 (32.3)	10,234 (34.1)
Third year	3,269 (22.5)	6,055 (21.6)	2,041 (8.3)	8,347 (21.1)	7,617 (25.4)
Living in Oslo	0	10,482 (37.5)	0	0	10,768 (35.9)
% high mental health loads*					
Psychological symptoms ^a	5,388 (40.4)	11,062 (43.7)	9,932 (43.7)	18,559 (49.9)	14,462 (52.5)
Depressive symptoms ^b	6,976 (51.8)	14,167 (54.9)	12,522 (54.7)	21,834 (58.3)	16,761 (60.3)
Anxiety symptoms ^c	2,556 (19.1)	5,915 (23.0)	5,278 (23.2)	9,979 (26.9)	8,152 (29.7)
Loneliness ^d	1,222 (9.1)	2,405 (9.4)	2,415 (10.6)	4,031 (10.8)	3,353 (12.1)
Mean affluence	1.98 (0.61)	1.87 (0.65)	1.92 (0.57)	1.99 (0.59)	1.94 (0.64)
Mean psychological distress*					
Psychological symptoms ^a	1.82 (0.66)	1.87 (0.69)	1.88 (0.71)	1.94 (0.66)	1.98 (0.68)
Depressive symptoms ^b	2.07 (0.78)	2.11 (0.79)	2.12 (0.80)	2.18 (0.80)	2.23 (0.82)
Anxiety symptoms ^c	1.45 (0.63)	1.51 (0.67)	1.53 (0.69)	1.58 (0.58)	1.61 (0.61)
Loneliness ^d	1.81 (0.98)	1.84 (0.99)	1.88 (1.01)	1.91 (1.01)	1.95 (1.03)

Data are n (%) or mean (SD) *sample size is reduced. ^a $n = 126,389$. ^b $n = 127,446$. ^c $n = 126,442$. ^d $n = 127,035$.

$p < 0.001$) in the study period. Prevalence of adolescents with moderate to high symptom load also showed similar patterns (55–66%, $p < 0.001$ vs. 25–37%, $p < 0.001$ for girls and boys respectively). These trends were also significant after adjusting for family affluence, schoolyear, and whether respondent lives in Oslo.

Inequalities in mental health between affluence groups were observed in all five waves of the survey in both girls and boys (Tables 2, 3). While the overall absolute inequalities were stronger among boys than girls in 2018 ($p = 0.005$), the relative inequalities were stronger among girls in 2014 ($p = 0.032$), 2015 ($p < 0.001$), 2016 ($p = 0.004$), and 2018 ($p < 0.001$) (Supplementary Table S1).

For girls, results suggest stable absolute ($p = 0.268$) and relative ($p = 0.793$) inequalities over the study period. Similar patterns were also observed in boys. Although the test for the linear trend in absolute and relative inequalities in psychological distress was not statistically significant in boys, SII increased from 0.06 (0.02–0.10) in 2014 to 0.11 (0.0–0.14) in 2018 and RII increased from 1.27 (1.10–1.47) in 2014 to 1.33 (1.23–1.44) in 2018.

Depressive Symptoms

Mean depressive symptom scores increased during the study period in both girls (2.32–2.47, $p < 0.001$) and boys (1.80–1.95, $p < 0.001$). Prevalence of high depressive symptoms loads also increased in both genders (girls: 65–73%, $p < 0.001$ vs. boys: 38–46%, $p < 0.001$).

All surveys showed affluence inequalities among girls and boys (Tables 2, 3). Supplementary Table S1 shows that while absolute inequalities were stronger in boys than girls in 2014 ($p = 0.022$) and 2018 ($p = 0.008$), the relative inequalities were stronger in

girls in 2014 ($p = 0.002$), 2015 ($p = 0.006$), 2016 ($p = 0.002$), and 2018 ($p < 0.001$).

Relative and absolute inequalities were stable over time in both genders. In girls, SIIs (0.01–0.03, $p = 0.055$) and RII (1.02–1.05, $p = 0.119$) slightly increased. However, the overall test for trend was not statistically significant in either RII or SII.

Anxiety Symptoms

Anxiety symptom scores increased from 2014 to 2018 in both genders (girls; 1.64–1.79, $p < 0.001$ vs. boys; 1.25–1.42, $p < 0.001$). Similarly, prevalence of adolescents with high anxiety symptoms scores increased from 29 to 42% ($p < 0.001$) in girls and from 9 to 17% ($p < 0.001$) among boys.

Inequalities between affluence groups were evident in both genders. Supplementary analysis suggests that the overall absolute inequalities were stronger in girls than boys in 2016 and 2017. Similarly, the relative inequalities were larger in girls in 2015 ($p < 0.001$) and 2018 ($p < 0.001$).

In girls, results suggest stable relative and absolute inequalities. Among boys, the absolute inequalities slightly increased. In 2014, the most and least affluent family group differed by 0.04 in the proportion with high anxiety symptoms; by 2018 this difference had increased to 0.08 ($p = 0.044$). RII was stable during the same time period.

Loneliness

Average symptoms of loneliness increased from 2014 to 2018 both among girls (2.03–2.14, $p < 0.001$) and boys (1.59–1.75, $p < 0.001$). The prevalence of high loneliness symptoms among boys increased from 5 to 9% ($p < 0.001$) and from 13 to 15%

TABLE 2 | Average psychological distress, prevalence's of high symptom load, absolute and relative inequalities in mental health* among girls between 2014 and 2018 (five cycles) in the Ungdata survey.

	Psychological distress (<i>n</i> = 65,304)	Depressive symptoms (<i>n</i> = 65,820)	Anxiety symptoms (<i>n</i> = 65,310)	Loneliness (<i>n</i> = 65,625)
Average mental health				
2014	2.04 (2.0–2.06)	2.32 (2.30–2.33)	1.64 (1.62–1.65)	2.03 (2.00–2.05)
2015	2.10 (2.09–2.11)	2.37 (2.35–2.38)	1.71 (1.70–1.72)	2.06 (2.04–2.08)
2016	2.15 (2.13–2.16)	2.41 (2.40–2.43)	1.75 (1.74–1.76)	2.11 (2.09–2.12)
2017	2.17 (2.16–2.18)	2.45 (2.44–2.46)	1.75 (1.74–1.76)	2.12 (2.10–2.13)
2018	2.20 (2.19–2.21)	2.47 (2.46–2.48)	1.79 (1.78–1.80)	2.14 (2.12–2.16)
<i>p</i> -value for trend	<i>p</i> < 0.001	<i>p</i> < 0.001	<i>p</i> < 0.001	<i>p</i> < 0.001
Prevalence high symptom loads				
2014	0.55 (0.53–0.56)	0.65 (0.64–0.66)	0.29 (0.28–0.30)	0.13 (0.12–0.13)
2015	0.58 (0.57–0.59)	0.68 (0.68–0.69)	0.34 (0.33–0.35)	0.13 (0.13–0.14)
2016	0.60 (0.59–0.61)	0.70 (0.69–0.71)	0.35 (0.34–0.36)	0.15 (0.14–0.15)
2017	0.65 (0.65–0.66)	0.72 (0.72–0.73)	0.39 (0.38–0.40)	0.14 (0.14–0.15)
2018	0.66 (0.65–0.67)	0.73 (0.72–0.73)	0.42 (0.41–0.42)	0.15 (0.15–0.16)
<i>p</i> -value for trend	<i>p</i> < 0.001	<i>p</i> < 0.001	<i>p</i> < 0.001	<i>p</i> < 0.001
Slope index of inequality^a				
2014	0.03 (–0.01 to 0.07)	0.01 (–0.02 to 0.05)	0.08 (0.04–0.12)	0.09 (0.06–0.12)
2015	0.05 (0.02–0.08)	0.03 (0.00–0.06)	0.08 (0.06–0.11)	0.09 (0.07–0.11)
2016	0.08 (0.04–0.11)	0.04 (0.00–0.07)	0.08 (0.05–0.11)	0.08 (0.06–0.11)
2017	0.10 (0.08–0.12)	0.09 (0.07–0.11)	0.13 (0.10–0.15)	0.10 (0.08–0.12)
2018	0.04 (0.01–0.07)	0.03 (0.01–0.06)	0.08 (0.05–0.11)	0.09 (0.07–0.11)
<i>p</i> -value for trend	<i>p</i> = 0.268	<i>p</i> = 0.055	<i>p</i> = 0.240	<i>p</i> = 0.610
Relative index of inequality^b				
2014	1.06 (0.98–1.14)	1.02 (0.96–1.09)	1.34 (1.17–1.52)	2.06 (1.65–2.57)
2015	1.09 (1.04–1.14)	1.04 (1.00–1.08)	1.26 (1.16–1.37)	2.08 (1.78–2.43)
2016	1.14 (1.08–1.20)	1.05 (1.01–1.10)	1.27 (1.16–1.39)	1.77 (1.50–2.08)
2017	1.16 (1.12–1.21)	1.13 (1.09–1.16)	1.39 (1.31–1.48)	2.06 (1.82–2.33)
2018	1.06 (1.02–1.11)	1.05 (1.01–1.08)	1.21 (1.13–1.29)	1.84 (1.61–2.10)
<i>p</i> -value for trend	<i>p</i> = 0.793	<i>p</i> = 0.119	<i>p</i> = 0.535	<i>p</i> = 0.513

Data are regression-based predicted mean (95% CI) *adjusted for differences in respondents' school year and whether respondent lives in Oslo. ^aRepresents the risk difference for poor mental health between the least and most affluent family. ^bRepresents the odds ratio for poor mental health between the lowest and the highest ranked family.

(*p* < 0.001) among girls. Thus, high loneliness is more prevalent among girls but growing much more quickly among males.

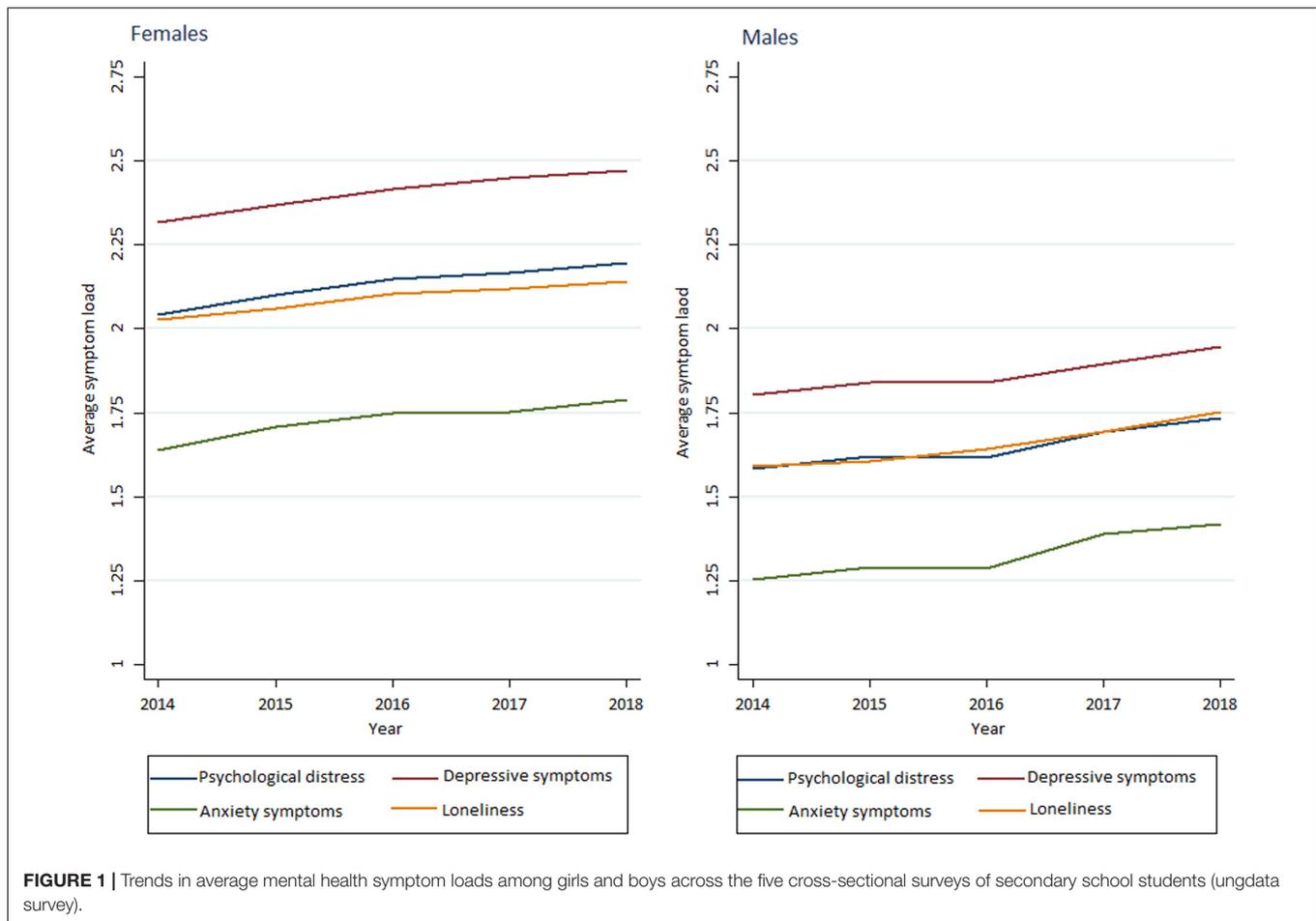
Absolute and relative inequalities were evident in both genders. Absolute inequalities were stronger among girls than boys in 2015 (*p* < 0.001), 2017 (*p* < 0.001), and 2018 (*p* = 0.004). Similarly, in 2014 (*p* = 0.051), 2015 (*p* = 0.040), and 2016 (*p* = 0.020) the RIIs was stronger in girls compared with boys (**Supplementary Table S1**).

In girls, results suggest stable absolute inequalities (*p* = 0.940), while relative inequalities were narrowing (3.14–1.93, *p* = 0.002) over the study period. Both absolute and relative inequalities were stable over time among girls.

DISCUSSION

The findings of this national representative study of five repeated cross-sectional surveys during the period 2014–2018 are consistent with our first hypothesis and with previous findings

showing that psychological distress (in terms of symptoms of depression, anxiety, and loneliness) among adolescents are increasing over time (von Soest and Wichström, 2014; OECD, 2018b; Potrebny et al., 2019). As expected, and in line with previous findings (Albert, 2015; Riecher-Rössler, 2017; Keyes et al., 2019), we found higher symptom scores and prevalence's of moderate to high symptom loads among girls than boys, and thus compatible with our second hypothesis. Inequalities between socioeconomic groups were clearly evident in both boys and girls, with higher symptom load/distress with decreasing SES levels. In girls, absolute and relative affluence inequalities were stable in all mental health outcomes during the study period. Similarly, in boys, absolute and relative inequalities of psychological distress and depressive symptoms were stable. As a consequence, we found no support for our third hypothesis of widening inequalities according to SES. However, in boys, our results suggest widening absolute inequalities in symptoms of anxiety over successive surveys. Further, while the absolute inequalities in loneliness was



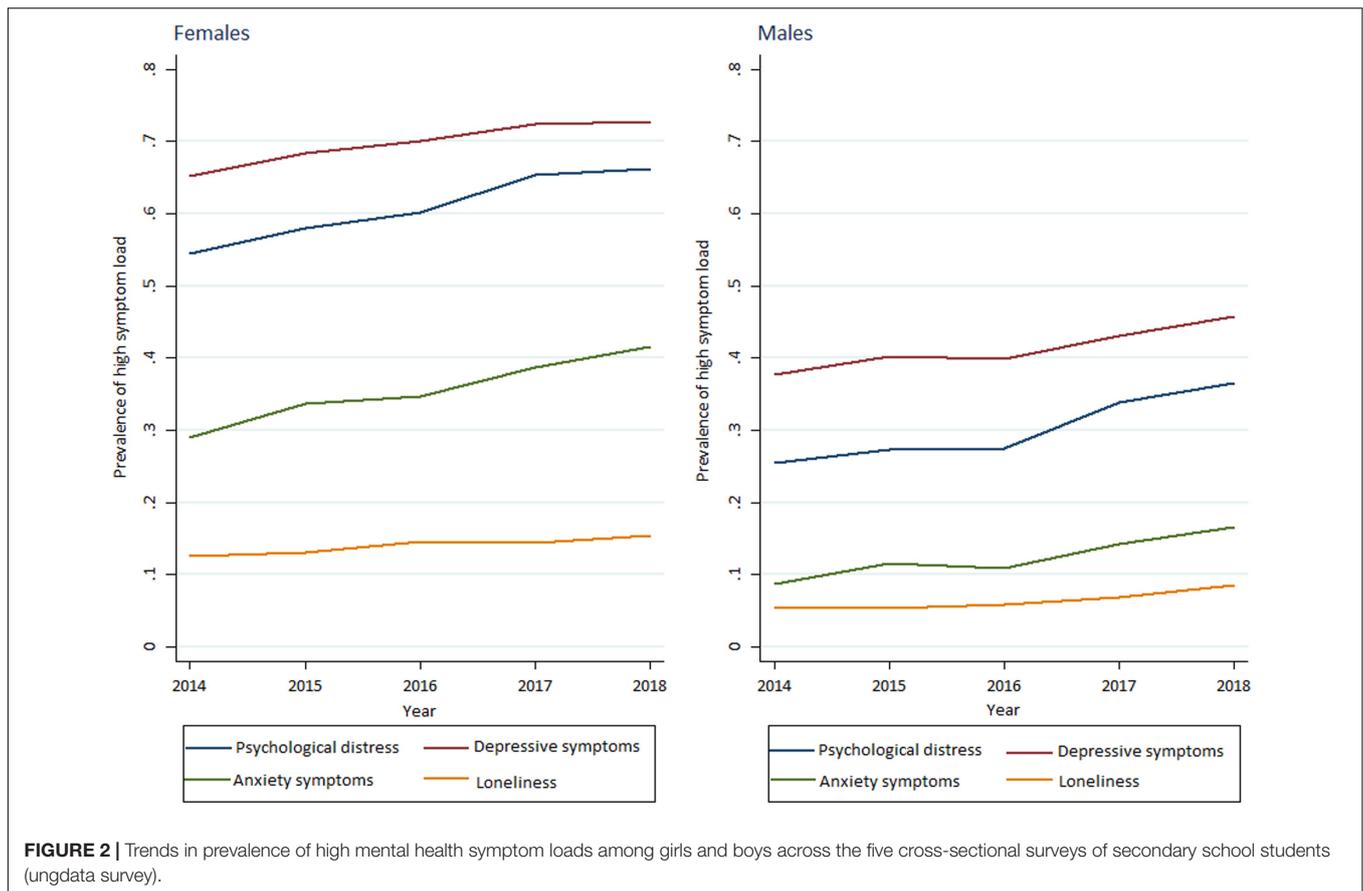
stable over time, we observed narrowing relative inequalities from 2014 to 2018.

Increasing Psychological Symptom Load Among Upper Secondary School Students in Norway

Our findings of increasing levels of mental health symptoms including depression, anxiety, and loneliness, with higher symptoms complaints among girls, is consistent with findings from other studies and national health reports (OECD, 2018b; Potrebny et al., 2019). These findings raise the question of why the recent generation of adolescents, and especially girls, report higher mental health symptoms load and greater risk of mental health complaints than previous cohorts. Increasing mental health complaints among the present population of adolescents in high-income western countries contrasts with improvements of their childhood conditions and increased material standards during the last decades. However, materialism and individualism in contemporary western societies may be hazardous for mental health (Eckersley, 2005). There is also a need to understand current time trends of adolescents' mental health and other notable societal changes that have occurred during the twenty-first century (Gunnell et al., 2018). Although it is beyond the

aim and scope of this paper, and we do not have suitable data to explore explanatory factors underlying these time trends, we will highlight some possible issues or hypotheses that subsequent studies might explore.

Several societal changes have occurred over the past twenty years that could adversely affect the mental health and contribute to a sustained increase in psychological distress in current generations of adolescents. Many high-income countries have, for example, experienced increasing wealth and expanded income inequality (OECD, 2019), both of which have been associated with adverse effects on adolescents' mental health (Pickett and Wilkinson, 2007; Viner et al., 2012; Elgar et al., 2015). Moreover, changes in the family context in which children grow up undoubtedly affects children and adolescents well-being and mental health, such as increasing numbers of single-parent and step families (Barrett and Turner, 2005; Aasen Nilsen et al., 2018), parents with mental health and drug problems (Amone-P'Olak et al., 2011), and the emergence of overinvolved parents and parenting styles that place a lower value on children's obedience (Twenge and Campbell, 2009; Schiffrin and Liss, 2017; Schiffrin et al., 2019). According to a Norwegian population study (Aasen Nilsen et al., 2018), adolescents living in single-parent and step families following divorce displayed higher adjustment problems than their peers



living in non-divorced families. Overall, the groups scored higher on externalizing problems than on internalizing problems. Increasing rates of dual-earner households and children looked after in day-care facilities are also the norm in contemporary two-parent families (Green and Parker, 2006). Moreover, along with general changes in the family and the socioeconomic environment, there have also been several other changes in young people's lifestyle, experiences, and expectations. These changes involve, among other things, increasing screen time and use of modern online technologies such as the internet, social media and online gaming (Hussain et al., 2017; Nesi et al., 2017; Twenge et al., 2019). Such online communities may be particularly attractive for lonely adolescents and those who are dissatisfied with their offline social relationships. Although the internet, social media, and online gaming offer numerous positive opportunities for connection, an increasing number of incidents have involved excessive/pathological use that may cause stress and lead to behavioral addiction, increased non-directional social comparisons and loneliness, low self-esteem, low social competence, low life satisfaction, and sleep disturbance as well as depressive and anxiety symptoms (Levenson et al., 2016; Rosenthal et al., 2016; Shensa et al., 2017; Baccarella et al., 2018; Twenge et al., 2018; Hawi and Samaha, 2019). A study by Nisar et al. (2019) found a positive correlation between passive Facebook use and increased non-directional social comparisons, which in turn was associated with depressive symptoms among

the users. Moreover, online bullying is increasing, and several studies demonstrate correlations with symptoms of anxiety and depression and suicidal ideation in adolescents (Bauman et al., 2013; Patchin and Hinduja, 2017). Screen time and media use are also adversely associated with sleep health, primarily via delayed bedtime and reduced sleep duration (LeBourgeois et al., 2017). A significant share of school-aged children and adolescents get an insufficient amount of sleep (Owens and Group, 2014), which in turn is associated with worsened psychosocial health in adolescents (Tsuno et al., 2005; Shochat et al., 2014; Zhang et al., 2017).

There is no doubt that today's generation of youths grows up in a time where the Internet and social media offer other opportunities for self-presentation than before, and there is a clear expectation to perform well in many life areas at once – such as in school and education, friendship and leisure activities, and body and appearance. A Norwegian study suggests that it is in particular the young people's school situation that is most closely linked to young people's stress-related mental health problems (Eriksen et al., 2017; Bakken et al., 2018; Bakken, 2019). Most adolescents cope well with this pressure, but for some it may become difficult to manage and master the totality of the demands and expectations they face. Perceiving oneself as having low social rank compared to others is, for example, demonstrated to be consistently linked to higher depressive symptoms (Wetherall et al., 2019). The evolutionary based social

TABLE 3 | Average psychological distress, prevalence's of high symptom load, absolute, and relative inequalities in mental health* among boys between 2014 and 2018 (five cycles) in the Ungdata survey.

	Psychological distress (n = 61,085)	Depressive symptoms (n = 61,626)	Anxiety symptoms (n = 61,132)	Loneliness (n = 61,410)
Average mental health				
2014	1.58 (1.57–1.60)	1.80 (1.79–1.82)	1.25 (1.24–1.26)	1.59 (1.57–1.61)
2015	1.62 (1.61–1.63)	1.84 (1.83–1.85)	1.29 (1.28–1.30)	1.61 (1.59–1.62)
2016	1.62 (1.61–1.63)	1.84 (1.83–1.85)	1.29 (1.28–1.29)	1.64 (1.62–1.66)
2017	1.69 (1.68–1.70)	1.90 (1.89–1.91)	1.39 (1.38–1.40)	1.69 (1.68–1.71)
2018	1.73 (1.72–1.74)	1.95 (1.93–1.96)	1.42 (1.41–1.43)	1.75 (1.73–1.77)
p-value for trend	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$
Prevalence high symptom loads				
2014	0.25 (0.24–0.27)	0.38 (0.37–0.39)	0.09 (0.08–0.09)	0.05 (0.05–0.06)
2015	0.27 (0.27–0.28)	0.40 (0.39–0.41)	0.12 (0.11–0.12)	0.05 (0.05–0.06)
2016	0.28 (0.27–0.28)	0.40 (0.39–0.41)	0.11 (0.10–0.12)	0.06 (0.05–0.06)
2017	0.34 (0.33–0.35)	0.43 (0.42–0.44)	0.14 (0.14–0.15)	0.07 (0.07–0.07)
2018	0.37 (0.36–0.37)	0.46 (0.45–0.47)	0.17 (0.16–0.17)	0.09 (0.08–0.09)
p-value for trend	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$
Slope index of inequality^a				
2014	0.06 (0.02–0.10)	0.08 (0.04–0.12)	0.04 (0.02–0.06)	0.06 (0.04–0.08)
2015	0.08 (0.06–0.11)	0.07 (0.04–0.10)	0.06 (0.04–0.08)	0.05 (0.04–0.06)
2016	0.08 (0.05–0.11)	0.08 (0.04–0.11)	0.04 (0.02–0.06)	0.05 (0.04–0.07)
2017	0.07 (0.05–0.10)	0.06 (0.04–0.09)	0.06 (0.04–0.08)	0.05 (0.03–0.06)
2018	0.11 (0.08–0.14)	0.09 (0.06–0.12)	0.08 (0.05–0.10)	0.06 (0.04–0.07)
p-value for trend	$p = 0.116$	$p = 0.407$	$p = 0.044$	$p = 0.940$
Relative index of inequality^b				
2014	1.27 (1.10–1.47)	1.24 (1.11–1.38)	1.56 (1.19–2.06)	3.14 (2.19–4.50)
2015	1.37 (1.24–1.52)	1.19 (1.10–1.28)	1.81 (1.53–2.15)	2.89 (2.21–3.77)
2016	1.38 (1.22–1.55)	1.24 (1.13–1.35)	1.50 (1.22–1.84)	2.61 (1.96–3.49)
2017	1.23 (1.15–1.33)	1.17 (1.10–1.24)	1.56 (1.37–1.77)	2.04 (1.68–2.47)
2018	1.33 (1.23–1.44)	1.22 (1.15–1.30)	1.60 (1.40–1.83)	1.93 (1.58–2.35)
p-value for trend	$p = 1.000$	$p = 0.770$	$p = 0.696$	$p = 0.002$

Data are regression-based predicted mean (95% CI) *adjusted for differences in respondents' school year and whether respondent lives in Oslo. ^aRepresents the risk difference for poor mental health between the least and most affluent family. ^bRepresents the odds ratio for poor mental health between the lowest and the highest ranked family.

rank theory accounts for the inferiority and submissiveness that is typical of depression and social anxiety and understanding individuals' perception of their social rank may thus enhance our understanding of depression etiology (Gilbert, 2019; Wetherall et al., 2019). Taken together, all of these changes may have a notable impact on the children, their parents' practices, and the quality of parent-child relationships, which in turn influence children's cognitive and socio-emotional development. On the other hand, increasing mental health symptom reports may be related to increased readiness to report symptoms. Changing attitudes about and awareness of mental health problems during the last decade may, thus, have contributed to increase frankness of reporting mental health symptoms (Collishaw, 2015).

One thing that has not changed is that girls and women are at higher risk of depression and anxiety disorders than boys and men, although these gender differences tend to increase with age (Potrebny et al., 2019). Researchers have proposed a number of explanations for this gender gap among adolescents. For example, some scientists have highlighted the "good girl syndrome" – with high expectations in many key areas of

life such as in school, sports, leisure activities etc. – as an important factor in explaining the apparent gender differences in adolescent mental health (West and Sweeting, 2003; Wiklund et al., 2012). Recent national statistics show that more girls than boys experience high pressure in their daily lives; 16% of girls but only 6% of boys report that they often experience so much pressure that they have difficulties coping with it (Bakken, 2019). School pressure is the most prevalent type, and a slightly higher proportion of high SES adolescents experience high levels of pressure than their low SES peers (Bakken, 2019). A Swedish cross-sectional study of 16–18 years olds found that two-thirds of girls, but only one-third of boys, experienced significant school pressure (Wiklund et al., 2012). West and Sweeting (2003) suggest adolescent girls suffer an accumulation of worries about success in education and personal issues such as weight and appearance that combine to create elevated levels of stress, which adversely affect their mental health. Hankin et al. (2008) indicate girls are more socio-emotionally attentive than boys, and that negative cognitive style and rumination may interact to predispose girls to mental health complaints, particularly depressive symptoms.

Stable, but Significant Socioeconomic Differences in Adolescent Mental Health in Norway During 2014–2018

In line with previous findings (Bøe et al., 2012, 2014; Zhou et al., 2018), we found socioeconomic inequalities in all four mental health outcomes. A decrease in SES was associated with increasing average scores and prevalence of moderate to high symptom load of psychological distress, depression and anxiety, as well as loneliness. Previous studies and international reports suggest that the mental health gap between advantaged and disadvantaged children and youth has not reduced over the last decades and some even suggest widening inequalities (Inchley and Currie, 2013; Elgar et al., 2015). Elgar et al. (2015) explored trends in socioeconomic inequalities in adolescent's health across 34 North American and European countries, suggesting increasing inequalities in physical activity, body mass index, and psychological and physical health symptoms. Our results, however, did not find proof for narrowing or increasing inequalities, in either absolute or relative terms, in either boys or girls during the study period. These findings are unsurprising due to the relatively short follow-up time in the present study (5 years). Exploring time trends require assessing change over sufficiently long time periods and according to Eimecke et al. (2011) periods exceeding 7 years are necessary to identify secular change.

Although these findings align with an enormous amount of literature, the explanations for these stark differences are far from conclusive. As described initially, factors associated with the parents and family environment are, along with biological factors, the most important mediating variables between SES and young people's mental health. Within this area of research, the family process and family investment model are considered as most dominant. The family process model assumes a link between family socioeconomic status and children's socioemotional development and adjustment through the psychological wellbeing of parents and thereby their childrearing practices (Conger et al., 1994; Conger and Conger, 2002). Similarly, a Norwegian population study by Bøe et al. (2014) found a higher prevalence of parents with mental health complaints in low-income families and these parents used in turn more negative upbringing strategies (such as penalties and scolding). Negative upbringing strategies were also more prevalent among low educated parents. The family investment perspective is based on more materialistic explanations and parents' ability to spend time with children and to invest in leisure activities, books and learning materials, stable and comfortable housing conditions, etc. (Knitzer and Perry, 2009; Mayer, 2010). According to this perspective, which most proponents use to explain socioeconomic disparities in children's cognitive development and educational attainment, restricted access to resources that contribute to positive development affects the development of children in low-income families (Knitzer and Perry, 2009). There are, however, many indications that family process and family investment influence each other and that a more complete understanding of the relationships between SES and family life should combine these two models (Conger et al., 2010). Studies

by Linver et al. (2002) and Yeung et al. (2002) examined predictors from the family process model and the family or parental investment perspective and each study found that family stress processes were better predictors of behavioral problems, whereas family investment were better predictors of cognitive development. Yeung et al. (2002) comprehensive study included a survey of 735 children 3–5 years old, collecting information on family investment and family processes as well as comprehensive information on children's cognitive and socio-emotional development. Their results indicated that the more structural components from the family investment perspective and the more affective components from the family process model were both central to shaping the complex relationship between low income and children's cognitive and socio-emotional development. The study also demonstrated mutual influence between the mechanisms described in the two different perspectives: a home environment with a higher material standard was more cognitively stimulating and positive for children's learning. However, this environment was also positive for maternal mental health and mothers' use of positive parenting strategies, which in turn was positive for children's socio-emotional development.

Most adolescents spend a significant amount of their time outside the family environment and are undoubtedly also influenced by these more distal environments such as peers, neighborhood, school, leisure activities, social media, etc. The family's affluence level affects, to a large extent, the school environment and the neighborhood of residence of the children (Evans et al., 2012). Research also demonstrate differences in adolescents' health behavior and living habits across different affluence levels (Marmot and Bell, 2012; Viner et al., 2012). Low family SES is, for example, unfavorably associated with physical activity, sport participation, and screen-based behaviors in adolescents (Langlois et al., 2017; Mielke et al., 2017). Previous studies suggest inequalities in sleep health and that adolescents from low income families may be at even greater risk of poor-quality and insufficient sleep (Marco et al., 2012; Owens and Group, 2014; Sivertsen et al., 2017). Moreover, according to the relative deprivation theory it may be detrimental for individuals' mental health to be unable to afford goods or activities that are considered affordable to most (Sweet, 2011; Adjaye-Gbewonyo and Kawachi, 2012). This would particularly be true for adolescents given their strong tendency to value and conform to peer norms. Future research should take this into account when exploring time trends in socioeconomic inequalities in health-related outcomes.

Strengths and Limitations of the Study

A main strength of the study is its large, nationally representative samples, which allowed us to explore trends in adolescents' mental health on a large scale. This study is based on five comparable and well-designed surveys conducted each year during 2014–2018 in several Norwegian upper secondary schools. Moreover, the family affluence level and adolescents' symptoms of depression were measured in a standardized manner by using validated measures (Derogatis et al., 1974; Strand et al., 2003; Currie et al., 2008).

Some limitations of this study should be noted. First, although overall response rates were relatively high, about 30% of students in the surveyed schools were absent from the surveys, which poses the possibility of non-response bias due to illness and truancy, both of which likely interact with our variables of interest. Second, the schools and municipalities included in the study sample differ in each survey/study year. The socio-demographic distribution of the population of Norwegian municipalities varies and it is therefore important to take this into account when interpreting the results of this study. All analyses are adjusted for whether the respondent live in Oslo, the capital of Norway. In addition, we performed the parametric estimation without respondents from Oslo (results not shown), and results did not change significantly. Third, our outcome variables were self-reported, introducing a risk of misclassification and measurement bias. Moreover, the reliability of the anxiety and loneliness measures is uncertain and use of exclusively validated instruments would have strengthened the study findings. Fourth and finally, exploring time trends requires assessing change over sufficiently long time periods. Eimecke et al. (2011) suggest that periods exceeding 7 years are necessary to identify secular change. The relatively short follow-up time in the present study (5 years) thus reduces our ability to detect potential changes related to socioeconomic inequalities in adolescents' mental health over time. Despite these caveats, these results still have some implications for the public health of adolescents in Norway as well as for other (comparable) high-income western countries.

Implications

Rising rates of psychological distress among adolescents have long-term consequences in terms of individual education attainment and occupational and socioeconomic outcomes, health and quality of life in adulthood, and relationships and parenting for the next generation. Taken together, rising mental health complaints in the youth population may have formidable long-term consequences for the individuals involved and for society at large in terms of increased economic costs, reduced productivity, and increased socioeconomic inequalities. Health inequalities among adolescents shape future inequalities in education, employment, health, and quality of life in adulthood and socioeconomic circumstances in future generations.

The strong links shown in our study between long-term consequences, inequalities, and mental health demonstrate a need for evidence-based interventions to mitigate these links. Our study results penetrate multiple levels of society such as family, housing, and neighborhood conditions. Thus, multilevel interventions and strategies across different sectors of society are required. Interventions may reduce mental health inequalities in different contexts, many of which lie outside of health services. There are effective early interventions that can promote mental health in vulnerable groups, but our results underline the necessity of both initiating and facilitating a cross-sectoral approach and of forming partnerships between different government departments, civic society organizations, and other relevant stakeholders. The growing body of research on effective cross-sectoral interventions addressing "upstream factors" such as parenting, housing, and neighborhood conditions is promising. The EU Member States and the European

Commission have published a report recommending the Mental Health in all Policies (MHiAP) approach to promote population mental health (Eu Directorate General for Health and Food Safety, 2015), arguing for a life course approach to poverty and mental health with interventions targeting specific age groups (Wahlbeck et al., 2017). This MHiAP approach can be applied to all public policy levels, from local to international. Hence, our findings not only underline the need to tackle social inequalities; they also emphasize the necessity of applying frameworks such as the MHiAP to stitch together what has traditionally been fragmented and intermittent.

CONCLUSION

In conclusion, our results show a trend of increasing psychological distress among upper secondary school students, across all socioeconomic groups and in particular among girls since 2014. Inequalities in psychological distress according to socioeconomic status (SES) remained stable through this period. As well as being unjust, this represents a serious public health problem. These findings suggest that current strategies have not been sufficient in addressing adolescents' mental health challenges and inequalities, thereby revealing the need to intensify efforts in social and health policy, public health, and further research. Since existing studies point toward the positive mental health effects of many non-health policies, such as social, labor market, and housing policies, implementation of effective interventions in a MHiAP framework should be exaggerated by adding resources in non-health fields to the common goal of improving wellbeing for all.

DATA AVAILABILITY STATEMENT

Norwegian Social research (NOVA) administers and maintains the Ungdata database. Data is freely available for research and educational purposes from the Norwegian centre for research data (NSD) upon application. Details about the application process can be found at: https://nsd.no/nsddata/serier/ungdata_eng.html. Norwegian legislation prohibits deposition of these data to open archives.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Norwegian Centre for Research Data (NSD), <https://nsd.no/nsd/english/index.html>. Informed consent to participate in this study was obtained from the students, as well as from legal guardian/next of kin if the student was under 16 years of age.

AUTHOR CONTRIBUTIONS

AM, ES, ML, and KA contributed substantially to the conceptualization and design of the study. AM performed and had primary responsibility for all data management, statistical

analysis, interpretation of the results, and writing the manuscript. ES assisted with the data management, statistical analysis, interpretation of results, and editing of the manuscript. ML and KA assisted with writing and editing of the manuscript. All authors read and approved the final manuscript and take responsibility for the integrity of the data analysis and the decision to submit this manuscript for publication.

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Analysis of the Relationship Between Psychological Well-Being and Decision Making in Adolescent Students

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Adolescents are frequently faced with situations in which they have to make decisions by choosing from a range of possible alternatives. In such circumstances, individual, social, and environmental conditions have an impact on the choice of the final decision in light of the various options presented. The main objective of this study is to analyze the relationship between the psychological well-being of adolescent students and their decision-making style. The research method used corresponds to an ex post facto, quantitative, transversal, correlational, and descriptive design, with an initial sample of 1,262 students from the Autonomous Community of Madrid, Spain, aged 13–19. A subsequent resampling of 385 participants was extracted from the initial sample by proportional allocation to strata (according to the levels of the variables gender, academic year, and educational institution classification) to guarantee the representativeness of the population data. Data collection uses the first Spanish adaptation of Ryff's Psychological well-being Scale and the Flinders Adolescent Decision Making Questionnaire, adapted by Friedman and Mann. The data shows that greater use of adaptive decision-making strategies correlates significantly with greater psychological well-being. In contrast, the correlation is high and negative at the intersection of the maladaptive decision-making variables and psychological well-being.

Keywords: psychological well-being, decision-making, adolescents, gender, adaptive strategies, maladaptive strategies

INTRODUCTION

Psychological well-being is currently regarded as a construct which lacks a well-defined theoretical structure (González Barrón et al., 2002; Freire et al., 2017; Carneiro et al., 2019). However, the concept can be directly associated with how individuals assess their quality of life, and whether they give it a positive and favorable evaluation from a systemic and holistic perspective. As a consequence, psychological well-being can be related to high self-esteem, a positive disposition, and low depressive symptoms (Eronen and Nurmi, 1999).

From an evolutionary perspective, psychological well-being has been associated with the terms quality of life and mental health (Popescu, 2016; Loera-Malvaez et al., 2017; Sarafraz et al., 2019).

In this respect, quality of life is understood from a multidimensional perspective that addresses the most relevant dimensions of an individual's life (Cancino et al., 2016; Losada-Puente, 2018). This includes material and non-material aspects, as described in Maslow's hierarchy of needs -physiological, safety, love, and belonging to social groups. However, mental health concerning psychological well-being has only ever been associated with non-material factors with a distinct clinical interpretation. Some of these factors are the creation of affective relationships with significant others, and the nurturing and development of self-esteem, self-concept or self-image (Latief and Retnowati, 2019).

The concept of psychological well-being takes into account the personal and social dimensions which individuals assess subjectively. Thus, many authors coincide in including questions relating to the field of social and emotional relationships (Rosa-Rodríguez et al., 2015; Latipun et al., 2019), as well as aspects connecting to family and work context (Mafud, 2016; Millán et al., 2017; Soto and Almagiá, 2017).

Although psychological well-being is usually understood as a personal endeavor to continually improve oneself, with the clear objective of self-realization in positive terms (Ballesteros et al., 2006), it should be noted that another notion also exists. The subjective assessment of well-being by individuals should be understood as the perceived absence of problems and/or the presence of pleasant and satisfying sensations (Villar et al., 2003; Freedman et al., 2017; Raleig et al., 2019). The above conceptualizations inherit the classic components of subjective well-being, which emphasize satisfaction with one's own life, development of capacities, and self-realization.

However, Ryff (1989) proposed a model that has acquired special relevance among the scientific community by bringing together the aspects from of all the previous conceptualizations. This model recognizes the subjective nature of psychological well-being, according to which individuals evaluate the variable according to their level of satisfaction with the six dimensions that make up the model (Díaz et al., 2006). These six dimensions -*self-acceptance, positive relations with others, environmental mastery, autonomy, purpose in life, and personal growth*- measure the subjective self-perception of social and family relationships, the achievement of personal and professional goals and to what extent they affect happiness, and the later perception of satisfaction with the personal and professional goals achieved (Uribe Urzola et al., 2018). **Table 1** shows the content of each of the dimensions as used in this study, covering the whole spectrum of Ryff's definition the psychological well-being variable.

Adolescence is an evolutionary period in an individual's life in which all the variables of Ryff's psychological well-being are developed, put into play, and contrasted socially and individually. Consequently, from an international perspective, there are numerous studies that support the importance of evaluating psychological well-being during adolescence (Cotini de González et al., 2003; Figueroa et al., 2005; Romero et al., 2007; Balcázar Nava et al., 2008; Medina and Velásquez, 2017).

In this respect, the way adolescents value their peers and the power of the group is reflected in the assessments they make

TABLE 1 | Description of the dimensions proposed by Ryff and Keyes (1995).

Dimension	Content
Self-acceptance	An individual's positive or negative assessment of themselves, and their level of satisfaction with their self-concept. It implies the recognition of one's own strengths and weaknesses.
Positive relations with others	The ability to establish stable and satisfying long-term social relationships.
Environmental mastery	The ability to generate and choose favorable environments consistent with their and others' personal interests and tastes, and the ability to influence the environment positively.
Autonomy	An individual's ability to maintain their individuality in a variety of social contexts.
Purpose in life	An individual's ability to set long-term personal goals and establish ways to achieve them.
Personal growth	An individual's ability to implement strategies to development their potential to the full.

Source: the authors based on Véliz Burgos (2012).

of the dimensions relating to the emotional ties they establish with their family, their peer group, and their own self-acceptance. There is an irrefutable relationship between psychological well-being and the variables of self-concept and quality of social relationships established by adolescents with family, partners and friends (Loera-Malvaez et al., 2017). Consequently, it is of interest to consider this particular moment of maturation and take into account the diversity of interests and that can be found in this specific stage in life.

As individuals, the ability to make decisions throughout our whole lives must be developed. However, this is closely related to cognitive maturation, the development of abstract thinking, and environmental mastery (Raleig et al., 2019). Consequently, adolescence is a fundamental stage in the development of decision-making capacity (Bosch et al., 2016; Modecki et al., 2017). Many important decisions are made during this development stage in different contexts including education, the family, and the peer group.

Decision-making has been identified as one of the main life skills which has a direct impact on psychological well-being and is defined as the ability to "take responsibility for one's own decisions, taking into account ethical, social and security aspects" (Bisquerra Alzina and Pérez Escoda, 2012, p. 73). To know the development of this competence, the appropriate use of problem solving strategies and the capacity for critical self-reflection and rational judgment are evaluated (Mieles and Alvarado, 2012).

Currently, different styles of decision making can be identified. Some of them are directly related to management and leadership models in the field of business management and organization. In this sense, styles such as managerial, conceptual, consultative, or consensus are identified (Cuadrado, 2015). However, these decision-making styles have not been taken into account in this research because they are far from the focus of our study.

From a historical perspective on the theoretical development of the term, Janis and Mann (1977) argue that decision-making falls into four different styles: vigilance, hypervigilance,

avoidance, and complacency. The authors identified that there is always a period of conflict between the different alternatives and the values implicit in each one before making any decision. Each of these styles is characterized by their respective attributes or features:

- Vigilance: making decisions based on the systematic search and careful consideration of all viable alternatives in an unhurried, non-impulsive way with the aim of satisfying personal objectives.
- Hypervigilance: an impulsive, disorganized decision-making style which leads to feelings of insecurity and panic. This style disrupts the thought process inhibiting the correct assessment of the alternatives and their consequences.
- Avoidance: delegating decision-making to a third person, thereby ignoring the problem in hand.
- Complacency: unthinking adherence or change to simple courses of action; going along with what others say.

In turn, Janis and Mann (1977) maintain that everyone uses the four decision-making styles at some time or another, but that an individual's predominate style will depend on the frequency with which each one is used (Bernal et al., 2012). However, they also argue that vigilance exhibits optimal qualities for the adequate development of decision-making skills in adolescents, given that it is an adaptive style that leads to correct decisions.

A later trend in the study of decision-making was to process individuals' data as one of the key elements in the assessment process. As a result, Ross (1981) proposed a series of characteristics that an individual ought to possess in order to minimize the risk of failure when making decisions. These characteristics are: having the ability to identify many alternatives; establishing assessment criteria to reflect on the possible alternatives and assess them consistently; collecting and analyzing data on each alternative, and having the capacity for self-assessment (Ross, op. cit).

Taking the whole theoretical corpus into account, and focusing on the decision-making process by adolescents, Byrnes (2002) argues that there are four stages that must be followed in order to be considered competent. In this respect, the first stage would be to establish the desired objectives, then compile possible alternatives to meet the proposed objectives, prioritize the alternatives under criteria of importance and, finally, select the best alternative. However, it should be noted that an alternative is only appropriate according to the situational variables to which it responds. Hence, the ability to assess the context to which the decision-making action corresponds becomes essential. Thus, according to Gambará and González (2003), the decision-making context is relevant in determining the use of decision-making styles.

The following works below have performed studies to assess the development of decision-making skills, decision-making coping styles, and related psychological factors in adolescents. Some of the most important include Weithorn and Campbell's (1982) analysis aimed at observing the level of decision-making skills in children and adolescents of different ages with the aim of observing developmental differences. They found that 14 and 18-year olds obtained similar levels of decision-making skills.

In turn, other authors, such as Mann and Friedman (2002), identified that the minimum age for the development of decision-making competence is 15 and state that frequent use of the vigilance style may respond to the tendency for socially accepted responses. However, they also found that such responses had little to do with actual behavior.

Thus, Gambará and González (2003) observed that there are differences in decision-making skills by age. The older the adolescents are, the more effective their skills. The authors argue that knowledge obtained during adolescence, together with the particular characteristics of this evolutionary stage, does not increase the use of the vigilance decision-making style, but it rather causes the use of the other three styles to decrease considerably. In other words, younger adolescents use the maladaptive style more frequently.

Thus, as adolescents get older, they use the vigilance style more times, the only style that falls into the adaptive category. The data obtained from the Gambará and González study (op cit.) reveals that younger adolescents make more use of maladaptive styles. In relation to this, the conclusions suggest that adequate training in decision-making is synonymous with the appropriate development of decision-making skills. Similarly, statistically significant differences appear in the interaction between decision-making styles, where the vigilance style tends to dominate.

Bethencourt and Cabrera (2011) highlight the variable self-esteem as correlating with the use of different decision-making styles. In this respect, high self-esteem generates greater confidence in and commitment to the decisions made, which is consistent with the vigilance style. However, low self-esteem may be associated with less confident decision making which leads to styles that resonate more with complacency and avoidance. This, in turn, gives rise to a series of consequences including distorting the view of the situation, which may lead to incorrect decisions (Di Fabio and Blustein, 2010). In the same vein, Cascio et al. (2016) highlight the role of parents in the development of adolescents' self-esteem and its correlation in decision-making performance. In this respect, their study observed that when families perform parenting styles based on confidence in their children's abilities, the children develop firm and secure self-esteem that allows them to make rational decisions. Furthermore, these results can be observed in a similar way in both genders.

Equally, the study performed by Moreno et al. (2011) shows a significant relationship between self-esteem, self-efficacy, self-ability, and self-efficiency with different decision-making styles, depending on the age of the participants. In turn, Carbia et al. (2017) highlight the same variables and coping strategies to explain the differences between males and females. Thus, differences were not found between the genders in the final results obtained but in the decision-making processes themselves.

By the same token, some authors have applied the study of decision-making in adolescents to the vocational sphere, differentiating between males and females (Abidin et al., 2019; Hechtlinger et al., 2019; Kvasková and Almenara, 2019). In these studies, differences were found in the decision-making process variables by gender; the female sample obtained scores better than the male sample.

Other studies, such as those by Gil et al. (2010) include variables such as time and anxiety in the decision-making process. Their findings indicate a remarkable increase in the use of the hypervigilance style in all age groups, although older adolescents primarily continue to use the vigilance style.

However, it can be observed that the different psychological and situational variables of adolescence directly correlate with the decision-making capacity and decision-making style employed. In addition, the results found in the above studies show differences by age and gender. Among all the variables, gender is particularly relevant. As such, one of our main objectives is to study the differences in the use of decision-making styles based on the values given by gender.

There are previous studies to take into account that analyze decision-making and social welfare (Yellen and Cella, 1995; Smerglia and Deimling, 1997; Rudd et al., 2012; Rutledge et al., 2015) as well as other more contemporary studies that address the impact of social relationships and the regulation of emotions on decision making (Wong et al., 2019; You et al., 2019). It is also important to investigate the cognitive processes involved in the development of decision-making skills (Jin et al., 2019; Yilmaz and Kafadar, 2019), the stages of the decision-making process, and the constraints that affect its development (Lucks et al., 2020).

MATERIALS AND METHODS

The aim of this study is to analyze if there is a relationship between the psychological well-being of adolescent students and their decision-making style by age and gender.

The research method used responds to an ex post facto, quantitative, transversal, correlational, and descriptive design, with an initial sample of 1,262 students from nine centers of Compulsory Secondary Education and High Schools in the Autonomous Region of Madrid (Spain) aged 13–19 ($x = 15.80$; $\sigma = 1.714$), and a subsequent re-sampling of 385 participants, extracted from the initial sample by proportional allocation to strata (according to the levels of the variables gender, academic year, and center ownership) to guarantee the representativeness of the population data. The final sample comprised 206 male (53.5%) and 179 female (46.5%) students.

The variables in the methodological design of the study were: sociodemography, psychological well-being, and decision-making styles.

Two methods were used for data collection:

- First, the Ryff Psychological Well-being Scale (1989) adapted by van Dierendonck (2004) and translated into Spanish by Díaz et al. (2006). This scale collects data on the variable psychological well-being, based on the subjective assessment by adolescents of different situations and questions relating to their living situation, and their perception of success in everyday aspects of development and achievement, taking into account the six dimensions of the model described in **Table 1**: *self-acceptance*, *positive relations with others*, *environmental mastery*, *autonomy*, *purpose in life*, and *personal growth*. The scale comprises a total of 39 items in a Likert-type format

with values in a range of 1 to 6, where 1 is totally disagree and 6 is totally agree. Cronbach's alpha is used to measure the internal consistency of the psychological well-being subscales as follows: *self-acceptance* (0.83), *positive relations with others* (0.81), *environmental mastery* (0.71), *autonomy* (0.73), *purpose in life* (0.83) and *personal growth* (0.68).

- Second, a questionnaire on decision-making styles -Flinders Adolescent Decision Making Questionnaire (FADMQ)- adapted by Friedman and Mann (1993). Decision-making styles are understood as the general trend in the use of strategies aimed at reaching a solution to a problem posed. In this sense, this questionnaire measures two major decision-making styles –adaptive and maladaptive. The former is the most optimal and desirable in the decision-making process as it responds to criteria of rationality in the evaluation of alternative solutions and their consequences. In contrast, the maladaptive style is not considered optimal as it is mediated by biases and heuristics. Thus, this method is based on the normative models of decision-making, which emphasize the rational component of the decision-making process. In addition, Dawes and Hastie (2010) argue that control model must be based on tangible elements in order to be considered rational, i.e., have a direct impact on individuals' physiological and/or psychological well-being, psychological skills and socio-emotional attributes.

The reliability study of both subscales of the model gave rise to high values of Cronbach's alpha reliability coefficient. Thus, the internal consistency of the five items on the maladaptive subscale is 0.74 and the internal consistency of the seven items on the adaptive subscale is 0.78.

Finally, the Statistical Package for the Social Sciences (SPSS V26) software was used to perform descriptive, factorial, correlational, mean contrast, and variance analyses.

RESULTS

Psychological Well-Being

The scores obtained by the sample subjects on the Ryff (1989) psychological well-being scale show an average of over 140 points (= 147.06). Considering that the range of scores on this scale varies between 39 and 234 points, this statistic places the sample slightly above the mean score (137 points). This puts the sample subjects within the category of average psychological well-being according to the interpretation of the scores on the scale itself.

In addition, the standard deviation shows a moderate dispersion ($\sigma = 17.807$).

In turn, the means obtained for the six factors that comprise the psychological well-being variable range from 4.18 (= 4.18) to 4.59 (= 4.59) as seen in **Table 2** with small dispersions between 0.606 and 0.825.

However, if mean scores are analyzed by gender, male psychological well-being data are slightly higher (= 147.49) than females (= 146.57).

In turn, both genders obtain very similar scores on the six variables that comprise psychological well-being (**Table 2**), with males outcome slightly higher in the factors of *self-acceptance*,

TABLE 2 | Mean scores and dispersion in psychological well-being and dimensional factors.

		Psychological well-being	Self-acceptance	Positive relation with others	Autonomy	Environmental mastery	Personal growth	Purpose in life
Total	Mean	147.06	4.33	4.19	4.18	4.24	4.59	4.40
	Standard deviation	17.807	0.825	0.756	0.723	0.668	0.606	0.800
Males	Mean	147.49	4.45	4.17	4.19	4.25	4.54	4.43
	Standard deviation	16.708	0.741	0.720	0.667	0.646	0.624	0.756
Females	Mean	146.57	4.19	4.22	4.18	4.23	4.64	4.37
	Standard deviation	19.027	0.892	0.796	0.785	0.693	0.583	0.845

Arithmetic mean; Standard deviation; N Total = 385, N Male = 206, N Female = 179.

TABLE 3 | Levene’s test for equality of variances by gender and differences in psychological well-being and their factors by gender.

	F	Sig.	t	gl	Sig. (bilat.)
Psychological well-being	4.127	0.063			
Self-acceptance	2.326	0.128	0.590	383	0.556
Positive relation with others	0.818	0.366	3.227	383	0.001
Autonomy	5.335	0.021	-0.533	383	0.594
Environmental mastery	1.492	0.223	0.204	351.49	0.839
Personal growth	0.142	0.706	0.311	383	0.756
Purpose in life	3.289	0.071	-1.529	383	0.127

Levene test; N = 385; Student t analysis, N = 385.

environmental mastery, autonomy, and purpose in life. Females results are also higher in the factors of *positive relations with others and personal growth.* Nevertheless, the differences are minimal.

Differences in the Psychological Well-Being of Adolescents by Gender

First, the sample homoscedasticity was analyzed, which obtained equality of variances in all the variables, except *autonomy*. Consequently, the results of the analysis of the mean difference that did not assume equality of variances are used (Table 3).

Thus, an analysis for equality of mean for the *psychological well-being* variable by gender shows that there are statistically significant differences between the two samples in *self-acceptance* ($t = 3.227$; $Sig. = 0.001$) (Table 3).

As a result, using Cohen’s *d* index to analyze the size of the effect, it can be observed that the differences are not significant.

Decision-Making Style

As regards adolescent decision-making styles, scores on the scale measuring the maladaptive style range from 0 to 15. In turn, scores on the adaptive style range from 0 to 21. The average score for the sample subjects using both styles is shown in Table 4.

The results show an above-average score on the subscale measuring the maladaptive style (mean = 9.34) and a very high score for the subscale measuring the adaptive style, where the sample scored almost the maximum number of 21 points (mean = 20.26).

TABLE 4 | Use of decision-making styles.

		Mean	Standard deviation
Maladaptive style	Total	9.34	2.694
	Males	9.41	2.628
	Females	9.26	2.773
Adaptive style	Total	20.26	3.259
	Males	20.70	3.034
	Females	19.74	3.437

Arithmetic mean; Standard deviation; N Total = 385, N Male = 206, N Female = 179.

TABLE 5 | Differences in decision-making styles by gender.

	T	gl	Sig. (bilateral)
Maladaptive style	0.527	383	0.598
Adaptive style	2.914	383	0.004

Student t analysis; N = 385.

In turn, if scores by gender are analyzed, it can be observed that the male sample scores slightly higher than the female sample in both styles. However, in both cases the scores are above average on the subscale for the maladaptive style and practically at the very top of the subscale for the adaptive decision-making style (Table 4).

Analyzing the use of decision-making styles based on the groups formed by the sex variable, different results can be observed (Table 5).

On the one hand, both sexes use in the same way maladaptive decision-making strategies ($t = 0.527$; $p = 0.598$). On the contrary, there are statistically variable differences in the use of adaptive decision-making strategies, being used to a greater extent by the group of men ($t = 2,914$; $p = 0.004$).

Psychological Well-Being and Adaptive Decision-Making Style

The correlation between the values given by the sample to psychological well-being and its factors show statistical significance in all combinations with the adaptive decision-making style (Table 6). Furthermore, the correlation is

TABLE 6 | Correlations between psychological well-being and the adaptive decision-making style.

			Psychological well-being	Self-acceptance	Positive relation with others	Autonomy	Environmental mastery	Personal growth	Purpose in life
Adaptive style	Total	Correlation	0.544**	0.485**	0.242**	0.359**	0.472**	0.346**	0.473**
		Sig. (bilat)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Male	Correlation	0.463**	0.354**	0.201**	0.262**	0.396**	0.370**	0.414**
		Sig. (bilat)	0.000	0.000	0.004	0.000	0.000	0.000	0.000
	Female	Correlation	0.617**	0.574**	0.291**	0.448**	0.549**	0.358**	0.528**
		Sig. (bilat)	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Correlation coefficient; N Total = 385, N Male = 206, N Female = 179.

**The correlation is significant at 0.01 (bilateral).

TABLE 7 | Correlations between psychological well-being and the maladaptive decision-making style.

			Psychological well-being	Self-acceptance	Positive relation with others	Autonomy	Environmental mastery	Personal growth	Purpose in life
Maladaptive style	Total	Correlation	-0.458**	-0.323**	-0.276**	-0.399**	-0.357**	-0.348**	-0.278**
		Sig. (bilat)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Male	Correlation	-0.458**	-0.323**	-0.276**	-0.399**	-0.357**	-0.348**	-0.278**
		Sig. (bilat)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Female	Correlation	-0.516**	-0.402**	-0.275**	-0.419**	-0.448**	-0.404**	-0.359**
		Sig. (bilat)	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Correlation coefficient; N Total = 385, N Male = 206, N Female = 179.

**The correlation is significant at 0.01 (bilateral).

positive across the board, which shows that greater use of adaptive decision-making strategies is directly related to greater psychological well-being.

Thus, the adaptive decision-making style correlates significantly with a probability of <0.01 with overall psychological well-being ($r = 0.544$; $p = 0.000$) and with self-acceptance ($r = 0.485$; $p = 0.000$), positive relations with others ($r = 0.242$; $p = 0.000$), environmental mastery ($r = 0.472$; $p = 0.000$), autonomy ($r = 0.359$; $p = 0.000$), purpose in life ($r = 0.473$; $p = 0.000$), and personal growth ($r = 0.346$; $p = 0.000$) (Table 6).

In the male sample ($N = 206$), the relationship between the adaptive decision-making style and the psychological well-being variable ($r = 0.463$; $p = 0.000$), and its six factors shows a positive correlation with a probability of < 0.01 in the table below total psychological well-being ($r = 0.463$; $p = 0.000$), self-acceptance ($r = 0.354$; $p = 0.000$), positive relations with others ($r = 0.201$; $p = 0.004$), environmental mastery ($r = 0.396$; $p = 0.000$), autonomy ($r = 0.262$; $p = 0.000$), purpose in life ($r = 0.414$; $p = 0.000$), and personal growth ($r = 0.370$; $p = 0.000$) (Table 6).

In the female sample, the adaptive decision-making style shows a positive correlation with the psychological well-being variable ($r = 0.617$; $p = 0.000$). Similar results are obtained with the factors self-acceptance ($r = 0.574$; $p = 0.000$), positive relations with others ($r = 0.291$; $p = 0.000$), environmental mastery ($r = 0.579$; $p = 0.000$), autonomy ($r = 0.448$; $p = 0.000$), purpose in life ($r = 0.528$; $p = 0.000$), and personal growth ($r = 0.358$; $p = 0.000$) (Table 6).

Psychological Well-Being and Maladaptive Decision-Making Style

In contrast, the maladaptive decision-making style correlates negatively with a probability of <0.01 with overall psychological well-being ($r = -0.458$; $p = 0.000$) and with the factors self-acceptance ($r = -0.323$; $p = 0.000$), positive relations with others ($r = -0.276$; $p = 0.000$), environmental mastery ($r = -0.357$; $p = 0.000$), autonomy ($r = -0.399$; $p = 0.000$), purpose in life ($r = -0.278$; $p = 0.000$), and personal growth ($r = -0.348$; $p = 0.000$) (Table 7).

In turn, in the male sample, the maladaptive style also obtains a statistically significant correlation, but with a negative value. In consequence, an inverse relationship between psychological well-being ($r = -0.400$; $p = 0.000$) and the use of the above-mentioned decision-making style is established. The same applies to self-acceptance ($r = -0.256$; $p = 0.000$) positive relations with others ($r = -0.277$; $p = 0.000$), autonomy ($r = -0.380$; $p = 0.000$), environmental mastery ($r = -0.268$; $p = 0.000$), personal growth ($r = -0.300$; $p = 0.000$), and purpose in life ($r = -0.198$; $p = 0.000$) (Table 7).

In turn, the correlational analysis of maladaptive decision-making style with psychological well-being shows a statistically significant negative correlation ($r = -0.617$; $p = 0.000$). Similarly, the use of the maladaptive style correlates negatively with self-acceptance ($r = -0.574$; $p = 0.000$) positive relations with others ($r = -0.291$; $p = 0.000$), autonomy ($r = -0.448$; $p = 0.000$), environmental mastery ($r = -0.549$; $p = 0.000$), personal

growth ($r = -0.358; p = 0.000$), and *purpose in life* ($r = -0.528; p = 0.000$) with a probability of <0.01 (Table 7).

The results of the correlational analyses of the total sample, as well as both gender samples, show a direct relationship between the use of adaptive decision-making strategies and psychological well-being, in which higher levels of psychological well-being correspond to a marked preference for using the adaptive decision-making style and vice versa.

In contrast, it was observed that the participants, both in the total sample and by gender, have an inverse relationship between the use of maladaptive decision-making strategies and psychological well-being. Thus, a more marked preference for the maladaptive decision-making style corresponds to a lower level of psychological well-being and its factors.

Predictive Model for Adaptive Style in the Total Group

After checking the relationship between the variable Psychological Well-being and the Adaptive Decision-Making Style, the linear regression analysis is performed to build a model to predict the use of adaptive strategies based on psychological well-being and its dimensions.

The proportion of data in which it is possible to predict the use of adaptive strategies based on psychological well-being is 34.5% ($R^2 = 0.345$) and the analysis of variance shows that the probability associated with the F statistic is lower to 0.05 ($F = 33.201; P = 0.000$).

In this way, the model is made up of the value of the constant ($C = 6.132$) and the coefficients with a probability <0.05 of the variables *Self-acceptance* ($C_f = 152; p = 0.000$), *Positive relations* ($C_f = -0.071; p = 0.028$), *Autonomy* ($C_f = 0.098; p = 0.000$), *Environmental mastery* ($C_f = 0.112; p = 0.025$), and *Purpose in life* ($C_f = 0.143; p = 0.000$), as shown in Table 8.

The algorithm that explains the predictive model is:

$$y = 6.13 + 0.152x + 0.098x + 0.112x + 0.143x + (-0.071x).$$

Predictive Model for Maladaptive Style in the Total Group

Similarly, linear regression analysis is performed to build a model that allows predicting the use of maladaptive strategies based on psychological well-being and its dimensions.

The R^2 value of the model shows that the proportion of data in which it is possible to predict the use of maladaptive strategies based on psychological well-being is 24.1% ($R^2 = 0.241$).

On the other hand, the analysis of variance shows that the probability associated with the F statistic is <0.05 ($F = 19.987; P = 0.000$), being able to confirm the construction of a predictive model with these two variables.

With this, the model is formed by the value of the constant ($C = 20.629$) and the coefficients with a probability <0.05 of the variables *Autonomy* ($C_f = -0.127; p = 0.000$) and *Personal growth* ($C_f = -0.119; p = 0.000$), as shown in Table 9.

Thus, the algorithm that explains the predictive model is $y = 20.63 + (-0.127x) + (-0.119x)$.

TABLE 8 | Coefficients of the adaptive style variables in the total group.

	Coefficient	Sig.
Constant	6.132	0.000
Self-acceptance	0.152	0.000
Positive relation with others	-0.071	0.028
Autonomy	0.098	0.000
Environmental mastery	0.112	0.025
Personal growth	0.073	0.054
Purpose in life	0.143	0.000

TABLE 9 | Coefficients of the maladaptive style variables in the total group.

	Coefficient	Sig.
Constant	20.629	0.000
Self-acceptance	-0.024	0.490
Positive relation with others	-0.011	0.706
Autonomy	-0.127	0.000
Environmental mastery	-0.077	0.080
Personal growth	-0.119	0.000
Purpose in life	-0.012	0.717

TABLE 10 | Coefficients of the adaptive style variables in the group of men.

	Coefficient	Sig.
Constant	7.554	0.000
Self-acceptance	0.065	0.265
Positive relation with others	-0.055	0.251
Autonomy	0.064	0.101
Environmental mastery	0.100	0.136
Personal growth	0.140	0.005
Purpose in life	0.146	0.005

That is, the use of maladaptive decision-making strategies is equal to the constant plus the decrease in *Autonomy* by 0.127 times and the decrease in *Personal growth* by 0.119 times.

Predictive Model for Adaptive Style in the Group of Men

The linear regression analysis for the construction of a model that allows predicting the use of adaptive strategies based on psychological well-being and its dimensions in the group of men shows that the proportion of data in which it is possible to predict the use of strategic dimensions is of 26.1% ($R^2 = 0.261$) and the analysis of variance shows that the probability associated with the F statistic is <0.05 ($F = 11.711; P = 0.000$).

In this way, the model is formed by the value of the constant ($C = 7,554$) and the coefficients with a probability of <0.05 for the variables *Personal growth* ($C_f = 0.140; p = 0.005$) and *Purpose in life* ($C_f = 0.146; p = 0.005$), as shown in Table 10.

TABLE 11 | Coefficients of the maladaptive style variables in the group of men.

	Coefficient	Sig.
Constant	19.826	0.000
Self-acceptance	0.002	0.969
Positive relation with others	-0.045	0.291
Autonomy	-0.143	0.000
Environmental mastery	-0.027	0.648
Personal growth	-0.107	0.016
Purpose in life	-0.008	0.856

The algorithm that explains the predictive model is
 $y = 7.55 + 140x + 146x$.

Predictive Model for Maladaptive Style in the Group of Men

On the contrary, the linear regression analysis for the construction of a model that allows predicting the use of maladaptive strategies based on psychological well-being and its dimensions in the group of men shows that the proportion of data in which it is possible to predict the use of adaptive strategies based on psychological well-being is 20% (R squared = 0.200) and the analysis of variance shows that the probability associated with the *F* statistic is <0.05 ($F = 47.302$; $P = 0.000$).

With this, the model is formed by the value of the constant ($C = 19.826$) and the coefficients with a probability <0.05 of the variables *Autonomy* ($C_f = -0.143$; $p = 0.000$) and *Personal growth* ($C_f = -0.107$; $p = 0.016$), as shown in **Table 11**.

Thus, the algorithm that explains the predictive model is
 $y = 19.83 + (-0.143x) + (-0.107x)$.

That is, the use of maladaptive decision-making strategies is equal to the constant plus the decrease in *Autonomy* by 0.143 times and the decrease in *Personal growth* by 0.107 times.

Predictive Model for Adaptive Style in the Group of Women

Regarding the group of women, the linear regression analysis of the adaptive style based on psychological well-being and its dimensions, shows that the proportion of data in which it is possible to predict the use of adaptive strategies based on psychological well-being is 44.2% (R squared = 0.442) and the analysis of variance shows a probability associated with the *F* statistic of <0.05 ($F = 22.68$; $P = 0.000$).

Therefore, according to the values shown in **Table 12**, the model is made up of the value of the constant ($C = 5.314$) and the coefficients with a probability <0.05 of the variables *Self-acceptance* ($C_f = 0.176$; $p = 0.002$), *Autonomy* ($C_f = 0.130$; $p = 0.000$) and *Purpose in life* ($C_f = 0.150$; $p = 0.008$).

The algorithm that explains the predictive model is
 $y = 5.31 + 176x + 130x + 150x$.

TABLE 12 | Coefficients of the variables of maladaptive style in the group of women.

	Coefficient	Sig.
Constant	5.314	0.003
Self-acceptance	0.176	0.002
Positive relation with others	-0.064	0.141
Autonomy	0.130	0.000
Environmental mastery	0.130	0.076
Personal growth	0.009	0.873
Purpose in life	0.150	0.008

TABLE 13 | Coefficients of the adaptive style variables in the group of women.

	Coefficient	Sig.
Constant	21.457	0.000
Self-acceptance	-0.040	0.428
Positive relation with others	0.018	0.649
Autonomy	-0.109	0.001
Environmental mastery	-0.133	0.045
Personal growth	-0.135	0.011
Purpose in life	-0.012	0.816

Predictive Model for Maladaptive Style in the Group of Women

Finally, the linear regression analysis of the variables Adaptive strategies in function of psychological well-being and its dimensions in the group of women, shows that the proportion of data in which it is possible to predict the use of adaptive strategies in function of the psychological well-being of the 30.2% (R squared = 0.302) and the analysis of variance shows that the probability associated with the *F* statistic is <0.05 ($F = 12,399$; $P = 0.000$).

In this way, the model is formed by the value of the constant ($C = 21,457$) and the coefficients with a probability <0.05 of the variables *Autonomy* ($C_f = -0.109$; $p = 0.001$), *Environmental mastery* ($C_f = -0.133$; $p = 0.045$), and *Personal growth* ($C_f = -0.135$; $p = 0.011$), as shown in **Table 13**.

The algorithm that explains the predictive model is
 $y = 21.46 + (-0.109x) + (-0.133x) + (-0.135x)$.

DISCUSSION

The objective of this study was to analyze the potential relationship between adolescents' psychological well-being and their decision-making styles, using Ryff's (1995) dimensions of psychological well-being, and Janis and Mann's (1977) decision-making model. Moreover, differences in the relationship by age and gender were also analyzed, which covers the current gap in this area of research according to gender.

Psychological Well-Being

In reference to the level of psychological well-being, the adolescent students in the study scored slightly above the scale's

average. Furthermore, this score is more than 30 points higher than the scores obtained in similar studies (Figueroa et al., 2005; Escarbajal et al., 2014).

Moreover, if present results are compared with other studies that analyze differences by gender, similar results are found, with psychological well-being slightly higher in males; although the differences are not significant (Zubieta et al., 2012; García, 2016).

Similarly, if the differences in terms of the dimensions that constitute the psychological well-being variable are observed, some studies point to high scores in either of the two gender.

Thus, for example, García (2016) concludes that females obtain significantly higher scores than males in the *personal growth* dimension. This result is similar to that found in our study, although in this case the difference is not significant.

In turn, the research performed by Zubieta et al. (2012) shows that males obtain higher scores than females in the *autonomy* dimension. However, females outperform males in all other dimensions—*positive relations with others*, *self-acceptance*, *environmental mastery*, *personal growth*, and *purpose in life*. These data contrast with those found in this study, in which males obtained higher scores than females in the *autonomy* dimension, but also in *self-acceptance*, *environmental mastery*, and *purpose in life*. However, none of the differences are significant.

Lastly, Raleig et al. (2019) highlight the higher score obtained by females in the *positive relations with other* dimension, which is similar to the difference found in the aforementioned results.

Decision-Making Style

The values found regarding the use of decision-making styles show similar results to those of previous studies. Thus, Bosch et al. (2016) found the same preferential use of the adaptive style by adolescents, although they highlight some variables, such as anxiety or negative interpretation of ambiguous stimuli, that may have a negative impact on use.

However, this is an area that covers a wide field of development, given that there are no prior studies that analyze the preferred decision-making style by gender.

Psychological Well-Being and Decision-Making Style

The results obtained in this study, concerning the relationship between psychological well-being and decision-making style, show a significant and positive correlation between adaptive decision-making strategies and all the psychological well-being variables. In contrast, the preferred use of the maladaptive decision-making style correlates both significantly and negatively with the psychological well-being factors. These results coincide with those found by Trujillo et al. (2015), who conclude that adolescents identify with improvised decision-making processes, the assumption being that this is justified by the desire to live in the moment and a sense of reward from quick-thinking, risky behavior. Similarly, the results obtained in their study reveal that adolescents have a strong perception of external loci of control on their lives.

However, the results obtained show a relationship between the psychological well-being of adolescents and their preferred decision-making style. This is in line with Pincham et al. (2019) hypotheses on adolescents at risk, which states that

improving adolescents' psychological well-being would also mean improving their decision-making skills and the feedback process.

In this regard, it is important to call attention to the conceptualization of the term "decisional competence" according to (Bisquerra Alzina and Pérez Escoda, 2012), and the implications highlighted by Mieles and Alvarado (2012), who argue that the capacity of critical self-reflection and rational judgment is essential for the development of decisional competence. Moreover, these variables must be related to the factors of personal growth and purpose in life in Ryff's model of psychological well-being.

Lastly, Moreno et al. (2011) identified a relevant role for self-esteem, self-efficacy, self-capacity, and self-efficiency in the choice of decision-making strategies. They also found differences by age.

In turn, numerous studies have analyzed the differences between levels of psychological well-being (Ruck et al., 2014; To et al., 2017) and preferential decision-making styles by gender (Blustein and Phillips, 1990; Chaturvedi and Kumari, 2015; Camuñas, 2017; Pincham et al., 2019).

In this respect, the study performed by Trujillo et al. (2015) is particularly relevant. They identified a decision-making style they call "dependent" that has similarities with the maladaptive style outlined in our study which is associated with conditions of low self-esteem, difficulty in establishing stable affective relationships, and lack of purpose in life. These conditions are, in turn, related to low psychological well-being. According to the results, this dependent style is used equally by males and females. In contrast, connecting to the same study, the style defined as "rational" is associated with the careful selection of strategies aimed at achieving future objectives, a hypothesis that also argues that purpose in life and personal growth are essential factors in the psychological well-being variable. Again, these results are also found both in males and females.

These results are similar to those obtained in the present study; in both cases, subjects with a preferential use for adaptive decision-making strategies also have a high score in psychological well-being and in the factors that comprise the variable, and vice versa. However, in his study on decisional competence, Camuñas (2017) found differences in the variables by gender associated with factors such as anxiety or stress in sport. Similar results were found by Gil et al. (2010), who include time and anxiety as important variables in the preferential use of the hypervigilance style throughout adolescence.

CONCLUSIONS

Psychological Well-Being

The conclusions of the analyzes carried out in accordance with the objectives of the study, and in comparison with other studies, highlight the fact that adolescents assess their psychological well-being above the average of other profiles of adolescents analyzed. This aspect is directly linked with good quality of life and mental health.

The factors that explain and determine psychological well-being vary greatly depending on evolutionary characteristics and personality traits.

It is important to bear in mind that social phenomena directly affecting gender roles have a direct impact on factors such as establishing relationships, life goals, and behavior relating to autonomy. Thus, gender is a demographic variable that can have an important impact on psychological well-being and its factors.

The slight differences between males and females in the subjective perception of psychological well-being makes advisable to continue establishing educational programs that enhance the dimensions of *self-acceptance*, *environment mastery*, *autonomy*, and *purpose in life* in females; and develop *positive relationships with others* and *personal growth* in males. A compensatory approach to these differences would enhance the perception of subjective well-being in both genders.

Decision-Making Style

The conclusions of this study suggest that adequate training in decision-making involves the appropriate development of decision-making skills. Similarly, there are statistically significant differences in the interaction between decision-making styles, with the adaptive style the preferred choice.

Differentiating by gender, males score higher than females in both adaptive and maladaptive decision-making styles. However, these differences are not statistically significant for the variable maladaptive style, and it can be concluded that both genders make similar use.

In contrast, the difference between genders for the adaptive style is statistically significant, which enables to conclude that there are differences in preferred styles by adolescents by gender; with the male sample showing a greater preference for the adaptive style.

If socio-emotional variables, such as anxiety or the negative interpretation of ambiguous stimuli, which affect the use of adaptive decision-making as highlighted by Bosch et al. (2016), are considered, it is important to design educational programs to train adolescents in decision-making skills. Special attention should be given to the area involving emotions as a previous step to enable adolescents to make more rational decisions. This proposal is especially important in the adolescent stage given that, according to Mann and Friedman (2002), at 15 years of age individuals are cognitively prepared to make decisions with a similar capacity of adults. It is therefore important to offer the relevant experiences that allow them to acquire and practice this skill in order to become fully competent. In this endeavor, formal, non-formal and informal educational settings have an equally important role to play.

Similarly, in order to increase the use of the adaptive decision-making style in adolescent females, it is important to work on aspects such as self-esteem and self-efficacy to help them to perceive themselves as effective decision-makers. Moreover, it is important to make a pedagogical effort in society to improve the perception of females as decision makers.

Psychological Well-Being and Decision-Making Style

This study has evidenced the existing relationship between psychological well-being and the decision-making style. Thus, adolescents with a higher level of wellbeing show a marked

preference for adaptive decision-making strategies. This aspect of subjective wellbeing emphasizes satisfaction with one's own life, development of skills and self-realization.

Along the same lines, the decision-making stages suggested by Byrnes (2002) are directly related to the factors that constitute psychological wellbeing according to Ryff's model. Thus, the stage of establishing objectives and the search for alternatives to achieve them coincides with the purpose in life factor, which assesses people's ability to define their life goals and establish appropriate ways to reach them.

According to the tenets of the Social Cognitive Theory, adolescents suffer from a lack of self-confidence and self-determination. The contents of these two dimensions coincide with the dimensions of *self-acceptance*, *autonomy*, and *purpose in life* in the variable psychological well-being. In other words, adolescents who have less autonomy, lower self-acceptance and fewer purposes in life use more maladaptive decision-making strategies, such as improvisation.

In contrast, a marked preference for adaptive decision-making strategies is related to greater psychological well-being, which reinforces the value and importance given to peers and the power of the group during this developmental stage.

In order to increase adolescents' subjective perception of their own psychological well-being, we recommend creating programs in secondary schools that include information processing and allow adolescents to activate critical thinking and promote their decision-making skills. Competence-boosting programs would make possible to establish objectives, collate possible alternatives for achieving them, prioritize the alternatives under criteria of importance, and select the best alternative in terms of the decision-making context (Byrnes, 2002). Such programs should be enriched with work modules that enhance adolescents' subjective perception of psychological well-being, which are linked to the dimensions devised by Ryff, and based on the decision-making styles acquired by adolescents.

The importance of this fundamental stage in the development of decision-making skills should be emphasized, along with its relationship with psychological well-being. The formative and educational processes in high schools would benefit from a teaching approach which accompanies adolescents from the very beginning of their secondary stage until they reach the threshold of youth. This opportunity would facilitate the development of decision-making skills linked to cognitive maturation, the development of abstract thought, and environmental mastery (Raleig et al., 2019).

The academic decisions that are taken in the near future are an excellent opportunity to teach students to use an adaptive decision-making style and, consequently, increase their subjective psychological well-being. This perspective, with the support of teachers and family members, and taking into account the challenging identity process of adolescence, could reinforce self-acceptance and the dimensions of subjective well-being. All that promotes greater self-esteem which, in turn, has a direct impact on the use of different decision-making styles (Bethencourt and Cabrera, 2011).

Lastly, the high correlation between decision-making styles and psychological well-being and its dimensions in the two

gender samples indicates that educational strategies should be the same for males and females. The results show both gender samples, male and female, value the dimensions with the same degree of importance.

Finally, observing the results of the linear regression analysis, the implication of all the dimensions of psychological well-being in the development of adaptive decision-making strategies in Spanish adolescents can be concluded. Thus, as highlighted in the algorithm that predicts decision-making competence, empowerment of self-acceptance and autonomy, a greater mastery of the environment and the establishment of vital goals implies an increase in the use of adaptive decision-making styles.

These results invite to create an educational intervention with adolescents from various aspects, including formal and non-formal education programs.

This proposal requires an absolute adjustment to the Spanish social and educational model.

On the one hand, the taxonomic works carried out by authors such as Elzo (2016), different categories of adolescents in Spanish society. However, all these categories coincide in attributing to adolescents an interest and concern for their future, being determined to establish goals and objectives. Similarly, the levels of self-esteem and autonomy of Spanish adolescents are, in general, above average. This situation is a very good starting point for the intervention of education professionals. In this sense, the Spanish legislation on regulated education includes the planning of competences, objectives and evaluation criteria for the variables indicated above, from the Early Childhood stage to Baccalaureate.

In addition, this work must be carried out both in the subjects of the common subjects and in the specific subjects that the Spanish curriculum proposes for the education of the personal skills of the students, such is the case of the subject Social Values and civic.

However, the context of non-formal education in Spain is wide and must also be an agent of intervention in the formation of the decision-making competence of adolescents. In this sense, the associative fabric that works with adolescents involved in their educational programs must be promoted, the empowerment of autonomy, self-acceptance, mastery of the environment, the establishment of goals in life and the establishment of positive social relationships such as The way to get Spanish adolescents to use mostly adaptive decision-making strategies.

Finally, if you analyze the variables that protect the most from the use of maladaptive strategies, you can see that it is Autonomy and life parameters. Furthermore, these variables exercise this

protective role for both the men's and women's groups, so it is especially important to influence these two dimensions.

LIMITATIONS AND FUTURE RESEARCH

The limitations of this study indicate the need for a greater differentiation by age range within the concept of adolescence, a broader sample of educational contexts, and greater influence in the programs implemented in education centers in order to enhance the variables.

In this respect, future research possibilities should be addressed to:

Explore the potential relationship of the variables and the social and emotional relationships that adolescents themselves experience within their peer group, the family and/or the educational environment.

Expand the subjective assessment and subjective well-being in different contexts or spheres where adolescents develop.

Explore decision-making based on the influence of social relationships and the regulation of emotions.

Expand on the cognitive processes involved in decision-making skills, the stages of the decision-making process, and the limitations that affect the development of this competence.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

AUTHOR CONTRIBUTIONS

JG-L and FL-N performed the analysis of the state of the matter and drafted the introduction and method. JP-G developed the hypothesis, analyzed the data, and wrote, together with MR-M, the results and discussion. MR-M conducted a general review of the entire document. JG-L helped with the data analysis. All authors read and approved the final manuscript.

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Psychological Well-Being in a Connected World: The Impact of Cybervictimization in Children's and Young People's Life in France

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The Internet is at the heart of our children's and adolescents' way of life. Although it opens up many positive perspectives in terms of access to information, knowledge, and communication, it also presents risks and potential negative experiences that can have severe consequences at the individual level. In this paper, we are interested in studying the link between cybervictimization, psychological well-being, and social competence. More specifically, we want to study how children and adolescents' anxiety, impulsivity, self-esteem, and deviant behaviors may be related to cybervictimization. We collected data from 1019 children and young people in France aged 9–17 in the context of the EU Kids online survey. Sampling was performed building a random-probability nationally representative sample of households with children using the Internet. Participants completed a questionnaire online by computer-assisted self-interviewing (CASI). Structural equation model reveals that (1) cybervictimization is related to lower well-being, such as anxiety and low self-esteem, as well as lower social competence, such as impulsivity and deviant behaviors, and that (2) all dimensions of (non)well-being and social (in)competence are related to each other. Findings are discussed in the light of Agnew general strain theory and previous research findings on the consequences of cybervictimization.

Keywords: cybervictimization, well-being, mental health, consequences, deviant behavior

INTRODUCTION

The EU Youth Strategy states, “The health and well-being of young people should be supported, with a focus on the promotion of mental and sexual health, sport, physical activity and healthy lifestyles, as well as the prevention and treatment of injury, eating disorders, addictions and substance abuse.” Although well-being is largely influenced by socioeconomic conditions, findings from the OECD (2015) highlight that countries with similar levels of growth can have different

well-being profiles and that there are gaps within countries and between different categories of population (youth–adults, men–women, etc.). Beyond economic factors, personal experiences, such as (cyber)bullying and violence, are related to young people’s well-being. Over the last decade, there has been a growing interest in the link between bullying, cyberbullying, and well-being; school climate, socioemotional development; and school achievement (O’Malley et al., 2012; Moisan, 2015; Shute and Slee, 2016; Poulin et al., 2018). Research highlights the importance of creating a safe and caring school environment and empowering students to build strategies to promote and safeguard their social and emotional well-being (Swearer et al., 2010).

The use of the Internet is worldwide and has become part of our daily lives. The 2015 PISA survey shows that 95% of 15-year-olds have Internet access at home. Young people are the most frequent users of the Internet and communicate on social media on a daily basis. In France, according to the latest Junior Connect 2018 survey on the digital practices of young people conducted by the IPSOS polling agency (4700 young people under 20), 13- to 19-year-olds spend more than 15 h a week on the Internet, and 7- to 12-year-olds about 6 h. Internet consumption increased by 45 min per day between 2015 and 2017 to the detriment of television even though it remains the main medium in terms of time spent on screens. It is, thus, important to understand how the use of such communication tools may be related to the well-being of children and young people.

As previously mentioned (Corcoran et al., 2015; Baldry et al., 2018), cyberbullying is related to a great variety of concepts and measures. Most authors agree on defining cyberbullying as (1) online aggressive and violent behaviors (2) that use electronic communication tools to bully others (Smith et al., 2013). However, some researchers consider cyberbullying to be the mere reproduction of bullying. In this conceptualization, cyberbullying refers to the intentional and repeated aggression over time within an imbalanced relationship between the victim and her/his aggressors using electronic tools of communications to perpetrate these aggressions (Smith and Steffgen, 2013). Others insist on the necessity to differentiate cyberbullying from cyberviolence, cyberstalking, cyberharassment, and cybervictimization (Wachs, 2012; Sticca et al., 2013; Corcoran and Mc Guckin, 2014; Blaya, 2015). In this paper, we refer to online victimization using the term “cybervictimization” as we did not include repetition and duration in our analyses and the intentionality is challenging to define.

Studies on French children and young people show a high prevalence of cyberaggression, amounting to up to 42% for cybervictimization and 6% for cyberbullying among 12- to 16-year-old respondents (Blaya and Fartoukh, 2015). This result is supported by Rémond et al. (2015), who interrogated 272 young people aged 16–18 and concluded that 35% of the respondents were victimized during the school year. Research has shown that cyberbullying is associated with many negative outcomes (Navarro et al., 2012; Álvarez-García et al., 2015) and that these outcomes can be both internalizing and externalizing problems (Hinduja and Patchin, 2019).

In the wake of the previous research mentioned above, we aim to assess how cybervictimization may be correlated with different

aspects of well-being and social competence, such as how young people (1) feel anxious, (2) have low self-esteem (i.e., feel judged by others as being less intelligent and being less well treated by others), (3) are impulsive, and (4) adopt deviant behavior (i.e., tend to lie, steal, and fight). We also investigate how each type of the negative experiences mentioned above is related to each other.

RESEARCH BACKGROUND

Psychological Well-Being and Social Competence

In this article, we draw from Houben et al. (2015) definition of well-being as they understand this concept as “a broad construct that involves either or both the presence of positive indicators of psychological adjustment such as positive emotionality, happiness, high self-esteem, or life satisfaction, and the absence of indicators of psychological maladjustment such as negative emotionality, psychopathological symptoms and diagnoses” (Houben et al., 2015, p. 901). This definition includes two main dimensions of well-being as they have been previously identified in the literature, namely the hedonic and eudaimonic dimensions. The hedonic part of well-being implies the maximization of positive affect and the minimization of negative affect (Disabato et al., 2016). Regarding the eudaimonic dimension, this refers to Aristotle’s work, in which well-being is more than happiness and pleasure, but instead regroups the capacity of being true to oneself and to evaluate one’s own functioning in life in order to work toward personal growth (Houben et al., 2015; Disabato et al., 2016). This definition highlights that well-being is related to the presence of positive elements (such as self-esteem) and the absence of negative elements (i.e., anxiety). Based on this definition, we consider well-being as including (1) high self-esteem and (2) absence of anxiety. High self-esteem is related to feelings of worth and self-respect (Rosenberg, 1965), and low self-esteem refers to feelings of self-rejection or self-contempt (Holopainen et al., 2012).

Although these variables are central on the individual level, we believe it is also important to consider variables related to social interactions and, more specifically, social competence (Romera et al., 2017). Social competence is defined as the capacity of interacting effectively with others (Rose-Krasnor, 1997). It comprises people’s impulsivity as well as disruptive or deviant behavior, reflecting some inability/difficulty to adapt in a relevant way to the dominant context (Holopainen et al., 2012). Impulsivity is defined as a difficulty to inhibit reactions, to wait for an outcome, and to plan ahead (Bear and Nietzel, 1991). Moreover, impulsivity manifests itself in terms of distractibility and high behavioral activity (White et al., 1994). Interestingly, there is scientific evidence that cybervictimization affects the victims’ capacities of concentration and, as a consequence, their academic performance (Baldry et al., 2018; Sorrentino et al., 2019). Although impulsivity is a risk factor for antisocial behavior, deviant behavior is directed toward others with a voluntary intention of annoying or harming them (Holopainen et al., 2012). As Kaplan reveals, people behaving disruptively

or in a deviant way are teasing, annoying, or disturbing others (Kaplan et al., 2002). Literature suggests that low levels of social competence are related to antisocial behavior (Arce et al., 2011), whereas improving social competence may prevent involvement in cybervictimization (Gradinger et al., 2016).

Cybervictimization and Well-Being of Children and Young People

Cybervictimization is correlated with negative outcomes for individuals that might be persistent and lifelong. Research shows that cybervictimization is related to increased internalizing (Lucas-Molina et al., 2018; Hinduja and Patchin, 2019) and externalizing negative behaviors and outcomes (Katzner et al., 2009; Sourander et al., 2010; Müller et al., 2018). Scholars have identified three major categories in terms of consequences: emotional and psychological consequences, academic and school-related consequences, and engaging in deviant behaviors.

Cybervictimization can be linked to emotional harm and high levels of mental health issues. This is particularly true when cybervictimization is performed using images and videos (Fahy et al., 2016; Yıldırım et al., 2017). It can also be related to lower self-esteem (Chang et al., 2013; Cénat et al., 2014; Tsaousis, 2016), high levels of anxiety (Campbell et al., 2012), distress, suicidal ideation and depression (Litwiller and Brausch, 2013; Rose and Tynes, 2015; Chu et al., 2018), alexithymia (Wachs et al., 2017), loneliness (Wright and Wachs, 2019), identity erosion, anger, fear, adopting violent behaviors, and suicide ideation (Tynes, 2005; Raskauskas and Stoltz, 2007; Didden et al., 2009; Blaya, 2010). Beyond the binary approach of victimized/not victimized, intersectional approaches focusing on bias (cyber)bullying show that minority students are more at risk of being cybervictimized. Research by Felmlee and Faris (2016) finds that homosexual and transsexual young people are four times more at risk of being cyberbullied than other young people. Minority groups are also subjected to more online hate both in the United States and in Europe (Llorent et al., 2016; Räsänen et al., 2016). Research shows that this type of aggression is motivated by prejudice toward individuals or communities and the victims' real or supposed group/community membership (Poteat et al., 2014). This kind of aggression has even stronger negative effects. Wright and Wachs (2019) focus on the moderating effects of ethnicity on the consequences of cybervictimization and school attachment among seventh- and eighth-grade students. Their results highlight that Latinx respondents' depression and anxiety levels were positively linked to cybervictimization and that they were strengthened by low levels of school attachment. On their side, Edwards et al. (2016) show that Latinx adolescent cybervictims revealed more suicidal ideation, depression, and suicidal behaviors than their Asian and Caucasian counterparts. Sexual minority youth are also notably vulnerable groups in terms of victimization (Kosciw et al., 2016; Elipe et al., 2018).

Literature further highlights that cybervictimization may be related to enhanced aggressive behaviors as well as internalizing and externalizing problems (Tsitsika et al., 2015; Fisher et al., 2016). In France, Kubiszewski et al. (2013)

compared externalizing and internalizing consequences of cyberbullying and traditional bullying. Their findings show that cybervictimization has significant consequences in terms of mental health as cybervictims scored higher in terms of depressive feelings.

School-related consequences range from school avoidance (Payne and Hutzell, 2017), negative perceptions of school climate, decreased school well-being, and fear to go to school (Blaya, 2015) as well as reduced concentration capacities and lower academic achievement. Victimized youth may also be at increased risk of using substances, experiencing difficulties in school, participating in delinquent behavior, and engaging in unsafe sexual practices (Kowalski et al., 2014; Tsitsika et al., 2015). Goebert et al. (2011) and also Kowalski and Limber (2013) and Graham and Wood (2019) highlight that being cybervictimized is related to negative feelings among victims, such as anxiety or depression. Moreover, they show that cybervictimization is related to an increased probability to adopt deviant behaviors, such as self-harm, aggression, or delinquency. General strain theory of deviance (Agnew, 1992) shows how individuals can react to negative and stressful experiences or interpersonal relationships by adopting deviant behaviors. As cybervictimization is a negative interpersonal experience, we hypothesize that it is likely to be associated with deviant behaviors as a way of releasing stress caused by aggression or to cope with negative emotions.

The Present Study

This paper is based on data collected as part of the EU Kids Online Survey. The purpose of this article is to study how psychological well-being and social competence are related to cybervictimization among young people in France. As the review of literature shows, previous research mostly focuses on internalizing dimensions of well-being and cybervictimization. In the wake of research proposed by Kubiszewski et al. (2013); Tsitsika et al. (2015), and Wright and Wachs (2019), we are interested not only in (internalizing) psychological well-being, but also in social competence and their link with cybervictimization. Results are drawn from a nationally representative sample in France, which was never performed before. We also examine which type of victimization (i.e., private or public victimization, online exclusion, online threat, or online compelling to do something) is most pernicious regarding both internalizing and externalizing dimensions of well-being. Our hypotheses are that different types of cybervictimization may be more strongly related to specific dimensions of young people's well-being and social competence as suggested by Menesini et al. (2011), Ortega et al. (2012), or Mitchell et al. (2016). Ortega et al.'s (2012) research highlights that the emotional impact of cyberbullying depends on the type of cyberbullying. On their side, Mitchell et al. (2016) show that, when cyberbullying involves several perpetrators and is related to off-line events, it generates more severe psychological consequences. In the wake of these findings, our objective was to replicate similar research on a nationally representative sample in France.

MATERIALS AND METHODS

Sample

The survey was completed by 1019 respondents aged 9–17 (Mean = 14.02, $SD = 2.48$). Slightly more than half of the sample were boys ($n = 564$, 55.34%). Most of the participants ($n = 983$, 96.4%) reported that French was the main language spoken at home. **Table 1** shows the demographic characteristics of the participants. Sampling was performed building a random-probability nationally representative sample of households with children using the Internet. Participants were included on the basis of national data by the National Institute for Statistics for the following criteria: age of the child, sex of the child, region, urban/rural areas, parents' occupation.

Measures

We used the questionnaire built in the context of the EU Kids online survey. It is based on the questionnaire from the EU Kids online survey of 2010 and the Global Kids Online survey and was updated to meet the current evolutions of Internet use (Smahel et al., 2020). The full questionnaire in English and its national translations are available at www.eukidsonline.net. The questionnaire consisted of several groups of questions regarding (1) sociodemographic characteristics of participants, (2) their digital practices, (3) their experiences of bullying in schools as well as cybervictimization, (4) their experiences of cyberhate (i.e., exposure, victimization, and perpetration of hate online), (5) their attitudes toward religion, (6) their attitudes toward violence and racism, and (7) questions regarding their peer group. Participants further had to assess their level of psychological well-being (i.e., anxiety symptoms and self-esteem) as well as their social competence (i.e., impulsivity and deviant behavior). In this article, we focus on the questions referring to experiences of cybervictimization, well-being, and social competence.

TABLE 1 | Presentation of the sample.

	<i>N</i>	(%)
Gender		
Male	564	55.34
Female	455	44.65
Main Language spoken at home		
French	983	96.4%
Other	79	7.75%
Parental occupation		
Farmer	10	0.98%
Craftsmen, shopkeeper, business leader	89	8.73
Executives and senior professionals	204	20.02
Intermediate professions	227	22.27
Employees	180	17.66
Workers	240	23.55
Retired	22	2.15
With no activity	47	4.61
Region		
Urban	785	77.03%
Rural	234	22.96%

Cognitive testing for 45 children aged 9–11 and 12–17 was performed to check and ensure comprehension and identify potential sources of measurement error. It was also piloted prior to the online survey to test the online implementation with 179 young people from the total age range of the sample in France.

Cybervictimization

Cybervictimization was measured by six items ($\alpha = 0.78$, $\omega = 0.81$). Participants were asked if, during the last 12 months, they (1) had received privately mean/nasty or unpleasant messages (item 1), (2) had someone publicly publish mean or unpleasant messages about them (item 2), (3) been left out or excluded from a group or activity on the Internet (item 3), (4) were threatened online (item 4), (5) were forced to do something they didn't want to do (item 5), or (6) experienced other unpleasant or nasty things on the Internet (item 6). Participants could answer on a yes, no, I do not know scale. For the analyses, data were recoded as "1" for yes and "0" for no. Seventy-two participants (7.06% of the sample) selected the "I do not know" answer represented, and these values were considered as missing in the analyses.

Psychological Well-Being

Well-being was measured by two subdimensions. The first dimension was related to participants' anxiety ($\alpha = 0.86$, $\omega = 0.87$). The five items of this dimension asked participants whether they had lots of worries, if they were often unhappy or sad, and if they were often scared. The second dimension consisted of four items measuring participants' self-esteem ($\alpha = 0.85$, $\omega = 0.86$) with items such as "people think that you are not intelligent" and "other people seem to think that they are better than you." For all these items, participants were asked to answer on a scale ranging from "1" (not true at all) to "5" (totally true).

Social Competence

Social competence was measured by two subdimensions related to (1) deviant behavior and (2) impulsivity (Holopainen et al., 2012). For each item, participants were asked to assess how each affirmation was true about them. The first dimension was designed to measure participants' deviant behavior and consisted of five items such as "How true are these things about you: you get very angry and often lose your temper" ($\alpha = 0.69$, $\omega = 0.77$). The second dimension regrouped five items assessing a participant's impulsivity, such as if they felt agitated, if they felt easily distracted, and if they thought a lot before doing anything ($\alpha = 0.69$, $\omega = 0.86$). For all these items, participants were asked to answer on a scale ranging from "1" (not true at all) to "5" (totally true).

Procedure

Data was collected in June 2018 in the context of the EU Kids online survey (see **Table 1**). As the questionnaire was first designed in English, it was translated into French and then back into English to check on the validity and potential errors of translation. After piloting with all age ranges ($n = 59$), we decided to administer the same questionnaire to the younger

and older participants as we did not identify any cognitive difficulty in the understanding of the questions or problems with the online survey. Data were collected by the OpinionWay polling agency, and the procedure complied with the national rules and procedure norm ISO 20252. Participants completed a questionnaire online by computer-assisted self-interviewing (CASI). The advantage of using an online questionnaire is that it allows a more playful visual layout for the young participants. In addition, because of the very personal nature of certain questions, the online self-administration method reduces the effects of social desirability and prevents respondents from feeling uncomfortable or judged by their responses.

Parents were asked to kindly keep away from their child while he/she was completing the survey. There was an adult referent from OpinionWay who could be contacted. The anonymity of participants was preserved, and all participants' parents provided their active written consent.

Data were weighted for age and gender. Weighting was to meet the national representativity, and the margin of uncertainty was 1.5–3 points at the most for a sample of 1000 respondents.

Data Analyses

Data were analyzed with R using the lavaan package (Rosseel, 2012) and consisted of three steps: descriptive statistics, structural equation modeling (SEM), and correlational analyses. We first report descriptive analyses on the prevalence of participants' involvement in cybervictimization. In the SEM analysis, we tested how facing cybervictimization was related to specific dimensions of well-being (i.e., anxiety and self-esteem) as well as social competence (i.e., impulsivity and deviant behavior). We controlled for participants' age, gender, and cyberaggression perpetration by introducing them as predictors of cybervictimization. Items were kept to define their latent factor if their loadings were equal or higher than 0.400. As most of our variables were categorical or ordered data, we used the WLSMV estimator. This estimator does not assume normally distributed variables and is recommended to analyze this kind of data (Brown, 2006). Finally, we were interested in examining how each item of cybervictimization is related with well-being and social competence. We, thus, aggregated anxiety, self-esteem, impulsivity, and deviant behavior and correlated them with each item of cybervictimization.

To assess the model's goodness-of-fit, we relied on indices having different measurement properties as recommended by Hu and Bentler (1998). Thus, we used the root-mean-square error of approximation (RMSEA), the comparative fit indices (CFI), and the Tucker–Lewis index (TLI). Browne and Cudeck (1992) suggest that models with RMSEA below 0.05 are indicative of good fit and that values up to 0.08 reflect reasonable errors of approximation. The CFI statistic (McDonald and Marsh, 1990) reflects the “distance” of the model from the perfect fit. It is generally acknowledged that a value greater than 0.9 reflects an acceptable distance to the perfect fit. We also reported the TLI (Tucker and Lewis, 1973), which accounts for the model complexity. The TLI indicates how the model of interest improves the fit in relation

to the null model. As for the CFI statistic, a TLI value equal to or greater than 0.9 reflects an acceptable distance to the perfect fit.

RESULTS

Descriptive Statistics

Before analyzing our SEM results, we first provide descriptive analyses regarding participants' experience of cybervictimization (Table 2). These results suggest that respondents were not very often victims of cybervictimization. However, such analysis highlights that the most frequent type of cybervictimization is receiving mean or insulting messages (12.48% yes) followed by being left out or excluded from a group or activity on the Internet (8.27% yes).

We then report descriptive statistics of the items measuring participants' well-being (Table 3: mean, standard deviation, skewness, and kurtosis) for victims (i.e., participants who responded at least once positively to the items presented in Table 1) and for the non-victim participants. As the scale was ranging from 1 to 5, results suggest that participants scored relatively low on these dimensions; however, victims tend to systematically score higher on these scales, revealing that they have lower levels of well-being and social competence than non-victim respondents.

SEM Results

The model provided a good fit (RMSEA = 0.037, CFI = 0.993, TLI = 0.993, $\chi^2/df = 2.191$). Graphical depiction is provided in Figure 1. Factor loadings are reported in Table 4 and correlations between latent factors in Table 5.

Regarding the model *per se*, after controlling for gender ($b = 0.178$, 95% CI = [−0.006; 0.362], $p = 0.058$), age ($b = 0.04$, 95% CI = [−0.001; 0.082], $p = 0.056$) and cyberaggression perpetration ($b = 1.153$, 95% CI = [0.547; 1.759], $p = 0.001$), results reveal that being a victim is positively related to anxiety ($b = 0.254$, 95% CI = [0.175; 0.333], $p = 0.001$), self-esteem ($b = 0.203$, 95% CI = [0.134; 0.272], $p = 0.001$), impulsivity ($b = 0.234$, 95% CI = [0.157; 0.31], $p = 0.001$), and disruptive behavior ($b = 0.206$, 95% CI = [0.132; 0.281], $p = 0.001$). Together these results suggest that the more people report being victims, the lower they score on well-being and social competence.

Regarding correlations between specific negative dimensions of well-being and social competence, results reveal that all latent factors were positively and significantly related. More specifically, results show a significant and positive correlation between disruptive behavior and impulsivity ($b = 0.458$, 95% CI = [0.403; 0.512], $p = 0.001$), anxiety ($b = 0.381$, 95% CI = [0.332; 0.431], $p = 0.001$), and self-esteem ($b = 0.276$, 95% CI = [0.222; 0.33], $p = 0.001$). Results further highlight a positive correlation between anxiety, self-esteem ($b = 0.249$, 95% CI = [0.201; 0.297], $p = 0.001$), and impulsivity ($b = 0.32$, 95% CI = [0.267; 0.373], $p = 0.001$). Finally, results reveal a significant positive correlation between impulsivity and self-esteem ($b = 0.28$, 95% CI = [0.226; 0.335], $p = 0.001$).

TABLE 2 | Proportions of victims of cybervictimization.

Cybervictimization	No (%)	Don't know (%)	Yes (%)
Item 1 Receiving privately mean messages	827 (85.78)	17 (1.76)	120 (12.44)
Item 2 Victim of online published mean messages	888 (91.92)	27 (2.79)	51 (5.27)
Item 3 Excluded from a group/activity online	868 (89.76)	19 (1.96)	80 (8.27)
Item 4 Threatened on Internet	911 (94.69)	14 (1.45)	37 (3.84)
Item 5 Forced to do something online	914 (95.01)	19 (1.97)	29 (3.01)
Item 6 Experience other mean things on Internet	909 (94.29)	18 (1.86)	37 (3.83)

TABLE 3 | Descriptive statistics of well-being items for victims and non-victims of cybervictimization.

	Mean (victims, <i>n</i> = 185)	<i>SD</i>	Mean (non-victims, <i>n</i> = 834)	<i>SD</i>	Skew	Kurtosis
Anxiety						
Item 1 You worry a lot	2.36	0.98	1.85	1.00	0.51	-0.58
Item 2 You are nervous in some new situations, you easily lose confidence	2.32	1.02	1.80	1.02	0.65	-0.53
Item 3 You often have headaches, stomach aches or nausea	1.94	1.02	1.40	0.78	1.40	1.44
Item 4 You are often unhappy, sad or crying	1.87	0.96	1.40	0.74	1.27	1.27
Item 5 You have a lot of fears and you are easily scared	1.98	0.95	1.53	0.87	1.05	0.46
Self-esteem						
Item 1 Other young people/children are treated better than you	1.51	1.00	1.22	0.76	1.52	2.70
Item 2 People seem to think you're not smart	1.64	0.93	1.24	0.74	1.54	2.44
Item 3 The others seem to think they're better than you.	1.82	1.06	1.36	0.93	0.99	0.59
Item 4 The others give you mean nicknames or they insult you	1.56	0.87	1.24	0.70	1.99	4.04
Impulsivity						
Item 1 You're agitated, you can't stay still for very long.	1.95	0.98	1.57	0.91	1.04	0.13
Item 2 You finish the job you are given, you have a good ability to concentrate	2.36	1.01	2.56	1.14	-0.25	-0.96
Item 3 You're always moving or squirming all the time	1.93	0.97	1.75	1.03	0.84	-0.35
Item 4 You are easily distracted and find it difficult to concentrate	2.39	1.03	1.82	0.99	0.59	-0.66
Item 5 You think before you do things	2.44	0.94	2.53	1.05	-0.24	-0.63
Deviant behavior						
Item 1 You get very angry and often lose your temper	2.00	1.06	1.61	0.92	0.99	0.08
Item 2 In general, you do what you are asked to do	2.62	0.94	2.58	1.04	-0.50	-0.49
Item 3 You fight a lot, you can make others do whatever you want.	1.43	0.88	1.16	0.57	2.40	6.58
Item 4 You are often accused of lying or cheating	1.64	0.90	1.29	0.67	1.70	2.76
Item 5 You take things that don't belong to you at home, at school or elsewhere	1.49	0.85	1.15	0.57	2.59	7.07

Correlational Analyses

Correlations are presented in **Table 6** below. These reveal that all dimensions of cybervictimization are strongly related to all dimensions of well-being as well as social competence. Interestingly, items are particularly related to deviant behaviors (all $r > 0.200$), and this is especially true for people who were forced to do something online ($r = 0.288$, $p < 0.001$) or who suffered from mean things on the Internet ($r = 0.263$, $p < 0.001$). This means that the more people were forced to do something online and the more they suffer from mean things on the Internet, the more deviant behaviors they had. Being forced to do something online and suffering from things online were also related to low self-esteem ($r = 0.264$, $p < 0.001$; $r = 0.272$, $p < 0.001$, respectively) as well as being threatened on the Internet ($r = 0.244$, $p < 0.001$). Finally, receiving mean messages is positively related to anxiety ($r = 0.232$, $p < 0.001$).

These elements suggest that the coercive and threatening dimensions of cybervictimization are negatively related to youth's deviant behavior and self-esteem.

DISCUSSION

This paper aimed to study how psychological well-being and social competence are related to cybervictimization of young people in France. To our knowledge, there was no other similar study based on a nationally representative sample in this country.

Descriptive statistics show that although victims were not that numerous, more than one respondent in 10 (12.5%) had received mean or insulting messages, and 8.27% were ostracized from an online activity. Other types of victimization were marginal. The findings of our survey show that cybervictimization is associated with strong negative consequences, such as higher anxiety and lower self-esteem, confirming previous conclusions from research in France (Kubiszewski et al., 2013). Together, these results suggest that the more people report being victims, the higher they score on all the negative dimensions of well-being assessed in this paper. Moreover, cybervictimization is also correlated with lower social competence, such as impulsivity and deviant behavior. Our results meet previous evidence that cybervictimization is a major mental health hazard

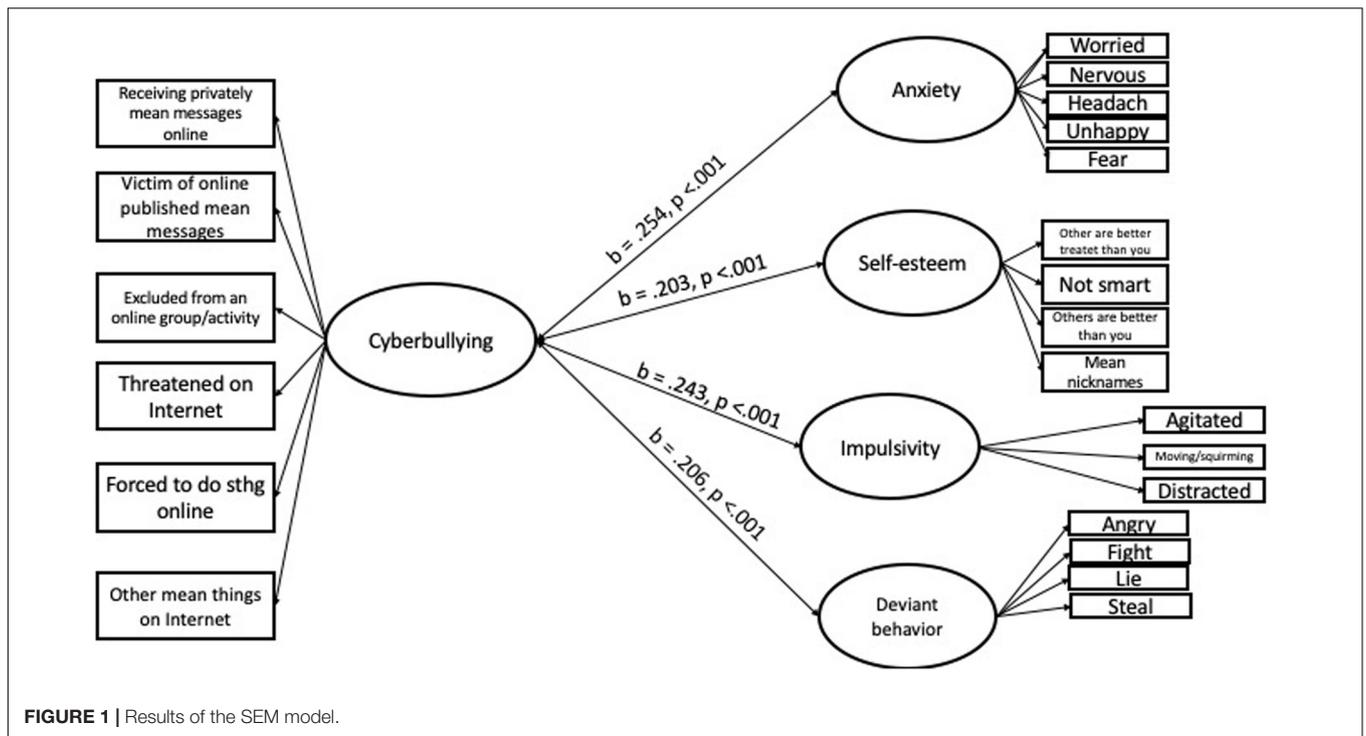


TABLE 4 | Factor loadings.

Dimension	Standardized estimate	SE	Est/SE	p-value	Lower CI	Upper CI
Anxiety						
Item 1 You worry a lot	1.000	0.000			1.000	1.000
Item 2 You are nervous in some new situations, you easily lose confidence	1.166	0.044	26.25	0.001	1.079	1.253
Item 3 You often have headaches, stomach aches or nausea	1.064	0.049	21.91	0.001	0.969	1.159
Item 4 You are often unhappy, sad or crying	1.240	0.047	26.43	0.001	1.148	1.332
Item 5 You have a lot of fears and you are easily scared	1.021	0.047	21.56	0.001	0.928	1.114
Self-esteem						
Item 1 Other young people/children are treated better than you	1.000	0.000			1.000	1.000
Item 2 People seem to think you're not smart	1.202	0.063	19.11	0.001	1.079	1.325
Item 3 The others seem to think they're better than you	1.147	0.061	18.83	0.001	1.027	1.266
Item 4 The others give you mean nicknames or they insult you	1.196	0.073	16.27	0.001	1.052	1.340
Impulsivity						
Item 1 You are agitated, you can't stay still for very long.	1.000	0.000			1.000	1.000
Item 3 You are always moving or squirming all the time	0.844	0.038	22.31	0.001	0.770	0.918
Item 4 You are easily distracted and find it difficult to concentrate	0.958	0.041	23.40	0.001	0.878	1.039
Deviant behavior						
Item 1 You get very angry and often lose your temper	1.000	0.000			1.000	1.000
Item 3 You fight a lot, you can make others do whatever you want.	0.816	0.056	14.56	0.001	0.706	0.926
Item 4 You are often accused of lying or cheating	0.985	0.045	22.02	0.001	0.898	1.073
Item 5 You take things that don't belong to you at home, at school or elsewhere	0.960	0.051	18.76	0.001	0.860	1.061
Cybervictimization						
Item 1 Receiving privately mean messages online	1.000	0.000	NA		1.000	1.000
Item 2 Victim of online published mean messages	1.108	0.133	8.35	0.001	0.848	1.368
Item 3 Excluded from an online group/activity	0.986	0.132	7.46	0.001	0.727	1.245
Item 4 Threatened on Internet	1.208	0.158	7.63	0.001	0.898	1.519
Item 5 Forced to do something online	1.160	0.171	6.79	0.001	0.825	1.495
Item 6 Other mean things on Internet	1.247	0.162	7.72	0.001	0.930	1.564

TABLE 5 | Correlation between latent factors.

Latent factor correlations	Standardized estimate	SE	Est/SE	p-value	Lower CI	Upper CI
Cybervictimization with anxiety	0.254	0.040	6.28	0.001	0.175	0.333
Cybervictimization with self-esteem	0.203	0.035	5.77	0.001	0.134	0.272
Cybervictimization with impulsivity	0.243	0.039	5.99	0.001	0.157	0.310
Cybervictimization with deviant behavior	0.206	0.038	5.42	0.001	0.132	0.281
Deviant behavior with anxiety	0.381	0.025	15.09	0.001	0.332	0.431
Deviant behavior with self-esteem	0.276	0.028	10.02	0.001	0.222	0.330
Deviant behavior with impulsivity	0.458	0.028	16.48	0.001	0.403	0.512
Anxiety with self-esteem	0.249	0.025	10.12	0.001	0.201	0.297
Anxiety with impulsivity	0.320	0.027	11.77	0.001	0.267	0.373
Impulsivity with self-esteem	0.280	0.028	10.03	0.001	0.226	0.335
Age on cybervictimization	0.040	0.021	1.91	0.056	-0.001	0.082
Gender on cybervictimization	0.178	0.094	1.90	0.058	-0.006	0.362
Cyberaggression on cybervictimization	1.153	0.309	3.73	0.001	0.547	1.759

TABLE 6 | Correlation between cybervictimization items and aggregated latent factors.

	Deviant behavior	Anxiety	Impulsivity	Self-esteem
Item 1 Receiving privately mean messages online	0.210***	0.232***	0.151***	0.178***
Item 2 Victim of online published mean messages	0.212***	0.176***	0.124***	0.178***
Item 3 Excluded from an online group/activity	0.201***	0.197***	0.145***	0.179***
Item 4 Threatened on Internet	0.231***	0.196***	0.123***	0.244***
Item 5 Forced to do something online	0.288***	0.207***	0.193***	0.264***
Item 6 Other mean things on Internet	0.263***	0.213***	0.126***	0.272***

*** $p < 0.001$.

(Ortega et al., 2012; Kubiszewski et al., 2013; Kowalski et al., 2014; Lucas-Molina et al., 2018).

Most research has investigated internalizing consequences of cybervictimization among perpetrators, but little research has studied the association of externalizing behaviors with victimization except for victims becoming aggressors in turn (Ybarra and Mitchell, 2007; Fisher et al., 2016). Our survey shows that deviant behavior has a strong association with cybervictimization, compared to other dimensions of psychological well-being, such as anxiety. This suggests that cybervictimization is related to a higher extent to externalizing behaviors. This result is in line with Agnew's strain theory (Agnew, 1992) that shows that negative interpersonal relations are correlated to the adoption of deviant or delinquent behaviors.

Agnew (1992) further highlights the complex relations between stressful experiences, negative emotions, and antisocial behaviors. This theory suggests that those who are the least likely to adopt deviant behaviors are the young people who benefit from a strong social support in a meaningful, significant relationship. This stresses the importance of supporting the young people and providing them with the opportunity to build positive interpersonal relationships. Chu et al. (2010) confirm the importance of perceived support in children and adolescents' well-being. They further reveal that teacher and school personnel's perceived support are the strongest sources of support, followed by family members.

Cybervictimization presents some specific characteristics compared to bullying that are likely to increase stress and

psychological malaise. For instance, the permanence of humiliating or nasty online content and the difficulty to erase it as well as the dissemination capacities of the Internet and sometimes the public nature of aggression might be factors that increase the emotional impact of victimization. However, findings from Ortega et al. (2012) conclude that the emotional impact is stronger for victims of traditional bullying compared to cybervictimization. This highlights the need for further research based on a longitudinal approach as cybervictimization and bullying may have lifelong deleterious consequences as both types of victimization are strongly correlated to similar negative outcomes (Del Rey et al., 2012; Kowalski and Limber, 2013).

In terms of overall practical implications, our results indicate that cybervictimization is negatively related to young people's well-being and social competence. From a school perspective, teachers could collaborate with counselors or school social workers in order to provide not only support and workshops to inform students on the psychological consequences of cybervictimization, but also to set up sessions to teach students how to build up their self-esteem, assertiveness, and overall psychological well-being. As shown by Lee et al. (2015) some of most effective interventions against victimization are emotional control training as well as peer counseling. This last suggestion would potentially not only contribute to an overall increase in well-being but also act as a protective factor (Zych et al., 2019) and strengthen resilience capacity.

Several limitations must be mentioned. The first limitation is that this data is strictly transversal. Although our analyses did not

include any causation, we believe future study should focus on the causal link between cybervictimization, well-being, and social competencies. Notably, longitudinal data might provide rich insight into this causal link (e.g., Wright et al., 2018). Our study did not have such an objective as we could not survey the very same young people twice, and we could not make a comparison with the EU Kids Online III study as the questionnaire was changed. Changes did not allow any comparison that would meet rigorous scientific standards. However, this could be a very relevant development. Another limitation refers to the fact that we used self-reported questionnaires and asked, during the same sessions, participants to assess not only their victimization, but also how well they felt. This might have created higher correlations than what would have happened if these constructs were assessed separately. Moreover, we did not formally test the content validity of our scales. As such, some items belonging to different scales may actually share common variance and present overlap between the measured concepts. Finally, our questionnaire did not allow us to analyze potential differences between occasional cybervictimization and repeated cybervictimization in terms of frequency and duration. Thus, further research is needed (1) to establish causal links between cybervictimization, well-being, and social competence, including the frequency and duration of cybervictimization and (2) to analyze the differential impacts of specific types of cybervictimization as some previous research shows that emotional responses are linked to types of cybervictimization (Ortega et al., 2012).

CONCLUSION

This paper focuses on cybervictimization and its negative links with psychological well-being dimensions and social competence in young victims in France. Our results reveal that the more young people report being victims, the lower their psychological well-being. They report higher levels of anxiety and lower self-esteem. This confirms previous evidence highlighting cybervictimization as a major mental health hazard and less subjective well-being (Valois et al., 2012; Kowalski et al., 2014).

Our results further reveal that cybervictimization is strongly related to lower social competence and, notably, to deviant behaviors. This enhances the understanding of

cybervictimization as a life stressor and a risk factor for deviant behaviors in line with Agnew's general strain theory. Future studies should focus on family, school, and teacher support as a way to protect and prevent young people from suffering from the negative impacts of cybervictimization as well as on the role of peer mediation to promote resilience (Hinduja and Patchin, 2017). Although we adopted a correlational approach, further investigation is needed to analyze specific impacts of different types of cybervictimization on psychological, emotional, and behavioral responses and differences in coping strategies.

DATA AVAILABILITY STATEMENT

The datasets generated for this study will not be made publicly available until June 2021 because the data is still being analyzed. Requests to access the datasets should be addressed to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité d'Ethique pour les Recherches Non Interventionnelles (CERNI), Université Nice Sophia Antipolis, Campus Valrose, 28 avenue Valrose, 06000 Nice. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

CB designed the study. CA analyzed the data. Both authors contributed to the manuscript first draft as well as its revisions and read and approved the submitted version.

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Impact of Gender and Relationship Status on Young People's Autonomy and Psychological Wellbeing

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This study uses scales of autonomy and psychological wellbeing to determine whether young people's gender and romantic relationship status give rise to differences in relation to a series of specific dimensions. To this end, we used Ryff's Model of Psychological Wellbeing, which comprises several dimensions: self-acceptance, positive relations with others, autonomy, environmental mastery, personal growth, and purpose in life; and our own Transition to Adulthood Autonomy Scale (EDATVA), whose dimensions are: self-organization, understanding context, critical thinking, and socio-political engagement. As a result, a quantitative study was performed with 1,148 young people aged 16–21 from Madrid, Spain and Bogotá, Colombia, of whom 60.2% were female and 39.8% were male. The findings show that in the gender variable there are differences between males and females in the dimensions of positive relations with others, personal growth (wellbeing questionnaire), and understanding context (autonomy questionnaire); the female sample obtained the highest scores. In the relationship variable, differences were found in environmental mastery and purpose in life; higher scores were obtained by young people in a romantic relationship. However, no differences were found in the different dimensions in the autonomy questionnaire between young people in a relationship and those not.

Keywords: wellbeing, young people, autonomy, relationship, transition to adulthood

INTRODUCTION

In contemporary society, social change happens at lightning speed and has a direct impact on the behavior and actions of cohorts of young people (De-Juanas and García-Castilla, 2018). Aspects such as relationships with others, communication channels in the digital world, the immediacy of the here-and-now, the desire to explore, the emergence of new social and influential groups, such as peers, the formation of romantic relationships, etc., converge to create a variety of models which positively or negatively affect the dimensions of young people's autonomy and psychological wellbeing. Nowadays, young people delay their transition to adulthood due to various social, cultural, economic, family and personal variables. For example, time spent in education is extended and studies are finished later, more time is invested in leisure and wellbeing, they delay leaving

home, they delay joining the labor market and, as a result, they also delay marriage and parenthood (Cohen et al., 2003; Rivera et al., 2011).

In this context, Arnett (2000) argues that the stage of *emerging adulthood* can be placed somewhere between the ages of 18 and 25. Others place the end of adolescence and the beginning of emerging adulthood between the ages of 16 and 21 (Berger, 2016; Maree and Twigg, 2016). As a result, the transition from adolescence to adulthood is extended, allowing adolescents more time to acquire experiences; develop life skills and communication abilities; adapt their social behavior to the environment, and shape their values. It is also a period in which other facets of interest can emerge owing to the fact that adolescents now have more time than any other period in their lives to individually explore the learning possibilities and relationships that life has to offer (Arnett, 2001).

During this broad period that represents emerging adulthood, important dimensions for the development of the individual, such as autonomy and psychological wellbeing, are progressively acquired and formed. This involves the development of competencies and skills in the various dimensions that constitute autonomy, along with the perceptual formation of psychological wellbeing in relation to processes of social interaction and experiences.

Consequently, this study aims to determine whether young people's gender and romantic relationship status gives rise to differences in relation to psychological wellbeing and autonomy. To this end, we used Ryff's Psychological Wellbeing Scale (1995) with its six dimensions (self-acceptance, positive relations with others, autonomy, environmental mastery, personal growth and purpose in life) and the Transition to Adulthood Autonomy Scale (EDATVA) created by Bernal et al. (2019) (self-organization, understanding context, critical thinking and socio-political engagement). A quantitative study was performed with 1,148 young people from Madrid, Spain and Bogotá, Colombia aged 16–21.

YOUNG PEOPLE'S PSYCHOLOGICAL WELLBEING AND AUTONOMY

Before we begin referencing other authors with the aim of establishing plausible explanations for the results in this study – which considers psychological wellbeing and autonomy as principal variables in determining differences by gender and relationship status – it is important to define what we understand by transition to adulthood. Transition to adulthood is a major developmental period in a young person's life that entails leaving childhood behind and moving toward adulthood. This involves undergoing a series of processes that require the individual to acquire social competences and skills to help them lead an autonomous and independent life in society. In this regard, emancipation is paramount, as it consists of processes that facilitate the acquisition of competences relating to psychological wellbeing in areas such as health, education, training, employment, leisure and relationships (family, friends, partner, at school, in social environments, etc.). Both autonomy

and psychological wellbeing help to protect young people from negative emotional situations that may arise during their transition to adulthood (Reis et al., 2000; Inguglia et al., 2014).

Young People's Psychological Wellbeing

Maturation in young people involves fundamental life-based learning associated with achieving goals and planning itineraries that lead to successes and/or failures. The results of this journey are related to young people's values, their ability to cope, make decision, harness strengths, their self-realization, and whether they think about family and/or the collective wellbeing (Deci and Ryan, 2008; Waterman et al., 2010; Adler and Seligman, 2016).

For achievements to permeate young people's perception of their psychological wellbeing, they must target their personal development toward attaining life skills (García-Castilla et al., 2016) that give rise to positive assessments of happiness (Melo and Mota, 2013); peer acceptance (Arnett, 2015; Campione-Barr et al., 2015; Oudekerk et al., 2015; Jorgensen and Nelson, 2018); image or physical appearance and self-esteem (Rocha, 2008); capacity to undertake challenges – and risks – in relation to personal growth and social relationships, based on the quality of social and personal interaction such as establishing romantic relationships (Melo and Mota, 2013; Hausler et al., 2017) or living as a couple. The global outcome depends on young people's level of self-esteem and the assessment they make of this evolutionary stage. Consequently, psychological wellbeing can be considered an important variable for the achievement of young people's overall wellbeing.

Psychological wellbeing requires precise conceptualization, having been historically associated and assimilated with terms such as quality of life and mental health (Loera et al., 2017). Thus, while quality of life refers to both material and non-material aspects, mental health and psychological wellbeing involve intangible factors of everyday reality.

In turn, mental health uses clinical signs and symptoms in its remit, while psychological wellbeing brings together personal and social dimensions that individuals evaluate subjectively. Nevertheless, the different conceptualizations of psychological wellbeing all coincide in including aspects relating to work, family and, in this case, relationship status, as well as evaluating the frequency and intensity of the relationships and emotions experienced (Loera, op. cit., 2017).

However, the definition of wellbeing proposed by Ryff and Keyes (1995) has particular relevance as it commands a broad consensus in the scientific community (Zubieta et al., 2012). The authors argue that psychological wellbeing is a construct composed of six dimensions – self-acceptance, positive relations with others, environmental mastery, autonomy, purpose in life and personal growth – that measure the subjective perception of affect and cognition in social and family relationships (Ryff and Keyes, 1995). As mentioned earlier, this is linked to the concept of happiness and the perception of satisfaction with one's own life, which comprises professional achievements and personal goals (De-Juanas et al., 2013).

In this study, we used the Ryff Psychological Wellbeing Scale (Ryff, 1989; Ryff and Keyes, 1995), which defines six dimensions:

- Self-acceptance: an individual's positive or negative assessment of his or herself. It implies the recognition of one's own strengths and weaknesses.
- Positive relations with others: the ability to establish stable social relationships, emotional intelligence being a positive sign of psychological wellbeing.
- Environmental mastery: the ability to generate favorable environments consistent with personal interests and tastes. It is related to internal locus of control and the ability to influence the environment.
- Autonomy: an individual's ability to maintain individuality with respect to others. A high score is a positive sign of resistance to social pressure.
- Purposes in life: an individual's ability to set long-term goals and establish ways to achieve them.
- Personal growth: an individual's ability to implement strategies that benefit the full development of their potential.

Loera et al. (2017) highlight the importance of evaluating psychological wellbeing during adolescence, given that this population is especially vulnerable due to the physical, psychological, and cognitive changes that transpire during this transformative phase. Everything that was established and accepted up to that moment in time in the family environment is questioned, and other social groups or subsystems such as friends and partners start to have more influence.

Young People's Autonomy

Our aim in this study was to take a more detailed look at young people's level of autonomy in relation to gender and relationship status. One of the reasons for this was to build on studies that correlate autonomy with psychological wellbeing in young people. Results show that the greater an individual's level of autonomy the more positive their emotional state. Higher scores are obtained by young people who have greater autonomy in their life projects (Reis et al., 2000; Inguglia et al., 2014).

To this end, we used the Transition to Adulthood Autonomy Scale (EDATVA) (Bernal et al., 2019), which is a standardized model that quantifies level of autonomy based on the assessment of young people's decision-making processes. It consists of four dimensions that refer to the capacity of self-organization, critical thinking, understanding context and socio-political engagement. These dimensions denote an individual's levels of autonomy, conceived from a holistic perspective.

Autonomy is a construct that has a multitude of applications in various scientific and academic fields; each with its own conceptualization. However, there are three fundamental approaches to autonomy that are described in the following paragraph. According to Cheon et al. (2019), an individual's need for autonomy is an inherent quality of their transition to adulthood, which increases the more they advance toward maturity. A lack of autonomy leads to feelings of frustration and dissatisfaction, which interferes with their level of academic and professional commitment and undermines their level of subjective wellbeing (Riley, 2015; Soenens et al., 2017a; Liga et al., 2018; Villarosa and Ganotice, 2018; Cheon et al., 2019).

First, from an intrasubjective perspective, autonomy is defined as an individual's capacity or ability to decide and motivate their behavior in accordance with their own principles and criteria. This vision is linked to self-realization, exercising free will, and prioritizing their own priorities, which gives rise to feelings of wellbeing when accomplished (Schüler et al., 2016; Soenens et al., 2017b). This is especially relevant during adolescence and the transition to adulthood given that this period is influenced by the dependence on other factors that exert control over individuals (Liga et al., 2018).

Second, from an interdisciplinary perspective, autonomy is understood as a process structured by multiple variables that can be conceptualized from various paradigms.

And lastly, from an interactional approach, autonomy is the result of the dependent relationship between individuals and their context. This constitutes a continuum of progression over time as they build a relationship with their environment. In this relationship, individuals are immersed in a dichotomy of dependency and independence during the transition to adulthood, in which they gradually attain greater levels of freedom to act.

The abovementioned EDATVA scale comprises the following dimensions:

1. Self-organization can be examined from a subjective perspective. Individuals organize their time to plan the activities they will participate in, according to personal choices based on their priorities (Lammers et al., 2016). According to Negru (2016), the capacity for self-organization involves personal identity and the degrees of freedom that implies. This constitutes a complex dimension that is influenced by a multitude of aspects that condition the environment in which it develops (Riley, 2015). According to Lammers et al. (2016) all individuals experience the desire to self-manage and act with interdependence with respect to others. And it is precisely this prospect that is measured by this dimension.
2. Understanding context evaluates the dimension through which individuals interact with their context and the variables that define it. Therefore, this dual nature must be considered as a subjective and collective dimension that allows it to be analyzed from both perspectives (Oshana, 2016; Reis et al., 2018). For Stenling et al. (2015), young people find factors in their environment that contribute to their autonomy and, consequently, increase their wellbeing. Identifying those factors can be key to developing interventions to enhance young people's empowerment (Stenling et al., 2015).
3. Critical thinking, the nature of which is eminently subjective, associates the individual's preferences and ideals to the rights they can exercise. Critical thinking enables the individual to establish their position as regard the different situations that affect or interest them, by adopting a position to preserve their interests in each scenario (Van Petegem et al., 2015). According to Narayan (2018), despite its apparent independence,

context is fundamental in framing potential decisions and aspects in which an individual's critical capacity can be activated. Riley (2015) argues that educational style and socialization processes exercise a determining influence on the development of critical thinking and on how it is activated so that that individuals can exploit different academic and life opportunities.

4. Socio-political engagement involves the participation of the individual in relation to the group in community decision-making processes that take place in society. This dimension is connected to social life and contemporary citizens' rights insofar as exercising those rights is made possible in a context characterized by the capacity to decide and intervene in public processes in regulated decisions (Harris, 2016; Fahmy, 2017; Young, 2017). The capacity for socio-political engagement, therefore, translates into an individual's commitment to the society they belong to and enables them to act according to the channels provided for doing so in a given place and time (Luginbuhl et al., 2016).

MATERIALS AND METHODS

This study has two main objectives. The first, to analyze whether there are differences by gender (male and female) in the different dimensions of the autonomy questionnaire (self-organization, understanding context, critical thinking and socio-political engagement) and the wellbeing questionnaire (self-acceptance, positive relations with others, autonomy, environmental mastery, personal growth, and purpose in life). And in those dimensions where gender differences were found, to perform a study to determine exactly which variables produce the differences. And the second, to study whether significant differences exist in young people by relationship status – single or partnered – from the scores obtained in each of the dimensions in the autonomy questionnaire and the wellbeing questionnaire. Similarly, we also aimed to ascertain the variables that produce differences in each of the dimensions.

Participants

The sample of young people was selected through an intentional non-probability sampling, consisting of 1,148 study subjects aged 16–21 (mean age = 18.20; $SD = 1.8$), 508 (44.3%) were Spanish (Madrid) and 640 (55.7%) Colombian (Bogotá); 60.1% ($n = 690$) were female and 39.7% ($n = 456$) male. Of the total sample, 38% ($n = 436$) were partnered and 61.5% ($n = 706$) were single. Of those who were partnered, 283 (64.9%) were female and 153 (35.1%) male. And in the young people who were single 57.5% ($n = 406$) were female and 42.5% ($n = 300$) male.

The study was conducted from late 2018 to early 2019. The participants were studying at universities and secondary schools. Data were also collected from young people who were employed, as well as from participants who were under the tutelage of child protection services. Young people who presented functional, physical or mental difficulties that made it impossible for them to participate in the study were excluded.

Materials

Young People's Assessment of Autonomy

Young people's autonomy was measured using the Transition to Adulthood Autonomy Scale (EDATVA, Bernal et al., 2019). The scale comprises a total of 19 items organized into four dimensions: *self-organization* (six items, $\alpha = 0.80$), *understanding context* (four items, $\alpha = 0.74$), *critical thinking* (five items, $\alpha = 0.70$) and *socio-political engagement* (four items, $\alpha = 0.77$). Cronbach's alpha for this set of items was 0.84 for the total sample. All the dimensions were measured using a four-point Likert scale, with 1 being strongly disagree and 4 being strongly agree.

Young People's Assessment of Wellbeing

Young people's wellbeing was assessed through the Spanish adaptation of Ryff's Psychological Wellbeing Scale (Díaz et al., 2006). The scale is composed of 39 items organized in the following dimensions: *self-acceptance* (six items, $\alpha = 0.83$), *positive relations with others* (six items, $\alpha = 0.81$), *autonomy* (eight items, $\alpha = 0.73$), *environmental mastery* (six items, $\alpha = 0.71$), *personal growth* (seven items, $\alpha = 0.68$) and *purpose in life* (six items, $\alpha = 0.83$). There were a total of 17 inverse reagents amongst the items on the wellbeing scale (2, 4, 5, 8, 9, 13, 15, 20, 22, 25, 26, 27, 29, 30, 33, 34, and 36). Participants responded using a Likert-type scale format with scores ranging from 1 (strongly disagree) to 6 (strongly agree).

Procedure and Data Analysis

In order to respond to the first research objective and to analyze whether there were differences by gender in the different dimensions of the autonomy and wellbeing questionnaires, and in line with Pardo and San Martín's (2010) recommendations, we tested for assumption of normality and equality of variances (homoscedasticity). The former confirmed that the scores from each group constitute a random sample taken from the normal population and was calculated using the Kolmogorov-Smirnov and the Shapiro-Wilk tests, and Q-Q plots. We checked for homoscedasticity in the populations using Levene's test (based on means). In the autonomy scale, although the equality of variances was met, thus ensuring that both groups (male and female) had equal variances, the same was not true of the assumption of normality given that the hypothesis that the sample came from a normal distribution was rejected in both groups ($\bar{\alpha} < 0.05$ with both the Kolmogorov-Smirnov and the Shapiro-Wilk tests). The Q-Q plots also revealed that the values did not lie on the line, especially at the extremes, indicating that the theoretical distribution was not a good approximation of an empirical distribution, but an asymmetric distribution. Given the results, we then used the Mann-Whitney non-parametric U -test, which enabled us to analyze where the differences arose between males and females in the dimensions in the autonomy questionnaire. Subsequently, when the differences were identified, the variables that comprise the dimensions were analyzed individually in order to determine exactly which variables gave rise to gender differences. To this end, the Mann-Whitney U -test was again applied (the assumption of normality was not met). In the wellbeing scale, both assumptions were met (normality and homoscedasticity), given that the Q-Q plots clearly showed the

absence of asymmetry and in Levene's test the null hypothesis of equality of variances ($p > 0.05$) was met. Consequently, Student's t -test was used for independent samples. This test was also used (the assumption of normality having been met) to study the gender differences in the variables that comprise the different dimensions that were significant in the comparison of scores between males and females.

The aim of the second objective was also to ascertain the differences in the dimensions of the autonomy and wellbeing questionnaires, but with regard to the variable relationship status – single or partnered. We proceeded in the same way as in the previous objective, starting with the verification of the assumption of normality and homoscedasticity. In the case of the autonomy questionnaire, we used non-parametric tests (Mann–Whitney U -test) given that the assumption of normality was again not met (neither in the total score of the dimensions nor in their variables). And in the case of the wellbeing questionnaire, given that the assumption of normality was met, we used parametric tests (Student's t -test for independent samples). In order to determine the magnitude of the differences found between the different groups, the effect size was calculated using Cohen's d statistic, for both the parametric and non-parametric tests. Despite the fact that the effect size was inconsistent and its interpretation confusing, we followed the recommendations made by Cohen (1992) given that there is no consensus regarding what magnitude of effect size is necessary to establish practical significance (Ferguson, 2009). Therefore, a value around 0.20 indicates a small effect, values around 0.50 a moderate effect and values around 0.80 and higher a large effect. As highlighted by Frias-Navarro et al. (2000), if we take into account that the value of the estimate of the effect size must be interpreted in the context of a study and specific area of research, a small effect size can be of great significance in certain fields.

As regards effect sizes, in most cases the magnitude of the differences was small. This is not surprising given that, as highlighted by Rosnow and Rosenthal (2009), effect sizes commonly found in the social sciences are often very small. Furthermore, as already mentioned, the estimate of the effect size must be interpreted in the context of a particular study and area of research (Frias-Navarro et al., 2000), in this case social sciences.

RESULTS

We start with the first objective of the study, to analyze the differences in the scores obtained in autonomy and wellbeing according to gender. In the autonomy scale, as explained in the procedure, the Mann–Whitney U -test and the Wilcoxon W -test and Z -value (a type of U and W statistic) were used. **Table 1** shows that females present higher average scores than males in all the dimensions in the autonomy questionnaire. These differences range from 1.99 points in *socio-political engagement* to 42.79 points in *understanding context*. The significant difference is only in the latter dimension: *understanding context* ($p < 0.05$) in the female group given that this is the group that shows a higher average score (590.53 vs 547.74). However, the effect size is small (Cohen, 1992).

Taking a more detailed look at the analysis of this dimension, **Table 2** shows which items are contributing to the main differences between both genders. It can be observed that in *understanding context*, females have higher average scores in the variables: *I defend my rights when I make important decisions* and *It's important to express your ideas, even though your partner might get upset*. However, in the average range, males scored higher in the variable *If my rights are breached, I do everything to defend them* and *I use the available resources to denounce what I think is unfair*. We only found significant differences ($p < 0.05$) between males and females in the item: *It's important to express your ideas, even though your partner might get upset*, with females presenting a higher average than males by more than 110 points. The magnitude of the effect size in this case is low-moderate (0.34).

For this same objective, the results for the wellbeing scale were analyzed using the t -test statistic for independent samples. **Table 3** shows the descriptive data on the dimensions of the questionnaire, organized by gender, number of cases, mean and standard deviation (in the lower row in parentheses). In the table, it can be observed that the mean in *self-acceptance* is slightly higher in males (25,381) than in females (25,027), and the same is true of *environmental mastery* (25,449 vs. 25,284). However, in *positive relations with others*, the opposite occurs; it is higher in females (25,816) than males (25,018), and the same occurs with *autonomy* (34,318 vs. 33,996), *personal growth* (33,258 vs. 31,919), and *purpose in life* (27,109 vs. 26,993).

Table 3 also shows the contrast of hypotheses of equality of variances based on Levene's F -test. In all the dimensions the probability associated with Levene's test (sig.) is greater than 0.05, therefore, the hypothesis of equality of variances is met. The variability is the same in both groups.

And lastly, **Table 3** includes the t -test, the statistical significance, and the effect size (d) in those dimensions where significant differences between the groups were found. Assuming equal variances, it can be observed that there are significant differences between males and females in *positive relations with others* and *personal growth* ($p < 0.05$). In both cases, females scored higher on average (25,816 and 33,258, respectively) and effect sizes were small in both dimensions.

An in-depth analysis was performed with the two dimensions in which the differences between groups were significant. Specifically, as shown in **Table 4**, assuming equal variances there are significant differences in the variables: *I feel that I get a lot from my friendships* and *I know I can trust my friends, and they know they can trust me*, with females scoring higher (4.71 and 4.72, respectively). The effect size is low in both variables, but higher in the item: *I feel that I get a lot from my friendships* ($d = 0.218$).

Similarly, in this same dimension, although not statistically significant, a trend can be observed in which females obtain higher average scores than males, except in the items: *I often feel lonely because I have few close friends to share my problems with* and *It seems that other people have more friends than I do*, items in which males obtain higher average scores.

The same analysis was performed for *personal growth*. **Table 5** shows that there are significant differences between male and female responses in the variables: *It's been a long time since I*

TABLE 1 | Descriptive statistics and Mann–Whitney *U*-test for the dimensions in the autonomy questionnaire.

		<i>N</i>	Self-organization	Understanding context	Critical thinking	Socio-political engagement
Mid-range	Female	690	575.87	590.53	578.91	574.29
	Male	456	569.92	547.74	565.31	572.30
Mann–Whitney <i>U</i> -test			155687.500	145572.500	153585.000	156773.500
Wilcoxon <i>W</i> test			259883.500	249768.500	257781.000	260969.500
Z			−0.299	−2.164	−0.684	−0.100
<i>p</i> -value (bilateral)			0.765	0.030	0.494	0.920
Effect size (<i>d</i>)				0.127		

TABLE 2 | Descriptive statistics and Mann–Whitney *U*-test for the variables that constitute understanding context.

		<i>N</i>	EA49. I defend my rights when I make important decisions	EA56. If my rights are breached, I do everything to defend them	EA57. I use the available resources to denounce what I think is unfair	EA59. It's important to express your ideas, even though your partner might get upset
Mid-range	Female	690	580.85	568.72	569.78	614.58
	Male	455	561.10	579.49	576.62	504.57
Mann–Whitney <i>U</i> -test			151559.500	154024.000	154873.500	125686.500
Wilcoxon <i>W</i> test			255299.500	392419.000	392578.500	228064.500
Z			−1.106	−0.579	−0.366	−6.335
<i>p</i> -value (bilateral)			0.269	0.563	0.715	0.000
Effect size (<i>d</i>)						0.343

stopped trying to make big improvements or changes in my life; I don't want to try new ways of doing things; my life is fine as it is, and When I think about it, I haven't really improved much as a person over the years. Females score higher on average in all three items. The trend continues in the rest of the items in the dimension. The effect sizes are between low and moderate ($d = 0.361$, $d = 0.149$, and $d = 0.161$, respectively).

The second research objective of the study, analyzing whether there are significant differences by relationship status – single or partnered young people – in the different dimensions of autonomy and wellbeing scales is explained below.

To answer this question, the Mann–Whitney *U*-test was performed on the autonomy scale, the results of which are shown in **Table 6**. It can be observed that there are no significant differences between single and partnered young people in any of the dimensions in the autonomy questionnaire ($p > 0.05$). However, descriptively it can be observed that in *self-organization* and *critical thinking* partnered young people score higher on average, while single young people score higher in *understanding context* and *socio-political engagement*.

In relation to the results obtained in the wellbeing questionnaire, in order to comply with the assumption of normality we used Student's *t*-test for independent samples. **Table 7** shows significant differences between single and partnered young people in *environmental mastery* and *purpose in life*, with higher average scores for partnered young people. The effect size on the dimensions was $d = 0.132$ and $d = 0.145$, respectively. While the differences are not significant, the same trend can be seen in *self-acceptance*, *autonomy* and *personal growth*, where partnered young people also obtained a higher average score. Only in *positive relations with others* did single young people obtain higher scores.

Following the same procedure as with the gender variable, we analyzed the items in the different dimensions on the wellbeing scale where significant differences were found, which revealed differences between single and partnered young people. **Table 8** shows significant differences in *environmental mastery* between single and partnered young people in the variable *The demands of everyday life often get me down*, where partnered young people obtain higher scores (4.11) than single young people (3.91). This gives rise to an effect size of $d = 0.136$. Without showing significant differences, this trend is maintained in all items except one: *I'm quite good at handling most of my daily responsibilities*, in which single young people obtain a higher average (4.41 vs. 3.91).

Table 9 shows there are significant differences in *purpose in life* between single and partnered young people in the variables: *I enjoy making plans for the future and working to make them a reality* and *I have a clear direction and purpose in my life*, where partnered young people score the highest (5.07 and 4.67, respectively) with an effect size of $d = 0.139$ and $d = 0.149$, respectively. Again, this is a trend that is observed in the rest of the items in this dimension with the exception of *I'm an active person, I carrying out the projects I set myself*, in which single young people obtain a higher average.

DISCUSSION

The results for the first objective, which aimed to analyze whether there were differences in the autonomy scale and the wellbeing scale by gender, show that in the autonomy scale the female sample give higher average scores than the male sample in all the dimensions in the questionnaire, with a significant difference in *understanding context*. The items that show significant differences

TABLE 3 | Descriptive statistics and summary for the *t*-test for independent samples.

	Mean			Levene's test for equality of variances		t-test for equality of means				
	Female	Male		F	Sig.	t	Degrees of freedom	Sig. (bilateral)	Difference in mean	Standard error of the mean
N	686	448								
Self-acceptance	25.027 (5.760)	25.381 (5.697)	Equality of variances met	0.035	0.852	-1.016	1132	0.310	-0.354	0.348
			Equality of variances not met			-1.018	962.959	0.309	-0.354	0.347
Positive relations with others	25.816 (6.297)	25.018 (5.873)	Equality of variances met	2.158	0.142	2.143	1132	0.032	0.798	0.372
			Equality of variances not met			2.175	1001.688	0.030 0.130	0.798	0.367
Autonomy	34.318 (6.810)	33.996 (6.835)	Equality of variances met	0.315	0.575	0.778	1132	0.437	0.322	0.414
			Equality of variances not met			0.777	953.100	0.437	0.322	0.414
Environmental mastery	25.284 (5.102)	25.449 (5.199)	Equal variances met	0.180	0.671	-0.526	1132	0.599	-0.164	0.312
			Equal variances not met			-0.524	942.672	0.600	-0.164	0.313
Personal growth	33.258 (5.225)	31.919 (5.185)	Equality of variances met	0.102	0.750	4.223	1128	0.000	1.338	0.316
			Equality of variances not met			4.230	958.884	0.000 0.137	1.338	0.316
Purpose in life	27.109 (5.803)	26.993 (5.624)	Effect size							
			Equality of variances met	0.062	0.804	0.333	1132	0.739	0.116	0.348
			Equality of variances not met			0.335	976.656	0.737	0.116	0.345

TABLE 4 | Summary of the *t*-test for the independent samples for positive relations with others.

	Media			Levene's test for equality of variances		t-test for equality of means				
	Female	Male		F	Sig.	t	Degrees of freedom	Sig. (bilateral)	Difference in mean	Standard error of the mean
EB2. I often feel lonely because I have few close friends to share my problems with	4.29 (1.581)	4.40 (1.521)	Equality of variances met	2.099	0.148	-1.139	1126	0.255	-0.108	0.095
			Equality of variances not met			-1.149	967.049	0.251	-0.108	0.094
N	686	442								
I don't have many people who want to listen to me when I need to talk	4.41 (1.534)	4.21 (1.573)	Equality of variances met	0.868	0.352	2.117	1125	0.234	0.200	0.095
			Equality of variances not met			2.106	926.657	0.235	0.200	0.095
N	684	443								
EB14. I feel that I get a lot from my friendships	4.71 (1.320)	4.42 (1.336)	Equality of variances met	0.660	0.417	3.543	1085	0.000	0.292	0.083
			Equality of variances not met Effect size			0.218	888.528	0.000	0.292	0.083
N	665	422								
EB20. It seems that other people have more friends than I do	3.78 (1.690)	3.96 (1.599)	Equality of variances met	8.708	0.003	-1.827	1124	0.068	-0.184	0.101
			Equality of variances not met			-1.848	985.879	0.065	-0.184	0.100
N	681	445								
EB26. I haven't had many close and trusting relationships	4.13 (1.566)	3.94 (1.623)	Equality of variances met	2.787	.095	1.913	1124	0.056	0.185	0.097
			Equality of variances not met			1.898	922.258	0.058	0.185	0.098
N	682	444								
EB32. I know I can trust my friends, and they know they can trust me	4.72 (1.382)	4.51 (1.436)	Equality of variances met	1.051	0.306	2.437	1128	0.015	0.208	0.085
			Equality of variances not met			2.418	927.746	0.016	0.208	0.086
N	683	447								

TABLE 5 | Descriptive statistics and summary of the *t*-test for the independent samples for personal growth

	Media		Levene's test for equality of variances		t-test for equality of means					
	Female	Male	<i>F</i>	Sig.	<i>t</i>	Degrees of freedom	Sig. (bilateral)	Difference in mean	Standard error of the mean	
EB24. In general, over time I do feel that I'm still learning things about myself	5.15 (1.054)	5.04 (1.055)	Equality of variances met	0.368	0.544	1.702	1126	0.089	0.109	0.064
			Equality of variances not met			1.702	950.761			
<i>N</i>	682	446								
EB30. It's been a long time since I stopped trying to make big improvements or changes in my life	4.74 (1.393)	4.21 (1.573)	Equality of variances met	9.080	0.003	2.555	1127	0.011	0.223	0.087
			Equality of variances not met			2.518	906.437			
<i>N</i>	682	447								
EB34. I don't want to try new ways of doing things; my life is fine as it is	4.26 (1.770)	4.01 (1.524)	Equality of variances met	0.215	0.643	2.414	1125	0.016	0.247	0.102
			Equality of variances not met			0.149	1044.668			
<i>N</i>	681	446								
EB35. I think it's important to have new experiences that challenge what you think about yourself and the world	5.06 (1.118)	4.92 (1.201)	Equality of variances met	2.388	0.123	1.942	1128	0.052	0.136	0.070
			Equality of variances not met			1.914	904.962			
<i>N</i>	683	447								
EB36. When I think about it, I haven't really improved much as a person over the years	4.22 (1.588)	3.96 (1.651)	Equality of variances met	0.947	0.331	2.686	1125	0.007	0.264	0.098
			Equality of variances not met			0.161	928.165			
<i>N</i>	680	447								
EB37. I have the feeling that over time I've developed a lot as a person	4.85 (1.193)	4.71 (1.244)	Equality of variances met	1.562	0.212	1.851	1123	0.064	0.137	0.074
			Equality of variances not met			1.835	920.753			
<i>N</i>	680	445								
EB38. For me, life has been a continuous process of study, change and growth	5.07 (1.106)	4.81 (1.265)	Equality of variances met	11.474	0.001	3.582	1127	0.063	0.255	0.071
			Equality of variances not met			3.483	862.699			
<i>N</i>	682	447								

TABLE 6 | Descriptive statistics and Mann–Whitney *U*-test for the dimensions of autonomy.

		N	Self-organization	Understanding context	Critical thinking	Socio-political engagement
Mid-range	Partnered	436	578.75	568.22	577.35	562.11
	Single	706	568.65	575.13	569.51	578.90
Mann–Whitney <i>U</i> -test			151621.000	152478.500	152230.000	149816.000
Wilcoxon W test			402607.000	247744.500	403216.000	245082.000
Z			−0.504	−0.347	−0.391	−0.839
<i>p</i> -value (bilateral)			0.614	0.728	0.695	0.402

within this dimension indicate that females tend to defend their rights to a greater extent when making important decisions and consider it important to express their opinions, even if they are contrary to their partner's opinions. This implies that young females are less dependent on their partners in decision making given that their evaluation of themselves helps to build and improve their own self-esteem (Didonato and Krueger, 2010). They also analyze their opinions in relation to contexts with greater autonomy. *Understanding context* is based on a greater understanding of the situations that affect them by establishing an attitude toward decision making from a personal, social and political perspective via the search for more information relating to their rights and that which helps them to form and express their own opinions.

In terms of wellbeing, the male sample obtained higher average scores in the dimensions of *self-acceptance*, and *environmental mastery*, while the female sample scored higher in the rest of the dimensions and significantly higher in *positive relations with others* and *personal growth*. In the study performed by Sun et al. (2016), with a sample of 277 adolescents in Hong Kong aged 12–16, their findings determined greater *self-acceptance* and *autonomy* in adolescent males, and the same is true of the study performed by Mayordomo et al. (2016) with a sample of young people ($N = 246$; ≥ 18 years, $M = 23.6$). Melo and Mota (2013), in their research with a sample of 827 young people aged 13–25, determined that males score higher in relation to self-esteem (Antunes and Correia, 2016). However, with respect to *environmental mastery*, the study by Mayordomo et al. (2016) reports similar scores between males and females.

In terms of *positive relations with others*, the female sample felt that their friendships made an important difference to their lives and perceived that they had mutually trusting relationships with friends (significant differences were found with respect to males). On the other hand, the male sample felt more alone or had fewer friends and considered that other people had more friendships than they did, although these differences were not significant. Similar findings were made in the study by Sun et al. (2016), in which adolescent males experienced isolation more often, while, to a greater extent, strong relations with others were part of adolescent females' identities. In addition, in all the items that comprise *personal growth*, females score higher, with significant differences to males in the variables: *It's been a long time since I stopped trying to make big improvements or changes in my life*, *I don't want to try new ways of doing things*; *my life is fine as it is*; and *When I think about it, I really haven't improved much as a person over the years*. Similar findings were also made in the study

by Mayordomo et al. (2016) in *positive relations with others* and *personal growth*, as well as in the study by Steca et al. (2002) with young females obtaining the highest scores.

The finding of the second objective, which aimed to analyze whether there are differences in the dimensions of the autonomy scale and the wellbeing scale by relationship status, show that there are no significant differences between single and partnered young people in any of the dimensions in the autonomy questionnaire. However, there is a descriptive tendency in *self-organization* and *critical thinking* of partnered young people obtaining higher scores. In this regard, the study by Melo and Mota (2013) found that young people whose parents had separated became more sensitive, withdrawn and defensive when it came to developing or establishing romantic relationships. As a result, *self-organization* and *critical thinking* can be influenced by this precept in young people who have this family background. The authors also argue that the same is true of self-esteem. This predictive indicator of young people's psychological wellbeing influences both the type and quality of love. Self-esteem is directly linked not only to the acceptance of oneself, but also to the acceptance of how others see you (Rocha, 2008). However, with respect to *understanding context* and in *socio-political engagement*, single young people obtain higher scores. In contrast, according to the study by Monteiro et al. (2006) ambivalence toward or confidence in the romantic partner are positive predictor variables of sociability and social involvement. Young people who have higher levels of self-confidence tend to trust others more in society and express a greater predisposition to socialize (Matos et al., 2001). They also highlight that the avoidance of love negatively predicts social participation, given that evasive people are more focused on themselves, which decreases their availability when it comes to establishing relationships (Melo and Mota, 2013).

In terms of the wellbeing scale, significant differences were found between single and partnered young people in *environmental mastery* and *purpose in life*, with higher average scores in partnered young people. In *environmental mastery*, significant differences were found in the variable *The demands of everyday life often get me down*, with higher scores obtained by partnered young people. This descriptive tendency is maintained in the rest of the items in this dimension with the exception of *I'm quite good at handling most of my daily responsibilities*. In turn, Melo and Mota (2013) argue that self-esteem is a predictive indicator of psychological wellbeing, especially in young people who recognize the quality of love, and those who contemplate seeking a romantic partner. In the same study, ambivalence

TABLE 7 | Descriptive statistics and summary of the *t*-test for independent samples for the psychological wellbeing questionnaire.

	Media			Levene's test for equality of variances		t-test for equality of means				
	In a relationship	Not in a relationship		F	Sig.	t	Degrees of freedom	Sig. (bilateral)	Difference in mean	Standard error of the mean
N	431	702								
Self-acceptance	25.218 (5.643)	25.105 (5.791)	Equality of variances met	0.629	0.428	0.321	1131	0.748	0.112	0.350
			Equality of variances not met			0.323	927.945	0.747	0.112	0.348
Positive relations with others	25.273 (6.218)	25.626 (6.089)	Equality of variances met	0.009	0.923	-0.940	1131	0.348	-0.353	0.375
			Equality of variances not met			-0.935	895.066	0.350	-0.353	0.377
Autonomy	34.320 (6.784)	34.114 (6.853)	Equality of variances met	0.079	0.778	0.494	1131	0.622	0.206	0.417
			Equality of variances not met			0.495	916.911	0.621	0.206	0.416
Environmental mastery	25.758 (5.058)	25.078 (5.185)	Equality of variances met	0.032	0.858	2.164	1131	0.031	0.680	0.314
			Equality of variances not met	0.132		2.177	927.116	0.030	0.680	0.312
Personal growth	32.841 (5.058)	32.642 (5.261)	Effect size	0.000	0.984	0.619	1127	0.536	0.199	0.322
			Equality of variances met			0.619	906.655	0.536	0.199	0.322
			Equality of variances not met							
Purpose in life	27.568 (5.481)	26.736 (5.869)	Equality of variances met	2.549	0.111	2.375	1131	0.018	0.831	0.350
			Equality of variances not met	0.145		2.414	957.433	0.016	0.831	0.344
			Effect size							

TABLE 8 | Descriptive statistics and summary of the *t*-test for independent samples for environment mastery.

	Media		Levene's test for equality of variances		<i>t</i> -test for equality of means					
	Partnered	Single	<i>F</i>	Sig.	<i>T</i>	Degrees of freedom	Sig. (bilateral)	Difference in mean	Standard error of the mean	
EB5. I find it difficult to direct my life toward a path that satisfies me	4.14 (1.564)	3.99 (1.581)	Equality of variances met	0.001	0.975	1.539	1119	0.124	0.149	0.097
			Equality of variances not met			1.543	906.239	0.123	0.149	0.097
<i>N</i>	426	695								
B11. I've been able to build a home and a way of life to my liking	3.91 (1.477)	3.82 (1.544)	Equality of variances met	1.432	0.232	1.013	1100	0.311	0.095	0.094
			Equality of variances not met			1.024	930.801	0.306	0.095	0.093
<i>N</i>	425	677								
EB16. In general, I feel that I'm responsible for my situation in life; it's fine as it is	4.57 (1.228)	4.50 (1.376)	Equality of variances met	7.680	0.006	0.874	1125	0.382	0.071	0.081
			Equality of variances not met			0.898	986.273	0.370	0.071	0.079
<i>N</i>	427	692								
EB22. The demands of everyday life often get me down	4.11 (1.451)	3.91 (1.467)	Equality of variances met	0.001	0.969	2.304	1117	0.021	0.207	0.090
			Equality of variances not met			0.136	2.310	909.785	0.021	0.207
<i>N</i>	427	692								
EB28. I'm quite good at handling most of my daily responsibilities	4.22 (1.182)	4.41 (1.247)	Equality of variances met	0.353	0.553	0.228	1121	0.820	0.017	0.075
			Equality of variances not met			0.231	941.157	0.817	0.017	0.074
<i>N</i>	428	695								
EB39. If I were unhappy with my situation in life, I'd take the most effective steps to change it	4.83 (1.345)	4.81 (1.325)	Equality of variances met	0.019	0.889	0.235	1121	0.815	0.019	0.082
			Equality of variances not met			0.234	890.517	0.815	0.019	0.082
<i>N</i>	427	696								

TABLE 9 | Descriptive statistics and summary of the *t*-test for independent samples for purpose in life.

	Media			Levene's test for equality of variances		t-test for equality of means				
	Partnered	Single		F	Sig.	t	Degrees of freedom	Sig. (bilateral)	Difference in mean	Standard error of the mean
EB6. I enjoy making plans for the future and working to make them a reality	5.07 (1.094)	4.91 (1.173)	Equality of variances met	1.892	0.169	2.256	1124	0.024	0.158	0.070
			Equality of variances not met			2.294	951.661	0.022	0.158	0.069
			Effect size			0.139				
N	428	698								
EB12. I'm an active person, I carrying out the projects I set myself	4.57 (1.204)	4.61 (1.216)	Equality of variances met	0.195	0.659	-0.549	1116	0.583	-0.041	0.075
			Equality of variances not met			-0.551	911.833	0.582	-0.041	0.074
N	428	690								
EB17. I feel good when I think about what I've done in the past and what I can do in the future	4.43 (1.261)	4.32 (1.340)	Equality of variances met	0.456	0.500	1.332	1122	0.183	0.107	0.080
			Equality of variances not met			1.351	945.747	0.177	0.107	0.079
N	428	696								
EB18. My goals in life have been more a source of satisfaction than frustration to me	4.45 (1.271)	4.34 (1.316)	Equality of variances met	1.071	0.301	1.342	1120	0.180	0.107	0.080
			Equality of variances not met			1.353	925.952	0.176	0.107	0.079
N	427	695								
EB23. I have a clear direction and purpose in my life	4.67 (1.330)	4.46 (1.449)	Equality of variances met	5.452	0.020	2.504	1123	0.012	0.216	0.086
			Equality of variances not met			2.555	965.250	0.011	0.216	0.084
			Effect size			0.149				
N	429	696								
EB29. I don't know what I want to achieve in life	4.58 (1.521)	4.35 (1.617)	Equality of variances met	4.242	0.040	2.384	1122	0.117	0.232	0.097
			Equality of variances not met			2.419	943.071	0.116	0.232	0.096
N	425	697								

toward or confidence in the romantic partner positively predicts happiness, in other words, the perception of happiness increases according to the level of confidence one has in one's partner. Similarly, in the study by Ramalho (2008), with a sample of 200 young people aged 18–25, romantic relationships based on anxiety and insecurity have a negative influence on psychological wellbeing. Similar results were found in the study by Rivera et al. (2011) involving 120 young people aged 18–26, whose results indicate that satisfaction in the relationship decreases according to levels of anxiety and fear of intimacy.

The item *I'm quite good at handling most of my daily responsibilities*, gave higher scores in single young people, given that they consider themselves more capable than partnered young people at handling the responsibilities of their daily lives. In a study by Matos et al. (2001) with a sample of 365 young people with an average age of 15.5, they found young people had higher levels of dependency on peers and romantic partners. Taking into account that this is a developmental stage in which young people evaluate themselves, dependency can be understood as seeking proximity to peers and acceptance from others. Single young people are less dependent and assume their everyday responsibilities more easily. In terms of *purpose in life*, partnered young people enjoy making plans for the future and attempting to undertake those plans significantly more than single young people, they also have a clearer idea about their life goals. This descriptive tendency is maintained in the rest of the items in this dimension with the exception of *I am an active person in carrying out the projects that I proposed for myself*. Single young people consider themselves more active when executing the projects they propose, given that they have a more individualized vision and are less dependent on establishing affective bonds with others. However, they do consider themselves more diligent when addressing their purpose and projects in life without necessarily enjoying making future plans (Matos et al., 2001).

In short, the findings in this study show that with respect to the gender variable there are differences in the dimensions of *positive relations with others* and *personal growth and understanding context*, with females obtaining the highest scores. As for the relationship status variable, differences were found in *environmental mastery* and *purpose in life*, with higher scores obtained by partnered young people. However, no differences were found in the different dimensions in the autonomy questionnaire between single and partnered young people.

A possible limitation in this study could be seen as the differences in sample sizes between females (690) and males (456), and partnered (436) and single (708). However, we believe that these differences do not significantly bias the results given that both the gender and the relationship status samples are very large. Nevertheless, to check that the differences between the sample sizes were not altering the results, the comparison analyses were replicated by equalizing the sample sizes (male and female = 456; single and partnered = 436). The differences found between the samples were the same as those obtained in the analyses performed with the different sized samples. On a final note, we believe it would be interesting to perform a more in-depth study on the level of autonomy and psychological wellbeing in emerging adults taking into account gender and

relationship status in relation to family structure. In other words, how these two variables might influence autonomy and wellbeing depending on family status, i.e., whether parents are separated, divorced, etc.

DATA AVAILABILITY STATEMENT

All datasets generated for this study are included in the article/supplementary material.

ETHICS STATEMENT

This study was performed in accordance with the recommendations of the Ethics Committee of the Universidad Santo Tomás (Bogotá, Colombia) and the Ethics Committee of the Universidad Nacional de Educación a Distancia (Madrid, Spain) and is, therefore, in accordance with the Declaration of Helsinki (seventh revision 2013, Fortaleza, Brazil). All participants were given a full description of the study and informed that participation was voluntary. Informed consent was obtained. In the case of minors, in addition to their consent, consent from parents or guardians was also obtained. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

FG-C led the project. DA created the database, performed the statistical analyses, wrote the methodological section of the article, and the methodological limitations of the research. DA and GC wrote the results section. FG-C and IM-S wrote the introduction and the theoretical framework, reviewed the references, and obtained financial support for the study. FG-C, IM-S, GC, and DA prepared the discussion section and reviewed the first draft of the article. All authors contributed to the article and approved the submitted version.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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School Well-Being and Drug Use in Adolescence

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This research is part of the last study *Drugs and School IX* developed in the Basque Country (Spain) by the Instituto Deusto de Drogodependencias (Deusto Institute of Drug Addiction) of the University of Deusto (The study had the support of the Public Health and Addictions Directorate of the Deputy Health Ministry from the Health Department of the Basque Country.) and the data gathered by means of cluster sampling in two stages. The sample is made up of $N = 6,007$ girls and boys ranging from 12 to 22 years of age in secondary education, and the aims, on the basis of those parameters, are as follows: (1) describe the reality of drug consumption and some psychosocial variables in this sample, as well as analyze several relations between variables; (2) analyze the role of school well-being (SWB), self-esteem, and self-concept regarding consumption; (3) take a close look at the moderating role of age and gender on the relationship of school well-being, self-concept, and self-esteem with consumption; and (4) understand the existing interaction between all these variables, by studying the moderating role of self-esteem and self-concept in the influence of school well-being on consumption. With the use of a correlation, hierarchical regression, and mediation analysis with SPSS (v. 26) and Amos (v. 26) applications, three main conclusions were reached. Firstly, educational and academic well-being, academic self-concept, and self-esteem seem to play the role of protecting factors in adolescence, whereas assertiveness is linked to a higher consumption level. Secondly, academic self-concept has a mediating effect between well-being and consumption. Some of these relations are moderated by the variables of gender and age. Thirdly, age and gender are very relevant sociodemographic variables that must be taken into account in order to understand this phenomenon. Age has shown its covariant effect, which is especially relevant in the influence of academic well-being measured as being held back years. It has also proved to be important in order to understand its experiential or experimental and transitory character. Moreover, significant differences in consumptions have been found based on gender.

Keywords: school well-being, self-esteem, self-concept, gender, age, drug abuse, drug use

INTRODUCTION

As their name suggests, risk conducts put at risk the well-being or the health of the person who engages in them or those in their surroundings. Adolescence is a complex period and, therefore, propitious for these kinds of conducts to arise (Skogen et al., 2019). However, despite the social alarm they generate, in most cases, their appearance during this period is linked to experimenting and, in the same way they appear, they disappear (Sánchez-Sosa et al., 2014; Batllori, 2016; Tena-Suck et al., 2018). Although the consumption of substances has decreased among the adolescent population in recent years in both Europe and Spain (ESPAD Group, 2016; Golpe et al., 2017) it is relevant to highlight some data. Alcohol, tobacco, and cannabis remain the most widely used substances and those most socially accepted. In Europe (ESPAD Group, 2016).

..., despite rather strict regulations on tobacco in most countries and on alcohol in some countries, adolescents still report relatively easy access to tobacco and alcohol. Moreover, trends over the past two decades indicate a closing of the gender gap in the use of tobacco and alcohol. The data suggest that cannabis remains an “established” drug. Although prevalence peaked in 2003 and decreased slightly thereafter, the prevalence rates in lifetime and current cannabis use are higher in 2015 than in 1995.

In Spain, alcohol is still the most consumed substance among the population between 14 and 18 years of age, according to the Observatorio Español de las Drogas y las Adicciones (2019). And, currently, the number of adolescents who smoke tobacco and cannabis is higher than the number of those who only smoke tobacco (Rial et al., 2019). The *Instituto Deusto de Drogodependencias* (Deusto Institute of Drug Addiction) has been researching this topic for over 30 years, as well as the variables that help understand this phenomenon. During the last academic year, it presented the last edition of the study *Drugs and School IX* (Instituto Deusto Drogodependencias, 2019). This series not only approaches this problem with a current and historical vision but also gives keys to guide the intervention of professionals linked to the educational environment. In this special issue on well-being and education, it would be very useful to get a better grasp on the connections between students’ school well-being (SWB) and substance abuse.

Experts define well-being as the subjective perception of satisfaction, happiness, a state where no negative conditions nor feelings exist (Keyes, 1998; Keyes et al., 2002). In the 1990s, Ryff and Keyes (1995) took a further step and tested their model of well-being that included different dimensions, such as autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance.

Some authors, such as Good and Willoughby (2014) have mentioned intrapersonal well-being (with oneself) and interpersonal well-being (with the outside world), but in any case, they always refer to subjective perceptions. This distinction can help us clarify the complex mosaic of studies and concepts used in this field. We have found studies on well-being in general, on school well-being, on educational well-being, on

psychological well-being, on self-concept, and on self-esteem, all of them in relation to drug abuse. Educational agents are mainly interested in both dimensions of well-being: intrapersonal and interpersonal. These are the variables that are closest to the field of action of these agents.

Looking at intrapersonal well-being, the way we perceive ourselves from a cognitive point of view (self-concept) and the way we value ourselves from an emotional perspective (self-esteem) have been associated with a greater stability, behavioral and social coherence, and lesser risk and criminal, sexual, and consumption conducts (Collison et al., 2016; Kim et al., 2018). The studies on self-concept and self-esteem give us important keys to understanding well-being during adolescence. Ryff (1989) and Blanco and Díaz (2005) found a great correlation between self-acceptance (a subscale of well-being) and self-esteem (Rosenberg, 1965). Well-being seems to be broader and correlated with self-concept and self-esteem (Sarkova et al., 2014; Páramo et al., 2015). Although this logic may seem simple and linear, the relations are complex, and the results regarding substance consumption during adolescence are not conclusive (Fuentes et al., 2011; McKay et al., 2011, 2012). The reasons that may explain this are of varied nature. They may be related to the evolutionary period, which implies changes and possible incoherences that are typical at this stage. It may also be related to methodological matters and to the diversity of instruments used in research throughout the last decade. In this sense, the studies that assess self-esteem and self-concept as a multidimensional construct claim that their behavior during adolescence is differentiated. Thus, self-esteem and self-concept, both family and academic related, play a protective role, while social self-esteem, on the contrary, plays a risk role (Cava et al., 2008). In opposition to these studies, those who have measured self-esteem as a unitary construct have found that self-esteem plays, in any case, a mediating role (DuBois and Silverthorn, 2004; McKay et al., 2011; Álvarez-García et al., 2019). This means that the effect of certain variables on consumption may not be direct but go through self-esteem. Therefore, low self-esteem facilitates implication in criminal conducts or other risk conducts such as consumption and would highlight the importance of other variables, such as the family, academic, and social context. Thus, Christens and Peterson (2012) found that greater social support in the family, among peers, and also in the academic environment increases not only self-esteem but also the protective factors for violent conducts (Lázaro-Visa et al., 2019) and substance consumption (Malonda et al., 2019).

From an interpersonal point of view, there are no doubts regarding the importance of the school as a place for learning and acquiring content and skills, but we often forget the reach of the role of academic success in the adolescent’s personal life. McKay et al. (2012) found that the best predictor of alcohol consumption was low academic self-efficacy (according to Bandura’s definition)¹. Thus, when formal education does not comply with these functions,

¹They define self-efficacy according to Bandura’s definition (1997) as the belief in one’s own ability to exercise control over challenging demands and functioning.

there is an increase in the probability of adolescents being engaged in risk conducts, disconnecting from the school environment, and an increase in the probability of early school leaving, which entail negative psychosocial effects (Li and Lerner, 2011). Some authors have indicated that certain risk conducts, such as a regular consumption of drugs, entail academic difficulties (Bandura, 1997; González de Audikana, 2008, 2016; Wheeler, 2010; González de Audikana and Laespada, 2014). School is considered to be a context where the adolescent constructs well-being (Cash et al., 2014; Sarkova et al., 2014) not only in terms of their academic achievement but also in their relationships with other peers (Connolly et al., 2015; De Boer et al., 2016) and in their relationship with their teachers, the climate (Maxwell et al., 2017), the rules for coexistence, the attitudes, and values (Wang and Eccles, 2012; Wang and Fredricks, 2014; EMCDDA, 2015). Wang and Fredricks (2014) indicated that young people with a low commitment to school showed a higher tendency toward antisocial conducts (Álvarez-García et al., 2019), substance consumption, and early school leaving (González de Audikana, 2016).

Some authors such as Konu and her team (Konu et al., 2002, 2015) referred to school well-being as a concept. Ours is made up of three dimensions: academic welfare (failure or repetition), educational welfare (relationships with teachers and involvement), and interpersonal welfare (absence of conflict with peers).

Sociodemographic variables are also key to understanding both the well-being and the consumption phenomena. In well-being studies, Keyes et al. (2002) and Benner and Wang (2015) mentioned the importance of understanding well-being always framed in and conditioned by variables such as age, gender, and educational status. Regarding consumption, there are numerous researches that prove the existence of a positive relation between age and the frequency and intensity of substance consumption (Peñafiel, 2009; McKay et al., 2011; Motos et al., 2015; Hernández-Serrano et al., 2016; Riquelme et al., 2018). Nevertheless, this relation is curvilinear; that is, it increases with age, but when a maximum point is reached (usually between the ages of 18 and 24), it descends (Peñafiel, 2009). There is also proof of consumption differences based on gender. Both legal and illegal substances are associated repeatedly with boys (García del Castillo et al., 2004; Peralta et al., 2010; Fuller-Thomson et al., 2013; Riquelme et al., 2018). However, this is changing, and a tendency toward homogenization of consumption patterns is occurring, to the extent that the figures in alcohol and tobacco consumption have become even for both genders (Jiménez-Rodrigo, 2008; Khan et al., 2014; Instituto Deusto Drogodependencias, 2019).

This research aims to (1) describe the reality of drug consumption and some psychosocial variables in this sample, as well as study several relations between variables related to; (2) analyze the role of school well-being, self-esteem, and self-concept regarding consumption; (3) take a close look at the moderating role of age and gender on the relationship of school well-being, self-concept, and self-esteem with consumption; and (4) understand the existing interaction between all these

variables, by studying the mediating role of self-esteem and self-concept in the influence of school well-being on consumption.

MATERIALS AND METHODS

Procedure and Participants

The *Instituto Deusto de Drogodependencias* of the Faculty of Psychology and Education (Universidad de Deusto) conducted primarily a survey on secondary school students (between 12 and 22 years of age) in the academic year 2016/2017 in the Basque Autonomous Community (Instituto Deusto Drogodependencias, 2019) as a continuation of the series started in academic year 1981/1982. The aim was to recognize the situation of drug consumption and a set of factors associated with consumption and to learn its historical evolution. The study had the support of the Public Health and Addictions Directorate of the Deputy Health Ministry from the Health Department of the Basque Country. The data gathered from that survey provided an adequate measurement of the variables in the research questions. Statistical analysis computer applications SPSS (v. 26) and Amos (v. 26) were used.

Descriptive statistics (percentages, mean, standard deviation, and skewness) and bivariate statistics (Pearson's correlation coefficient, *t*-test, chi-squared, odds ratio, and ANOVA) were used for the analysis of the relation of sociodemographic variables with well-being at school, self-esteem, and self-concept and consumption, including *p*-value and effect size estimations (Cohen's *d*, Cramer's *V*, and eta-squared). Pearson's correlation coefficients, partial correlations, and a hierarchical regression analysis were included for analyzing the relation between self-esteem and self-concept, well-being at school, and consumption. Splitting data in groups according to age and gender and calculating separate Pearson's correlation coefficients (Aiken and West, 1991) allowed to describe effect moderation by age and gender. The mediating roles of self-concept and self-esteem required a specific path analysis and the calculation of direct and indirect standardized regression coefficients (beta). Goodness of fit in construct validity analysis and path analysis was tested using Tucker-Lewis index (TLI), comparative fit index (CFI), and the root mean square error of approximation (RMSEA).

A cluster sampling in two stages (a random selection of schools, followed by a random selection of classrooms) was carried out among the population enrolled in the secondary education in the Autonomous Community of the Basque Country. The sample is composed of 6,007 subjects; 45.4% are women, and their average age is 15.37 with a standard deviation of 2.18 years. The age range is between 12 and 22 years, and the age groups are represented in a balanced manner between 12 and 19; 59.8% study *Educación Secundaria Obligatoria* (compulsory secondary education; ESO), 21.1% *Bachillerato* (the last 2 years of secondary education), 13.1% study *Formación Profesional Media* (intermediate level vocational training; FPM), and 6% study *Formación Profesional Básica* (basic vocational training; FPB). Compared with the Spanish average educational indicators, the Autonomous Community of the Basque Country has a larger proportion of charter schools (48.4 vs. 25.7%), a higher budget for

each student (9,054 vs. 5,607 euros), and lower repetition (5.5 vs. 8.7%) and early school leaving rates (7.0 vs. 18.3%) in secondary education (CEE, 2018; MEFP, 2019) but does not stand out in the average PISA scores (science 483 vs. 493, reading 491 vs. 496, and mathematics 492 vs. 486) (ISEI-IVEI, 2017).

The average score in the socioeconomic level variable of the families was 14.19, with a standard deviation of 4.70, and a skewness of -0.235 ; 16.4% are second-generation immigrants, and 1.4% are first-generation immigrants.

Of the sample, 42.4% study in the public system, and 57.5% in the private system; 56% study model D (mainly in Basque), 29.4% model A (mainly in Spanish), and 14.6% model B (intermediate level, which combines Basque and Spanish); 18.4% have been held back a year, and 10.3% have been held back two or more years. Most of the people from the sample (69.8%) did not fail any subjects in the month of June of the previous academic year, whereas 12.1% failed one subject, 10.5% two subjects, and 7.6% three or more subjects. When they were asked how much money they had for their personal expenses, 65.9% indicated they had up to 10 euros per week; 21.3%, between 11 and 20 euros; 10.2%, between 21 and 50 euros; and 2.6%, 51 euros or more.

Regarding consumption levels, 32.3% indicated that they do not consume any substances; 33% were classified in the category of alcohol consumption, 26.3% in the category of cannabis, 5.1% in stimulant substances (cocaine, amphetamine or speed, and ecstasy or similar substances), and 3.3% in minority substances (heroin and LSD or similar substances). It must be taken into account that these levels frequently contain cumulative consumptions (e.g., a big part of those who consume cannabis also consume alcohol).

Measurements

The sociodemographic data collected were age, gender, social level (combining the type of work and studies of the parents), the amount of money available for their personal expenses, and the educational cycle taken (*Educación Secundaria Obligatoria*, *Bachillerato*, FPB, and *Formación Profesional Media*).

Three dimensions of school well-being were considered. Educational well-being indicates the perception of the quality of students' relationship with the teachers and their involvement in the learning process (e.g., "I enjoy carrying out my duties as a student" or "If I have any problems I know that I can go see a teacher"). It has a 6-point Likert scale: 1 = "Strongly disagree," 2 = "Disagree," 3 = "Slightly disagree," 4 = "Slightly agree," 5 = "Agree," and 6 = "Strongly agree." The value of Cronbach's alpha coefficient was 0.680, but a confirmatory factor analysis (CFA) produced acceptable indices (TLI = 0.910; CFI = 0.976; RMSEA = 0.065). Academic well-being comprises the degree of adjustment to the formal academic requirements, indicated by grade repetition and the number of failed subjects. These questions were direct, asking for the number of years they had been held back, with three possible responses (1 = "No, I have not been held back," 2 = "I have been held back a year", and 3 = "I have been held back two or more years"), and the number of subjects they had failed in the final assessment of the previous year, with four possible responses (1 = "I passed everything," 2 = "I failed one subject," 3 = "I failed 2 or 3 subjects," or 4 = "I failed 4 or more

subjects"). Interpersonal well-being at the school corresponds to their perception of the quality of their relationship with their classmates and the absence of conflicts. It was measured by three items from the *Escala Multidimensional Breve de Ajuste Escolar* (Moral et al., 2010) (e.g., "I have problems with my classmates") using a 6-point Likert scale. In this case, the value of Cronbach's alpha coefficient for internal consistency was 0.750.

Three variables regarding self-esteem and self-concept were also collected. The Rosenberg (1965) Self-esteem scale was used, composed of 10 items (e.g., "On the whole, I am satisfied with myself.") with a 4-point Likert scale (1 = "Strongly agree," 2 = "Agree," 3 = "Disagree," and 4 = "Strongly disagree"). In this sample, Cronbach's alpha was 0.768. Construct validity was analyzed by testing diverse models through CFA, given the complexity of this measurement. In general, this scale does not provide a simple one-dimensional measurement but tends to show differences when the question is phrased in an affirmative or negative sense. Some researches point at the possibility of each type of questions measuring different constructs, where the questions posed in a negative sense would reveal a construct related to depressive symptoms and self-deprecation. However, other researches indicate that the two-factor model is an artifact that is the result of the phrasing of questions. Greenberger et al. (2003) observed that when the questions are rephrased in the same direction, a one-dimensional scale is obtained. Huang and Dong (2012) recommend a solution with a single dimension, based on the revision of 23 studies and 80 samples.

This effect may be reflected in the measurement models in two ways: by adding covariance parameters between the questions asked in a specific direction or by including a method factor (effect of a positive or a negative formulation of the questions). This last technique is backed by a multi-risk multi-method approach, accepting the existence of a latent variable, which corresponds to the effect of the phrasing of the question in a specific direction. If the theoretical irrelevance of this variable in the model proposed is accepted with certainty, it is possible to acknowledge it in the measurement model but to ignore it afterward in the explanatory models (Little et al., 2002; Chen et al., 2007). In the present study, several models have been contrasted to obtain goodness-of-fit indexes that appear on **Table 1**, and the third model had the best indexes.

Academic self-concept was measured by two items from the *Escala Multidimensional Breve de Ajuste Escolar* (School Adjustment Short Multidimensional Scale) (Moral et al., 2010) (e.g., "I think that I am a good student") with a 6-point Likert scale (alpha = 0.819). Social self-concept was measured by six items from the *Self-Perception Profile for Adolescents (Social competence and Close friendship subscales)* by Harter (2012) on their perception of their capacity to make friends (e.g., "I find it easy to make friends"), in a 9-point semantic differential scale (e.g., 1 = "I find it easy to make friends" to 9 = "I find it hard to make friends"); Cronbach's alpha obtained was 0.805, and CFA results were adequate (TLI = 0.962; CFI = 0.0987; RMSEA = 0.058).

Assertiveness was measured with a reduced version of *Rathus Assertiveness Schedule* (Rathus, 1973) composed of seven items

TABLE 1 | Self-esteem scale CFA models' goodness-of-fit indexes.

	CFI	TLI	RMSEA	90% CI
1. One factor model	0.745	0.599	0.119	(0.116; 0.123)
2. One factor model, with covariance parameters between negatively worded items	0.942	0.873	0.067	(0.063; 0.071)
3. One factor model, with covariance parameters between positively worded items	0.978	0.952	0.041	(0.037; 0.045)
4. One factor, adding a Methodology variable (wording negatively factor)	0.941	0.892	0.062	(0.058; 0.066)

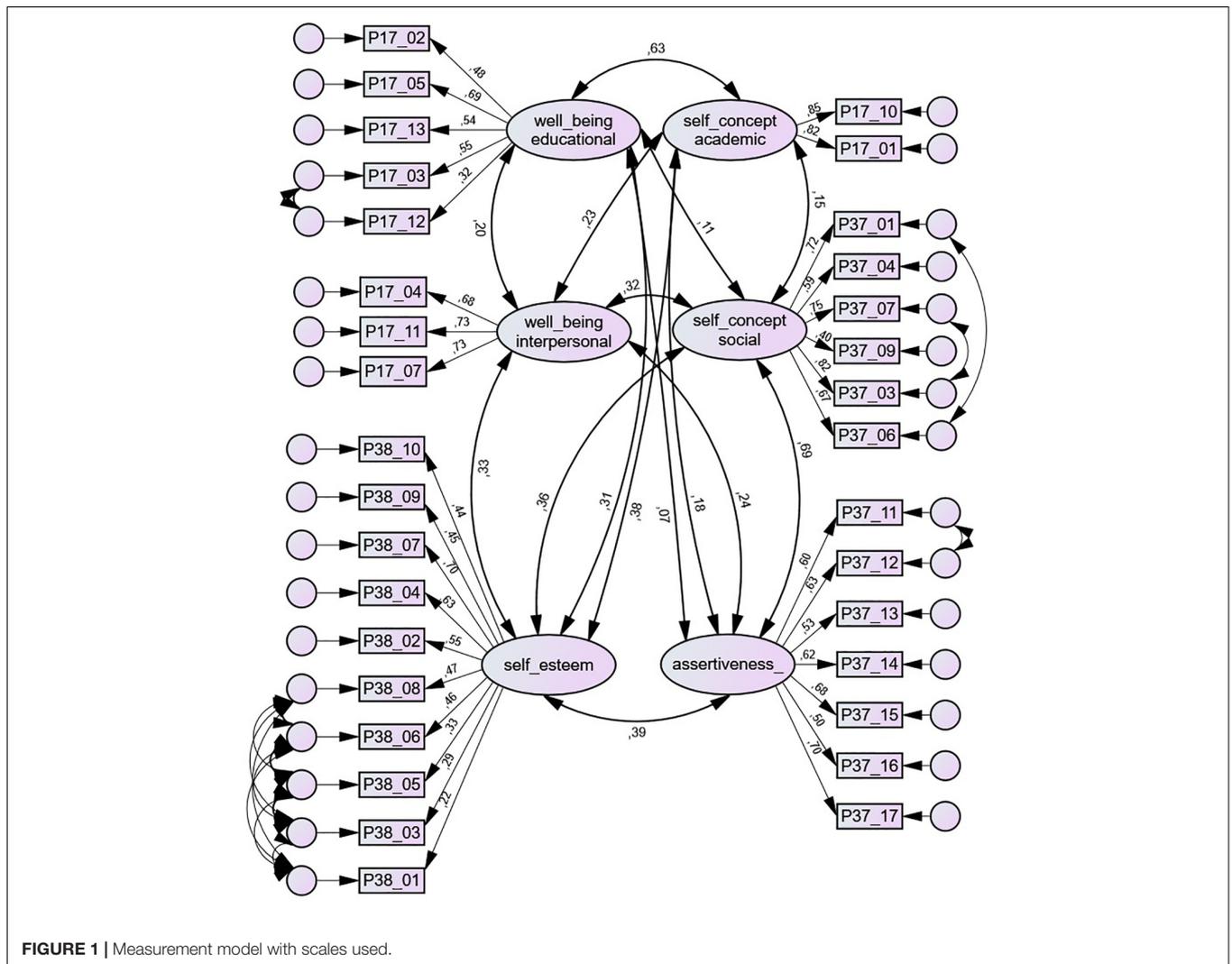
CFA, confirmatory factor analysis; TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation.

(e.g., “If a relative were annoying me, I would tell them, even if this makes them angry”) with a 9-point semantic differential scale (e.g., 1 = “If a close and respected relative were annoying me, I would tell them, even if this makes them angry” to 9 = “If a close and respected relative were annoying me, I would smother my feelings rather than express my annoyance”). Cronbach’s alpha value was 0.810, and CFA results were good (TLI = 0.947; CFI = 0.975; RMSEA = 0.045).

The whole measurement model of scale scores (**Figure 1**) produced adequate fit indexes (TLI = 0.915; CFI = 0.929;

RMSEA = 0.037; standardized root mean square residual (SRMR) = 0.0498).

Substance consumption was measured by asking the question “On how many occasions, if any, have you consumed during the past month?” The question was repeated and adapted to each substance, differentiating the consumption of alcohol (referring to being drunk, “On how many occasions, if any, have you been drunk from the consumption of alcoholic drinks in the past month?”), cannabis, stimulant substances (cocaine, amphetamine or speed, and ecstasy or similar substances), and



minority substances (heroin and LSD or similar substances). The questionnaire offered seven possible responses (0 = “Never,” 1 = “1–2 times,” 2 = “3–5 times,” 3 = “6–9 times,” 4 = “10–19 times,” 5 = “20–39 times,” and 6 = “40 or more times”) for each substance. In some analyses, the variable was recoded into dichotomous (0 = “Never” and 1 = “At least on one occasion”). Afterward, several markings were used to calculate a single global indicator with five consumption levels, using a scale based on a study by González de Audikana (2017) which differentiates five drug consumption levels: no consumption, conventional substance consumption (alcohol), cannabis consumption, stimulant substance consumption (cocaine, amphetamines or speed, and ecstasy or similar substances), and minority substance consumption (heroin and LSD or similar substances).

RESULTS

The research intends to analyze the following:

1. The relation of some sociodemographic variables (gender, age, and stage) and well-being at school, self-esteem, and self-concept and consumption.
2. The relation between self-esteem and self-concept, well-being at school, and consumption.
3. The moderating roles of age and gender on the relation between consumption and well-being at school, self-esteem, and self-concept.
4. The mediating roles of self-esteem and self-concept in the influence of school well-being on consumption.

First of all, the relation of some sociodemographic variables (gender, age, and educational stage) and well-being at school, self-esteem, and self-concept and consumption was analyzed. As may be observed in **Table 2**, the level of educational well-being is higher among girls ($t = -7.404$; $p = 0.000$; Cohen's $d = -0.19$), in *Formación Profesional Media* (FPM) and in FPB, and there is a U-shaped tendency throughout the different stages. Academic well-being, measured using indicators such as the number of failing grades and the number of years having been held back, is more unfavorable among boys, in FPB and FPM, and naturally shows a cumulative effect throughout the years.

Academic self-concept is higher among girls ($t = -13.158$; $p = 0.000$; $d = 0.34$) in *Bachillerato*, as opposed to FPB, and a decreasing tendency is observed with age. The average self-esteem is slightly higher among boys ($t = 4.527$; $p = 0.000$; $d = 0.12$), slightly lower in FPB, and remains stable throughout the years. Social self-concept is higher among boys ($t = 6.892$; $p = 0.000$; $d = 0.18$), descends after ESO, and has a certain decreasing tendency with age. Assertiveness is higher among boys, lower in FPB, and shows stability at different ages.

Regarding the highest drug use level (alcohol, cannabis, stimulant substances, and minority substances) reached by each person and gender ($\chi^2 = 96.938$; $p = 0.000$; Cramer's $V = 0.131$), there are more girls in the no-consumption group as well as in the alcohol-consumption group. On the other hand, there is a higher percentage of boys who consume cannabis and other substances.

When the consumption prevalence of each substance in the last month is analyzed, the proportion of boys having gotten drunk (22.5%) is only slightly larger than that of girls (19.1%) (OR = 0.811; 95% CI 0.715–0.921). However, for the remaining substances, the proportion of boys who have consumed them is much larger (21.7% vs. 13.0% for cannabis, OR = 0.540, 95% CI 0.469–0.621; 4.4% vs. 1.6% for stimulant substances, OR = 0.348, 95% CI 0.246–0.493; 1.2% vs. 0.5% for minority substances, OR = 0.440, 95% CI 0.238–0.814).

When comparing the educational stages, *Bachillerato* and FPM, which correspond to the groups with older students, show the greatest prevalence of monthly consumption of alcohol. The consumption indicated in FPB is remarkable. The proportion of cannabis and stimulant-substance consumers is larger in FPB and FPM. Minority substances are especially present in FPB.

The drug use prevalence indicators are higher the older the age, with the highest prevalence observed around age 19 or 20, and with lower prevalence at the following ages (**Figure 2**). The typical ages for the highest irruption of each substance are different: younger in alcohol consumption, followed by cannabis, stimulant substances, and minority substances.

The strong relation between consumption levels and age makes it advisable to control the effect of age when analyzing the relation of other variables with drug consumption. An example is the comparison of the average consumptions at the different school stages. Consumption is higher in FPM, FPB, *Bachillerato*, and ESO, in this order ($F = 524.285$; $p = 0.000$; $\eta^2 = 0.215$). When controlling the effect of age, in **Figure 3**, estimated marginal means are very different compared with observed means, and not so different from each other ($F = 19.998$; $p = 0.000$; $\eta^2 = 0.010$). The confounding effect of age seems to have been hiding that the highest average is produced in FPB.

Secondly, the relation between well-being at school, self-esteem and self-concept, and consumption was analyzed. **Table 3** shows the values of Pearson's product-moment correlation coefficient between these variables. Zero-order correlations are represented under the diagonal, whereas partial correlations once the effect of age is controlled are shown over the diagonal. Great differences are observed between both types of correlation, which suggests that the shared effect of age underlies in a fair share of the apparent correlations between many variables.

Educational well-being is positively correlated with academic self-concept ($r = 0.424$) and self-esteem ($r = 0.221$). Academic well-being, measured as the number of failed subjects, has a negative correlation with academic self-concept ($r = -0.426$) and with self-esteem ($r = -0.137$), but being held back years is less correlated with both variables. Interpersonal well-being at school is related to self-esteem ($r = 0.244$), social self-concept ($r = 0.235$), academic self-concept ($r = 0.176$), and assertiveness ($r = 0.185$). None of these correlations is significantly modified when controlling age.

Consumption levels are associated with academic well-being (being held back years $r = 0.346$, number of failed subjects $r = 0.175$), but this correlation changes substantially when age is controlled. Then the number of failed subjects is correlated with consumption ($r = 0.138$) more than with being held back years ($r = 0.108$). On another note, educational well-being shows partial

TABLE 2 | School well-being, self-concept, self-esteem, and drug use means and percentages by gender, educational stage, and age.

	School well-being Educational	School well-being Academic—falls	School well-being Academic—repet.	Self-concept Academic	Self-esteem	Self-concept Social	Assertiveness	0 No drug use (%)	1 Alcohol (%)	2 Cannabis (%)	3 Stimulant (%)	4 Minority (%)	1 Alcohol (%)	2 Cannabis (%)	3 Stimulant (%)	4 Minority (%)	
Gender																	
	0 male	0.67	0.48	4.20	3.09	6.77	7.30	31	30	28	6	5	30	28	6	5	30
	1 female	0.43	0.28	4.61	3.03	6.52	7.09	34	37	24	3	2	37	24	3	2	37
Educational stage	1 ESO	0.54	0.23	4.46	3.06	6.72	7.21	48	33	15	2	2	42	15	2	2	42
	2 BACHILLER	0.37	0.16	4.35	3.06	6.57	7.21	8	42	44	3	2	42	44	3	2	42
	3 FPBASICA	1.31	1.36	4.05	2.97	6.53	7.08	16	20	37	16	10	20	37	16	10	20
	4 FPMEDIA	0.61	1.03	4.25	3.07	6.57	7.23	8	23	43	16	10	23	43	16	10	23
Age	12	0.24	0.02	4.93	3.12	6.99	7.34	86	11	2	1	1	11	2	1	1	11
	13	0.42	0.10	4.69	3.08	6.78	7.20	67	26	5	1	1	26	5	1	1	26
	14	0.49	0.14	4.40	3.06	6.65	7.17	42	41	14	2	1	41	14	2	1	41
	15	0.64	0.26	4.29	3.03	6.64	7.18	27	42	26	3	2	42	26	3	2	42
	16	0.73	0.38	4.20	3.03	6.52	7.18	14	40	39	3	4	40	39	3	4	40
	17	0.64	0.56	4.24	3.06	6.58	7.21	10	35	43	8	4	35	43	8	4	35
	18	0.69	0.97	4.16	3.04	6.71	7.20	8	30	44	11	8	30	44	11	8	30
	19	0.65	1.24	4.17	3.06	6.52	7.33	8	20	41	21	9	20	41	21	9	20
	20	0.40	1.16	4.28	3.08	6.39	7.15	9	15	38	22	16	15	38	22	16	15
	21	0.37	1.24	4.42	3.12	6.67	7.21	9	16	52	14	10	16	52	14	10	16
	22	0.48	1.24	4.49	3.06	6.41	6.90	12	26	26	19	16	26	26	19	16	26

ESO, Educación Secundaria Obligatoria; FPB, Formación Profesional Básica; FPM, Formación Profesional Media.

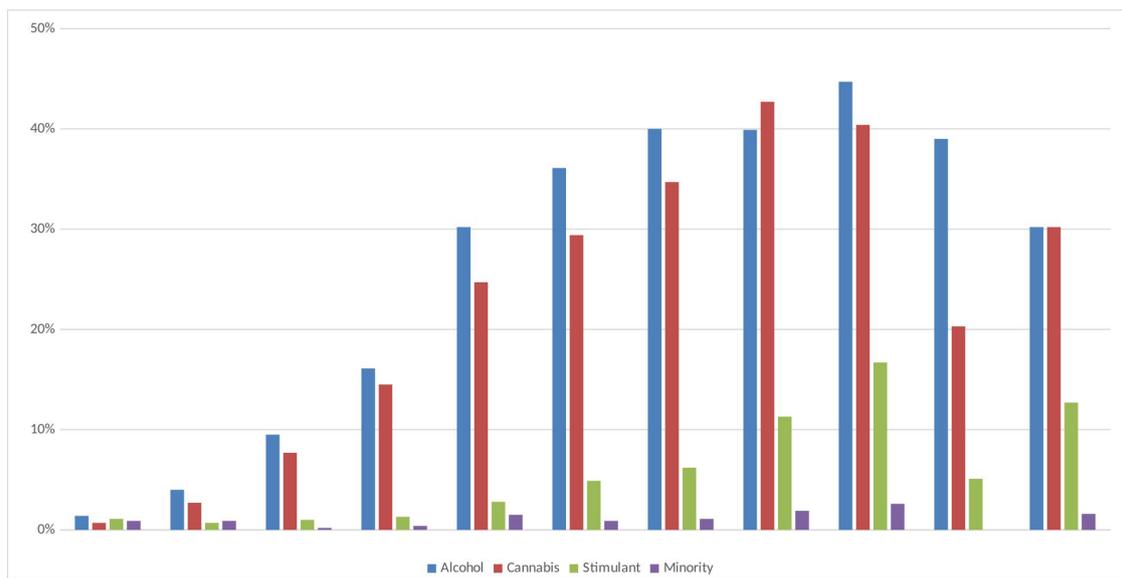


FIGURE 2 | Drug use distribution by age (having used drugs in the last month).

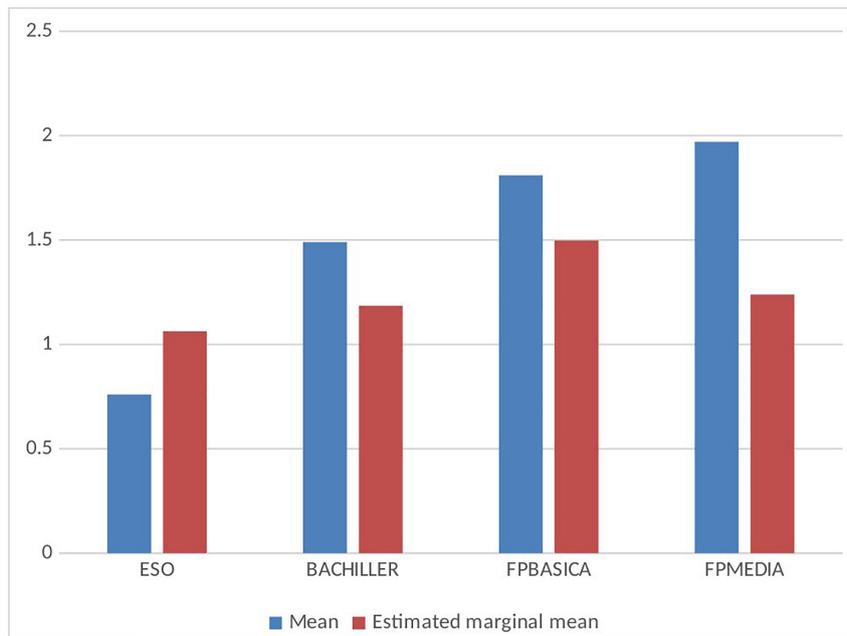


FIGURE 3 | Mean and estimated marginal mean of drug use level at each educational stage.

correlation with consumption ($r = -0.241$) higher than the zero-order correlation ($r = -0.200$). All these correlations are stronger in the case of frequency of alcohol consumption, in comparison with the frequency of consumption of other substances. The level of consumption is not correlated with interpersonal well-being at school.

Academic self-concept predicts the consumption level ($r = -0.270$) much better than self-esteem ($r = -0.078$), social

self-concept ($r = 0.026$), or assertiveness ($r = 0.053$), even when age is controlled and especially regarding the frequency of alcohol consumption.

A hierarchical regression analysis has been carried out by taking the level of substance consumption as the dependent variable. It was done in three steps including successively – as independent variables – demographic variables, school well-being variables, and self-concept and self-esteem variables. The

TABLE 3 | Zero-order correlations and partial correlations between main variables³.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2 Gender	-0.086																			
3 Social level	-0.233	0.056																		
4 Money	0.449	-0.126	-0.137																	
5 Bachillerato	0.334	0.055	0.038	0.069																
6 FPB	0.164	-0.081	-0.147	0.112	-0.131															
7 FPM	0.597	-0.079	-0.198	0.356	-0.200	-0.098														
8 SWB—educational	0.012	0.096	-0.022	-0.017	-0.091	0.029	0.160													
9 SWB academic-fails	0.098	-0.125	-0.191	0.131	-0.102	0.197	0.020	-0.145												
10 SWB academic-repet.	0.488	-0.157	-0.288	0.336	-0.180	0.371	0.372	0.020	0.424											
11 SWB interpersonal	0.006	0.038	0.090	0.004	0.100	-0.099	-0.003	0.131	-0.148	-0.125										
12 Self-concept academic	-0.149	0.168	0.167	-0.137	-0.014	-0.070	-0.044	0.424	-0.426	-0.256	0.176									
13 Self-esteem	-0.022	-0.060	0.064	0.021	0.005	-0.048	0.013	0.221	-0.137	-0.054	0.244	0.310								
14 Self-concept social	-0.072	-0.090	0.076	0.045	-0.031	-0.022	-0.022	0.060	-0.036	-0.031	0.235	0.115	0.353							
15 Assertiveness	-0.014	-0.075	0.019	0.049	0.004	-0.022	0.008	0.032	-0.054	-0.003	0.185	0.133	0.347	0.559						
16 Drug use level	0.530	-0.108	-0.121	0.351	0.181	0.164	0.312	-0.200	0.175	0.346	0.007	-0.270	-0.078	0.026	0.053					
17 Alcohol	0.293	-0.078	-0.045	0.257	0.127	0.086	0.179	-0.111	0.126	0.210	-0.027	-0.145	-0.031	0.042	0.033	0.411				
18 Cannabis	0.300	-0.136	-0.080	0.318	0.016	0.181	0.235	-0.136	0.185	0.317	-0.039	-0.216	-0.037	0.033	0.044	0.541	0.385			
19 Stimulant	0.114	-0.063	-0.021	0.143	0.012	0.066	0.079	-0.065	0.069	0.129	-0.063	-0.073	-0.023	-0.009	-0.004	0.311	0.234	0.283		
20 Minority	0.006	-0.023	0.014	0.002	-0.009	0.032	-0.007	-0.048	0.041	0.041	-0.065	-0.042	-0.025	-0.018	-0.015	0.208	0.093	0.102	0.291	
Mean	15.37	0.45	14.19	1.49	0.21	0.06	0.13	4.01	0.56	0.39	5.42	4.39	3.06	6.66	7.20	1.14	0.35	0.58	0.08	0.03
Std. deviation	2.18	0.50	4.70	0.78	0.41	0.24	0.34	0.95	0.96	0.67	0.93	1.21	0.48	1.43	1.37	1.03	0.85	1.49	0.56	0.36

FPB, Formación Profesional Básica; SWB, School Well-Being. Zero-order correlation coefficients under the diagonal and partial correlation (controlling for age) over the diagonal. These correlations are significant at the 0.05 level when they are >0.026 and at the 0.01 level when they are >0.035, for a two-tailed test.

TABLE 4 | Hierarchical multiple regression for drug use.

	Model 1			Model 2			Model 3		
	β	t	Sig.	β	t	Sig.	β	t	Sig.
(Constant)		-11.765	0.000		-5.229	0.000		-5.037	0.000
Age	0.415	15.548	0.000	0.332	11.951	0.000	0.337	12.219	0.000
Gender	-0.049	-3.232	0.001	-0.018	-1.210	0.226	-0.005	-0.352	0.725
Social level	0.015	0.973	0.331	0.030	1.957	0.050	0.037	2.394	0.017
Money	0.134	7.828	0.000	0.109	6.581	0.000	0.101	6.135	0.000
Bachillerato	0.054	2.623	0.009	0.093	4.472	0.000	0.090	4.367	0.000
FPB	0.090	5.181	0.000	0.094	5.435	0.000	0.097	5.657	0.000
FPM	0.035	1.428	0.153	0.112	4.627	0.000	0.108	4.512	0.000
School well-being				-0.210	-13.850	0.000	-0.166	-10.067	0.000
Academic wb-fails				0.066	3.954	0.000	0.033	1.885	0.059
Academic wb-repet.				0.076	3.620	0.000	0.065	3.116	0.002
Interpersonal wb				0.050	3.334	0.001	0.045	2.906	0.004
Academic self-concept							-0.105	-5.734	0.000
Self-esteem							-0.042	-2.557	0.011
Social self-concept							0.050	2.807	0.005
Assertiveness							0.052	2.912	0.004
	R	a. R²	ΔR^2	R	a. R²	ΔR^2	R	a. R²	ΔR^2
Variance explained	0.553	0.304	0.306	0.600	0.357	0.054	0.611	0.370	0.014

FPB, Formación Profesional Básica.

resulting equation explains the 37% of variance in the substance consumption level.

Table 4 shows the standardized coefficients and the significance of each independent variable on each of the steps. In the third model, the best sociodemographic predictors are age ($\beta = 0.337$) and the money available for their expenses ($\beta = 0.101$). The school well-being variable, which best predicts the consumption level, is educational well-being ($\beta = -0.166$). In this regression analysis, educational well-being seems to be the main protecting factor against substance consumption. Academic well-being measured as the number of years having been held back ($\beta = 0.065$), the number of subjects failed ($\beta = 0.033$), and interpersonal well-being at school ($\beta = 0.045$) have a minor effect, which seems to favor consumption. Academic self-concept ($\beta = -0.105$) and self-esteem ($\beta = -0.042$) seem to have a slight protector effect, whereas assertiveness ($\beta = 0.052$) and social self-concept ($\beta = 0.050$) show an equally small effect but is aligned with consumption.

Thirdly, the moderating role of age and gender on the relation between consumption and well-being at school, self-esteem, and self-concept was analyzed. For this purpose, these correlations were calculated separately for each gender and age group (**Table 5**).

Academic well-being measured as the number of failed subjects correlates with consumption levels in a different way between the ages: the correlation is small and positive around the age of 13, and it reaches its maximum at the age of 15 and is lower at subsequent ages. This evolution is almost identical in both boys and girls. The evolution of the correlation between consumption and academic well-being

measured as the number of years having been held back does not show such clear tendencies, but it seems that it could be increasing with age in the case of girls. The correlation between interpersonal well-being and consumption in boys goes from small positive correlation coefficient values at the age of 13 to slightly negative values at 16, and it regains a slightly positive value at older ages. The evolution of this correlation is similar in girls, but a stronger negative correlation at the age of 16 stands out.

The academic self-concept is correlated with consumption more intensely around the age of 14–15, and it loses strength at older ages. The relation between self-esteem and consumption in boys is slightly negative and stable throughout the years. However, among girls, it goes from negative to positive coefficients throughout the years (**Figure 4**). Social self-concept shows a positive correlation with consumption at certain times. The correlation coefficient is positive but low for boys aged 14 to 15, whereas for girls, it is higher at the age of 16 and especially from the age of 18 (**Figure 5**). Assertiveness is correlated with consumption for boys to a lesser extent and in a sustained way, whereas for girls, the association between assertiveness and consumption is higher the older they are.

The mediating role of self-esteem and self-concept in the relation between school well-being and drug use was analyzed using a path analysis (**Figure 5**) (TLI = 0.907; CFI = 0.982; RMSEA = 0.061). Only cases with no missing answers were used in order to have bootstrapping available for calculating significance levels. Every path was statistically significant, except the one from failing subjects to self-esteem and the one from self-esteem to drug use level.

TABLE 5 | Correlation coefficients of school well-being, self-concept, and self-esteem with drug use moderated by gender and age.

Gender	Age	swb_edu	swb_acad_fails	swb_acad_repet	swb_interp	sc_acad	s_esteem	sc_social	Assertiveness
Male	12	-0.20	0.10	0.15	-0.07	-0.11	-0.10	-0.11	-0.09
	13	-0.17	0.12	0.04	0.08	-0.15	-0.14	-0.01	-0.01
	14	-0.31	0.11	0.08	0.06	-0.20	-0.02	0.15	0.11
	15	-0.27	0.27	0.17	-0.01	-0.29	-0.01	0.13	0.04
	16	-0.22	0.13	0.03	-0.06	-0.25	-0.13	0.07	0.07
	17	-0.25	0.14	0.07	0.02	-0.21	-0.09	0.02	0.07
	18	-0.21	-0.01	0.13	0.06	-0.19	-0.14	0.07	0.07
	19	-0.11	-0.11	0.12	0.05	-0.15	0.00	0.09	0.05
	20	-0.23	0.14	0.21	0.06	-0.08	-0.05	0.12	0.13
	21	-0.05	-0.12	0.14	0.10	0.05	0.09	0.08	0.13
	22	-0.30	0.09	0.25	0.06	-0.13	0.08	0.11	0.32
Female	12	0.03	0.03	-0.02	0.05	0.05	0.04	0.07	0.06
	13	-0.23	0.20	0.08	-0.01	-0.27	-0.19	0.01	0.02
	14	-0.34	0.13	0.06	-0.03	-0.29	-0.25	0.02	-0.10
	15	-0.14	0.24	0.11	0.01	-0.22	-0.13	0.02	0.05
	16	-0.30	0.10	0.08	-0.12	-0.18	-0.04	0.13	0.12
	17	-0.15	0.15	0.26	0.05	-0.22	-0.08	0.10	0.13
	18	-0.20	0.04	0.17	0.01	-0.16	0.23	0.17	0.16
	19	-0.29	0.05	0.24	0.07	-0.11	0.27	0.31	0.23
	20	-0.13	0.14	0.27	0.01	-0.05	0.06	0.14	0.39
	21	-0.27	0.30	0.35	0.26	-0.07	-0.16	0.51	0.34
	22	-0.26	-0.16	0.25	0.10	-0.08	0.12	0.16	0.25

Blue, negative correlations; Red, positive correlations. The intensity of the color denotes the size of the correlation; the more intense the color, the greater the correlation.

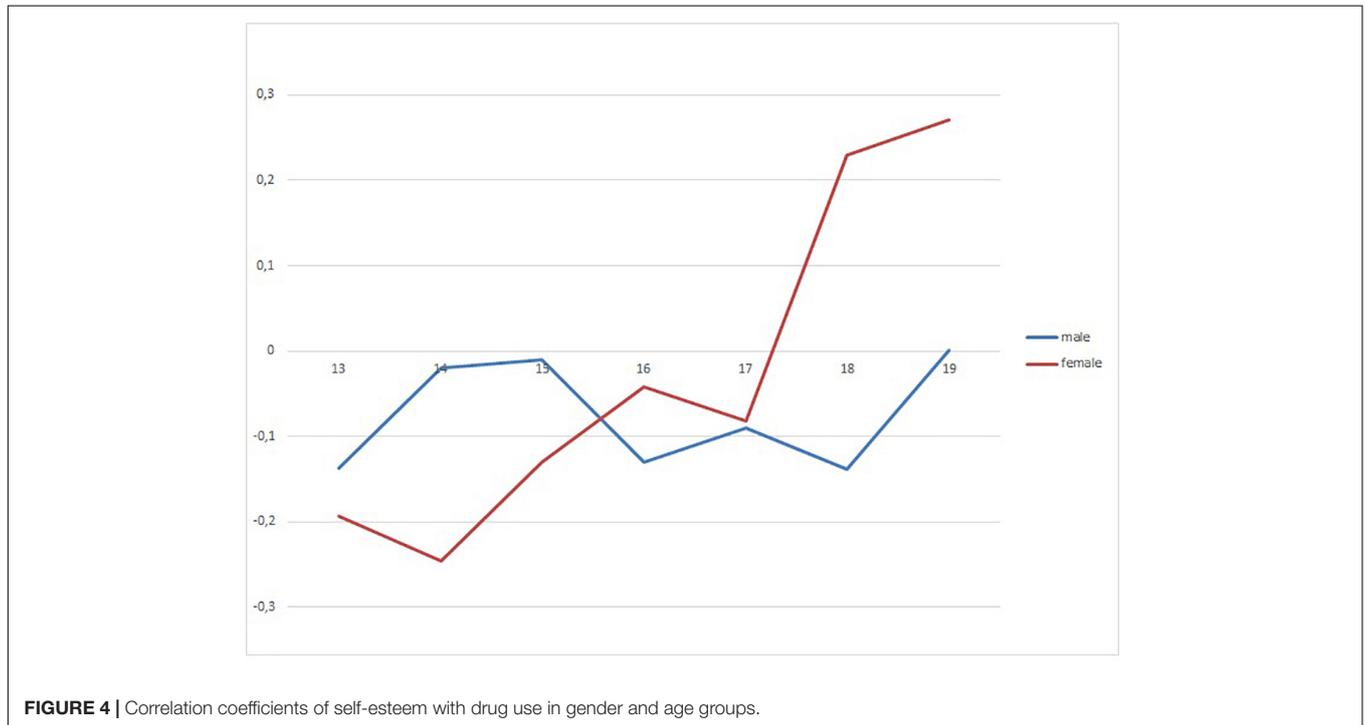


FIGURE 4 | Correlation coefficients of self-esteem with drug use in gender and age groups.

When calculating the standardized indirect effects of school well-being on drug use level, certain indirect effects correspond to the paths from academic fails (indirect effect, $\beta = 0.075$; $p = 0.001$) and educational well-being (indirect effect, $\beta = -0.075$;

$p = 0.001$), and much less from interpersonal well-being (indirect effect, $\beta = 0.010$; $p = 0.009$).

The next step was identifying three specific indirect effects. The indirect effect of fails was significant through academic

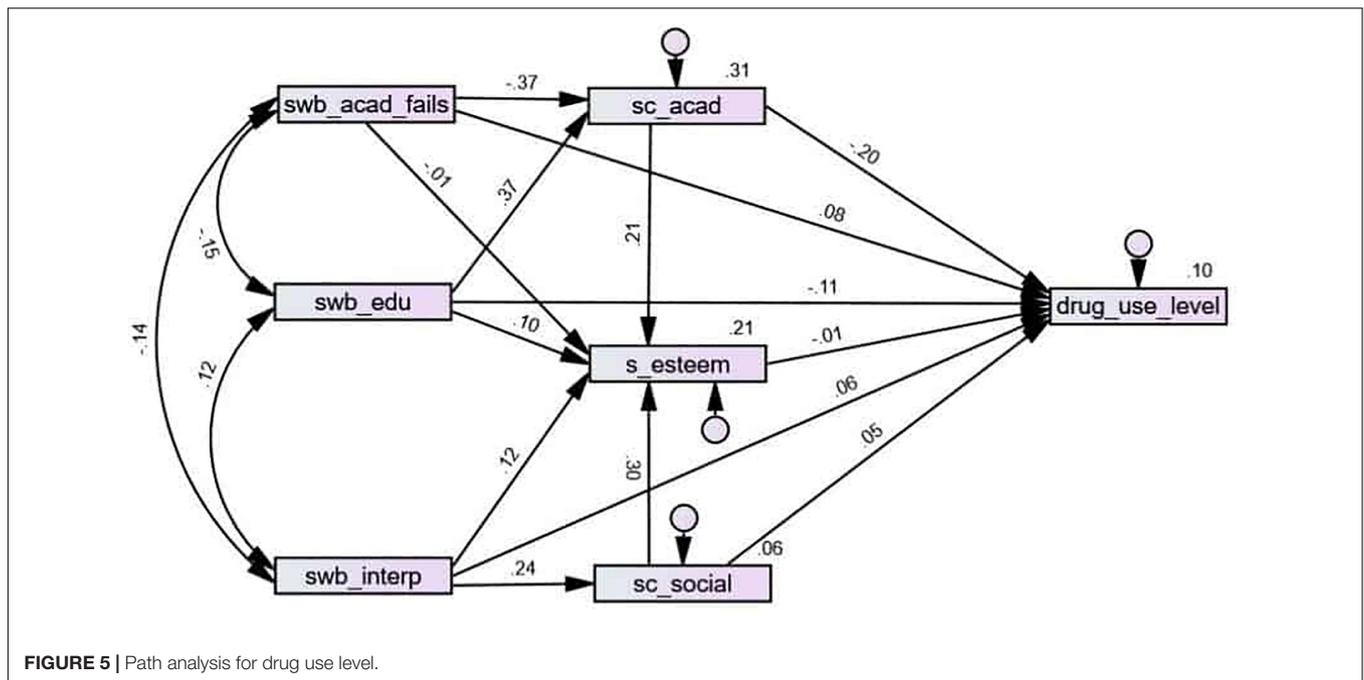


FIGURE 5 | Path analysis for drug use level.

self-concept ($\beta = 0.080$; $p = 0.001$), but not through self-esteem ($\beta = 0.000$; $p = 0.411$). Secondly, the indirect effect of educational well-being was significant through academic self-concept ($\beta = -0.079$; $p = 0.001$), but not through self-esteem ($\beta = 0.001$; $p = 0.348$). Finally, the indirect effect of interpersonal well-being through social self-concept was significant but much weaker ($\beta = 0.014$; $p = 0.001$), and again, it was not significant through self-esteem ($\beta = -0.002$; $p = 0.364$).

Educational and academic well-being seem to be protecting factors against consumption. This protecting effect is made possible through the reinforcement of academic self-concept. On the contrary, self-esteem does not play a statistically significant mediating role on this protecting effect. Similarly, having better self-esteem does not seem to mediate in the protecting effect of not failing or not being held back years. On the other hand, the indirect effect of interpersonal well-being through social self-concept is small, and nonexistent through self-esteem.

DISCUSSION

The intention of this article was to analyze the relations between school well-being, self-concept, and self-esteem with consumption in adolescence, as well as the moderating role of age and gender.

This research has proven that educational well-being and academic well-being seem to play a significant protecting role in substance consumption in adolescence. Note that educational well-being has been measured as the perception of good relationships with the teachers and personal involvement in the learning process. The academic well-being variable has been defined objectively by the academic results (number of failed subjects and years having been held back.) These results

suggest not only that the greater the educational and academic well-being, the lesser the drug consumption, but also that the consumption of the different substances analyzed would start at a later age. The protecting effect of academic well-being seems clearer in the case of alcohol than in the rest of the substances studied (cannabis, cocaine and stimulant, heroin, and other minority substances). International researches with very relevant samples have reached similar conclusions. For instance, McKay et al. (2012) found these same relationships in Ireland. Low academic self-efficacy was established as the strongest predictor of problematic consumption of alcohol. Maxwell et al. (2017) for their part, have found that the students' perceptions regarding school environment and their relationship with teachers and with peers significantly reflect on the results obtained in writing and mathematics, even after having controlled the sociodemographic variables. Furthermore, the authors explain that this effect is mediated and reinforced by the students' psychological identification with the school. Wang and Fredricks (2014) also concluded that students who are committed to school do their homework, participate in class and pay attention, feel more academically competent, are more connected to the institution, and obtain more positive responses, both from the teachers and from their relatives. As a consequence, they also have a lower rate of early school leaving and less behavioral problems, among them, a lower involvement in substance consumption.

Age as a sociodemographic variable has shown a confounding effect at the correlations matrix, which is especially relevant in academic well-being. For example, if the correlation between being held back a year and failing subjects is observed once the effect of age has been controlled, great variations are observed. From this, we may conclude that a fair share of the apparent relationship between bad academic results and consumption may

actually be due to the effect of age. However, the protecting effect of educational well-being resists the effect of age, because the correlation between educational well-being and consumption is maintained even when age is controlled. Thus, it continues to be a protecting factor even at the oldest ages where consumptions would be higher.

Academic self-concept and self-esteem have also acted in this research as protective factors in substance consumption. The higher the academic self-concept and self-esteem, the lesser the consumption, although the effect of self-concept is stronger than the effect of self-esteem. Along these lines, Kim et al. (2018) found similar results with consumption and other varied risk conducts. On the contrary, assertiveness seems to act as a risk factor, increasing the probability of consumption.

Along with the protecting role, a mediation effect of academic self-concept and social self-concept between school well-being and consumption has also been found. Thus, the effect of academic well-being and educational well-being on consumption would have an impact through academic self-concept, whereas the effect of social well-being on consumption would be less mediated by social self-concept.

Some of these relationships are moderated by gender and age. Thus, academic self-concept protects more around the age of 14/15, and from that age, its protecting power decreases, in both boys and girls. In the case of self-esteem, it protects a little, but more constantly in the case of boys. In the case of girls, however, it acts more irregularly; between the ages of 13 and 14, it plays a protecting role, whereas between the ages of 18 and 19, it is a risk factor. The assertiveness variable has a similar behavior. It assumes a risk role, which is stable in time, although it is also lower in boys; but again in girls, at the age of 14 it protects and from the age of 15, it becomes a growing risk factor. There are several studies on this last line of work: social competence, social skills, and assertiveness. On an international level, McKay et al. (2012) found that high social self-efficacy was a predictor of problematic alcohol consumption. On a state level, several studies (Cava et al., 2008; Jiménez-Rodrigo, 2008; Jiménez, 2011; Jiménez et al., 2008) refer to the risk effect of social self-esteem. Some authors explain this, affirming that high social self-esteem offers more opportunities to experiment and socialize with peers and, therefore, consume (Sánchez-Sosa et al., 2014). And this consumption in adolescents is associated with identification processes, embracing values and group attitudes. Regarding assertiveness as a risk factor, it has been confirmed by other researches such as the one developed by Hernández-Serrano et al. (2016). On the contrary, Fuentes et al. (2011) have found that these positive relations disappear when the risk and gender effects are controlled. In any case, the fact that adolescents feel socially able and are perceived or express themselves behaviorally as such, and this being related to substance consumption, constitute a challenge for socio-educational and psycho-educational intervention.

Although the educational itinerary is not the main objective of this study, the results from the first objective indicate that the average level of consumption per stage is strongly conditioned by age. The average consumption without controlling age is much higher starting from ESO, but the resulting average after

controlling age is not. In fact, the school context with the highest consumption once age is controlled is FPB (basic vocational training), which sets out the challenge of a socio-educational intervention in this specific context and the education needs of this educational itinerary.

Lastly, the analysis of age in relation to consumption makes it possible to affirm that this risk conduct may be just another experimental conduct. Consumptions decrease after peaking. However, it is necessary to wait until the start of early manhood and womanhood (twenties) for these consumptions to decrease. The most minor or marginal substances will mark a “red line,” which is a warning call or a risk factor. The prevalence indicators are higher the older in age, with the highest consumptions found at the age of 19 and 20, and decreasing in the following years. The ages of greater irruption of each substance are different: earlier for alcohol consumption, followed by cannabis, stimulant substances, and minority substances (heroin, LSD, and other similar substances). The idea that age might play an especially relevant role in consumption and in adolescence, as a risk conduct and as experimental consumption (González de Audikana, 2016) had been indicated at the start of the article. Sánchez-Sosa et al. (2014) argued that drug consumption in adolescence is another way of experimenting, as are romantic and sexual relationships, social relations, and power relations. In fact, they put to the test the environment and organization of the family and the school, both of which have the power of favoring or avoiding further consumption escalation. Tena-Suck et al. (2018) also affirm that adolescents are at a higher risk of consuming substances than adults. Nevertheless, the percentage is very small, because no more than 30% consume, and a very small percentage of those do so with harmful patterns or with dependency indicators. Along the same lines, INJUVE (2017) presented in its report a “photograph” of adolescence and early manhood and womanhood. Most adolescents are not involved in risk conducts, nor in violent acts of any kind.

To end the discussion, we must refer to the sociodemographic variable of gender, although we have been inevitably referring to it throughout this section. In this research, girls have a greater educational and academic well-being, as well as a better academic self-concept than boys. However, they show slightly lower self-esteem, social self-concept, and assertiveness levels than do boys. Regarding consumptions, girls have the highest percentages of abstinent and alcohol consumers (this latter group with numbers close to the boys'), but they also consume less minority drugs and other drugs. When observing the presence of consumptions in the last month, boys exceed girls in all substances. Hernández-Serrano et al. (2016) also found similar relations, both in age and in relation to gender. The relation with age is positive and direct, and girls consume more alcohol than boys. Riquelme et al. (2018) confirmed the action of both sociodemographic variables: the effect of age and gender. Older adolescents presented a greater substance consumption of cannabis and synthetic drugs, but this difference was not found in adolescent girls, which aligns perfectly with the results and conclusions found in this research.

Limitations

Although this research includes a representative, stratified, and random sample, it is a transversal and correlational study. Although the students of different ages are adequately represented, it is not a longitudinal design, which would allow to see the evolution of the same people during a period of time and to get closer to establishing causality relations. Consequently, the interpretations of the tendencies of the variables at the different ages may only propose temporary sequences and causal relationships in a tentative way.

On the other hand, the sample is composed of students from secondary education and vocational training between the ages of 12 and 22; therefore, its representativeness is limited from the age of 16, considering that it does not include the people who might have abandoned the educational system from this age on or those who are studying at university from the age of 18.

CONCLUSION

Three main conclusions may be drawn from this research. Firstly, that educational well-being, academic well-being, academic self-concept, and self-esteem seem to play a role as protective factors in adolescence. In order to confirm this, longitudinal research designs are necessary.

Secondly, that academic self-concept plays a mediating role between school well-being and consumption, meaning that the effect of academic and educational well-being takes place through the reinforcement of academic self-concept. By contrast, assertiveness influences but tends to do so negatively, being associated with a greater risk of consumption. Some of these relationships are moderated by the variables of gender and age.

Thirdly, age and gender are very relevant sociodemographic variables to consider in order to understand this phenomenon. Age has shown its moderating effect, especially relevant in the effect of academic well-being. It has also proved to be important in order to understand its experiential or experimental and transitory nature. Differences in consumptions based on gender have also been found.

One of the main implications that may derive from this research is that these variables, but mainly educational well-being, are in the hands of educational agents, which means that relationships, the participation of the students, the environment, the rules of coexistence, the size of the group, the ways of solving conflicts, the tutoring, and the school organization are all variables that may be influenced and modified.

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DATA AVAILABILITY STATEMENT

The datasets analyzed in this article are not publicly available due to commitments to confidentiality and anonymity of responses. Requests to access the datasets should be directed to josu.solabarrieta@deusto.es.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Ethics Committee of the University of Deusto (Ref.: ETK-31/16-17). Aspects such as the specific ways in which research participants will be recruited, the application of informed consent procedures, and the implementation of personal data management and interaction with vulnerable people are all suitably explained according to the main ethical standards. Detailed information shall be provided to the participants by means of an information and the informed consent sheet including descriptions/specifications of the following: purpose of the research; duration of the research activities; adopted procedures; voluntary participation; possible risks, discomfort, or disadvantages; benefits to the subject or others; data protection and confidentiality and privacy policies; where to get more information; and what happens to data, samples, and results at the end of the research.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication. RS and MR-N carried out the literature review. RS prepared the introductory and discussion sections. MR-N supported the process and reviewed all references. JS conducted the data analysis and results section. All authors were involved in the entire process, reviewing and contributing to all parts of the written manuscript.

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Young People's Autonomy and Psychological Well-Being in the Transition to Adulthood: A Pathway Analysis

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Young people transition to adulthood via diverse pathways; among the most significant are those dominated by education, employment, or social disadvantage. These pathways are determined, to a large extent, by the level of well-being and autonomy young people develop to help them face their own realities. The aim of this study is to analyze the relationship between young people's psychological well-being and autonomy – key factors in the transition to adulthood – and the relationship these factors have with the main pathways followed during transition. To this end, Ryff's Model of Psychological Well-being and the Transition to Adulthood Autonomy Scale (EDATVA) were used to evaluate a total of 1148 Spanish and Colombian subjects aged between 16 and 21. Correlations and differences between scores were subsequently analyzed. Subjects were also asked to identify the most relevant aspect of their transition to adulthood as either education, employment, or social disadvantage. Results from all three pathways for transition to adulthood show a trend in which higher levels of well-being correspond to higher levels of autonomy. In general, the results for the young people on the education pathway show high levels of autonomy and well-being, as well as a significantly higher level of critical thinking compared to young people on other pathways. The scores from employed young people reveal a greater capacity for self-organization in relation to the other two pathways. The results for disadvantaged young people show significantly greater socio-political engagement than that of young people on the education and employment pathways. However, the disadvantaged group also displays the lowest level of psychological well-being. These results provide elements for a better understanding of young people's different transition pathways to adulthood and constitute an important point of reference for future research. They also provide data that may be relevant in guiding potential educational, psychological, and social interventions within this population group.

Keywords: young people, well-being, autonomy, education, employment, disadvantage

INTRODUCTION

The period between the ages of 16 and 21 spans the end of adolescence and the onset of a developmental stage that was recently termed *emerging adulthood* (Arnett, 2007; Berger, 2016; Maree and Twigge, 2016). Throughout this stage, social relationships, especially family and peer relationships, play an important role in how young adults develop well-being and autonomy (Arnett, 2015; Campione-Barr et al., 2015; Davies et al., 2015; Jorgensen and Nelson, 2018). Some researchers examining family settings have underlined the overarching and complex relationship between parental control, the family's approach to supporting autonomy, and the different pathways these *emerging adults* will follow (Liga et al., 2018). Peer relationships in early adolescence also provide opportunities for developing one's autonomy (Oudekerk et al., 2015). This developmental stage is also understood as a period of instability in which an adolescent becomes an autonomous adult by facing unfamiliar situations, mainly in academic settings and the workplace (Arnett, 2015).

Three social institutions – family, school, and the job market – will determine the main pathways by which young people transition to adulthood, whether by entering the workforce or by prolonging education to join the workforce at a later time (Settersten et al., 2015; Arnett and Tanner, 2016; Schoon and Lyons-Amos, 2016). However, structural dysfunction that prevents families from fulfilling their protective and educational roles gives rise to a third pathway characterized by social disadvantage. While less socially visible than the others, this pathway is no less significant. As stated by Munson et al. (2013), socially disadvantaged youth must be studied if we are to understand how they experience the processes of emerging adulthood; until now, such studies have been limited almost exclusively to students and workers.

Psychological Well-Being and Autonomy in the Transition to Adult Life

The term *well-being*, referring to an optimal psychological state, is a construct that may be defined from two complementary perspectives. The hedonic perspective frames well-being as the positive assessment of one's own life, and it has been linked to a sense of satisfaction and emotional stability, as well as to subjective well-being. Eudaimonic well-being, which corresponds to psychological well-being, emphasizes personal development, self-fulfillment, exploring one's own potential and planning for the future, and contributing to the well-being of others (Deci and Ryan, 2008; Ryff and Singer, 2008; Waterman et al., 2010; Adler and Seligman, 2016). Recent studies have underlined the differences between these two perspectives by examining their links to different character strengths, such as hope, zest, gratitude, curiosity, and love (Hausler et al., 2017). They have also found temporal differences between these perspectives; over the long-term, psychological well-being, rather than subjective, is a more robust predictor of future well-being (Joshnloo, 2019). This concept of eudaimonic or psychological well-being is the one we employ in our study. Here, psychological well-being is examined using the Ryff Scale of Measurement, which is based on Ryff's

six-factor model (1989) with its dimensions of self-acceptance, positive relations, autonomy, environmental mastery, personal growth, and purpose in life.

More recently, Ryff (2018) provided a theoretical exploration of autonomy from the standpoint of self-determination theory and linked to eudaimonic well-being; she also stressed the need for a tool able to assess autonomy according to this expanded view. We agree with the conceptualization of autonomy as a complex process subject to continuous remodeling over a lifetime and through interactions with others (Muñoz-López and Alvarado, 2011; Cáliz et al., 2013; Posada, 2013; Inguglia et al., 2014; Bernal Romero et al., 2020b). Having established this basis, a thorough review of the literature and measurement tools addressing autonomy provides a definition according to three processes: one that is personal, subjective, or intrasubjective; an intersubjective process, involving another person; and, lastly, a trans-subjective process referring to interactions between the subject and the surrounding community or society (Bernal Romero et al., 2020b). This definition deviates from the classic notion of autonomy as self-sufficiency or the capacity to manage exclusively on one's own (Delbosc and Vella-Brodrick, 2015; Garberoglio et al., 2017). Rather, it focuses on interactions with other individuals, and with society as a whole by including community and socio-political engagement (Parron, 2014). This perspective raises new challenges for the concept of emerging adulthood, which focuses on personal or intrasubjective processes including assuming responsibility for oneself, making decisions independently, and achieving financial independence (Settersten et al., 2015).

The relationship between well-being and autonomy has been studied from many distinct perspectives (Schüler et al., 2014; Legault et al., 2017; Ryff, 2018). Multiple authors have confirmed a link between these two variables and determined that promoting autonomy may increase the level of well-being (Reis et al., 2000; Inguglia et al., 2014; Delbosc and Vella-Brodrick, 2015; Alivernini et al., 2019; Chatzisarantis et al., 2019). However, it has also been shown that young people score below other age groups on the *autonomy* dimension, as well as on the dimensions *self-acceptance* and *environmental mastery* (Meléndez et al., 2018). To better understand these results, we should be mindful that *self-acceptance* is a trait associated with mature personalities (Allport, 1961); *autonomy* and *environmental mastery* are other dimensions for which scores tend to increase with age (Ryff, 1989, 1991; Ryff and Keyes, 1995). Generally speaking, young people score higher than do other age groups for *positive relations* since they are less inhibited about making social contact (Mayordomo et al., 2016; Meléndez et al., 2018). The same effect can be seen in the score for *personal growth*, which is similar between young people and adults but much higher in both groups than in the elderly; this finding is linked to having a longer time span in which to discover and pursue personal interests and goals (Mayordomo et al., 2016).

Pathways in Emerging Adulthood

Three social institutions exert an influence on the structural setting in which adolescent development takes place: the family, the school, and the job market (INJUVE, 2017). This observation

also appears in national and international statistics designed to measure young people's living conditions (UNESCO, Eurostat, Eurofound, Eurydice, CEPAL, INJUVE). Schoon and Lyons-Amos (2016) classify the pathways pertaining to this stage of development according to the age at which emerging adults leave formal education and begin work, and by their level of job security. Young people's family environments play a major role in their choice of pathway. With this reference framework in mind, it is possible to state that emerging adults follow three transitional pathways: education, employment, and social disadvantage.

The education pathway describes the situation of young people who delay their transition to adult life and postpone entry into the workforce by extending their academic years. This transcultural phenomenon promotes the transformation of an industrial economy into an information-based economy (Rifkin, 2011; Arnett and Tanner, 2016; Wood et al., 2018). Recent studies show that the school-to-university transition process has a marked impact on the overall psychological well-being of the emerging adults on the educational pathway. Its effects are mainly seen on such components of well-being as personal growth, with another weaker link to personal autonomy (Barrantes-Brais and Ureña-Bonilla, 2015; Malinauskas and Dumciene, 2017).

In contrast, the young people transitioning to adulthood on the employment pathway are those who are actively working or else participating in short-term vocational training programs not offered by universities. We know that these emerging adults have less privileged backgrounds compared to those who prolong their studies (Schoon and Lyons-Amos, 2016). The employment pathway has become even more relevant in the new millennium in light of the unemployment that may create lifelong obstacles for this generation (European Policy Centre, 2014; Pimentel et al., 2016). Autonomy, meaning self-governance and responsible self-control, is the dimension with the strongest effect on psychological well-being in this group (Fotiadis et al., 2019). Furthermore, young people who have found jobs matching their skill sets score higher in the areas of resilience, optimism, autonomy, environmental mastery, self-efficacy, and overall life satisfaction, with fewer indicators of anxiety than are shown by their employment-pathway counterparts who are still seeking jobs (Merino et al., 2019). These findings emphasize the need to train these individuals in how to develop and strengthen the resources that will contribute to their psychological well-being, and which are largely linked to the development of emotional intelligence (Di Fabio and Kenny, 2016). Specific training in the acquisition of concrete job-finding skills may be especially valuable since it has a positive influence on young peoples' understanding of how to handle themselves in the workplace (Guichard et al., 2012; Maree and Twigge, 2016; Zacher and Schmitt, 2016; Merino et al., 2019).

Lastly, the social disadvantage pathway is marked by the persistent influence of obstacles to social inclusion that severely hamper the individual's emerging adulthood; such obstacles may include lack of family support, academic failure, and the inability to hold down a job (Munson et al., 2013; Settersten et al., 2015; Cameron et al., 2018; Cuenca et al., 2018; García-Castilla et al., 2018). Indicators consistently show that these young people have not benefitted from the same level of access to both educational

and professional opportunities (Schoon and Lyons-Amos, 2016). Not all of these socially disadvantaged youths – specifically those receiving long-term social support – are able to live in a family setting. In Europe alone, more than a million minors live in residential facilities or with foster families (Cameron et al., 2018). Many of these adolescents transition prematurely to adulthood without benefitting from the trial-and-error period common to other adolescents who enjoy family support (López et al., 2013; Munson et al., 2013; Soldevila et al., 2013; Singer and Berzin, 2014; Settersten et al., 2015; Campos et al., 2020). In addition, they display very different ways of coping with social interactions, some of which involve professional care workers (Schofield et al., 2016). One trait shared by socially disadvantaged young people is their more external locus of control combined with a greater sense of lack of control over their own lives (Król et al., 2019).

MATERIALS AND METHODS

Specific Objectives

As stated above, the pathway followed – education, employment, or social disadvantage – will largely be determined by the degree of autonomy and well-being present in a young person facing the future. With this in mind, the study aims are as follows: *to analyze, in emerging adults, the relationship between autonomy and psychological well-being – two key factors in the processes of transitioning to adulthood – and the way these factors differ according to the main pathways young people follow in their transition.*

Two specific objectives must also be met in order to complete the larger analysis: first, to examine the relationship between dimensions on the autonomy scale and dimensions on the well-being scale for each distinct pathway (education, employment, and social disadvantage), considered independently, and second, to detect any significant differences between emerging adults on different pathways using scores from each dimension on the autonomy questionnaire, and from each dimension on the well-being questionnaire.

Participants

The sample was selected using a purposive (non-probability) sampling method and participation was voluntary. Inclusion criteria were identification with one of the three different pathways (education, employment, and social disadvantage), age between 16 and 21 years, association with an institution (academic, employment, or social), and the ability to read and write. Potential participants with a recognized functional, physical, or mental disability were excluded.

Pathways were identified as the type of transition to adult life, in accordance with the following definitions: (1) Education pathway: emerging adults dedicated to academic studies aimed at obtaining a university degree; (2) Employment pathway: emerging adults who are actively working or enrolled in short-term vocational training programs, outside the university framework; and (3) Social disadvantage: emerging adults benefitting from long-term formal social support services.

Each itinerary has elements that characterize it and that differentiate it from the others, without them being isolated categories; they are not exclusive. For example, the fact that a young person belongs to the itinerary of social difficulty does not mean that he is neither studying nor working, but rather that what characterizes him, for the definition of this sample, are the difficulties of social origin in his/her development. In the same way, a young person who is working, inserted in a job, may have notable family problems, but what characterizes him or her, for the purpose of our sample, is that he or she is currently working or in a professional training institution.

The final sample consisted of 1148 emerging adults from Spain (Madrid) and Colombia (Bogota); although the sample included young people from two different countries, we did not detect dependence between the country and each of the pathways ($\chi^2 = 14.596$; $p = 0.132$). Participants' ages ranged from 16 to 21 years (mean = 18.20; $SD = 1.8$) and about 60% were female. The education pathway accounted for 66.2% of the participants (48.6%, last years in high schools; 51.4% universities). The employment pathway accounted for 21.5% (42.1% in first- and second-cycle vocational training and 57.9% in active work). The remaining 12.3% were in the social disadvantage pathway (41.1% attended day centers and occupational and labor integration workshops, and 58.9% attended residential institutions for minors protected by the State). **Table 1** below lists the sample characteristics for each pathway.

Tools Used

Assessment of Autonomy in Emerging Adults

Autonomy in our population of emerging adults was measured using the Autonomy Scale for Transition to Adult Life (Bernal Romero et al., 2020a). The scale comprises 19 items grouped into four dimensions, which are described below; the Cronbach's alpha coefficient is given for each dimension in this study. *Self-organization ability* (six items, $\alpha = 0.80$): This dimension of autonomy is self-focused since it is present in subjects able to carry out metacognitive tasks, i.e., thinking about what they are learning, organizing effectively, and planning future learning processes. *Ability to analyze context* (four items, $\alpha = 0.71$): Here, autonomy remains focused on the self, but within the framework of wider systems, such as social and political settings. An individual able to analyze context will search for information, mull over proposals, and develop opinions regarding personal, social, and political decisions. *Critical thinking* (five items,

$\alpha = 0.70$): This dimension of autonomy also focuses on the self and revolves around one's own ideas and socially recognized rights. Critical thinking skills are related to respect for the self and for one's opinions and ideas and include the ability to express these ideas during a confrontation or a situation requiring an assertive response. *Socio-political engagement* (four items, $\alpha = 0.77$) is a community-focused dimension that assumes that exercising autonomy may affect external systems, and not only the subject (Bernal Romero et al., 2020a). Cronbach's alpha for this set of items was 0.84 for the full sample. All dimensions were measured on a four-point Likert scale with 1 indicating total disagreement and 4 indicating total agreement. Factor analysis confirmed a structure based on four factors (*self-organization*, *context analysis*, *critical thinking*, and *socio-political engagement*) including a total of 19 items with goodness-of-fit indexes of 0.93 by CFI and 0.90 by NNFI; the RMSEA was 0.05 and the SRMR was 0.06. Given the above, we can state that the model fit the data well.

Assessment of Well-Being in Emerging Adults

Well-being was measured using the Spanish-language adapted version of the Ryff Psychological Well-being Scale published by Díaz et al. (2006). The scale comprises 39 items grouped into six dimensions, which are listed below along with their Cronbach's alpha coefficients. *Self-acceptance* (six items, $\alpha = 0.81$) is a key component of well-being. This trait enables one to feel comfortable with oneself despite being fully aware of shortcomings. *Positive relations* (six items, $\alpha = 0.76$) refers to possessing quality relationships with others. *Autonomy* (eight items, $\alpha = 0.71$) indicates a person's ability to maintain his/her individuality within different social contexts. *Environmental mastery* (six items, $\alpha = 0.63$) is associated with the internal locus of control and a high degree of self-efficacy. This trait is associated with social coherence – a perception of the world as discernible, predictable, and logical and therefore controllable – and with concern for and interest in the larger community. *Personal growth* (seven items, $\alpha = 0.62$) refers to a person's positive learning and development. *Purpose in life* (six items, $\alpha = 0.81$) means having goals and the impression of moving forward in life, associated with motivation to act and evolve. The total reliability of the scale is 0.91. The well-being scale includes a total of 17 reverse-score items (2, 4, 5, 8, 9, 13, 15, 20, 22, 25, 26, 27, 29, 30, 33, 34, and 36). Participants submitted their responses using Likert scale scores ranging from 1 (totally disagree) to 6 (totally agree) (Díaz et al., 2006, p. 573). Confirmatory factor analysis revealed a good fit to a structure with six factors (*self-acceptance*, *positive relations*, *autonomy*, *environmental mastery*, *personal growth*, and *purpose in life*). Goodness-of-fit indices were acceptable, with values of 0.91 by CFI and 0.92 by NNFI; the RMSEA value was 0.04 and the SRMR value was 0.05. These results suggest that the proposed model fits the data well.

Procedure and Data Analysis

Questionnaires were completed between late 2019 and early 2020, either on paper or in digital format. Participants filled out questionnaires during group sessions that were held during class time (when given at academic institutions) or

TABLE 1 | Sample characteristics.

Variables/ Pathways		Education	Employment	Social disadvantage
Sex	Male	311 (40.9%)	74 (30%)	69 (48.9%)
	Female	448 (58.9%)	173 (70%)	71 (50.4%)
Country	Spain	317 (41.7%)	107 (43.3%)	57 (40.4%)
	Colombia	443 (58.3%)	140 (56.7%)	84 (59.65)
Age		$M = 18.11$ ($SD = 1.8$)	$M = 18.5$ ($SD = 1.42$)	$M = 18.16$ ($SD = 1.28$)
Total <i>N</i>		760	247	141

during break times (at workplaces and social resource centers). Each questionnaire took approximately 45 min to complete. Participation was voluntary and each participant read and signed an informed consent form. No remuneration was offered or given. Participants, and the legal guardians of participating minors where applicable, were informed regarding the purpose of the study and given detailed instructions. Once the study had been approved by human research ethics committees at the participating universities, researchers adhered to the protocol established by the Declaration of Helsinki (64th general assembly of the WMA, Brazil, October 2013). Answer confidentiality was guaranteed to eliminate experimenter bias.

Once data had been gathered and the databases prepared, we focused on the first specific objective of the study: examining the relationships between dimensions on two scales, one measuring autonomy (*self-organization, personal growth, context analysis, critical thinking, and socio-political involvement*) and the other measuring well-being (*self-acceptance, positive relations, autonomy, environmental mastery, personal growth, and purpose in life*). The study population was divided into three comparison groups or pathways (education, employment, and social disadvantage) and we determined the Pearson correlation for each pathway. The strength of correlation values was interpreted as follows: 0.20 and lower, very low; 0.21–0.40, low; 0.41–0.70, moderate; 0.71–0.90, high; 0.91–1, high (Mateo, 2004).

Next, to fulfill the second specific purpose of this study, we performed inferential tests to detect any significant differences associated with the pathways followed by emerging adults (education, employment, or social disadvantage), using their scores on each dimension of the autonomy scale and on each dimension of the well-being scale. Before carrying out these tests,

we checked for normal distribution and homogeneity of variance (homoscedasticity) between populations as recommended by Pardo and San Martin (2010). Since results from the autonomy scale did not meet the assumptions of normality or homoscedasticity, we checked for differences between the three pathways using the Kruskal–Wallis test, followed by the Bonferroni-corrected Mann–Whitney *U*-test. The Bonferroni correction, used when more than two comparison groups are present, indicates a statistically significant difference between two groups when the critical value (*p*-value) is less than an alpha of 0.01 (Pardo and San Martin, 2010). Results from this test are displayed as means, in addition to average ranges, to facilitate interpretation. Since results on the well-being scale met the assumptions of normality and homoscedasticity, they could be compared using one-way ANOVA, a parametric test. After obtaining these results, we determined the magnitude of the differences by calculating the effect size using Cohen's *d* method, according to which values near 0.20 indicate a small effect size, values near 0.50 indicate a medium effect size, and values near 0.80 indicate a large effect size (Cohen, 1992). Analyses were performed using SPSS version 25.0 (IBM SPSS Statistics 25), with G*Power 3.1 to calculate effect size.

RESULTS

The results of specific objectives 1 and 2 are presented below. As mentioned above, although the sample included young people from two different countries, we did not detect dependence between the country and each of the pathways. Likewise, no significant differences were found in the well-being or autonomy scores, in the different pathways, due to sex or age, so these variables were not controlled.

TABLE 2 | Pearson correlations between autonomy scale and well-being scale dimensions, all pathways.

	Self-acceptance	Positive relations	Autonomy	Environmental mastery	Personal growth	Purpose in life	Total well-being
Education pathway							
Self-organization	0.377**	0.069	0.210**	0.463**	0.382**	0.577**	0.451**
Context analysis	0.274**	0.206**	0.404**	0.330**	0.331**	0.323**	0.416**
Critical thinking	0.175**	0.066	0.222**	0.242**	0.278**	0.289**	0.282**
Socio-political engagement	0.170**	0.130**	0.108**	0.194**	0.115**	0.188**	0.203**
Total autonomy	0.340**	0.167**	0.319**	0.418**	0.372**	0.464**	0.459**
Employment pathway							
Self-organization	0.408**	0.081	0.191**	0.516**	0.264**	0.577**	0.460**
Context analysis	0.199**	0.208**	0.355**	0.293**	0.319**	0.318**	0.400**
Critical thinking	0.046	−0.045	0.195**	0.082	0.192**	0.134*	0.155*
Socio-political engagement	0.086	0.013	−0.004	0.134*	0.076	0.158*	0.107
Total autonomy	0.253**	0.083	0.252**	0.354**	0.301**	0.413**	0.387**
Disadvantage pathway							
Self-organization	0.290**	0.000	0.136	0.288**	0.349**	0.527**	0.350**
Context analysis	0.355**	0.226**	0.289**	0.344**	0.470**	0.402**	0.471**
Critical thinking	0.123	0.094	0.062	0.385**	0.302**	0.344**	0.277**
Socio-political engagement	0.224**	0.080	−0.129	0.172*	0.139	0.317**	0.160
Total autonomy	0.322**	0.133	0.106	0.398**	0.411**	0.524**	0.410**

p* < 0.05; *p* < 0.01.

Specific Objective 1: Relationship Between Dimensions on the Autonomy and Well-Being Scales by Pathway Education Pathway

Table 2 addresses our first specific objective by showing relationships between dimensions on the autonomy and well-being scales for the education pathway. First of all, we see that the *self-organization* dimension on the autonomy scale is closely correlated to two dimensions on the well-being scale: *environmental mastery* and *purpose in life* ($r = 0.463$ and $r = 0.577$, respectively). Both correlations are positive and significant ($p < 0.01$), and the same relationship is present between *self-organization* and *purpose in life*. The correlation strengths in both cases are moderate according to Mateo (2004). Additional correlations of interest, although with lower correlation strengths, can be found between *self-organization* and the well-being scale dimensions *self-acceptance* ($r = 0.377$), *autonomy* ($r = 0.210$), and *personal growth* ($r = 0.382$).

The strongest correlation for the *context analysis* dimension is with the *autonomy* dimension ($r = 0.404$). This correlation is statistically significant ($p < 0.01$). Other significant correlations for *context analysis* were with *positive relations* ($r = 0.206$), *environmental mastery* ($r = 0.330$), *personal growth* ($r = 0.331$), and *purpose in life* ($r = 0.323$).

The *critical thinking* dimension displayed its strongest correlations with two dimensions on the well-being scale: *personal growth* and *purpose in life* ($r = 0.278$ and $r = 0.289$). Both correlations were significant ($p < 0.01$), but the correlation strength was low (Mateo, 2004). Correlations between this dimension and *autonomy* ($r = 0.222$), *environmental mastery* ($r = 0.248$), and *self-acceptance* ($r = 0.175$) were also significant ($p < 0.01$), although correlation strength was somewhat lower.

The strongest correlations for *socio-political engagement* were with *environmental mastery* ($r = 0.194$; $p < 0.01$) and *purpose in life* ($r = 0.108$; $p < 0.01$), although correlations between *socio-political engagement* and all dimensions on the well-being scale were significant.

Lastly, we must underline that each of the dimensions on the autonomy scale was significantly and positively correlated with the total score on the well-being scale. The dimensions with the closest correlations to that total were *self-organization* ($r = 0.451$; $p < 0.01$) and *context analysis* ($r = 0.416$; $p < 0.01$). We also observe a positive and significant correlation between the total autonomy and the total well-being scale scores ($r = 0.459$; $p < 0.01$).

Employment Pathway

The middle section of **Table 2** displays the relationships between dimensions on the autonomy and the well-being scales for the employment pathway.

In this group, the *self-organization* dimension on the autonomy scale correlates the closest to two dimensions on the well-being scale: *environmental mastery* and *purpose in life* ($r = 0.516$ and $r = 0.577$, respectively). Both correlations are positive and significant ($p < 0.01$) with a moderate correlation strength (Mateo, 2004). There was another close correlation between *self-organization* and *self-acceptance* ($r = 0.408$).

The *context analysis* dimension was most closely correlated with the *autonomy* dimension ($r = 0.355$; $p < 0.01$), followed by *personal growth* ($r = 0.319$; $p < 0.01$) and *purpose in life* ($r = 0.318$; $p < 0.01$). Furthermore, the correlations between *context analysis* and all dimensions on the well-being scale were significant.

The closest correlation for the *critical thinking* dimension was with the *autonomy* dimension on the well-being scale ($r = 0.195$; $p < 0.01$), followed by a similar correlation to the *personal growth* dimension ($r = 0.192$; $p < 0.01$).

The *socio-political engagement* dimension was most closely correlated with *purpose in life* ($r = 0.158$; $p < 0.05$), although the correlation strength was low (Mateo, 2004); the only other dimension of well-being to correlate significantly with *socio-political engagement* was *environmental mastery* ($r = 0.134$; $p < 0.05$).

Lastly, we underline that each of the dimensions on the autonomy scale, except for *socio-political involvement* ($p < 0.05$), shows a significant and positive correlation with the total score on the well-being scale. The greatest correlation strengths for both this pathway and the education pathway were between the total well-being score and the *self-organization* dimension ($r = 0.460$; $p < 0.01$), and between total well-being and the *context analysis* dimension ($r = 0.400$; $p < 0.01$) on the autonomy scale. Furthermore, there is a significant and positive relationship between total score on the autonomy scale and total score on the well-being scale ($r = 0.387$; $p < 0.01$).

Social Disadvantage Pathway

To conclude with our first specific objective, the third section of **Table 2** presents the relationship between dimensions on the two scales for the social disadvantage pathway.

These results show that the *self-organization* dimension on the autonomy scale correlates the closest with the *purpose in life* dimension on the well-being scale ($r = 0.527$; $p < 0.01$). The correlation is moderate (Mateo, 2004), and there are other moderately strong significant correlations between *self-organization* and *self-acceptance* ($r = 0.290$; $p < 0.01$), *environmental mastery* ($r = 0.288$; $p < 0.01$), and *personal growth* ($r = 0.349$; $p < 0.01$).

Although correlations between *context analysis* and every dimension on the well-being scale were all significant ($p < 0.01$), the strongest correlations were with *personal growth* ($r = 0.470$; $p < 0.01$) and *purpose in life* ($r = 0.402$; $p < 0.01$). Correlation strengths in both cases were moderate (Mateo, 2004).

The closest correlations for the *critical thinking* dimension were with the *environmental mastery* and *purpose in life* dimensions ($r = 0.385$ and $r = 0.344$, respectively); both correlations were significant ($p < 0.01$) and positive. A similar correlation was also present for the *personal growth* dimension ($r = 0.302$; $p < 0.01$).

The *socio-political engagement* dimension correlated the closest to the *purpose in life* dimension ($r = 0.317$; $p < 0.01$); the correlation with *environmental mastery* ($r = 0.172$; $p < 0.05$) was also significant.

Our last remark on the social disadvantage pathway is that all dimensions on the autonomy scale, except for *socio-political engagement*, displayed significant and positive correlations with the total score on the well-being scale. These observations were also true for the employment pathway. The highest correlation strengths for this pathway, as for the education and employment pathways, were between the total autonomy scale score and the *self-organization* dimension ($r = 0.350$; $p < 0.01$) and between the total autonomy score and the *context analysis* dimension ($r = 0.471$; $p < 0.01$) on the well-being scale. Likewise, there is a significant and positive relationship between the total scores on the autonomy and the well-being scales ($r = 0.410$; $p < 0.01$), with a moderate correlation strength (Mateo, 2004).

Specific Objective 2: Score Comparisons Across Pathways

Autonomy Scale

Since results from the autonomy scale did not meet the assumption of normality, we used non-parametric tests (Kruskal–Wallis) to identify any differences between the education, employment, and social disadvantage groups on each of the different dimensions of the autonomy scale.

Table 3 displays the H statistic of the Kruskal–Wallis test (chi-square) for each of the dimensions on the autonomy scale and for the total score. This statistic is associated with a critical value, or p -value, which is less than 0.05 for each dimension on the autonomy scale. This value lets us reject the null hypothesis and conclude that scores obtained on these dimensions vary among the different pathways being compared. Nevertheless, there are no differences between groups for the total scores on each scale.

We applied the Bonferroni-corrected Mann–Whitney U -test to determine which groups showed differences in scores on each scale dimension.

First, we compared scores on each dimension of the autonomy scale between the education and employment groups. **Table 4** shows that the only dimensions with statistically significant differences between these two pathways, referring to p -values of less than 0.01, are *self-organization* and *critical thinking*. The employment group ($\bar{X} = 20.44$; $SD = 3.40$) scores higher than the education group for self-organization, whereas the education group ($\bar{X} = 19.65$; $SD = 3.36$) scores higher for critical thinking ($\bar{X} = 19.79$; $SD = 3.64$). No other dimensions revealed significant differences between the education and employment groups. According to Cohen's classification (1992), effect size (d) is small for both dimensions.

Table 4 also lists results from comparisons between the education and social disadvantage groups. Here, differences between the two groups are present for the *critical thinking* and *socio-political engagement* dimensions ($p < 0.01$). Higher scores for *critical thinking* pertain to the education group ($\bar{X} = 19.79$; $SD = 3.64$), whereas higher scores for *socio-political engagement* belong to the social disadvantage group ($\bar{X} =$

14.68; $SD = 5.19$). Effect size is between low and moderate for the *critical thinking* dimension, and low for the *socio-political engagement* dimension.

The final comparison examines autonomy scale scores between the employment and social disadvantage groups. At the bottom of **Table 4**, we find differences between these two groups ($\bar{\delta} < 0.01$) for the *critical thinking* dimension: the employment group ($\bar{X} = 19.04$; $SD = 3.99$) scored higher than the social disadvantage group ($\bar{X} = 17.04$; $SD = 4.24$), while the social disadvantage group ($\bar{X} = 14.68$; $SD = 5.19$) has higher scores for *socio-political engagement*.

Well-Being Scale

Since results from the well-being scale met the assumption of normality, we used a one-way ANOVA test to compare scores for each of the dimensions on that scale between different pathways.

Table 5 displays a summary of ANOVA results in which the value of the F statistic is associated with the critical value or p -value. Since this value remains lower than 0.05 for all dimensions and for the total score, it is reasonable to reject the equality of means hypothesis and therefore conclude that scores for each dimension on the well-being scale, as well as total scores, are not equivalent among the three population groups.

We find significant differences between the education and social disadvantage groups ($p < 0.05$) for the *self-acceptance* dimension: the education group scores higher and the effect size is moderate ($d = 0.532$). The employment group also scores higher than the social disadvantage group with a Cohen's d of 0.491. The education group scores higher than the social disadvantage group on the *positive relations* dimension, with an effect size of 0.445. The employment group also scores higher than the social disadvantage group, with $d = 0.364$. For the *autonomy* dimension, we observe higher scores in the education group than in the social disadvantage group, with an effect size of 0.302; the employment group also scores higher than the social disadvantage group ($d = 0.429$). The education group scored higher than the social disadvantage group on the *environmental mastery* dimension ($d = 0.444$). The employment group also scored higher than the social disadvantage group, with a moderate effect size ($d = 0.574$). Regarding significant differences for *personal growth*, the education group scored higher than the social disadvantage group ($d = 0.372$) and so did the employment group ($d = 0.456$). Scores for the last dimension on the well-being scale, *purpose in life*, differ significantly between the education and social disadvantage groups (higher in the education group, $d = 0.314$). The employment group scores higher than the social disadvantage group with an effect size between low and moderate ($d = 0.445$). Lastly, the education group scores higher than the social disadvantage group on the well-being scale total, with $d = 0.487$; the employment group scores higher than social disadvantage with $d = 0.642$, an effect size between moderate and high. We therefore see a repeating pattern: where significant differences exist between the social difficulty and education groups, the education group scores higher; where such differences exist between employment and social difficulty, the employment group scores higher.

TABLE 3 | Descriptive statistics and Kruskal–Wallis test.

		N	Self-organization	Context analysis	Critical thinking	Socio-political engagement	Total autonomy
Mean rank	Education	760	552.56	567.44	609.00	575.98	582.53
	Employment	247	635.39	618.31	549.85	526.58	577.16
	Disadvantage	141	586.06	535.79	431.70	650.47	526.55
Chi-squared			11,930	6718	36,100	12,709	3,414
Df			2	2	2	2	2
Asympt. sig. (bivariate)			0.003	0.035	0.000	0.002	0.181

TABLE 4 | Descriptive statistics and Mann–Whitney *U*-test for each pathway.

		N	Self-organization	Context analysis	Critical thinking	Socio-political engagement
Mean rank	Education	760	486.01 ($\bar{X} = 19.65$; $SD = 3.36$);	492.94 ($\bar{X} = 20.25$; $SD = 3.51$)	516.91 ($\bar{X} = 19.79$; $SD = 3.64$)	514.66 ($\bar{X} = 13.59$; $SD = 4.66$)
	Employment	247	559.36 ($\bar{X} = 20.44$; $SD = 3.40$)	538.04 ($\bar{X} = 20.75$; $SD = 3.37$)	464.27 ($\bar{X} = 19.04$; $SD = 3.99$)	471.21 ($\bar{X} = 12.90$; $SD = 4.44$)
Mann–Whitney <i>U</i> -test			80,185.500***	85,452.000	84,046.000**	85,762.000**
Effect size (<i>d</i>)			0.218		0.156	
Mean rank	Education	760	447.06	455.01	472.59	441.83
	Disadvantage	141	472.26 ($\bar{X} = 19.73$; $SD = 4.23$)	429.41 ($\bar{X} = 19.73$; $SD = 4.21$)	334.63 ($\bar{X} = 17.04$; $SD = 4.24$)	500.45 ($\bar{X} = 14.68$; $SD = 5.19$)
Mann–Whitney <i>U</i> test			50,583.000	50,536.000	37,171.500***	46,607.000**
Effect size (<i>d</i>)					0.393	0.164
Mean rank	Employment	247	200.03	204.27	209.59	179.36
	Disadvantage	141	184.81	177.38	168.07	221.01
Mann–Whitney <i>U</i> -test			16,047.000	14,999.500	13,687.500***	13,675.000***
Effect size (<i>d</i>)					0.362	0.363

p* < 0.01; *p* < 0.001.

TABLE 5 | Summary of one-way ANOVA with multiple *post hoc* comparisons: Scheffé’s method.

Dependent variable	F	(I) Pathway	(J) Pathway	Difference in means (I–J)	Standard error	Sig.	<i>d</i>
Self-acceptance	14.712	Education	Employment	0.10988	0.417	0.966	
			Disadvantage	2.832*	0.527	0.000	0.532
Positive relations	5.589	Employment	Disadvantage	2.722*	0.606	0.000	0.491
			Education	Employment	–0.520	0.450	0.513
Autonomy	8.880	Employment	Disadvantage	1.626*	0.569	0.017	0.445
			Education	Employment	2.146*	0.654	0.005
Environmental mastery	15.811	Education	Employment	–0.995	0.499	0.137	
			Disadvantage	2.057*	0.631	0.005	0.302
Personal growth	10.092	Employment	Disadvantage	3.053*	0.725	0.000	0.429
			Education	Employment	–0.742	0.373	0.139
Purpose in life	8.680	Education	Disadvantage	2.258*	0.472	0.000	0.444
			Employment	Disadvantage	3.001*	0.543	0.000
Total well-being	17.917	Education	Employment	–0.469	0.384	0.476	
			Disadvantage	1.954*	0.487	0.000	0.372
		Employment	Disadvantage	2.423*	0.560	0.000	0.456
			Education	Employment	–0.699	0.419	0.249
		Education	Disadvantage	1.815*	0.530	0.003	0.314
			Employment	Disadvantage	2.514*	0.609	0.000
		Employment	Disadvantage	–3.268	1.894	0.226	
			Education	Disadvantage	12.685*	2.397	0.000
		Employment	Disadvantage	15.953*	2.754	0.000	0.642

**p* < 0.05.

DISCUSSION

Relationship Between Dimensions on the Autonomy Scale and the Well-Being Scale by Pathway (Specific Objective 1)

Returning to the first specific objective of our study – *to examine the relationship between dimensions on the autonomy scale and dimensions on the well-being scale for each distinct pathway (education, employment, and social disadvantage), considered independently* – the results show positive and significant correlations between the dimensions on these two scales, for each of the three pathway groups.

One initial finding from this study is that for all three pathways, higher levels of well-being correspond to higher levels of autonomy and vice versa. This finding coincides with results from similar studies (Delbosc and Vella-Brodrick, 2015; Alivernini et al., 2019; Chatzisarantis et al., 2019) in which psychological autonomy is strongly associated with well-being. Similarly, research by Inguglia et al. (2014) confirms that for emerging adults, autonomy and relatedness are fundamental needs linked to their health and psychological well-being. Meanwhile, González et al. (2015) showed that perceived support for autonomy in athletic activities was a positive predictor of subjective vitality and positive affect in emerging adults, as well as being a predictor of satisfaction for three indicators of psychological well-being: competence, autonomy, and relatedness.

Likewise, for all three pathways, we find a significant correlation between the *purpose in life* dimension on the well-being scale and all dimensions on the autonomy scale. This observation is compatible with the opinion, already expressed by numerous researchers, that autonomy is of great relevance to the life choices made by emerging adults regarding education and employment. Their decision-making, which defines their purpose in life, stems from the processes of social self-construction and personal identity consolidation (Campbell and Ungar, 2004; Savickas et al., 2009; Bernaud, 2014; Maree and Twigge, 2016). The result is also coherent with studies reporting an association between young people's higher levels of well-being and satisfaction with life and their ability to develop purpose in life, attain self-acceptance, and learn to navigate their environments (Cardona et al., 2014). A closer look at socially disadvantaged youth reveals a pathway marked by dependence on institutions, difficulty in the workplace, and poor academic results; all of these tendencies are associated with low levels of psychological well-being (Bernal Romero, 2016; Dixon, 2016; Goyette, 2019).

Returning to the dimension analysis, we determined that the *autonomy* dimension on the well-being scale showed a significant and positive correlation, for all three pathways, with the *context analysis* dimension on the autonomy scale. This result suggests that a greater capacity for context analysis is accompanied by greater autonomy, and vice versa. The ability to analyze a situation, according to Bernal Romero et al. (2020b), indicates the capacity to search for information, mull over proposals, and adopt positions or make decisions in personal, social,

and political matters. Similarly, the ability to analyze context, according to Ryff and Singer (2008), is useful for avoiding looking to others for approval in different social settings; these researchers link autonomy to independence and self-determination. In their studies of emerging adults who attend universities, García-Alandete et al. (2018) reinforce this idea by framing the construct of autonomy as self-reliance, separated from the intersubjective experience. However, according to Meléndez et al. (2018), young people will still experience difficulty preserving their individuality in many social situations given that they feel more need for outside approval while their identities are still forming.

According to the above definitions, an emerging adult able to maintain his or her autonomy and individuality in different settings will first have to be able to comprehend, analyze, and adapt to each setting (family, academic, social, other). This construct of autonomy is therefore understood from both intrasubjective and intersubjective viewpoints, as other researchers have proposed (Arnett, 2006; Bekker and Van Assen, 2006; Inguglia et al., 2014; Bernal Romero et al., 2016; Duineveld et al., 2017; Kiang and Bhattacharjee, 2018; Ryff, 2018; Van Petegem et al., 2015).

Score Comparisons Across Pathways (Specific Objective 2)

Recall that our second specific objective is *to detect any significant differences between emerging adults on different pathways using scores from each dimension on the autonomy questionnaire, and from each dimension on the well-being questionnaire*. Significant differences among emerging adults on different pathways could be identified using both the autonomy and the well-being questionnaires.

A comparison of both total scores and dimension scores on the well-being scale revealed significant differences between the pathways; the highest levels of psychological well-being belonged to the education group, followed by the employment group. The lowest levels of psychological well-being were found in the social disadvantage group. Below, we will examine the most salient differences for each pathway.

Young people in the education group had higher total scores on both the autonomy and well-being scales compared to participants in the other two groups. Similar results have been found in other studies of young university students. Barrantes-Brais and Ureña-Bonilla (2015) and García-Alandete et al. (2018) attribute stronger showings for personal growth and purpose in life to university students; they highlight a positive correlation between purpose in life and overall psychological well-being. Our study has uncovered significant differences between the education group and the other two groups for the *critical thinking* dimension, with the education group showing the highest scores. Well-developed critical thinking skills are associated with greater respect for the self and for one's opinions and ideas and the ability to express those ideas during a confrontation or a situation requiring an assertive response (Bernal Romero et al., 2020b). As reported by Zepke (2015) and Arnett and Tanner (2016) higher education research has often found high

levels of engagement and critical consciousness in students. While both factors might present only in the classroom, these authors believe they can also be studied in broader contexts, such as sociocultural ecosystems in which students establish the links between themselves, their immediate setting, and the wider community.

The employment group's scores on the autonomy scale highlight a more developed capacity for self-organization than that found in the other pathways, and the difference between the employment and education groups is statistically significant. As stated by various researchers working from a self-construction theory perspective, emerging adults must self-organize in order to maintain stability and continuity in their professional careers; as such, issues in professional development play a fundamental role in how they engineer their lives (Guichard et al., 2012). According to Maree and Twigge (2016), these issues include the importance of social consciousness and promoting social justice in the workplace. In fact, researchers studying young adults have found positive correlations between workplace autonomy and job satisfaction on the one hand, and organizational/workplace commitment on the other (Ng and Feldman, 2010), and these correlations are stronger than in older workers (Zacher and Schmitt, 2016). Nevertheless, self-organization and its role in the education and training of emerging adults that follow the education pathway before becoming employed do not typically concern employers (Pimentel et al., 2016).

Another relevant finding is that the social disadvantage group showed significantly higher levels of socio-political engagement (autonomy scale) compared to both the education and employment groups. Socio-political engagement refers to a person's ability to make decisions according to that person's degree of social responsibility and participation in contemporary society (Bernal Romero et al., 2020b). This finding resembles a description by Munson et al. (2013) of young peoples' interest in getting involved in their communities, helping others, and making sure that other young people in similar situations will receive the attention they needed themselves.

Total scores on the well-being scale are significantly lower for the social difficulty pathway. The lower levels of psychological well-being observed among these participants may be linked to their sense of lack of control over their lives and a more external locus of control, among other factors (Król et al., 2019). Others have observed that attachment strength in relationships is a predictor of well-being in adults (Borelli et al., 2018). This factor may help explain why socially disadvantaged youths, those whose family relationships may not have contributed to the formation of secure attachments, score the lowest on the well-being scale. Multiple authors have reported this tendency among socially disadvantaged youth, whose pathway diverges from those of other emerging adults (Fowler et al., 2011; Munson et al., 2013). Very often, these individuals require additional emotional and social support (Goodkind et al., 2011; Schofield et al., 2016). In many cases, the situation becomes even more critical when emerging adults reach the age of 18 and cannot access their usual social services; at this point, they find themselves at a stark disadvantage compared to young people

on other pathways (Arnett, 2000, 2006; Osgood et al., 2010; Munson et al., 2013).

Limitations and Future Directions

One of the methodological limitations of this study, and a reason for interpreting results with caution, is that the sample sizes differ substantially among the pathways. For that reason, we replicated the tests (Kruskal–Wallis and one-way ANOVA) with equal sample sizes to ensure data reliability and determined the resulting differences to be the same as those identified in the original groups. Although the demographic variables “country of origin,” “age,” and “sex” were similar for all three groups (see **Table 1**), we also tested to rule out any potential effects that might skew the results. Our testing, which examined both the well-being and the autonomy scale results, revealed no significant demographic differences between pathways that would have to be controlled for.

Regarding magnitude of differences, effect sizes in this study, unsurprisingly, are small to moderate; Rosnow and Rosenthal (2009) determined that the typical effect sizes in the social sciences are often very small. Additionally, according to Ferguson (2009), these effect sizes may not be indicative of the “true” effect when samples are too large, or when they are not selected randomly.

Another limitation of this study is that the sample was not randomly selected, which is an obstacle to external validation and makes it difficult to extrapolate results to the general population.

Since the sample characteristics have been identified as a limitation, a future study would aim to use a probability sampling method that would guarantee equivalent group sizes while controlling for confounders; in this way, the study could also be expanded to include other countries of interest.

To summarize, this study's results and their interpretation contribute to our understanding of the different pathways followed by emerging adults and also provide a reference dataset for future studies on autonomy and well-being in young people. We should highlight that the study furnishes data that may be of great interest to professionals aiming to design and target interventions for emerging adults on different pathways.

In fact, some studies indicate that academic success can follow the implementation of strategies promoting development of youth autonomy and self-sufficiency (De Carvalho and De Almeida, 2011; Longas and Riera, 2016). Additionally, psychoeducational support and personalized study programs improve peer and teacher–student relationships, while also fostering an increased sense of responsibility and preparedness for independent living (Antunes and Correia, 2016). Researchers have highlighted the importance of training emerging adults who work or are on the employment pathway in how to develop strategies that promote well-being (Merino et al., 2019). Meanwhile, the autonomy and well-being of socially disadvantaged or vulnerable emerging adults must be nurtured through support for their personal, social, and functional skills and by improving social and academic intervention processes (Antunes and Correia, 2016; Zamith-Cruz et al., 2016;

Melendro et al., 2017). Above all else, these individuals require social interventions throughout the emerging adulthood stage; without additional support, many will not attain levels of autonomy and well-being similar to those of young people on other pathways (Munson et al., 2013).

Each of these lines of action will require meticulous and rigorous data acquisition, and additional studies on the development of autonomy and well-being, if we are to successfully tackle the distinct realities faced by young people in our time.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Ethics Committee of the Universidad Santo Tomás (Bogotá, Colombia) and the Ethics Committee of the Universidad Nacional de Educación a Distancia (Madrid, Spain). All participants were given a full description of the study and informed that participation was voluntary. Informed consent was obtained. In the case of minors, in addition to their consent, consent from parents or guardians was also obtained.

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AUTHOR CONTRIBUTIONS

MM coordinated the project and received financial support for the study. DA set up the database and completed the statistical analysis. MM and DA drafted the initial version of the article, which was then revised by all authors. GC and AR-B prepared the introduction and theoretical framework and wrote the discussion section with MM. GC and AR-B reviewed the references section. All authors contributed to the article and approved the submitted version.

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Is Person-Group Value Congruence Always a Good Thing? Values and Well-Being Among Maladjusted Teens and Their Peers

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In the present study, we analyzed relationships between values, well-being, and person-group value consistency in two samples: teens under court-mandated supervision ($n = 51$) and teens from the general population ($n = 49$). Results showed that supervised teens experienced lower satisfaction with life, placed more value in stimulation, hedonism, and power, and less in universalism and benevolence. They also experienced lower satisfaction when they valued stimulation, hedonism, and face, and higher satisfaction when they valued conformity-rules and universalism-tolerance. These results show that valuing the things that the group also values at a high level (here: for hedonism and stimulation) may not always be a positive force, especially when the environment is problematic, whereas going against the values of the maladjusted group (here: for universalism) may be beneficial for well-being. However, when we calculated a direct index of person-group congruence, it correlated positively with satisfaction among supervised teens for the values of achievement, stimulation, security-personal, and universalism-concern, whereas congruence for power-dominance correlated with satisfaction negatively among the supervised teens, suggesting a slight but direct limit to the congruence effect.

Keywords: well-being, adolescents, maladjusted behavior, values, congruence

INTRODUCTION

Research on the relationships between values and well-being has gained popularity since the first publication of Schwartz's conception of values (Schwartz, 1994). In the first wave of studies, researchers aimed to identify values that facilitated or hampered well-being and indeed found that some values seem to be a bit "healthier," whereas others are related to lower well-being. On the other hand, the results of their studies yielded inconsistent results—the relationships depended on the sample characteristics, such as the country where the study was conducted or individual characteristics of the research participants (Sorthaix and Schwartz, 2017). Naturally, this led to the conclusion that these relationships are moderated by other factors, one of them being the congruence in values between the person and the group. Studies confirmed this relationship, suggesting that a greater congruence between a person and their environment may facilitate well-being because it is easier to realize one's values when others around us believe in the same things

(Sortheix and Lönnqvist, 2015). Is that, however, always true? What if the environment that a person functions in is poorly adjusted, such as in a prison or a work setting that fosters pathological behaviors? In such case, congruence between individual values and group values may have its downsides: it may facilitate engaging in behaviors that are maladaptive, that go against wider social norms or ethics.

BASIC HUMAN VALUES AND WELL-BEING

One of the most renowned and well-researched conceptions of human values was developed by Schwartz who defines them as “trans-situational goals, varying in importance, that serve as guiding principles in the life of a person or group” (Schwartz et al., 2012, p. 3). They guide human behavior and serve as standards or criteria of what is good or bad, worth doing or avoiding—depending on which values are important for a person (Schwartz, 2012).

In his studies, Schwartz identified a catalog of values that are universal and basic (Schwartz, 2007). According to his model, this catalog forms a circular motivational continuum. Adjacent values can be pursued simultaneously because they share motivational

meanings. One of the most recent set of basic values confirmed in intercultural research includes 19 values (Table 1).

Initial research on values and well-being suggested that some values are related positively to well-being, whereas others seem unbeneficial in that regard (Sagiv and Schwartz, 2000) because achieving “healthy” values can lead to assessments, attitudes, and behaviors that promote well-being. For example, people for whom benevolence is important think that people are nice, they tend to be tolerant of others and committed to helping them, and these convictions and behaviors would lead to an enhanced well-being. Studies conducted since the 1990s, although there are not many of those, showed that some values are indeed a little “healthier.”

In general, it seems that values such as self-direction, stimulation, and hedonism are related to higher well-being because they express a growth orientation, which motivates people to engage in activities related to self-actualization, the expression of their ideas, abilities, and feelings, and to satisfy the need for autonomy (Yahyagil, 2015; Bojanowska and Piotrowski, 2018; Schwartz and Sortheix, 2018). The function of achievement and power values for well-being is unclear—they also express a growth orientation, but striving for achievement and power may inhibit the ability to maintain positive relationships with other people. A person for whom domination is a key element in their value hierarchy may be difficult in relationships, as cooperation would not be their default stance and they would rather focus on competition. This was confirmed in one study with reference to eudaimonic well-being (Bojanowska and Piotrowski, 2018). The function of humility, conformity, tradition, security, and face values for well-being is unclear. Sortheix and Schwartz (2017) suggest that they express a self-protection orientation (as opposed to growth). They may not be beneficial for well-being because they reflect the need to avoid danger and anxiety that motivate people to submit to the expectations of society to overcome fear. They also express a focus on others (as opposed to personal focus) and therefore address extrinsic needs for status and acceptance. Focusing on others decreases well-being because it directs attention to the needs and problems of others and to social requirements and obligations that limit autonomy. Universalism and benevolence values are consistently positively related to well-being (Cohen and Shamai, 2009; Sortheix and Schwartz, 2017; Bojanowska and Piotrowski, 2018), probably because they foster positive relationships with others and express an underlying positive attitude toward others and a belief that people are good and the world is friendly. Other researchers suggested that the relationship between values and well-being is related to the quiet ego—finding a balance between self-concern and focus on others—which may explain why a combination of universalism, benevolence, and self-direction seem to be beneficial for well-being (Wayment and Bauer, 2018).

The first general hypothesis tested in this study is that some values are positively related to well-being, whereas others are related negatively or are unrelated. We do not formulate a specific hypothesis because the sample is very much different from populations tested in this regard so far. We use satisfaction with life as an index of well-being, as this is one of the most commonly used indices in well-being studies and

TABLE 1 | Values and their definitions according to Schwartz.

Valued	Definition
Self-direction thought	Freedom to cultivate one's own ideas and abilities
Self-direction action	Freedom to determine one's own actions
Stimulation	Excitement, novelty, and challenge in life
Hedonism	Pleasure and sensuous gratification for oneself
Achievement	Personal success through demonstrating competence according to social standards
Power-dominance	Power through exercising control over people
Power-resources	Power through control of material and social resources
Humility	Recognizing one's insignificance in the larger scheme of things
Conformity-interpersonal	Avoidance of upsetting or harming other people
Conformity-rules	Compliance with rules, laws, and formal obligations
Tradition	Maintaining and preserving cultural, family, or religious traditions
Security-personal	Safety in one's immediate environment
Security-societal	Safety and stability in the wider society
Face	Security and power through maintaining one's public image and avoiding humiliation
Universalism-tolerance	Acceptance and understanding of those who are different from oneself
Universalism-nature	Preservation of the natural environment
Universalism-concern	Commitment to equality, justice, and protection for all people
Benevolence-caring	Devotion to the welfare of ingroup members
Benevolence-dependability	Being a reliable and trustworthy member of the ingroup

Adapted from Cieciuch et al. (2014).

therefore the data we gather can be compared with others, reported earlier.

As previously mentioned, studies are not conclusive and other reports yielded contradictory results (e.g., Buchanan and Bardi, 2015). Naturally, this led to a conclusion that moderating factors influence relationships between values and well-being. These factors may be sociocultural, such as the level of economic development in the country where the data were collected (Sortheix and Schwartz, 2017), temperament traits (Bojanowska and Piotrowski, 2018), personality (Haslam et al., 2009), or self-esteem (Fetvadjev and He, 2019). A strong argument has been made that one of the crucial factors moderating these relationships is congruence in values held by individuals and the values preferred in their environments (Sortheix and Lönnqvist, 2015), on which we will focus in this article.

Person-Group Value Congruence

Maintaining positive relationships with other people in our immediate surroundings is essential to well-being. Good relationships are a source of positive emotions and pleasant experiences. Through these relationships we are able to attain difficult goals that would be unattainable without cooperation with others. They are a source of social support, which has been known to be one of the most stable predictors of individual well-being (Baumeister and Leary, 1995; Helliwell et al., 2016). But how can people foster positive relationships with others in their surroundings? What factors influence and regulate our interactions with others in a way that would ensure smooth cooperation, getting and receiving proper social support, and engaging in exchanges that are pleasant for all involved? One answer to this question would be similarity, which provides more opportunity to express oneself, act according to shared norms, infer correctly about one's values and reduce dissonance (Biber et al., 2008). People who are similar to one another develop closer bonds; their relationships are more stable and rewarding. This happens both in close, intimate relationships between romantic partners (Gaunt, 2006; Nguyen, 2018) and in bigger groups in, for example, educational environments (Lönnqvist et al., 2009). Similarity may be analyzed in terms of numerous characteristics such as stable traits, for example, temperament or personality, specific interests such as hobbies or work-related activities, or in terms of individually held values. The latter is especially interesting in this context because values determine what people find important and worth pursuing in their lives, determine individual identity, and therefore similarity in values may be especially important in terms of forming relationships with others. It seems natural that people form friendships, choose their work environments or romantic partners basing on their values because discrepancies in values are often the source of conflict and lead to heated debates or arguments that can break down any relationship.

Higher person-group congruence in values can therefore be related to higher well-being because it fosters positive social interactions: people who share the same values communicate better (Edwards and Cable, 2009). This hypothesis was confirmed in a study by Sortheix and Lönnqvist (2015), where the quality of relationships mediated the correlation between value congruence

and well-being and partly in a study that showed that the way people form relationships is related to the values they hold (Biber et al., 2008). Also, cooperation based in shared values can lead to better results in goal attainment, which in turn fosters well-being. Studies on the prisoner's dilemma showed that perceived similarity between partners makes them more eager to cooperate and cooperation is "essential for the success of both individuals and groups. From hunter-gatherer societies to nation-states, the ability of individuals to trust one another and to cooperate is an indicator of prosperity and wealth." (Fischer, 2009, p. 341). In addition, goal attainment is one of the key elements contributing to satisfaction with life (Tóth et al., 2018). Therefore, a person who functions in a group with similar values would be more eager to assume a cooperative stance. Because of similarity, the partners would then be able to communicate better and achieve their goals and this in turn would impact their satisfaction with life.

Limits to the Value Congruence and Well-Being Relationship

However, other research did not confirm the robustness of the congruence effect (Kasser and Ahuvia, 2002; Vansteenkiste et al., 2006) and suggested that some values are healthy or unhealthy regardless of their congruence with the environment. There are therefore two hypotheses about the value and well-being relationship: the first suggests a direct effect of specific values on well-being and the other suggests that the function of values depends on the said congruence (Sagiv and Schwartz, 2000). As stated by Joshanloo and Ghaedi (2009), the direct effect of values on well-being has more empirical backing. This makes it even more interesting to analyze whether the congruence effect applies with specific samples not representing the general population, such as samples that are known to have issues with social adjustment. If, for some reason, a person is forced to function in an environment or group that is poorly adjusted, such as a prison, a street gang, or a highly competitive, hostile work environment, we would expect that congruence may be related to poorer well-being or be unrelated at all. These inferences may be drawn from a study by Kasser and Ahuvia (2002) conducted among business students in Singapore, where extrinsic values seem to be encouraged and promoted. Their results contradicted the congruence effect: they showed that holding extrinsic (materialistic) values was related to lower well-being even though they reflected the values of the environment. It is therefore not clear whether finding "partners in crime" in such environment would be beneficial for well-being or whether being similar to other, maladjusted individuals in one's surrounding could promote pathological behaviors leading to engagement in possibly risky situations. These questions seem even more valid if we consider the period of adolescence, in which peer relationships and peer pressure to behave according to peer norms is very strong and where teenagers are still seeking their own identity and therefore may be more prone to yield to that pressure (Buehler, 2006), and this may lead to value congruence being even more important than among the wider population.

The Present Study

In the present study, we analyze how individual values are related to teenagers' well-being, depending on the group that they belong to. We hypothesize that the relationship between values and well-being is moderated by the group that a person belongs to (H1). We do this basing on data from two samples: teenagers under court-mandated supervision, who participate in group educational activities with other teens in a similar situation (attend court-mandated resocialization meetings and extracurricular activities aimed at development of their social skills), and their peers from the general population, matched for basic demographics. The second aim of this study is to show that although most studies suggest that person-group value congruence is beneficial for well-being, there are limits to this effect, and that the level of the group's general adjustment to social norms is also important. The second hypothesis therefore states that the correlations between congruence in values and satisfaction are more positive and stronger in the general population, compared with supervised teens (H2). The study was approved by the (University name masked for review) Ethics Committee.

MATERIALS AND METHODS

Participants

The participants were $N = 98$ teenagers aged 13 to 18 ($M = 15.95$; $SD = 1.55$) from the two subgroups: court supervised ($n = 51$; 55% women) and community sample ($n = 47$; 45% women). Participants from the first group declared that they had mandated court supervision due to minor problems with the law (minor theft, aggressive behaviors). They attended a re-education center in a mid-sized town in the center of Poland, i.e., participated in classes, workshops (sports, art, basic everyday skills, etc.) but lived at home with their families. The comparison group came from the general population—these teenagers attended public secondary/high schools in the same region as the supervised teens (big town, the schools were neither prestigious nor had a bad reputation). We chose schools that were as close to the supervision centers as possible. Participants were recruited through the re-education center (group 1) and the schools (group 2). After receiving approval from the institution, each participant was approached individually, the aim of the study was explained, and participants were assured that the study was voluntary and their data would be anonymized. Each willing participant received an agreement form, where he/she gave written consent to participate. The participants also had to obtain parental consent (parents also gave written consent on the form). The questionnaires were filled out in a paper-and-pencil format.

Measures

Satisfaction With Life

We used Satisfaction with Life Scale (SWLS; Diener et al., 1985) to assess the global evaluation of life. This measure is an indicator of the cognitive aspect of hedonic well-being

(we conceptualized hedonic well-being in accordance with Diener's subjective well-being approach; Diener, 2000; Kim-Prieto et al., 2005). Individuals with high subjective well-being evaluate their life as positive, according to their own criteria. The measure consists of five items (e.g., "In most ways, my life is close to my ideal") assessed on a scale from 1 = *I definitely disagree* to 7 = *I definitely agree* (score range is between 1 and 7). Higher scores represent higher life satisfaction. Cronbach's alpha in the sample indicates very good reliability (see **Table 2**, $\alpha = 0.85$). The scale also has very good validity confirmed in numerous studies (Pavot and Diener, 2009).

Human Values

To measure what participants valued in their lives according to Schwartz's 19-value model, we used the Portrait of Values Questionnaire (Schwartz et al., 2012). The scale has very good validity, also in the Polish adaptation (Cieciuch, 2013). This questionnaire consists of 57 brief descriptions (or portraits) of different individuals, with three descriptions for each value. Each description portrays a person's goals and aspirations, introduced with words such as "It is important to him/her,"

TABLE 2 | Values and satisfaction with life in the two samples: descriptive statistics and comparison.

	Cronbach's alpha	Supervised teens		General population –teens		Comparison <i>F</i> , <i>df</i> = 1,98
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
AC	0.66	0.47	0.79	0.59	0.75	0.60
HE	0.61	1.11	0.93	0.65	0.79	7.19**
ST	0.62	0.45	1.01	−0.13	0.94	8.74**
SDA	0.71	0.97	0.97	0.71	0.74	2.31
SDT	0.61	0.53	0.78	0.57	0.66	0.10
UNT	0.79	0.06	0.93	0.75	0.84	15.29***
UNN	0.79	−0.44	0.91	0.08	1.16	6.26*
UNC	0.75	−0.18	0.74	−0.68	0.66	12.52**
BEC	0.82	0.62	0.95	0.98	0.60	5.33*
BED	0.74	1.01	0.78	1.17	0.54	1.41
HU	0.62	−0.24	0.97	−0.16	0.75	0.19
COI	0.75	−0.47	1.08	−0.15	0.97	2.38
COR	0.79	−0.59	0.91	−0.40	0.98	0.94
TR	0.84	−0.36	1.02	−0.29	1.08	0.11
SES	0.89	0.38	1.14	0.34	0.90	0.03
SEP	0.64	0.35	0.67	0.24	0.81	0.50
FAC	0.73	0.44	0.94	0.33	0.80	0.43
POR	0.76	−0.29	1.60	−1.13	1.17	8.94**
POD	0.84	−0.68	1.61	−1.89	0.16	19.07***
Satisfaction	0.85	3.84	1.42	4.77	1.04	13.89***

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. AC, achievement; HE, hedonism; ST, stimulation; SDA, self-direction action; SDT, self-direction thought; UNT, universalism tolerance; UNN, universalism nature; UNC, universalism societal concern; BEC, benevolence-caring; BED, benevolence-dependability; HU, humility; COI, conformity-interpersonal; COR, conformity-rules; TR, tradition; SES, security social; SEP, security personal; FAC, face; POR, power resources; POD, power dominance.

“He/she thinks,” or “He/she believes.” Example items: *He goes out of his way to be a dependable and trustworthy friend* (benevolence-dependability); *It is important to him to have a good time* (hedonism); *It is important to him to be humble* (humility); *Being very successful is important to him* (achievement). Participants were asked to indicate “How much like you is this person?” using a six-point scale ranging from “Very much like me” to “Not like me at all.” Reliability was satisfactory for all 19 scales. Cronbach’s alphas are shown in **Table 2**. According to Sagiv and Schwartz (2000), the scores should be ipsatized. First, a sum of points is calculated for each participant and then this sum is subtracted from the sum of points for each subscale. Consequently, scores below zero indicate that the value is relatively less important than the other values, whereas scores above zero indicate that the value is more important.

Analytical Strategy

Person-group value congruence can be studied subjectively or objectively. In the subjective approach, people are asked how much they feel that their values are compatible with the values in their surroundings (Kristof-Brown et al., 2005), whereas in the objective approach an index of congruence is calculated basing on the average values in the group and individual scores of each participant (Sortheix and Lönnqvist, 2015). We use the objective approach, as it has been underrepresented in hitherto research.

We used two methods of analysis. To verify the first hypothesis, we used regression analysis with the satisfaction with life as the outcome variable and the predictors were values (separately for each of the 19 values) and group assignment (supervised teens versus their peers) and the interaction of value and group. This showed whether a specific value is related to satisfaction with life differently, depending on the group. For the second hypothesis, we used an index of value congruence. It expressed the difference between a teenager’s values and the average weigh of their value in his or her reference group and then squared, so that the index expresses congruence regardless of whether a person’s preference is lower or higher compared with the reference group. This index was inverted, so high values express high congruence.

The formula is as follows:

$$(\text{Maximal value of difference}) - (\text{Person's value preference} - \text{average preference in the reference group})^2$$

These two strategies produced a bit different results: the first method provides information on the function of a value depending on the reference group, which may be interpreted as an indirect cue, as to the congruence effect. The second is a more direct way of showing value congruence and its relationship with satisfaction with life (as conceptualized by Diener, 2000).

RESULTS

We computed descriptive statistics for all the 19 values and satisfaction with life and conducted a one-way ANOVA to

compare the two groups. The results of these analyses are presented in **Table 2**. It turned out that the two groups differed in several values. Teens under court supervision placed lower value in all three types of universalism and in benevolence-caring. In turn, they place higher value in stimulation, hedonism, power-resources, and power-dominance. Teens under supervision had also obtained lower scores on satisfaction with life scale.

In the next step, to analyze relationships between each value and satisfaction with life, Hayes Process macro for SPSS (model 4; Hayes, 2013) was used. In this analysis, the group (supervised teens vs. general population) was introduced as a moderator of the links between each value and life satisfaction to verify whether values relate to life satisfaction similarly in both groups. The results are presented in **Table 3**.

In most regression models, being in the supervised group was a significant negative predictor of satisfaction with life. From among the 19 values, only power-dominance value predicted satisfaction (negatively). However, there were numerous significant interaction effects, referring to hedonism, stimulation, universalism-tolerance, conformity-rules, and face. Closer analyses of these interactions revealed that values had small or no effect on the satisfaction in the general population group, but they were moderately

TABLE 3 | Values, group (supervised vs. general population), and value–group interaction effects for satisfaction with life.

Value dimension	Satisfaction with life			
	Value	Group	Interaction	R ²
AC	−0.37	−1.22***	0.52	0.15**
HE	−0.03	−0.09	−0.74**	0.27***
ST	0.09	−0.70**	−0.63**	0.21***
SDA	−0.35	−0.46	−0.39	0.29***
SDT	−0.44	−0.87**	−0.15	0.21***
UNT	−0.15	−1.10***	0.99***	0.30***
UNN	0.08	−0.81*	0.19	0.14**
UNC	−0.19	−0.94**	−0.58	0.22***
BEC	0.42	−0.65	0.42	0.15***
BED	−0.26	−0.66	−0.31	0.18***
HU	0.18	−0.85***	0.28	0.19***
COI	0.16	−0.75**	0.27	0.19***
COR	−0.03	−0.57*	0.62*	0.21***
TR	0.24	−0.81**	0.28	0.24***
SES	0.11	−0.99***	0.16	0.15**
SEP	0.21	−1.03***	0.21	0.16***
FAC	0.21	−0.67*	−0.66*	0.18***
POR	−0.10	−0.95**	−0.32	0.26***
POD	−0.31*	−0.56	−0.03	0.23***

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. AC, achievement; HE, hedonism; ST, stimulation; SDA, self-direction action; SDT, self-direction thought; UNT, universalism tolerance; UNN, universalism nature; UNC, universalism societal concern; BEC, benevolence-caring; BED, benevolence-dependability; HU, humility; COI, conformity-interpersonal; COR, conformity-rules; TR, tradition; SES, security social; SEP, security personal; FAC, face; POR, power resources; POD, power dominance.

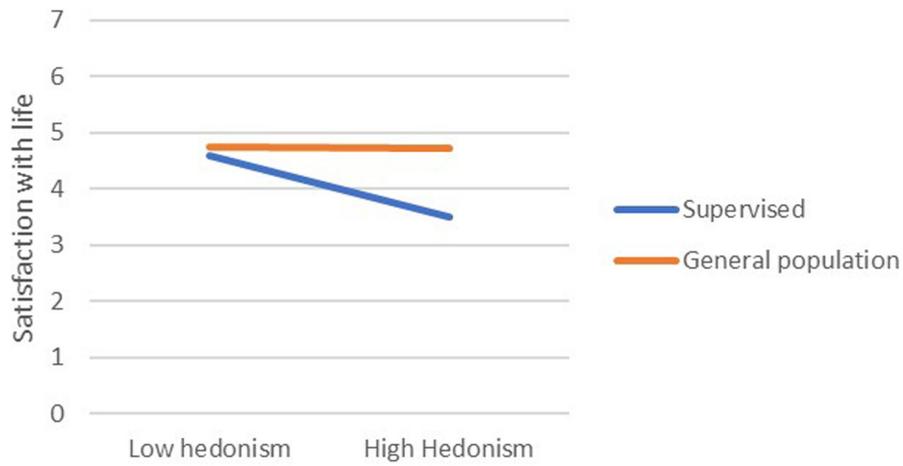


FIGURE 1 | The relationship between Hedonism value and satisfaction with life among teens with court supervision and teens from the general population.

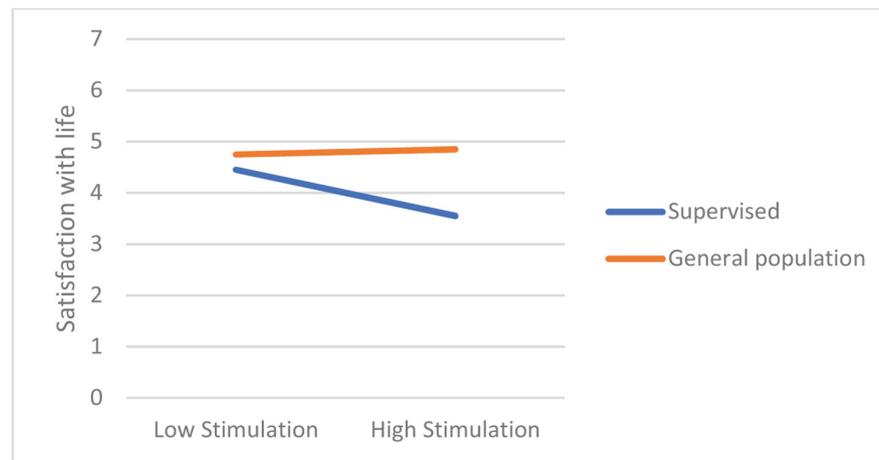


FIGURE 2 | The relationship between Stimulation value and satisfaction with life among teens with court supervision and teens from the general population.

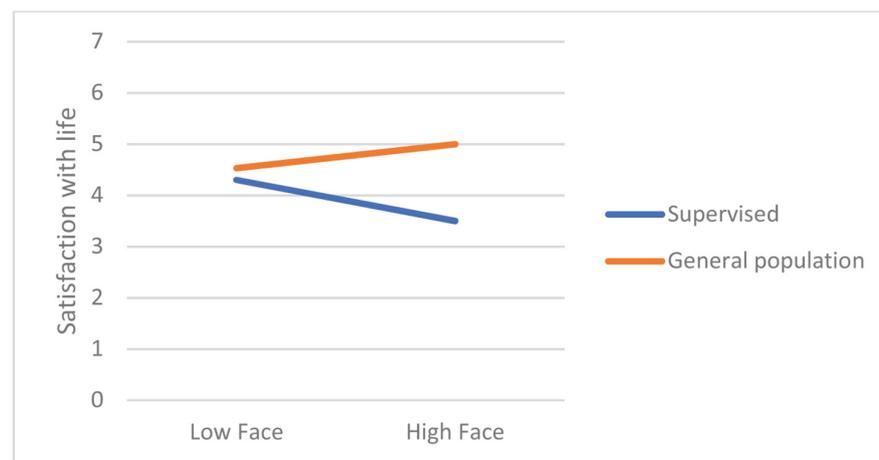


FIGURE 3 | The relationship between Face value and satisfaction with life among teens with court supervision and teens from the general population.

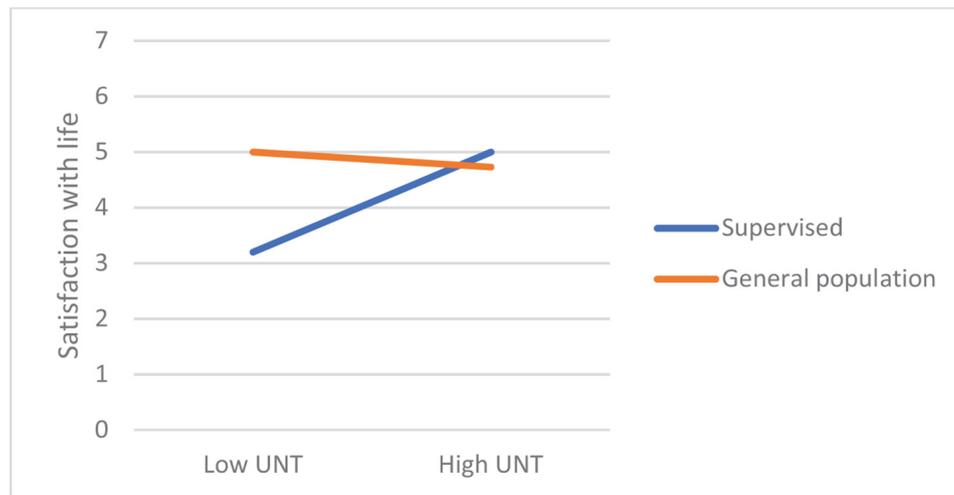


FIGURE 4 | The relationship between Universalism-tolerance value and satisfaction among teens with court supervision and teens from the general population.

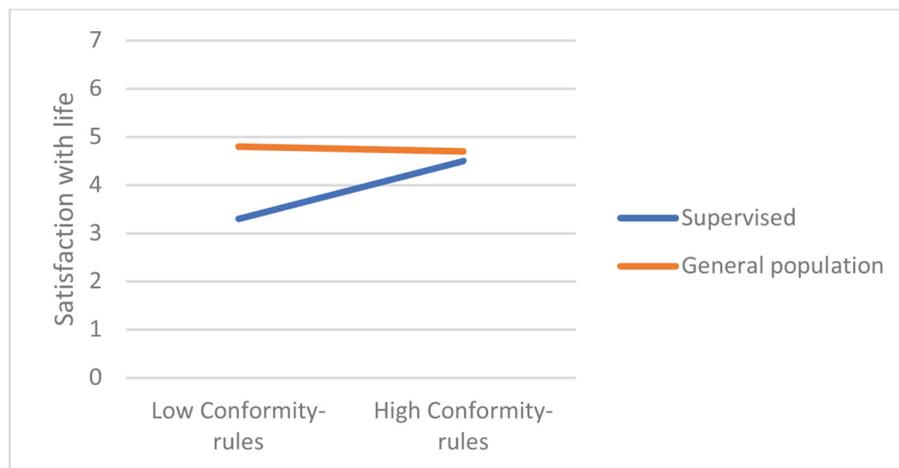


FIGURE 5 | The relationship between Universalism-tolerance value and satisfaction among teens with court supervision and teens from the general population.

related with satisfaction among the supervised teens. In this group, lower satisfaction with life was correlated with more value placed in hedonism, stimulation, and face, whereas satisfaction was higher when they placed higher value in universalism-tolerance and conformity-rules (Figures 1–5). These effects suggest that holding the same values as the poorly adapted group may be related to lower well-being, whereas going against the group may be related to higher well-being.

These interaction effects suggest that the function of the said values is different, depending on the group that the teenager belongs to. However, they do not directly inform about the person-group congruence in values being a serious limitation. To analyze this congruence directly, we correlated the value congruence index (see section “Analytical Strategy”) with satisfaction with life among

supervised teens and in the general population subsample and then calculated Fisher’s Z to verify if the correlations differ significantly.

The results presented in Table 4 show that the correlations between satisfaction and congruence in achievement, stimulation, security-social, security-personal, and power-dominance differed significantly between the two groups. For achievement, stimulation, security-social, and security-personal congruence, the correlations were stronger among the supervised teens. Contrary to our expectations (H2), the value congruence was related to higher satisfaction especially in the group of supervised teens. However, the effect for power-dominance is consistent with our expectations: higher congruence in this value translated into lower satisfaction with life among the group of supervised teens.

TABLE 4 | Correlation of values congruence index and satisfaction with life in the two samples: Pearson's *r* correlation coefficient and Fisher's *Z* comparison.

	Supervised teens	General population—teens	Comparison
	<i>R</i> (<i>n</i> = 51)	<i>R</i> (<i>n</i> = 49)	Fisher's <i>Z</i>
AC	0.47***	0.03	2.33**
HE	0.17	−0.01	0.88
ST	0.39**	0.03	1.85*
SDA	0.07	−0.07	0.68
SDT	−0.03	−0.13	0.49
UNT	0.14	0.06	0.39
UNN	0.03	−0.24	1.33
UNC	0.43**	0.21	1.20
BEC	0.22	0.09	0.65
BED	−0.30*	−0.21	−0.47
HU	−0.07	0.09	−0.78
COI	0.20	0.30*	−0.05
COR	0.21	0.29*	−0.41
TR	0.16	0.16	0
SES	0.24*	−0.11	1.72*
SEP	0.39**	0.08	1.61*
FAC	−0.07	0.22	−1.42
POR	0.24	−0.01	1.24
POD	−0.31*	0.09	−1.99*

****p* < 0.001, ***p* < 0.01, **p* < 0.05. AC, achievement; HE, hedonism; ST, stimulation; SDA, self-direction action; SDT, self-direction thought; UNT, universalism tolerance; UNN, universalism nature; UNC, universalism societal concern; BEC, benevolence-caring; BED, benevolence-dependability; HU, humility; COI, conformity-interpersonal; COR, conformity-rules; TR, tradition; SES, security social; SEP, security personal; FAC, face; POR, power resources; POD, power dominance.

DISCUSSION

Values researchers suggest that the link between an individual's values and subjective well-being may be moderated by other factors and that one of these factors may be the congruence in values between an individual and his/her group of reference (Sortheix and Lönnqvist, 2015). When people that we are close to share a similar values hierarchy, is it easier to get support and obtain a sense of belonging, which results in higher satisfaction with life (Baumeister and Leary, 1995). However, there are also data suggesting that some values are healthier, regardless of the values promoted in the environment (Joshani and Ghaedi, 2009). The present study was aimed at explaining the role of values and value congruence for subjective well-being in adolescence. We hypothesized that values play a different role depending on the level of adjustment in the group and that the adaptive function of value congruence could be limited if the social environment that an individual functions in is maladaptive (e.g., street gang or pathological work environment). To verify this suggestion, we studied links between values and well-being in two groups of adolescents: a group recruited from the general population and a group of teens who were under court supervision as a result of breaking the law and who took part in different kinds of resocialization activities.

We found that court-supervised teens had lower well-being, but they also differed in values. They were more oriented on novelty and challenge (stimulation), on feeling pleasure and gratification of their needs (hedonism), and on power. On the other hand, they valued tolerance, natural environment, equality, justice (universalism), and caring for others (benevolence) less than their peers from the general population. Thus, in the group of supervised teens, stronger orientation on individualism and self-development and weaker prosocial orientation can be discerned (Sagiv and Schwartz, 2000) and the value hierarchy may suggest issues with gratification delay that are related also to problematic behaviors (Wulfert et al., 2002)—especially when the hedonism value is considered, which is rated much higher compared with the general subsample from our study (Table 2) and to data presented by other researchers (Ciecuch, 2013).

Our first hypothesis stated that some values would be related to well-being but also that these links will be moderated by group (supervised vs. their peers). First, the results showed that, in general, the relationships between values and well-being are weak to moderate, which is in line with other studies (Vansteenkiste et al., 2006) and with a notion that values are related with eudaimonic rather than with hedonic well-being being studied here (see Joshani and Ghaedi, 2009; Bojanowska and Piotrowski, 2018). However, while it was true for adolescents from the general population, values had a significantly stronger impact on supervised teens' satisfaction with life. Those valuing hedonism, stimulation, or face much, and those who were less oriented on tolerance and conformity had lower well-being than other participants. This observation is in line with the thesis on the moderated impact of values on well-being (Schwartz and Sortheix, 2018). Interestingly, while face and conformity are often related to lower satisfaction with life, hedonism and stimulation usually are related to higher well-being (Sortheix and Schwartz, 2017) because they motivate people to satisfy their intrinsic needs. However, in the group of supervised teens, these values were related to lower well-being. Possibly, it was the social context in which the supervised group functioned during the study responsible for this effect—the supervised teens' autonomy and self-determination were limited due to court-mandated resocialization activities which could prevent them from satisfying their hedonistic needs (the mediator of the value-satisfaction relationship would therefore need realization). This interpretation is in line with the notion that some values might be adaptive or non-adaptive, depending on the context and a chance to live according to one's values (Sagiv and Schwartz, 2000). Valuing hedonism and stimulation may be adaptive in the context of free activity when it leads to personal needs fulfillment; however, when an individual's possibility of self-determination is significantly limited, such as in court-supervised teens that we studied, these values might rather be associated with frustration and anger resulting from externally established limitations preventing from internally motivated activities. It might also explain lower well-being among those supervised teens who valued face much because participating in the resocialization program may be seen by them as a sort of humiliation in the eyes of the other members of the maladjusted group of reference.

Our second hypothesis was that in the adolescent group drawn from the general population, high congruence between individual's and a group of reference's values would support well-being, but that in the group of the supervised teens this effect could be limited, i.e., when the reference group held less adaptive values, being highly similar to them might hamper life satisfaction (H2). However, H2 has gained mixed support. In most cases, the results showed that higher value congruence promotes well-being in both subsamples suggesting that high congruence might be universally adaptive. However, in the case of power-dominance in the supervised group, it turned out that indeed, in line with predictions, higher value congruence was negatively correlated with life satisfaction. It should be noted that power-dominance was valued higher by the maladjusted group (Table 2) suggesting that it is highly regarded among court-supervised teens. This result supports our thesis that in some cases, sharing values that are important for the group of reference might lower well-being. Maladjusted teens live in the context of serious deficits in terms of parenting and psychological resources, but also strong hierarchy and rivalry for a position in a group, expressed in "subcultural learning" (Blackman, 2005). When an individual values having control over others, has limited psychological resources, and at the same time is surrounded by people with similar motives, it might lead to more stress and anxiety as an effect of fear over a position in a group. This result, in line with H2, suggests that our hypothesis might be true for some contexts. However, we are aware that this effect may be limited to specific context-values interactions. In the maladjusted adolescents sample, most results were in line with the congruence hypothesis (Sorthaix and Lönnqvist, 2015) suggesting that even when an individual is a member of the maladjustment group, similarity of personal and group values hierarchy is associated with higher well-being. These observations turned out to also be true for the general sample adolescents. Still, the effect of power-dominance on court-supervised adolescents that we have observed suggests that the congruence hypothesis can have some limitations associated with the context in which an individual with his/her value hierarchy is embedded. We could recommend intensifying studies on individual-group value congruence in specific, non-mainstream samples as it would help in further developing this field of studies but also in observing its limitations. While past studies suggest that some values are almost universally unhealthy, even when an environment supports them (see studies on external, financial motivation in business students; Kasser and Ahuvia, 2002; Vansteenkiste et al., 2006), our study suggests that in some cases high value congruence between an individual and his/her environment might also be unhealthy, especially when these unhealthy values are highly regarded by the group members.

STUDY LIMITATIONS AND FURTHER RESEARCH

While the study shed some new light on the value congruence issue, their results have to be interpreted with caution. First, the

number of participants was small, and the sample size may not have enough power to detect the impact of values and value congruence on well-being to a sufficient extent. The subsample of court-supervised adolescents was difficult to reach which resulted in a small sample size; further, we decided to compare them with a general sample similar in size and demographics. This approach, however, allowed us to observe only strong effects with losing some important information. This limitation should be taken into consideration in planning future studies. Second, the study was cross-sectional and their result should be replicated using a longitudinal design. In the discussion section, we suggest that sharing the value of power-dominance with other members of the group might lead to lower well-being. However, to verify this assumption, the court-supervised adolescents should be observed in time with possible reciprocal associations between values and well-being being analyzed. Third, studying such a specific sample significantly limits the possibility of generalization of the results. To verify the presented results and notions, future studies should not only consider bigger sample of court-supervised adolescents but also other specific groups whose value hierarchy could differ from the mainstream, e.g., soldiers, criminals, drug dealers, etc.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by SWPS University of Social Sciences and Humanities Ethics Committee, Faculty in Poznań. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

AB conceptualized the study, prepared the methodology, conducted the analyses, and prepared the initial version of the manuscript. KP verified the analyses and interpreted the results. Both authors contributed to the article and approved the submitted version.

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Psychological Well-Being and Intrinsic Motivation: Relationship in Students Who Begin University Studies at the School of Education in Ciudad Real

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More and more studies and research have found a positive relationship between the participation of young people in altruistic activities and helping others. It is interesting to discover the relationship that personal and vocational satisfaction play in the preparation and training for the teaching profession. For students who begin university studies related to teaching, their psychological well-being and motivation toward this activity are very relevant aspects to consider. The access to and attainment of a university degree with a great vocational character, such as that of Pre-school Teacher or Primary Education Teacher, can benefit the students under their tutelage. An adequate motivation and a psychological well-being might favor future educational professionals' personal balance and will impact their students. This research aims to analyze the degree of psychological well-being and its relationship with the motivation toward starting the teaching career. A sample of 233 students and students aged between 17 and 19 who are beginning university studies at the School of Education of Ciudad Real was selected. All participants were enrolled in the first year of the Degree in Pre-school and Primary Education. The relationship between the psychological well-being of the students and their motivation toward attaining a professional teaching career was analyzed. Other variables, such as age or gender were also taken into account. A quantitative study was carried out and the Ryff Psychological Well-Being Scale (RPWS) and the validated Intrinsic Motivation Questionnaire (IMI) were used. Once the results were analyzed, it was observed that there is a positive correlation between the perception of psychological well-being that the participants have and their motivation toward the beginning of university studies. The focal point of these future teachers is direct teaching with the students of the early stages of Pre-school and Primary Education. There are also some significant differences, considering the age and gender of the participants. The vocational character of university preparation for the teaching profession may determine that students who begin their degree studies have an important motivation toward the performance of their professional future.

Keywords: young people, well-being, intrinsic motivation, vocational character, Degree of Pre-school and Primary Education

INTRODUCTION

Human well-being has been the current objective of research for decades. In order to know what factors help to achieve human well-being, one first must prioritize the concept of well-being and what the factors are that help to achieve well-being. Human well-being studies and research have focused on two practices that have traditionally approached the concept from two hegemonic points of view. On the one hand, with the Hedonic current of well-being, the focus is centered on a construct of subjective well-being. And on the other, with the Eudaimonic current, the focus is based on a construct of psychological well-being.

With many concepts and approaches in common, subjective well-being and psychological well-being are two related constructs, but conceptually different (Keyes et al., 2002; Linley et al., 2009). For Barra et al. (2013), subjective well-being is concentrated on vital satisfaction and happiness, considered as something with lasting positive affects over negative ones, and psychological well-being is channeled into more transcendental aspects in a person's life. Along the same lines, Ryan and Deci (2001), the Hedonic approach (subjective well-being) focuses on happiness and defines well-being in terms of achievement and avoidance of pain; and the Eudaimonic approach (psychological well-being) focuses on meaning and self-realization, defining well-being in terms of the degree to which a person is fully functioning.

Psychological well-being is characterized by subjectivity, the presence of positive indicators and the absence of negative factors, such as a global assessment of life (Diener, 1984). In this sense, psychological well-being itself is not only a reflection of having a happy life (Cuadra and Florenzano, 2003), but also of having the ability to overcome complicated, painful, and conflicting processes. Therefore, it includes both elements related to the affective and evaluative fields of analysis and reflection (Vázquez and Hervás, 2008).

Ryff (1989) outlined the "Multidimensional Model of Psychological Wellbeing," also called "Model of Constructive Multidimensionality." Already in 1985, Ryff and Keyes proposed a descriptive model of psychological well-being consisting of six categories: Acceptance of oneself, Positive Relationships with other people, Autonomy, Mastery of the environment, Purpose in life, and Personal Growth. The acceptance of oneself is the positive consideration toward oneself, being aware of the limitations. People learn to accept themselves because we admit how we are to the situations and circumstances we experience, but we also consent because the experience has given us the opportunity to value, appreciate, and ignore the scenarios to which we have been exposed. In the same way, our action can also be of submission, because one is not always right. In this sense, recognizing and agreeing are not an act of ignominy, but of confessing not to have learned correctly or not enough. In itself, accepting oneself is an important fact of knowledge, because for oneself to know oneself is to know oneself correctly and objectively. The category of Positive Relationships with other people involves being able to carry out constant relationships with others, developing trust, and affection. Socializing is learning socially because "el ser humano

está dotado de sociabilidad, que es la disposición de la persona a estar en sociedad"¹ (Quicios et al. 2019, p. 57). Just as life progresses continuously, the relationship with society is a permanent process in time. The surprise is the result of the interaction among people. Being the correspondence between tangible individuals, it enriches cognitively, it grows emotionally and perfectly shapes behavior. The third category can be explained with the ability to emancipate, properly manage interests and priorities, in addition to controlling behavior itself. The autonomy of the will is the faculty and right of the people to establish norms of conduct for oneself and one's relations with others taking into account ethics. The Domain of the Environment, considered as the surrounding environment, reflects the ability of the person to interact, adapt, and influence it according to personal needs, interests, and desires. It is the ability of the individual to choose and create environments conducive to meet their own needs and develop optimally (Ryff, 1989), becoming one of the greatest determinants of human psychological well-being (Ryan and Deci, 2001). The category of Purpose in life is specified in the definition of attainable goals that symbolize the importance of past and future experiences. These past experiences are the result of lived existence; felt, perceived, or experienced within us, as well as the interaction with the environment, context, and society. In relation to subsequent practices, the starting point is the experiential identity created, projected with the interest and hope of improving, correcting, or discovering successful world-studies. The last category, called Personal Growth, is the strategies and skills that strengthen and optimize one's own abilities and potentials, in itself the itinerary of growth and maturity of the person. It is each one's fate that helps one to grow, to feel the desire for the perception of one's own path, and to appreciate and enjoy the good and all that fullness entails.

In addition to these categories, there are variables such as age, gender, and culture that influence psychological well-being (Rangel and Alonso, 2010). And Eudaimonic (psychological) well-being would involve acting in a constructive, socially beneficial way and would be conducive to Personal Growth (Deci and Ryan, 2008; Wood et al., 2009). In this case, an instrument has been used that assesses the psychological well-being of participants. It is composed of six dimensions, plus the sum of all of them. It is the Ryff Psychological Well-Being Scale (RPWS).

Many relevant studies have detailed that subjective well-being has a strong analogy with personality (Diener and Lucas, 1997). In this investigation, we focus on an important aspect of personality: motivation. This concept has a subjective character since it is a feeling or personal state whose origin can be diverse. Chekola (1974) states that there is a direct relationship between the degree of motivation that an individual can feel and the desire(s) that led him to be motivated.

Throughout the first half of the twentieth century, the mechanistic paradigm prevailed when describing motivation theoretically, where variables such as activation, instinct, or impulse were considered (Hull, 1925; Tolman, 1932). But this

¹"The human being is endowed with sociability, which is the willingness of the person to be in society" (the translation provided is ours).

concept was changing in the face of the appearance of the idea of reward in relation to motivation. The emerging cognitive paradigm in the second half of the last century establishes that a wide variety of rewards can involve different motivations, which were gradually imposed on the mechanistic approach. This new perspective focuses on the so-called motivation of achievement, which is considered the motivation driven toward the achievement of goals. The first author who established this concept was Atkinson (1964), although the contribution of Heider (1958) to this theory and Jones and Davis (1965), Kelley (1967), or Weiner (1985) can also be highlighted. All these contributions established the basis for the different expectations-value theories that understand motivation as a product of expectations in relation to the expected result.

Maslow (1954) considered that desires led to need or the belief of need. This led him to develop his “Motivation Theory,” which establishes a hierarchy of needs, in order of importance for all human beings. These needs can go from the basic needs which, once they have been satisfied, lead us to a higher level. He classifies the needs into five types and they would go in ascending order. From the theory of Maslow arises the approach of McClelland (1958), the “Theory of Need for Achievement.” For this author, the motivation would be determined by three types of needs: need for achievement, need for power, and need for affiliation. These three types of needs are very present in people. Unlike Maslow’s proposal where desires led to needs, the needs of McClelland are learned. However, neither author addresses the relationship among the maturity of the individual, their needs, and motivation. It must be taken into account that the needs may vary throughout life, correspondingly evolving our motivations.

There is currently no unanimity in terms of the concept of motivation, since different views coexist depending on the objectives of achievement:

- Atkinson (1964) related the expectations of achieving the goals with the competencies and data that come from other people.
- Motivation has its origin in the way in which each one feels personally (how he does it, if he does it himself or what leads him to do it), what he intends to achieve (incentives), the intrinsic or extrinsic motivation, or what one can contribute to society (recognition; Maehr and Braskamp, 1986).
- Our own concept of self-efficacy influences motivation from the point of view of Social-Cognitive Learning theory (Bandura, 1986). Our learning will be conditioned on our good work and expectations.
- In reference to causal attributional theories (Dweck and Leggett, 1988), depending on the relationship between personality and the environment behavioral goals will be determined.

Authors such as Manassero and Vásquez (2000) make a thoroughly study of the evolution of the concept of motivation, highlighting the motivation for achievement, the instruments that can measure it and the evaluation of its categories. But it is also considered necessary to know the nature of the motivation to be able to determine whether human behavior depends on it and, if so, to see why it is. Authors such as

Deci and Ryan (1985, 1991) developed the Theory of Self-Determination, in relation to motivation (Deci et al., 1991; Deci, 1992; Ryan and Deci, 2000). According to these authors, the fact that being motivated can encourage the individual to do something or persist in a certain behavior, in a specific context (Ryan and Deci, 2000). They determine that there are two types of motivation: intrinsic and extrinsic. The intrinsic would be the inherent tendency to look for novelties and challenges, expand and exercise the ability to explore and learn. On the other hand, extrinsic motivation refers to the performance of an activity to achieve some independent result and, therefore, contrasts with intrinsic motivation, which refers to performing an activity for the inherent satisfaction of the activity itself. In addition, some needs are established that are considered psychological and innate (competence, autonomy, and relationship) and also motivate the individual to initiate a certain behavior.

Going deeper into intrinsic motivation, Grant and Dweck (2003) consider that goal achievement has a positive influence, both on intrinsic motivation and performance when an individual faces prolonged challenges. Pintrich and de Groot (1990) establish three components to study motivation: personally perceived competence to get involved in the task, beliefs about the benefits of a specific task, and affective-emotional reactions. On the other hand, McInerney et al. (2003) believe that a previous goal setting has intrinsic motivation that directs energy toward achieving the desired results.

Intrinsic motivation is a resource that teachers have traditionally used, not only as a natural source of learning, but also to achieve the benefits raised from the needs. The pursuit of certain activities is sought for the inherent satisfaction of the participant, rather than for the consequence. The participant is sought to act more for fun or challenge than for external rewards or pressures. Depending on the fulfillment of basic psychological needs, intrinsic motivation can increase and has an active position in the performance of any activity (Ryan and Stiller, 1991; Ryan and Deci, 2000).

In the recent years, many similar researches have been realized, with a wide variety of instruments (Sekhar et al., 2013; Tamilmani et al., 2019). In this case, Intrinsic Motivation Inventory (IMI) was used to know the participants’ motivation. This test has been used in many investigations at different times, from people of different ages (Eskeles, 1982; Mendez et al., 2018; Heilat and Seifert, 2019), or even professors as in the present investigation (Demir, 2011; Liu et al., 2019). Teachers may be exposed to external and internal motivation. It is important that motivation is intrinsic, so that training and preparation for future teaching work translate into a better teaching-learning process.

MATERIALS AND METHODS

Objectives

The purpose of this paper is to show the state of well-being of students who begin university studies for a teaching degree, both in early childhood and Primary Education. The motivation of the participants toward the beginning of a career of a

vocational nature such as teaching is also analyzed. The specific objectives that are more concrete are the following:

- To know the well-being status of future teachers when they begin their studies.
- To know the motivation toward the beginning of a teaching career.
- To check the relationship between the well-being state and intrinsic motivation.
- To check whether there are differences in the well-being state or motivation depending on their university studies or gender.

Participants

Figure 1 shows the research design of the present study. A sample of 233 university students, of both genders (women $n = 191$ and men $n = 46$) was used; with an average age of 18.71 years, and similar socioeconomic level, who are in the first year of a Master's Degree in Primary and/or Pre-school Education Teaching at the School of Education of the University of Castilla-La Mancha in Ciudad Real. It should be noted that, in general, there is a greater number of females than males studying for a teaching degree.

Tools Used

Participants had to fill in a validated 64-item questionnaire, corresponding to the RPWS and the IMI. Enough time was available for all students to complete these questionnaires. In almost all cases, the duration was between 10 and 15 min.

The genders of the participants and the studies have been taken into account, either a degree in Early Childhood Education or a degree in elementary education. On the other hand, regarding the dependent variables, the dimensions of the two validated questionnaires discussed above have been taken into account.

The RPWS is an instrument that has a total of six scales and 39 items to which participants respond using a response format with scores between 1 (strongly disagree) and 6 (strongly agree). The Spanish version was created by Díaz et al. (2006) adding an adequate consistency level (Cronbach's α of 0.70). In addition, the scales showed an excellent level of adjustment to the theoretical model proposed by van Dierendonck. In the university population, Véliz-Burgos (2012) obtained acceptable psychometric properties.

The variables derived from this questionnaire are:

- Self-acceptance: Everyone wants to feel good about themselves, even recognizing their limitations.
- Positive Relationships: The ability to maintain positive relationships with other people. People need to maintain stable social relationships and have friends that they can trust.
- Autonomy: For Ryff and Keyes (1995) people need to establish themselves in their own convictions (self-determination) and maintain their independence and personal authority in order to sustain their own individuality in different social contexts.
- Domain of the Environment: The personal ability to choose or create favorable environments to satisfy one's desires and needs.

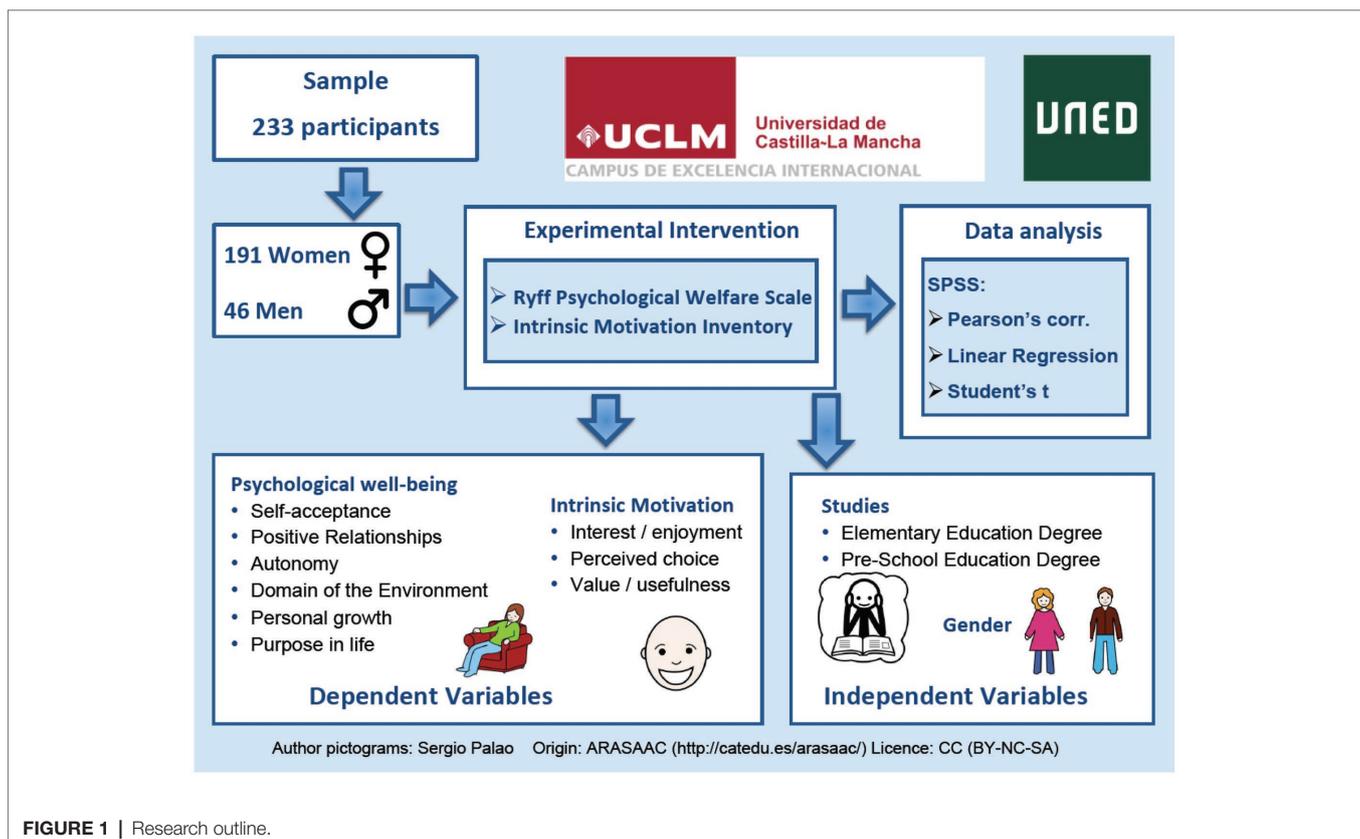


FIGURE 1 | Research outline.

- Personal Growth: Optimal positive functioning not only requires the characteristics mentioned above, but also needs constancy to develop one's potential, to continue growing as a person and maximizes their abilities. For Keyes et al. (2002) it is the category called Personal Growth.
- Purpose in life: People need to set goals, define a series of objectives that allow them to give their lives a certain meaning. They need a purpose in life.

On the other hand, the IMI has been used. This instrument performs a multidimensional measurement to evaluate the subjective experience of the participants in relation to the motivation toward a specific activity (Deci and Ryan, 1985). Different versions of this questionnaire can be found. In this case, a version that includes three categories has been chosen. This version has been considered to be the most suitable for people of this age. The validated questionnaire consists of 25 items, which are answered with scores between 1 and 7, depending on the perception of motivation by the participant. In this case, to fill out the questionnaire was enough with about 10 min. This test has been validated in several studies, confirming that it provides adequate reliability and validity for a study like this (Kooiman et al., 2015; Ostrow and Heffernan, 2018). The variables that are derived from this questionnaire are:

- Interest/Enjoyment is considered a measure of the intrinsic motivation of oneself, depending on the interest aroused by the activity.
- Perceived Choice is a positive predictor of self-reporting and measures of intrinsic motivational behavior depending on the participants' choice in relation to the proposed activity.
- Value/Usefulness subscale is used in internalization studies, the idea is that people self-reflect and self-regulate with respect to the activities they experience as useful or valuable for themselves.

The analysis of the data also included the general values of the variables of both questionnaires. On the one hand, an overall value of the well-being state, obtained from the sum of the six variables showed previously (General Psychological Well-Being). On the other hand, the sum of the three intrinsic motivation variables provides a total and unified value of the used instrument (General Intrinsic Motivation).

Hypothesis and Analysis

Based on the questionnaires and taking into account the exposed variables, the following hypotheses were established:

- H_1 : There is a correlation among the subscales of the RPWS.
- H_2 : There is a correlation among the subscales of the IMI.
- H_3 : There is a correlation among the subscales of the RPWS and the IMI.
- H_4 : There are differences in the psychological well-being of the participants according to gender.
- H_5 : There are differences in the psychological well-being of the participants depending on their course of studies.
- H_6 : There are differences in the intrinsic motivation of the participants according to gender.

- H_7 : There are differences in the intrinsic motivation of the participants depending on their course of studies.

The results of the two validated questionnaires applied were exported to the Statistical Package for the Social Sciences (SPSS) software with the intention of performing the corresponding data processing. Three statistics have been selected that were the most suitable for the present investigation. Pearson's correlation allows one to distinguish if there is any correspondence among the different variables. Linear regression analysis has also been performed to analyze the relative influence of the different intrinsic motivation factors on psychological well-being. Finally, note that the contrast of means through Student's t has been used. This test allows verification as to whether there is a significant difference among the average values obtained from the independent variables, the gender of the participants and their course of studies, the Elementary Education Degree, and the Pre-school Education Degree.

RESULTS

Based on the answers provided by the students participating in this research, the relationship or dependence among the different selected variables has been analyzed. First, the correlation among the categories of both questionnaires is presented separately, and thus verifies that these categories are related to each other. Subsequently, these variables are contrasted, first by Pearson's correlation and later with the linear regression test. Finally, an analysis indicates if all these categories show some difference depending on gender or the students' degree program.

Table 1 shows that there is a very high correspondence in all categories of the IMI questionnaire. In all cases it correlates significantly at the level of 0.01, in some cases with values that are quite close to one. These results confirm the coherence among the three categories that make up this instrument and that a high value in one of them implies a similar result in the others. It is an expected result that allows us to confirm this trend.

As in the previous case, a very high correspondence can be found among all the categories of the Ryff questionnaire. In **Table 2**, it can be seen that they are also all significant values at the 0.01 level. Therefore, it can be affirmed that the well-being state perceived by the participants is reflected in all its categories: Self-acceptance, Positive Relationships, Autonomy, Environment Domain, Personal Growth, and Purpose in life. The same happens when the General Psychological Well-Being variable is taken into account, which combines a full value of all its categories.

Table 3 shows the correspondence among the categories of the two questionnaires used. In general, it can be seen that there is a high correlation among most of the variables. In four of the categories of the Ryff questionnaire (Self-acceptance, Environment Domain, Personal Growth, and Purpose in life), a positive correlation can be seen with all the categories of motivation, including General Intrinsic Motivation. In addition, the correlation is very high, significant at level 0.01. The same happens in the case of the value of General Psychological

TABLE 1 | Correlation (Pearson) among the intrinsic motivation categories.

		Interest/Enjoyment	Perceived Choice	Value/Usefulness	General Intrinsic Motivation
Interest/Enjoyment	Corr. Pearson	1	0.713**	0.604**	0.901**
	Sig. (bilateral)		0.000	0.000	0.000
Perceived Choice	Corr. Pearson		1	0.473**	0.839**
	Sig. (bilateral)			0.000	0.000
Value/Usefulness	Corr. Pearson			1	0.824**
	Sig. (bilateral)				0.000
General Intrinsic Motivation	Corr. Pearson				1
	Sig. (bilateral)				

**The correlation is significant at the level 0.01 (bilateral).

TABLE 2 | Correlation (Pearson) among the psychological well-being categories.

		Self-acceptance	Positive Relationships	Autonomy	Environment Domain	Personal Growth	Purpose in life	General Ps. Well-Being
Self-acceptance	Corr.	1	0.473**	0.506**	0.662**	0.361**	0.685**	0.822**
	Sig.		0.000	0.000	0.000	0.000	0.000	0.000
Positive Relationships	Corr.		1	0.376**	0.390**	0.553**	0.320**	0.721**
	Sig.			0.000	0.000	0.000	0.000	0.000
Autonomy	Corr.			1	0.437**	0.487**	0.446**	0.721**
	Sig.				0.000	0.000	0.000	0.000
Environment Domain	Corr.				1	0.253**	0.707**	0.753**
	Sig.					0.000	0.000	0.000
Personal Growth	Corr.					1	0.308**	0.681**
	Sig.						0.000	0.000
Purpose in life	Corr.						1	0.762**
	Sig.							0.000
General Ps. Well-Being	Corr.							1
	Sig.							

**The correlation is significant at level 0.01 (bilateral).

TABLE 3 | Correlation (Pearson) among psychological well-being and intrinsic motivation categories.

		Self-acceptance	Positive Relationships	Autonomy	Environment Domain	Personal Growth	Purpose in life	General Ps. Well-Being
Interest/Enjoyment	Corr.	0.331**	0.151*	0.200**	0.436**	0.328**	0.489**	0.426**
	Sig.	0.000	0.021	0.002	0.000	0.000	0.000	0.000
Perceived Choice	Corr.	0.272**	0.086	0.160*	0.383**	0.234**	0.412**	0.338**
	Sig.	0.000	0.191	0.014	0.000	0.000	0.000	0.000
Value/Usefulness	Corr.	0.260**	0.088	0.204**	0.405**	0.190**	0.379**	0.331**
	Sig.	0.000	0.183	0.002	0.000	0.004	0.000	0.000
General Intr. Motivation	Corr.	0.337**	0.127	0.221**	0.478**	0.292**	0.498**	0.427**
	Sig.	0.000	0.054	0.001	0.000	0.000	0.000	0.000

**The correlation is significant at level 0.01 (bilateral).

*The correlation is significant at level 0.05 (bilateral).

Well-Being, correlating at a very high level with all the categories of intrinsic motivation. This trend is similar in the Autonomy category. It correlates with all the motivational variables, in almost all cases with a high level ($p \leq 0.01$) except in the Perception Choice category, where it correlates at the level of 0.05. Finally, the category of Ryff's Positive Relations questionnaire does not show a clear correspondence with motivation. It only correlates at level 0.05 with the category of Interest/Enjoyment.

To analyze the relative influence of the different intrinsic motivation factors on psychological well-being, a linear regression analysis was performed. In **Table 4**, it can be seen that the motivational category that has the greatest influence on General Psychological Well-Being is Interest/Enjoyment. It is the only one of these three factors that has a significant beta value ($\beta = 0.315$) at 95%. On the contrary, the other two categories would have no significant influence on psychological well-being.

Therefore, the linear regression indicates that the student's Interest/Enjoyment, regardless of the Perceive Choice and the Value/Usefulness, is strongly related to psychological well-being.

The influence of the dimensions of psychological well-being on the different intrinsic motivation factors was also calculated. However, no significant values were obtained.

Next, we will analyze the differences in the different categories of the two questionnaires used according to gender and the studies in which the participants are enrolled, either the Degree in Pre-school or Primary Education.

Figure 2 shows the differences among the means of the different categories in the two questionnaires administered. On the one hand, the Ryff questionnaire on psychological well-being shows a great equality in the values of almost all categories depending on the gender of the participants. Small differences are seen but mainly in the Domain of the Environment. This is the only case in which it can be affirmed that there are

significant differences, since a t value of $-1,970$ ($p \leq 0.05$) is obtained. Therefore, the female participants present a greater dominion of the environment.

There are no significant differences in the other psychological well-being variables (Self-acceptance, Positive Relationships, Autonomy, Personal Growth, and Purpose in life).

Regarding the other test used, the IMI questionnaire, there are more differences than in the previous case. It can be seen that female participants have a greater intrinsic motivation. On the one hand, differences in the values of the categories of Interest/Enjoyment and Value/Usefulness can be seen, as well as in the General Intrinsic Motivation taking into account the three categories of the questionnaire. In one of the cases, a very high difference can be seen with a level of significance at level 0.01 (Value/Usefulness). Specifically, a value of $t = -2.693$ ($p = 0.01$) is obtained. In the other two cases, the level of significance is lower of 0.05. Values of $-2,490$ ($p = 0.013$) and $-2,429$ ($p = 0.019$) are obtained, respectively, for the Value/Usefulness and the General Intrinsic Motivation. Finally, the Perceived Choice dimension has not presented significant differences and, therefore, the result is considered similar for the gender male and female.

Regarding the degree program in which participants are enrolled, a trend similar to the previous case can be observed (Figure 3). In the categories that indicate the psychological well-being of the participants, there are hardly any differences. There is great equality except in some cases. Mainly, Personal Growth stands out, which is higher for students of the Master's Degree in Early Childhood Education with a high level of significance ($p \leq 0.01$). Values of $t = -4.739$ are obtained ($p \leq 0.001$).

Regarding the categories of the IMI questionnaire, equality is observed in the case of the Perception Choice, as was the

TABLE 4 | Regression coefficients. Dependent variable: General Psychological Well-Being.

	Standard coefficient		Correlations		
	B	t	Sig.	Zero order	Partial
Interest/Enjoyment	0.315	3.351	0.001	0.426	0.216
Perceived Choice	0.060	0.707	0.480	0.338	0.047
Value/Usefulness	0.113	1.510	0.132	0.332	0.099

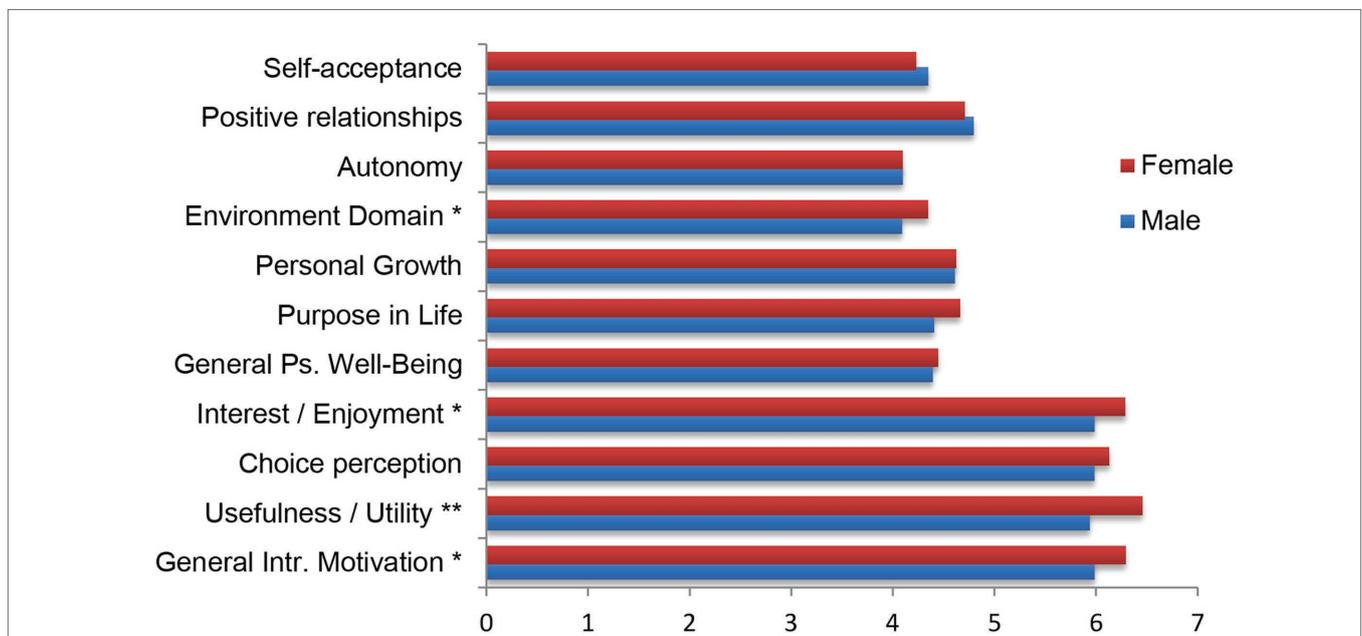
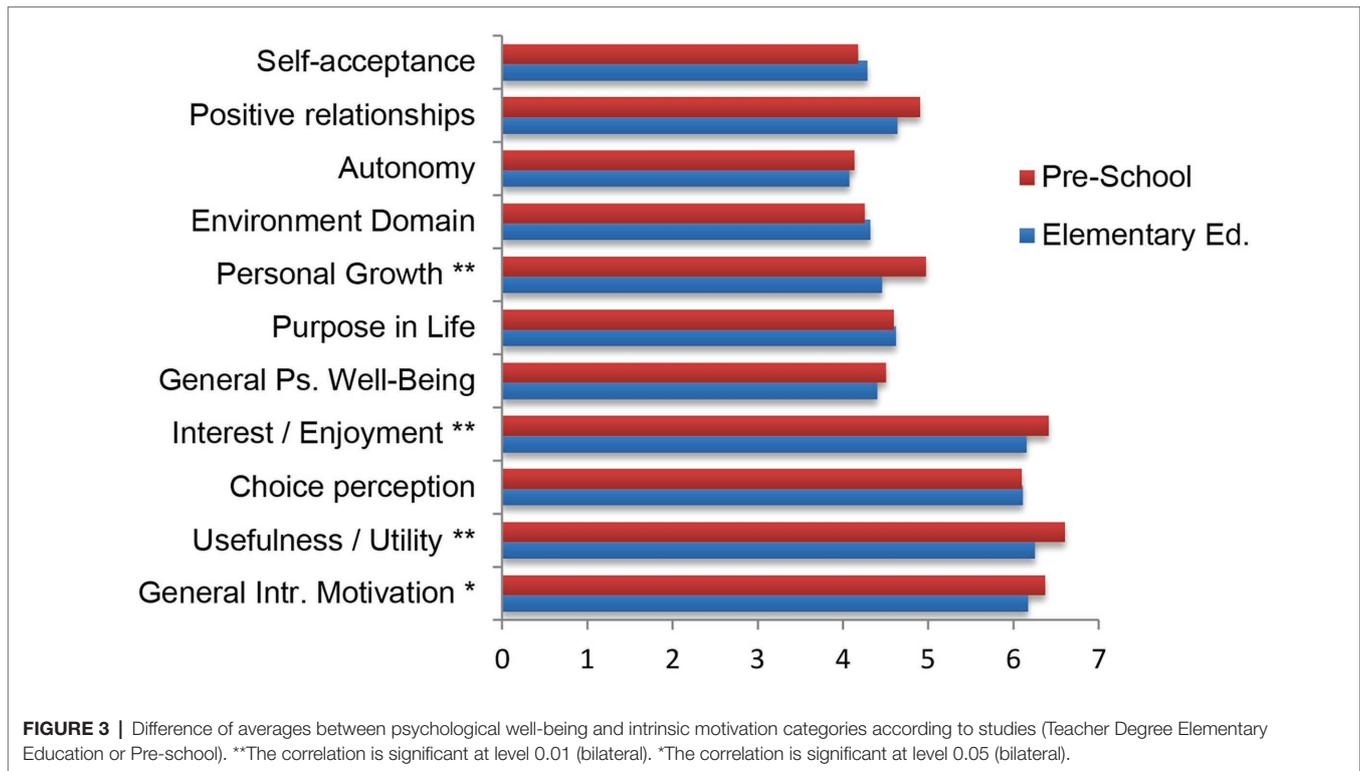


FIGURE 2 | Difference of averages between psychological well-being and intrinsic motivation categories according to gender. **The correlation is significant at level 0.01 (bilateral). *The correlation is significant at level 0.05 (bilateral).



case in the previous case. Differences are seen in the other three. In the enjoyment interest and utility value, values of -2.678 ($p = 0.008$) and -4.020 ($p \leq 0.001$) are obtained. In both cases, the level of significance is very high of 0.01. Finally, it is worth noting that there are also significant differences in the case of General Intrinsic Motivation. A value of -2.505 is obtained ($p = 0.013$), although in this case the level of significance is not high as in the other two variables ($p \leq 0.05$).

DISCUSSION AND CONCLUSIONS

Taking into account the general objective of this research, where it is intended to analyze the degree of psychological well-being and its relationship with the motivation toward starting the a teaching career, it has been proven that there is a fairly high positive correlation between the perception of psychological well-being that the participants have and their motivation toward the beginning of university studies, whose professional focus is mainly direct teaching with the student of in the early stages of Infant Pre-school and Primary Elementary Education. Following the line of previous research (Keyes et al., 2002; Linley et al., 2009) and taking into account the first hypothesis (H_1) raised in this research, there is a significant correlation among the variables analyzed in Ryff's psychological well-being scale (Self-acceptance-Positive Relationships-Autonomy-Domain of the Environment-Personal Growth-Purpose in life-General Psychological Well-Being), in all cases and with a very clear correspondence. In relation to the second

hypothesis of this research (H_2), it can be confirmed because all the categories analyzed in relation to intrinsic motivation (Interest/Enjoyment-Perceived Choice-Value/Usefulness-General Intrinsic Motivation) correlate significantly.

In the third hypothesis (H_3) raised, a significant correlation is observed, to a greater or lesser extent, among the variables analyzed in relation to psychological well-being and those of intrinsic motivation. Virtually all dimensions of well-being correlate positively with motivational dimensions.

This means that the greater the motivation of the participants takes place the better psychological well-being and vice versa. Only one exception is seen in the category of Positive Relationships with motivation. But of the three motivating factors, Interest/Enjoyment has a greater influence on Positive Relationships. This same trend is found in previous studies, such as those by Chekola (1974) or Diener et al. (1999). Therefore, the hypothesis H_3 is almost entirely accepted and it is possible to affirm that there is a correlation between the subscales of the RPWS and the IMI.

Taking into account the psychological well-being of the participants of this study according to gender (Rangel and Alonso, 2010), and responding to the fourth hypothesis presented (H_4), no significant differences in the results of the analyzed variables are observed, except in the Domain of the Environment category, in favor of the women. Therefore, the gender of the participants is not significant, and the results are virtually similar among men and women. Hypothesis H_4 is rejected and it is possible to affirm that there are not any differences in the psychological well-being of the participants according to gender.

Following the same trend, there are hardly any differences in the psychological well-being of the participants based on the studies, except in the variable of Personal Growth, where the students of Degree in Pre-school Education believe that their studies allow them to improve personally and professionally more than those enrolled in a Primary Education degree program. Therefore, hypothesis H₅ is almost entirely rejected, which affirms that there are differences in the psychological well-being of the participants depending on their course of studies.

In relation to the intrinsic motivation presented by the students of the sample according to gender, and responding to the sixth hypothesis (H₆) raised, one can see that female participants have a greater intrinsic motivation, mainly in the results of the categories of Interest/Enjoyment, Value/Usefulness, and General Intrinsic Motivation. Therefore, it is possible to accept the hypothesis H₆, which affirms that there are differences in the intrinsic motivation of the participants according to gender.

Regarding the differences taking into account the course of studies of the participants, the trend is very similar. There are differences in the variables Interest/Enjoyment, Value/Usefulness, and General Intrinsic Motivation. Therefore, in all categories except the variable Perceived Choice, where similar samples are considered, the seventh study hypothesis is verified (H₇, which affirms that there are differences in the intrinsic motivation of the participants depending on their course of studies).

In short, it can be concluded that the students of the Teacher Degree enrolled in a Master's Degree Program (both Infant and Primary Education Pre-school and Elementary Education) who have a sense of psychological well-being, also have a great motivation of extrinsic character toward their formation in a profession as vocational as that of a teacher. The interest and/or enjoyment toward this work are the category that has the greatest influence on this well-being state. Regarding gender

differences and studies, there is a greater motivation on the part of female students who are enrolled in Early Childhood Education.

FUTURE RESEARCH

As future lines of research, a study could be considered in different universities in other cities, where the perception of psychological well-being or motivation may be different from this study. It is also possible that different values are obtained when the studies carried out by the participants course of study of the participants does not have the same character as the Master Degree, a Master's Degree in Education, which is focused on a very specific activity, teaching.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

All authors agree with the criteria and requirements of the publication. All authors contributed to the article and approved the submitted version.

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Psychological Well-Being and Youth Autonomy: Comparative Analysis of Spain and Colombia

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The construct of autonomy appears in literature associated with individual psychological wellbeing. In Ryff's model, autonomy is presented as one of the dimensions of wellbeing, along with self-acceptance, positive relationships with others, environmental mastery, purpose in life, and personal growth. The present study compared the levels of autonomy and psychological wellbeing between Spanish and Colombian young people. Ryff's Scale of Psychological Wellbeing and the Transition to Adulthood Autonomy (EDATVA) scales were used on a sample of 1,146 young people aged between 16 and 21; 506 Spaniards and 640 Colombians. Results showed differences in autonomy and in two of the four dimensions proposed by the EDATVA: self-organization and critical thinking. Similarly, important differences were observed in the subscales of positive relations and purpose in life. The importance of contextual factors in the development of psychological well-being and autonomy in young people in transition to adulthood is discussed.

Keywords: autonomy, psychological wellbeing, young people, Spain, Colombia

INTRODUCTION

Psychological well-being is a multidimensional and dynamic construct composed of a framework of dimensions where enjoying positive experiences and meeting basic needs are considered essential. Psychological well-being has been examined from multiple perspectives, and different academic fields have taken an interest in the construct due to its influence on other dimensions, such as individual performance, satisfaction levels, or the characteristics of interpersonal interactions (Gao and McLellan, 2018; Ryff, 2018, 2019). Psychological well-being involves subjective, social, and psychological dimensions, health-related behaviors, and practices that add meaning to an individual's life and allow them to attain their maximum potential (Ryff, 2014; Ferrari et al., 2015; Lun and Bond, 2016; Friedman et al., 2017; Brim et al., 2019). Most researchers agree that well-being is a sign of an optimal psychological functioning that improves one's life experience; therefore, it is understood as a set of factors that motivate people to pursue the satisfaction of their expectations (Crous, 2017; Murya and Ojha, 2017; Bojanowska and Piotrowski, 2019). Yough (2017) stresses the individual's personal circumstances in the context of well-being; people are unable to change these circumstances, for example, their country of residence or physical gender. Partaking from the relationship between psychological well-being and individual non-modifiable characteristics, different studies have analyzed the construct from different perspectives (Mota and Matos, 2015; Lun and Bond, 2016).

According to these studies, subjective psychological well-being is an important factor for human beings to achieve an optimal performance, that is, fully meeting one's expectations in life; therefore, meeting expectations is frequently regarded as a predictive variable of positive individual development and is associated with high levels of overall well-being (McDowall, 2016; Reis et al., 2018).

The sociocultural context where a young person develops represents the universe of possible expectations that they can envision for their lives and the possible strategies that they can deploy to meet those expectations (Lacomba and Cloquell, 2017; Uribe et al., 2018). For instance, when comparing Spain and Colombia, the weight of the social support network appears to be higher in Colombia (Uribe et al., 2018). Therefore, psychological well-being is an idiosyncratic feature of each population, modulated by the visible types of occupations and interests that inspire the expectations of the individual (Güngör and Perdu, 2017; Alivernini et al., 2019; Mansoori et al., 2019; Klainin-Yobas et al., 2020). The context can also present special challenges, for instance the COVID-19 pandemic, characterized by the anxiety and fear of entire populations, especially for people with lower levels of autonomy and resilience (Koenig, 2020).

In Colombian youth, subjective psychological well-being has been associated with social interaction needs, often met within the immediate social context, whose additional function is to provide security during the transition to adulthood. These young people tend to develop hedonistic hobbies, such as watching television or listening to music, which are also used as distraction and evasion practices. During their transition to adult life, young people with higher levels of well-being begin to focus their energy on personal satisfaction and fulfillment, whereas young people with lower levels of psychological well-being tend to focus on social activities (Bahamón et al., 2019; Cabrera et al., 2019). Psychological well-being seems to be unrelated to gender, except for attitudes toward personal success, which suggests that coping strategies for men and women are similar but a certain sociocultural influence modulates gender-based roles and expectations (Blanco et al., 2019; Cabas et al., 2019).

In young Spaniards, psychological well-being is associated with the meaning of life and self-competence, both of which contribute to autonomy. Additionally, an adolescent's adaptive capacity allows them to take a strategic approach toward their goals, which has been associated with high levels of intrinsic motivation (García, 2013; Mayordomo et al., 2016; Meléndez et al., 2018; García et al., 2019).

In general terms, two philosophical positions have guided psychological research on psychological well-being: hedonism, which focuses on happiness in life, and eudaimonism, centered on the enjoyment of significant experiences (Ryff, 2014; Yough, 2017). Different theoretical models of well-being have been proposed in accordance with these two philosophical positions. The hedonistic perspective emphasizes the evaluation of positive dimensions, such as satisfaction with life and positive affect (Ryff, 2019); the psychological well-being construct is built around the affective and cognitive evaluations of one's life. On the other hand, in the eudaimonic perspective, the focus of attention is

on intentional commitment, personal fulfillment, autonomy, and self-acceptance. These approaches diverge from each other, and consequently, the results of a given study will be presented from a specific angle (Ruini and Ryff, 2016; Ryff, 2018, 2019). Nevertheless, psychological well-being is usually quantified based on the interaction of the individual with positive and negative experiences (Weiss et al., 2016; Reis et al., 2018). Soenens et al. (2017) argued that the feelings of happiness and satisfaction with life are universal, although the sources of happiness and satisfaction can differ between societies and cultures.

Ryff (2018, 2019) proposed a theoretical model of psychological well-being comprising six different aspects of positive functioning: autonomy, environmental mastery, personal growth, purpose in life, positive relationships with others, and self-acceptance. Ryff's six-factor psychological well-being model provides a comprehensive theoretical framework to analyze positive performance in young people (Sulimani-Aidan, 2016).

According to Sulimani-Aidan (2016) and Gao and McLellan (2018), research on psychological well-being has traditionally been conducted using a series of different variables, such as resilience, coping strategies, or capacity to adapt to difficult contexts, to establish possible associations. In this regard, Xi et al. (2018) have stressed the importance of having a purpose in life to achieve psychological well-being, which correlates with good physical and mental health during all stages of life. Hung and Appleton (2016) reported on the significance of formulating one's purpose in life for young people in caregiving situations; the authors conclude that the possibility of achieving such an ideal becomes an engine of proactivity that motivates the individual toward development within his or her context using different skills connected with the achievement of the purpose, such as their ability to reflect on the problems that they face or to achieve autonomy.

In Ryff's model, the definitions of autonomy and positive relationships with others correspond to the basic needs of autonomy and relationships for any individual (Gao and McLellan, 2018). According to Inguiglia et al. (2015), autonomy is a fundamental dimension in shaping the psychological well-being of adolescents and young adults and is negatively correlated with loneliness and self-perceived isolation during this life stage. Parra et al. (2015) refer to autonomy as a key factor in a successful transition to adult life consisting of behaviors (individual capacity to act independently from others), cognitions (including self-efficacy, which empowers individuals to take action in different areas of their lives), and emotions (bonds built with others).

In the framework of family relationships during adolescence, there are at least three dimensions related to autonomy. The first dimension is behavioral, and it refers to the ability of a young person to act independently. The second dimension is cognitive, and it involves the acquisition of a sense of competence and agency that enables the person to decide how to take control of their lives. The third dimension is emotional; it refers to perceived independence in the form of self-confidence and individuality as well as the formation of new emotional links of increased symmetry compared to those formed in childhood

relationships (Parra et al., 2015; Soenens et al., 2017; Reis et al., 2018; Bojanowska and Piotrowski, 2019).

In the academic literature, autonomy is also positively associated with freedom, and negatively associated with the obstacles individuals face in order to fully enjoy their civil rights and participate in community life (Inguglia et al., 2015; Merrill et al., 2017; Vinayak and Judge, 2018; Carneiro et al., 2019). Hung and Appleton (2016) and Van der Kaap-Deeder et al. (2015, 2017) highlight the roles played by environmental conditions and social agents to encourage self-determination as a prerequisite to achieve autonomy. In an adverse context, where individuals experience deficiencies or inequalities with respect to others, community tools can eradicate these shortfalls by generating spaces for dialog and information in which young people can identify advantages or, at least, strengths to exploit in order to maximize their capacity to act toward the achievement of their own goals.

The first endorsement of autonomy resides in the social rights that come with being part of a community; they are defined and protected by the legal system and, therefore, associated with the enactment of citizenship (Balluerka et al., 2016; Krys et al., 2019). Therefore, autonomy acquires a political and social dimension associated with the mechanisms that guarantee the possibility of exercising self-determination in society; being aware of such rights is a first step (Hung and Appleton, 2016).

In this regard, the multiple relationships built by individuals and the infinite possibilities for experimentation allow for the development of commitment with one's expectations and the increase of psychological well-being, two dimensions that have an effect on an individual's ability to overcome personal challenges (Gaxiola and Palomar, 2016; Maurya and Ojha, 2017; Vinayak and Judge, 2018; Dutra-Thomé et al., 2019).

Sulimani-Aidan (2016) considers that social adjustment is conditioned by one's future expectations in life and perceived self-efficacy, which facilitate the assumption that one's behaviors will have an effect on subsequent success; therefore, young people who have positive beliefs about their academic and employment outlook adopt behaviors that favor self-fulfillment. These traits become protective and motivating factors that support people's drive toward achievement and increase their psychological well-being in the future (Glynn et al., 2016; Crous, 2017; Dickens, 2018). Kaya et al. (2019) highlighted the influence of gender roles and the individual's willingness to assume them as conditioning factors to their ability to adjust to their environment. For these authors, the current discussion on gender roles among men is centered around their refusal to interpret these roles in the normative sense relayed by their culture, which translates into a conflict that affects their level of psychological well-being. In this context, studies that fail to include the analysis of this impact may be missing on its explanatory power to understand psychological well-being.

According to Ryff (2018) and Kaya et al. (2019) the nature of a person's transition into adulthood affects their psychological well-being, but also events that have an adverse effect on this process, supporting factors, and personality variables; for instance, young people who are open to experiencing adulthood as a period of expansion, maintain positive relationships with

their environment, are outgoing, and have set personal goals tent to be successful in facing this stage. Additionally, self-esteem has been associated with a higher level of autonomy and with higher psychological well-being. Similarly, Skowron et al. (2009) suggest that psychological well-being determines young people's success during the transition; Mota and Matos (2015) consider it essential for young people to develop resilience as a mechanism to improve their preparedness to face the challenges of adult life, when their ability to adapt to new environments and face vital challenges is crucial. Merrill et al. (2017) have identified the comprehension of other people's challenging experiences as models that help one's interpretation of our own transition to adult life. These experiences, often consisting of stories relayed by parents to their children, can be unknown for people who are raised in unstructured environments, which could restrict their ability to achieve psychological well-being (Kouros et al., 2017; Gao and McLellan, 2018).

In this context, the present study sought to compare psychological well-being and autonomy between groups of Spanish and Colombian young people as fundamental aspects for an adequate transition to adulthood.

MATERIALS AND METHODS

The present study used a descriptive-correlational approach. It was approved by the ethics committee of the participating universities. The results of the study are part of a larger research project carried out by the National University of Distance Education (Madrid, Spain) and Saint Thomas Aquinas University (Bogotá, Colombia).

Specific Goals

The purpose of the present study was to examine possible differences between Colombian and Spanish youths in terms of psychological well-being based on the dimensions proposed by Ryff's model and the construct of autonomy, but in the latter case not only based on Ryff's definition, but also involving reflection and decision-making processes focused on oneself and on other people. Differences between boys and girls in Spain and Colombia are presented and analyzed and the scores obtained by participants from both countries are compared by schooling, employment, and state protection status.

Participants

A total of 506 Spanish and 640 Colombian youths, selected by convenience sampling, participated in the study. A total of 34 Spanish and Colombian institutions were contacted, including educational institutions of different types, protection institutions, and companies, in order to observe the different conditions young people in this age range could face. Inclusion criteria included being within the age range established for the study, that is, between 16 and 21 years of age, as well as having basic reading and writing skills to respond to the instruments. The mean age for the sample of Spanish young people was 17.66 (SD = 1.6), and 18.69 for the Colombian group (SD = 1.8). Among the participants from Spain, 343 (67.8%) were girls and 163 (32.2%)

were boys, and participants from Colombia were 347 (54.2%) girls and 293 (45.8%) boys.

Instruments

Participants responded to a scale designed to measure autonomy during the transition to adult life (EDATVA, Bernal et al., 2019a) intended for young people between 16 and 21 years of age. The scale indicates an estimated degree of autonomy during the transition to adult life. It consists of 19 items grouped in four dimensions: self-organization (involving cognitive, organizational, and planning exercises focused on the subject); comprehension of context (including cognitive, organizational, and planning exercises, but now with respect to broader systems); critical capacity (the subject's ability to define their position and defend their own interests), and socio-political involvement (understanding the consequences of one's decisions on other systems and making decisions that take into account social responsibility). The EDATVA uses a response four-category response scale from 1 (*I completely disagree*) to 4 (*I completely agree*). Intermediate values (2 and 3) have no assigned labels. The score for each dimension is obtained by adding the direct scores obtained for the corresponding items (there are no inverse items), and performing a conversion as described by the authors in the scale's manual (Bernal et al., 2019b). The final score is obtained by adding these transformed values. The instrument showed excellent psychometric qualities, including a Cronbach's alpha of 0.84 for the total scale, 0.80 for the self-organization dimension, 0.74 for context comprehension, 0.70 for critical capacity, and 0.77 for sociopolitical involvement (Bernal et al., 2019a).

Additionally, participants responded to Ryff's Psychological Well-Being Scale (Díaz et al., 2006). This instrument sought to evaluate psychological well-being based on the multidimensional model proposed by Ryff, and its psychometric properties were evaluated in adults, elderly adults, and adolescents (Ryff, 1989a,b, 1995; Van Dierendonck, 2005; Vleioras and Bosma, 2005; Fernandes et al., 2010). This scale consists of 39 questions grouped in six dimensions: self-acceptance (recognition and acceptance of one's positive and negative traits), positive relationships (presence of close and stable relationships), autonomy (self-regulation of opinions and decision-making), control of the environment (management of day-to-day responsibilities), personal growth (creating conditions to develop one's potential and evolve), and purpose in life (ability to clearly define life goals). Although the Well-Being Scale has a set of items aimed at assessing autonomy, its approach is mainly intra-subjective, focused on the person's internal processes, whereas the EDATVA takes into account the inter-subjective psychological dimension, that is, the systems in which people interact. Items are answered on a six-category scale in the well-being scale: 1 (*I totally disagree*), 2 (*I disagree*), 3 (*I partially disagree*), 4 (*I partially agree*), 5 (*I disagree*), and 6 (*I totally disagree*). The final score is obtained by adding the values obtained for the 39 items, considering 17 inverse items distributed among the instrument's six dimensions. The values of corresponding items are added to obtain the score of each dimension, and inverse items are recoded. The scale presents internal consistency levels between 0.68 and 0.83 (self-acceptance 0.83, positive relationships 0.81,

autonomy 0.73, environmental mastery 0.71, personal growth 0.68, and life purpose 0.83) (Díaz et al., 2006).

Procedure and Data Analysis

Different public and private institutions were contacted to obtain official authorization and validate the participants' informed consent forms, as well as their parents' in the case of underage participants. Electronic and hard copy versions of the instruments were created, which were administered considering the pertinence of each case and the participants' access to electronic media and the internet. Both scales were administered in a single session. In some cases, the instruments were administered to groups and in other cases individually, depending on the participants' schedules and availability of physical spaces.

Data were analyzed using descriptive statistics, and multivariate analysis of variance (MANOVA) was carried out to obtain the desired comparisons between the groups of young people from both countries, focusing on the constructs of well-being and autonomy; for this purpose, we evaluated normality and homogeneity of data variance. Univariate normality was evaluated using the Kolmogorov-Smirnov test; $p < 0.05$ values were obtained, which indicated the absence of normality for most variables. However, given the robust nature of the technique with respect to type I error and effect size, the size of the sample, and the similar size of the Spanish and Colombian groups (when the n value of the larger group was divided by the n value of the smaller group, the result was smaller than 1.5), MANOVA was maintained (Pituch and Stevens, 2016). Considering the lack of data normality, Levene's median-based test was employed to assess variance homogeneity. Variance inhomogeneity was observed in most well-being subscales of the well-being test and in two of the EDATVA subscales (Levene test: $p < 0.05$). Also in this case, MANOVA showed robustness to the violation of the assumption as long as the size of the groups were the same. For this reason, as suggested by different authors (Nimon, 2012; Pituch and Stevens, 2016), random sampling (using SPSS software) was used in the largest group ($n = 506$, Colombia) in order to compare the groups. MANOVA was carried out separately for the dimensions of each scale, along with their respective total scores, based on the construct of similarity. In order to evaluate differences between the groups at the subscale level and in the total score of each instrument, multiple comparisons were made using a t -test for independent samples and Mann-Whitney U test, depending on the case; the Bonferroni correction was used to control for type I error (Huang, 2020).

RESULTS

Table 1 shows the means obtained for each group in each dimension of the well-being scale. The main similarities between the groups are related to the dimensions of personal growth and self-acceptance. The total mean of the well-being scale for the sample of Spanish young people was 171.83 (SD = 26.4), and 168.73 for the Colombian group (SD = 24.4).

TABLE 1 | Comparisons between Colombian and Spanish young people by Well-Being Scale and EDATVA dimension.

Instrument	Dimensions	Spain	Colombia	<i>p</i>	Effect size*	<i>W_S</i>
Well-being scale	Self-acceptance	25.22 ± 6.13	25.19 ± 5.36	0.303	-0.033	0.004
	Positive relationships	27.62 ± 6.09	23.88 ± 5.58	0.000**	-0.334	0.176
	Autonomy	34.64 ± 7.24	33.89 ± 6.32	0.043	-0.064	0.008
	Control over the environment	24.81 ± 5.25	25.85 ± 4.82	0.011	0.080	-0.103
	Personal growth	32.96 ± 5.10	32.50 ± 5.33	0.174	-0.043	0.039
	Purpose in life	26.37 ± 5.78	27.71 ± 5.49	0.001**	0.107	-0.070
	Total score	171.83 ± 26.4	168.73 ± 24.4	0.020	-0.073	
EDATVA	Self-organization	19.07 ± 3.63	20.41 ± 3.20	0.000**	0.172	0.190
	Context analysis	20.64 ± 3.52	20.04 ± 3.48	0.001	-0.109	-0.209
	Critical thinking	18.40 ± 4.17	20.01 ± 3.63	0.000**	0.191	0.190
	Sociopolitical involvement	13.49 ± 4.68	13.65 ± 4.59	0.829	0.007	-0.048
	Total score	71.80 ± 10.95	74.02 ± 10.47	0.002**	0.097	

*Rosenthal's *R*. **Significant per Bonferroni's adjustment. *W_S* Coefficients from first unstandardized discriminant function.

TABLE 2 | Bivariate correlation coefficients between the well-being scale subscales.

	Self-acceptance	Positive relationships	Autonomy	Control over the environment	Personal growth	Purpose in life
Self-acceptance	1	0.464**	0.440**	0.655**	0.451**	0.670**
Positive relationships		1	0.324**	0.384**	0.306**	0.310**
Autonomy			1	0.424**	0.399**	0.357**
Control over the environment				1	0.471**	0.691**
Personal growth					1	0.521**
Purpose in life						1

***p* < 0.01.

The MANOVA test was used to analyze the scores obtained by the two groups in the different subscales of the well-being scale (dependent variables), whose independent variable was the country to which they belonged. The multivariate contrasts obtained by Wilks' lambda showed that the country has a statistically significant multivariate effect on the linear combination of the subscales composing the instrument ($\Lambda = 0.83$; $F = 33.860$; $p = 0.00$, partial square $\eta = 0.17$). These results suggest the possible relationship between the country and the psychological well-being construct, in accordance with the model proposed by Ryff. The unstandardized discriminant function coefficients for the first multivariate combination are reported in **Tables 1, 2** presents correlation indices between dependent variables.

Table 1 shows the average scores obtained by Colombians and Spanish young people in each EDATVA dimension. The mean overall EDATVA score for the Spanish group was 71.80 (SD = 10.95), and 74.02 (SD = 10.47) for the Colombian group. In general, MANOVA results for the EDATVA subscales showed an important effect of the country variable on overall autonomy ($\Lambda = 0.89$; $F = 28.309$, $p = 0.00$, partial square $\eta = 0.10$). The unstandardized discriminant function coefficients for the first multivariate combination are reported in **Tables 1, 3** shows the correlation indices between EDATVA subscales.

Multiple comparisons using the Mann-Whitney *U* test were made between the Colombian and Spanish groups for the different subscales of the instruments. **Table 1** shows the results of these comparisons and the effect sizes for each case. Statistically

significant differences are observed in the positive relationships subscale, where Spanish participants obtained a higher mean than Colombian participants (see **Table 1**), as well as in purpose in life, in which Colombian participants scored higher than Spanish participants. Concerning the EDATVA, significant differences were found in the dimensions of self-organization, critical capacity, and overall scale score; in the three cases, Colombians obtained higher scores than Spaniards (see **Table 1**).

Comparisons by sex between Spaniards and Colombians were made using the Mann-Whitney *U* test as a function of sex (again, considering the lack of data normality), and important differences were observed among boys in the subscale of positive relationships in the well-being scale, where the mean for Spaniards was higher than for Colombians, as well as in EDATVA's self-organization and critical capacity dimensions, in which Colombians presented higher average

TABLE 3 | Bivariate correlation coefficients between the EDATVA scale subscales.

	Self-organization	Context analysis	Critical thinking	Sociopolitical involvement
Self-organization	1	0.319**	0.305**	0.285**
Context analysis		1	0.349**	0.254**
Critical thinking			1	0.289**
Sociopolitical involvement				1

***p* < 0.01.

TABLE 4 | Comparison by sex between Spaniards and Colombians for the different subscales of the instruments used.

Sex	Instrument	Dimensions	Spain	Colombia	p***	Effect size*		
Boys	Well-being scale	Self-acceptance	25.76 ± 6.16	25.22 ± 5.38	0.200	-0.060		
		Positive relationships	27.29 ± 5.99	23.80 ± 5.42	0.000**	-0.279		
		Autonomy	34.29 ± 7.31	33.88 ± 6.52	0.490	-0.032		
		Control over the environment	24.85 ± 5.37	25.83 ± 4.98	0.151	0.067		
		Personal growth	31.74 ± 4.87	32.01 ± 5.35	0.472	0.034		
		Purpose in life	26.23 ± 5.78	27.47 ± 5.40	0.034	0.099		
		Total score	170.17 ± 26.93	168.22 ± 24.75	0.306	-0.048		
	EDATVA	Self-organization	18.69 ± 4.13	20.25 ± 3.20	0.000**	0.166		
		Context analysis	19.85 ± 4.26	20.02 ± 3.55	0.721	-0.017		
		Critical thinking	17.86 ± 4.72	19.82 ± 3.76	0.000**	0.200		
		Sociopolitical involvement	13.59 ± 4.79	13.52 ± 4.71	0.709	-0.017		
		Total score	70.00 ± 12.81	73.63 ± 10.68	0.005	0.130		
		Girls	Well-being scale	Self-acceptance	24.99 ± 6.14	25.16 ± 5.25	0.730	-0.013
				Positive relationships	27.79 ± 6.13	23.95 ± 5.75	0.000**	-0.326
Autonomy	34.87 ± 7.17			33.90 ± 6.24	0.018	-0.090		
Control over the environment	24.82 ± 5.23			25.87 ± 4.74	0.021	0.088		
Personal growth	33.58 ± 5.12			32.92 ± 5.31	0.067	-0.070		
Purpose in life	26.46 ± 5.90			27.91 ± 5.38	0.002**	-0.072		
Total score	172.54 ± 26.26			169.73 ± 24.13	0.058	-0.013		
EDATVA	Self-organization		19.25 ± 3.51	20.55 ± 3.14	0.000**	0.184		
	Context analysis		21.02 ± 3.23	20.06 ± 3.49	0.000**	-0.145		
	Critical thinking		18.65 ± 3.98	20.17 ± 3.63	0.000**	0.187		
	Sociopolitical involvement		13.42 ± 4.64	13.76 ± 4.65	0.368	0.034		
	Total score		72.35 ± 10.47	74.54 ± 10.78	0.013	-0.189		

*Rosenthal's R for all cases except total EDATVA score for women. Cohen's d was used. **Significant per Bonferroni's adjustment. ***Mann-Whitney U test for all cases except total EDATVA score for women. t-test applied for independent groups.

values than Spaniards (see Table 4). A significant difference in the positive relationships subscale was also found among girls (highest mean in Spanish groups), as well as in the purpose-in-life subscale, where the Colombian youth group showed a higher mean. Significant differences between Spanish and Colombian girls were found in almost every EDATVA dimension; Colombians showed higher mean scores in self-organization and critical thinking, and Spaniards presented the highest context analysis mean.

Different contrasts were found when considering differences in autonomy and well-being among young Spaniards and Colombians depending on whether they were studying, working, or receiving state welfare. A total of 317 Spanish participants (62.4%) were studying, 107 (21.1%) were working, and 84 (16.5%) were living on state welfare; in the Colombian sample, 443 (69.2%) participants were studying, 140 (21.9%) were working, and 57 (8.9%) were living on state welfare.

Table 5 shows that Colombians obtained significantly different means when compared with Spaniards in terms of purpose in life, self-organization, and critical thinking, while Spaniards obtained the highest and most significant mean score in the positive relationships subscale. Among participants who were working, significantly higher scores for the Colombian sample were observed in the critical thinking and self-organization subscales and in total EDATVA scores; for the Spanish sample, the positive relationships subscale (well-being scale) Spaniards

showed the highest mean, a statistically significant difference as compared to Colombians. None of the instruments detected statistically significant differences when comparing Spaniards and Colombians who lived on welfare.

DISCUSSION AND CONCLUSION

The present study sought to examine the differences in psychological well-being between groups of Colombian and Spanish young people based on the dimensions proposed by Ryff. Autonomy was also taken into account, however, unlike in Ryff's definition, we considered autonomy as a construct involving cognitive and decision-making processes in relation to other people besides oneself. The study showed the existence of significant differences between the Spanish sample and the Colombian sample on the Ryff Psychological Well-being Scale, with higher scores in the sample of Spanish youth, which reveals that the interpretation of this construct could be mediated by the country of residence and sociocultural factors (Lacomba and Cloquell, 2017; Uribe et al., 2018; Alivernini et al., 2019).

An intrinsic analysis of the scores obtained using the different elements of Ryff's Scale showed higher scores for the Colombian group in the dimensions of purpose in life and domain over the environment, where they achieved an average score above

TABLE 5 | Comparison between Spaniards and Colombians by current situation (student, employee, or welfare recipient) in the different subscales of the instruments used.

Current situation	Instrument	Dimensions	Spain	Colombia	P***	Effect size*		
Student	Well-being scale	Self-acceptance	25.77 ± 6.02	25.40 ± 5.45	0.178	-0.049		
		Positive relationships	27.88 ± 6.11	23.96 ± 5.74	0.000**	-0.321		
		Autonomy	34.61 ± 6.96	33.97 ± 6.28	0.165	-0.050		
		Control over the environment	24.97 ± 5.02	25.86 ± 4.84	0.040	0.075		
		Personal growth	32.99 ± 4.99	32.73 ± 5.30	0.679	-0.015		
		Purpose in life	26.36 ± 5.74	27.74 ± 5.53	0.001**	0.120		
			Total score	172.61 ± 25.65	169.68 ± 25.14	0.091	-0.062	
	EDATVA	Self-organization	18.84 ± 3.54	20.23 ± 3.07	0.000**	0.193		
		Context analysis	20.59 ± 3.62	20.02 ± 3.41	0.007	-0.098		
		Critical thinking	19.11 ± 3.73	20.30 ± 3.46	0.000**	0.160		
Sociopolitical involvement		13.66 ± 4.59	13.57 ± 4.72	0.722	-0.013			
		Total score	72.20 ± 10.84	74.14 ± 10.56	0.033	0.078		
Employee	Well-being scale	Self-acceptance	25.51 ± 6.27	25.41 ± 4.89	0.374	-0.057		
		Positive relationships	28.78 ± 5.38	24.13 ± 5.18	0.000**	-0.416		
		Autonomy	36.17 ± 6.81	34.58 ± 6.38	0.028	-0.141		
		Control over the environment	25.89 ± 5.13	26.54 ± 4.81	0.545	0.039		
		Personal growth	34.13 ± 4.63	32.68 ± 5.39	0.012	-0.160		
		Purpose in life	27.41 ± 5.49	28.29 ± 5.02	0.261	0.072		
			Total score	177.90 ± 24.56	171.64 ± 22.73	0.027	0.285	
	EDATVA	Self-organization	19.70 ± 3.41	21.07 ± 3.26	0.001**	0.208		
		Context analysis	21.21 ± 2.77	20.52 ± 3.69	0.189	-0.084		
		Critical thinking	17.85 ± 3.74	20.06 ± 3.82	0.000**	0.278		
		Sociopolitical involvement	12.10 ± 3.99	13.61 ± 4.67	0.039	0.132		
				Total score	70.87 ± 8.68	75.27 ± 10.78	0.002**	-0.386
		Welfare recipient	Well-being scale	Self-acceptance	22.66 ± 5.92	22.98 ± 4.64	0.942	0.006
				Positive relationships	25.03 ± 6.21	22.60 ± 5.38	0.012	0.433
Autonomy				32.76 ± 8.36	31.56 ± 6.60	0.273	0.191	
Control over the environment	22.72 ± 5.89			24.09 ± 4.65	0.241	-0.204		
Personal growth	31.30 ± 5.94			30.29 ± 5.17	0.309	0.178		
Purpose in life	25.05 ± 6.53			25.96 ± 4.89	0.442	0.066		
			Total score	159.53 ± 28.80	157.49 ± 19.15	0.410	0.144	
EDATVA	Self-organization		19.15 ± 4.63	20.18 ± 3.56	0.393	0.072		
	Context analysis	20.11 ± 4.57	18.98 ± 3.72	0.046	-0.168			
	Critical thinking	16.33 ± 5.76	17.60 ± 4.34	0.305	0.086			
	Sociopolitical involvement	14.66 ± 5.52	14.38 ± 4.35	0.647	-0.039			
		Total score	70.26 ± 15.59	71.14 ± 11.58	0.772	0.024		

*Rosenthal's R for all cases except those in which the t-test was applied to independent groups. Cohen's d was used in these cases. **Significant considering Bonferroni's adjustment. ***Mann-Whitney U test for all cases except for well-being and EDATVA total scores among employed participants, as well as for the subscales of positive relationships, autonomy, environmental mastery, personal growth, and total well-being score among welfare recipients. In these cases, the t-test was applied for independent groups.

the Spanish group. On the other hand, the scores obtained by the Spanish sample were higher in the dimensions of personal growth, autonomy, and positive relationships, and the self-acceptance dimension was found to be equivalent between both groups.

In this regard, following Crous (2017), it could be argued that the perception of well-being in each dimension would be, for each subject, a consequence of their individual trajectories, not something derived exclusively from their country of residence but from the idiosyncrasies of the social provision present in the national environment as well as the influence of values existing in each sphere. However, cultural factors have an enormous impact

on an individual's sense of autonomy, as well as the prevalent values and guiding principles in an individual's cultural context, which shape their global perception of right and wrong and the different roles that they are expected to take on throughout their lives, one of which is the process through which young people separate from their parents (Parra et al., 2015; Blanco et al., 2019; Cabas et al., 2019). Psychological well-being is also harmonized by the influence of the environment and, especially, by the support received during the process through which young people access their autonomy (Greeson et al., 2015; Kouros et al., 2017) and the socialization process (Lun and Bond, 2016; Alonso-Stuyck et al., 2018).

Concerning the EDATVA, the mean score for the Spanish group was 71.80 (SD = 10.95), and 74.02 for the Colombian group (SD = 10.47). For Prioste et al. (2019), the social circle in which an individual exists represents an outline for the process through which he or she moves toward the achievement of full autonomy. According to Glynn and Mayock (2019) and Isakov and Hrnčić (2018), the strength of a young person's family environment translates into differences in their psychological well-being; hence the need to develop interventions specifically designed to provide stability during people's transition to adulthood. Similarly, authors such as Fousiani et al. (2014); Liga et al. (2017), Schofield et al. (2017), and Dutra-Thomé et al. (2019) consider that the possibility of achieving autonomy and independence is shaped by certain contextual variables that affect the configuration of the expectations forged by each individual throughout their life; this requires assessing whether the lack of equality during this transition has any effect on the way in which people decide on their long-term goals. Further analysis of the dimensions measured by the EDATVA showed that the Colombian sample presented higher scores in the critical capacity and self-organization dimensions, and the mean scores of the context analysis and sociopolitical involvement dimensions were very similar for both samples.

Comparisons between Colombian and Spanish young people based on the different subscales of the well-being and autonomy scales show the presence of a statistically significant difference in the dimension of positive relationships, in which the mean was higher for young Spaniards, whereas Colombians scored higher in purpose in life. Statistically significant differences were also observed in self-organization and critical thinking, as well as in the overall score EDATVA score; these three scores were higher for the Colombian sample. The acquisition of autonomy and the development of positive relationships with others play a central role in the psychological health and well-being of young people, but age modulates the intensity of this relationship (Inguglia et al., 2015; Lun and Bond, 2016). Autonomy can be analyzed from an individual perspective, which is understood as the individual's capacity to make decisions that differ from their parents' and from a collective perspective (Gao and McLellan, 2018). Similarly, according to Volkova et al. (2018), perceived support and the possibility of maintaining positive relationships with the environment are essential, both while the person is being raised and afterward.

On the other hand, there is a widespread consensus in the literature on the inequality of opportunities for people to achieve autonomy; these difference is related to one's social group or gender, among other factors (Inguglia et al., 2015; Van der Kaap-Deeder et al., 2017; Dickens, 2018; Pinkerton and McCrea, 2018). These factors will influence with greater or lesser intensity depending on the environment studied, which could explain the differences observed in the level of autonomy between Spanish and Colombian youth, in addition to interacting with individual barriers that reduce the subject's ability to access autonomy within of the same analysis scenario (Brim et al., 2019). In addition, it should be borne in mind that the knowledge about the problems individuals face in achieving their autonomy is limited,

despite the indirect relevance of these on psychological well-being (Dutra-Thomé et al., 2019).

Along the same lines, Van der Kaap-Deeder et al. (2017) have stated that psychological well-being is facilitated in an environment where the individual can develop autonomy and exercise the ability to self-regulate emotions and behavior. For these authors, context has a large effect on psychosocial adjustment, and individuals who are given the opportunity to experience freedom and autonomy usually show psychological well-being (Van der Kaap-Deeder et al., 2015; Isakov and Hrnčić, 2018), which is associated with quality of life (Krabbenborg et al., 2017).

The possible differences between boys and girls from Spain and Colombia were analyzed. Sex-based differences were significant in the different dimensions; specifically, the Spanish average was found to be higher in the dimension of positive relationships among boys, whereas the rest of the dimensions of the well-being scale self-acceptance, autonomy, environmental mastery, personal growth, and purpose in life were very similar for both Spanish and Colombian boys. As suggested by Cabas et al. (2019), the differences may be due to the different role played by support networks in each context, which according to the authors, are more necessary for Colombian population because their opportunities require the exploitation of personal contacts in order to obtain help and meet individual expectations, which is clearly lower for young Spaniards, for whom autonomy toward subjective goals is a distinctive feature (Meléndez et al., 2018).

Concerning the EDATVA, Colombians achieved higher scores in the dimensions of self-organization and critical thinking. EDATVA results for Colombian girls were similar to those obtained by boys; they obtained higher mean scores than Spanish girls in self-organization and critical thinking, whereas Spanish girls scored better in the context analysis dimension.

In their study, Maurya and Ojha (2017) identified similar scores among young people from the same country, demonstrating the influence of context on the configuration of the trend experienced by both boys and girls; the slight differences in certain dimensions that can be explained by the different gender approaches, as interpreted by Salleh and Mustaffa (2016) or Xi et al. (2018). Other studies have shown that gender affects the level of psychological well-being; it has been shown that women enjoy less psychological well-being than men after adolescence (Akhter, 2015; Glynn et al., 2016; Sun et al., 2016; Twenge and Martin, 2020). These differences, quantifiable by psychometrics, could be derived from cognitive style and coping style.

In our study, the mean values obtained by the different subscales of the two instruments used (well-being scale and EDATVA) varied as a function of the current situations of the study participants. In this regard, the differences found between young people who were studying and those who were not in each country were statistically significant. The largest difference was observed in the dimension of positive relationships, which was higher for the Spanish sample. It should be highlighted that, except in the context analysis and

socio-political involvement dimension, the mean among Spanish young people was lower in all the dimensions examined by the EDATVA. Regarding young people who were working and those who were not, the data showed that Spaniards scored higher in the dimension of positive relationships, as in the case of students and non-students. Similarly, Colombian young people obtained higher scores in the all EDATVA dimensions, except for the context analysis dimension. No statistically significant differences were observed between Spanish and Colombian welfare recipients.

In line with these results, Schofield et al. (2017) considers that the achievement of autonomy depends on the environment in which the young person develops, and as shown by the results of the present study, a person's country of residence can represent a shortfall of resources that may decrease their ability to become adults. Cahill et al. (2016) and Glynn and Mayock (2019) have also stated that the construction of quality relationships should be an active ingredient in the design of effective interventions; therefore, it should be key in addressing the demands of young people who are on the road to independent life. This process may require a review of the social and communicative skills of the health-care staff who carry out the interventions to provide a solid background for developing the abilities and resources needed by people in this transition.

Studies such as those by Mota and Matos (2015); Vinayak and Judge (2018), and Schofield et al. (2017) stress that young people's resilience is affected by their relationships with their social environment, their upbringing, and their current support; therefore, resilience differs as a function of one's social support model. This mechanism has an impact on how identity is constructed and on how psychological and emotional needs are perceived throughout life.

Thus, these results provide clues to the role of contextual factors on the development of constructs such as psychological well-being and autonomy in young people who are in transition to adulthood. Consistent with studies such as Rodríguez's (2015) on constructs associated with subjective well-being, the existence of a common core to constructs such as psychological well-being and autonomy can be proposed, as well as the effect of contextual aspects typical of an individual person's social context, its institutions, and available life choices. The evaluation of contextual factors specific to the studied national populations were out of the scope of the present study. Future research on these topics should be geared toward a broader assessment of these aspects. Certain studies have already taken in this direction, such as the compilation by Gaxiola and Palomar (2016), which presents a regional overview of the construct of psychological well-being focused on specific aspects in countries such as Mexico, Colombia, Puerto Rico, and Cuba; an article by Domínguez (2008) which analyzes the trajectories of adult life among young Spaniards in comparison with other European populations; or the study by Bontempi (2003), which examines autonomy trajectories among young people in specific cases in Spain, Italy, and France. Another limitation of the present study is that only three conditions were considered for young people: study, work, and protection; clearly, many young people present different conditions than

those covered by these three categories, and they are outside the scope of the present analysis. It is also important to evaluate the effects of COVID-19 on levels of psychological well-being and autonomy among young people, and to identify possible contextual changes in the expectations of young people and their capacity to adapt to change. Additionally, this study object could be associated with resilience, which could have a moderating effect on scale scores.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Ethics Committee of the Santo Tomás University (Bogotá, Colombia) and the Ethics Committee of the National University of Distance Education (Madrid, Spain). Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the present study, and approved it for publication.

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Effect of Physical-Sports Leisure Activities on Young People's Psychological Wellbeing

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This article examines the impact of physical-sports activities on the psychological wellbeing of Spanish and Colombian young people. Scientific literature highlights that young people devote leisure time to sports for the purpose of enjoyment, and to maintain good health and body image. In addition, it provides the opportunity to socialize, and come into contact and connect with people who have shared interests. It is also an ideal resource for learning and developing social skills to ensure inclusion and the appropriate strategies for emotional management. Similarly, it favors the learning of values that promote the assumption of responsibilities, decision-making capacity, tolerance to frustration, and the development of resilience. This study considers the inherent benefits of physical-sports activities in order to analyze the impact on young people's assessment of their own psychological wellbeing. To this effect, a quantitative ex post facto study was designed, and Ryff's Model of Psychological Wellbeing was used with 1,148 young people from Spain and Colombia aged 16–21. The young people were asked whether or not they performed any type of physical-sports activity in their leisure time and the type of activity performed. The results show that young people who perform such activities have higher overall levels of psychological wellbeing. In turn, they emphasize that the perform of physical-sports activities has a positive impact on three of the dimensions of psychological wellbeing: *self-acceptance*, *positive relations with others*, and *purpose in life*. In addition, significant differences in young people's psychological wellbeing were found depending on whether they perform individual, team or other physical-sports activities. These results provide a basis for the proposal and design of interventions with young people based on sports and leisure activities as socio-educational strategies.

Keywords: young people, wellbeing, autonomy, sports, leisure

INTRODUCTION

The concept of wellbeing is strongly rooted in the field of *humanistic psychology* and in the more recent perspective of *positive psychology*. Key studies in the field of wellbeing have been performed by Allport (1958, 1961), Rogers (1961), Erikson (1963, 1982), Deci and Ryan (1985), Ryff (1989, 1991), Ryff and Keyes (1995), Ryff and Singer (1996, 2008), Seligman (1999), Seligman and Csikszentmihalyi (2000) and Ryan and Deci (2001), *inter alia*. The concept has been studied from two different perspectives, hedonic and eudaimonic (Deci and Ryan, 1985, 2008; Ryff and Singer, 2008; Waterman et al., 2010; Adler and Seligman, 2016). The principal components of the hedonic perspective link wellbeing with happiness, affection and life satisfaction. Whereas

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the eudaimonic perspective relates happiness to the development of human potential via activities that enable the individual to become involved and fulfilled (Romero et al., 2009). Subjective wellbeing and psychological wellbeing are outlined as the most representative constructs of both perspectives (Keyes et al., 2002). Recent studies show the existence of differences between both perspectives of wellbeing through the manifestation of positive individual traits (gratitude, love, hope, curiosity, enthusiasm, etc.) in relation to subjective wellbeing and psychological wellbeing (Hausler et al., 2017).

This article looks at psychological wellbeing from a eudaimonic perspective described by Ryff (1995) as one's effort to perfect and develop one's own potential. Consequently, wellbeing is understood as a multidimensional construct that involves personal and social aspects that influence the way we understand, interpret, and are in the world, as well as how we face life's events and challenges. This implies that psychological wellbeing relies on the employment of emotions and strategies whose appropriateness and effectiveness depend on an individual's optimal physical and social functioning (Romero et al., 2009). Understood in this way, wellbeing refers to the enhancement of one's own living conditions through the development and improvement of personal capacities and skills to face life's challenges and stages (Cardona et al., 2014).

Physical Sports Activities and Psychological Wellbeing

Over the last two decades, the relationship between physical-sports activities and psychological wellbeing has attracted the attention of the scientific community. Numerous studies have demonstrated that a direct relationship exists between both variables (Babyak et al., 2000; Sale et al., 2000; Cantón, 2001; Chen, 2001; Romero et al., 2009; Reigal et al., 2014; González-Hernández et al., 2017). In addition, all types of physical-sports activities have been identified as favoring positive psychological wellbeing (Penedo and Dahn, 2005) regardless of the environment in which they are preformed (Lawton et al., 2017).

More specifically, regularly performed physical activity is associated with high levels of life satisfaction, quality of life and happiness (Stubbe et al., 2007) and the development of structures and resources for the enjoyment of a stable and balanced life (Candel et al., 2008; Thompson et al., 2011). In turn, performing physical activity through frequent and regular sports programs or independent activities, is related to improvements not only in wellbeing but also in mental health, autonomy, memory, body image, optimism, emotional clarity, and mental flexibility (Garrido et al., 2011).

However, the benefits of physical activity on psychological wellbeing are dependent on the attitudes and behaviors that individuals have toward physical activity and sports (Cuadra-Martínez et al., 2012). Positive attitudes and behaviors toward performing physical activity conditions people's perceptions of their own health and psychological wellbeing (Mackay et al., 2011). In this regard, positive relationships based on indicators of persistence, psychological wellbeing and

self-efficacy give rise to a combination that encourages personal growth and increases satisfaction via the effort involved when performing physical activity (González-Hernández et al., 2017).

Physical Sports Activities and Psychological Wellbeing in Young People

Taking as a reference the theoretical model on the construct of wellbeing proposed by Ryff (1989, 1991) based on six theoretical dimensions (*self-acceptance; positive relations with others; autonomy; environmental mastery; personal growth, and purpose in life*), it has been observed that young people tend to excel in two dimensions, *positive relations with others* and *personal growth* (Mayordomo et al., 2016; Meléndez et al., 2018). In contrast, they tend to score lower than other age groups in *self-acceptance, autonomy, and environmental mastery* (Meléndez et al., 2018), variables that are more characteristic of maturity (Allport, 1961), which tends to evolve positively with age (Ryff, 1989, 1991; Ryff and Keyes, 1995).

By the same token, it has also been shown that there is a direct correlation between young people's levels of psychological wellbeing and their coping strategies. Young people with high levels of psychological wellbeing use coping strategies aimed at problem solving and managing related emotions. In contrast, young people with low levels of wellbeing tend to use passive and avoidant forms of coping (Romero et al., 2009). In turn, young people's psychological wellbeing also seems to be related to their dominant values. In this regard, Bojanowska and Piotrowski (2019) identified four types of relationships: (1) young people with predominate values of openness and personal improvement, and high levels of *autonomy* on the psychological wellbeing scale; (2) young people with values of openness and self-transcendence, who score high in *autonomy* and *positive relations with others*, (3) young people with more traditional values linked to preservation and self-transcendence, whose wellbeing is linked to *personal growth* and *positive relations with others*; and (4) young people who lack clear dominant values, who present lower levels of *autonomy* and *personal growth*. Psychological wellbeing in young people seems to be positively associated with the existence of a stable set of goals, values and norms (Berzonsky and Cieciuch, 2016).

Furthermore, physical activity is the most popular of all the activities young people dedicate their leisure time to (De-Juanas et al., 2018; Fraguéla et al., 2018; García-Castilla et al., 2018). Moreover, it is a practice that young people link to perceptions of self-determination and high levels of satisfaction (Codina et al., 2018). They regard physical-sports activity as a positive aspect in their lives, owing to its potential to promote values linked to their psychological wellbeing, along with relaxation, responsibility, commitment and personal satisfaction (Ponce de León Elizondo et al., 2009). Likewise, participation in sports activities, especially in team or individual competitive sports, is very popular among young people. Various studies have reported the benefits of these activities during adolescence for the development of self-concept, improved social skills and self-esteem (Bowker, 2006; Zimmermann-Sloutskis et al., 2010; Eime et al., 2013; Gotova, 2015). Similarly, sport leads to the

acquisition of life skills and healthy habits recommended by the World Health Organization (2010).

However, there are numerous studies that confirm that active participation in physical-sports activities also improves psychological wellbeing, especially in those areas closely related to the management of emotions (Baker and Brownell, 2000; Biddle, 2000; Kerr and Kuk, 2001; Leith, 2002; Hellison, 2003). On the whole, it has been observed that physical activity and sport are related to wellbeing, as shown in the study by Greenleaf et al. (2014) performed with more than 1,400 young students in the United States, and the more recent study by McMahon et al. (2017) performed in ten European countries with more than 11,000 adolescents. In the latter, positive correlations were found between the frequency of physical activity and wellbeing in both adolescent males and females. In their study of 493 vulnerable young people, García-Castilla et al. (2016) found that practicing sports leads to benefits such as the promotion of values including teamwork, cooperation, interpersonal relations, and greater development of autonomy, which, in turn, enables young people to acquire better life skills (Días et al., 2000; Marques et al., 2013). In a study of 589 young people with an average age of 24 who regularly practice sports, González-Hernández and Valadez (2016) found positive correlations between personality, coping, and motivation. More recently, Bou et al. (2020), with a sample of 266 young people with an average age of 13, found that regular sports practice has a direct impact on self-esteem.

MATERIALS AND METHODS

Specific Objectives

A quantitative, descriptive, cross-sectional ex post facto study was performed, the main objective being to observe whether there were differences in young people's psychological wellbeing according to whether or not they showed a preference for performing physical-sports activities. This first objective draws on the hypothesis that the psychological wellbeing of young people who perform physical-sports activities, as part of their valuable leisure time, is different to those who do not perform any type of physical-sports activity. The other important aspect of this study is its second objective: to characterize young people's psychological wellbeing according to the types of physical-sports activities they prefer to perform. Moreover, this study addresses the hypothesis that the psychological wellbeing of the young people who perform physical-sports activities differs according to the type of activity they prefer to perform. In relation to this, this paper also presents partial results on the physical-sports activities of young people from a comprehensive study on psychological wellbeing and autonomy in the transition to adulthood.

Participants

The general sample used in the study consisted of 1,148 young people with a minimum age of 16 and a maximum age of 21, and an average close to the age of majority ($M = 18.20$; $SD = 1.80$). The study sample were primarily recruited from secondary schools and universities. Young people in employment also participated. As an exclusion criterion, it was decided not

to include those individuals who had functional, physical or mental difficulties that prevented them from participating in the study. The study was performed from late 2018 to early 2019. The study was conducted using an intentional non-probability sample of young people from Bogotá (55.7%; Colombia) and Madrid (44.3%, Spain). Of the total, 60.3% were female and 39.7% were male. Regarding the results, 59.7% of the young people studied stated they regularly performed physical-sports activities while 40.3% stated that they did not perform any physical-sports activities whatsoever. In parallel, we worked with a subsample comprised of the group of young people who stated that their preferential leisure activity was physical sports ($n = 676$), which corresponds to 67.5% of the general sample. The answers provided by this group to the question "What is your favorite type of physical-sports activity?" gave rise to the following categories: 34.8% ($n = 235$) showed a preference for "Team sports," 30.6% ($n = 207$) "Individual sports," and 34.7% ($n = 225$) "Other physical-sports activities."

Models

In this study, the Ryff Psychological Wellbeing Scale adapted to the Spanish population by Díaz et al. (2006) was used. This adaptation is based on Ryff's (1989) multidimensional model and evaluates psychological wellbeing. Consequently, it looks at wellbeing from a eudaimonic perspective (Vera-Villaroel et al., 2013). This model is widely used by international researchers (Ryan and Deci, 2001; Lindfors et al., 2006; Abbott et al., 2010; De-Juanas et al., 2013), and responds to a Likert-type rating scale with six response alternatives, where 1 is totally disagree and 6 is totally agree. The scale comprises 39 items based on a six-dimensional model: the capacity to evaluate oneself and one's own past while maintaining a positive attitude toward the self despite one's limitations (*self-acceptance*, $\alpha = 0.83$); the capacity to establish and maintain quality relationships with others based on trust (*positive relations with others*, $\alpha = 0.81$); the capacity to maintain one's individuality with self-determination in the face of diverse adversities, contexts and situations (*autonomy*, $\alpha = 0.73$); the ability to efficiently direct and control one's life to generate a favorable environment and satisfy needs and desires (*environmental mastery*, $\alpha = 0.71$); the ability to evolve and continuously develop as a person, while continuing to grow through positive learning (*personal growth*, $\alpha = 0.68$), and lastly, the factor that measures an individual's psychological functioning is the ability to set goals that are aligned with one's beliefs about the purpose, meaning and significance of life (*purpose in life*, $\alpha = 0.83$).

Furthermore, in this study a brief ad-hoc questionnaire was used to collect sociodemographic data on the participants (age, gender, place of origin, etc.), who were also asked about their preferred leisure activity.

Procedure and Data Analysis

The models were distributed to the participants in a printed format to be completed by hand in a single session, during school hours in education centers and during rest periods in work centers. The survey took approximately 45 min. Participation was voluntary. The individuals who agreed to participate read

the form before giving their informed consent. No incentives were offered to the respondents. Participants and their legal guardians were informed of the purpose of the study and were provided with a set of guidelines. Following approval by the human research ethics committees from the participating universities, the Declaration of Helsinki (64th WMA, Brazil, October 2013) was followed to ensure confidentiality of responses and avoid selection bias.

Once the field work was complete, the database was digitized, and descriptive analyses were designed and performed to statistically represent the sample. In order to examine the differences between the young people who stated that their preferred leisure pursuit was physical-sports activities and those who did not, two different MANOVAs were then performed after ensuring that the assumptions of normality and homoscedasticity were met. A new categorical variable (group) was created from the recoding of the responses to the survey in order to characterize and analyze the differences in the psychological wellbeing of the participants who stated that performed various types of physical-sports activities. For the first MANOVA, the preference for performing physical sports was considered as the independent variable and two groups G1 (people that perform physical activity) and G2 (participants that do not perform physical activity) were constructed and compared. For the second MANOVA, the preferred type of activity was considered as an independent variable and three groups of participants were constructed and associated with the three different types of physical-sports activities that participants could choose as preferred: G1 (sports activities involving cooperation and opposition by different teams were categorized as “Team sports”); G2 (individual and combative sports activities categorized as “Individual sports”); and G3 (artistic and expressive physical activities, activities in the natural environment and other unspecified physical sports activities, categorized as “Other physical-sports activities”).

To evaluate the relationship between dependent variables, correlation analyses between the different dimensions of the Ryff Psychological Wellbeing Scale were performed prior to enter de main analysis. All the statistical analyses were performed using SPSS 25.0 for Macintosh (IBM® SPSS® Statistics 25). Confidence level was set at 95% ($p < 0.05$).

RESULTS

Table 1 shows descriptive statistics (mean scores and standard deviations) for each of the factors on the psychological wellbeing scale for each group and the total sample.

Prior to enter the MANOVAs, a correlation analysis between dependent variables was performed to determine the relationship pattern between the dimensions of the psychological wellbeing scale. The correlation matrix for each pair of dimensions of the psychological wellbeing scale, both for the total sample and for each of the sport-preference groups, yielded a very similar pattern. All correlation coefficients were positive and statistically significant ($p < 0.001$) and did not differ between groups. **Table 2** shows the resulting correlation matrix between each pair of psychological wellbeing dimensions for the total sample (for the sake of simplicity and clarity, correlations between dimensions within the different groups are not shown as they follow the same pattern as the total sample).

In order to compare young people’s psychological wellbeing scores according to their preferences for performing physical-sports activities, a MANOVA was performed with group (G1, G2) as the independent variable, to determine the statistical differences between groups in each dimension of the wellbeing scale. The results of the MANOVA, showed statistically significant differences in psychological wellbeing between both groups of physical-sports activity [$V = 0.021$, $F(6,1121) = 4.03$, $p = 0.001$, $\eta^2p = 0.02$]. The follow-up univariate tests yielded statistically significant differences in three dimensions of the wellbeing scale: *self-acceptance* [$F(1,1121) = 13.267$; $p < 0.001$, $\eta^2p = 0.012$], *positive relations with others* [$F(1,1121) = 3.77$; $p = 0.052$, $\eta^2p = 0.003$], and *purpose in life* [$F(1,1121) = 4.03$; $p < 0.001$, $\eta^2p = 0.02$].

Second, a new MANOVA was performed to compare the scores on psychological wellbeing between the different types of physical-sports leisure activities that young people prefer to perform (G1, G2, G3). The results indicated the existence of statistically significant differences in psychological wellbeing between the three groups, [$V = 0.062$, $F(12,1316) = 3.538$, $p < 0.001$, $\eta^2p = 0.031$]. The univariate analyses showed that significant differences appeared along the 6 dimensions of the psychological wellbeing scale: *self-acceptance* [$F(2,662) = 3.183$; $p = 0.042$, $\eta^2p = 0.010$], *positive relations with others*

TABLE 1 | Descriptive statistics and Student’s *t*-test on psychological wellbeing based on preference for performing physical-sports activities or not.

	Preference for performing physical-sports activities				d.f.	t	ρ	d
	Yes		No					
	M	SD	M	SD				
Self-acceptance	25.70	5.59	24.34	5.85	1130	3.927	0.000	0.238
Positive relations with others	25.82	6.14	25.00	6.12	1130	2.211	0.027	0.134
Autonomy	34.16	6.87	34.19	6.78	1130	−0.084	0.933	0.003
Environmental mastery	25.53	5.06	25.00	5.23	1130	1.689	0.092	0.102
Personal growth	32.74	5.20	32.69	5.32	1130	0.180	0.857	0.009
Purpose in life	27.51	5.39	26.37	6.15	1130	3.266	0.001	0.200
Total psychological wellbeing	171.47	25.16	167.32	27.34	1130	2.624	0.010	0.158

TABLE 2 | Descriptive statistics and results of the variance analysis for the three groups of physical-sports activities on the dimensions of psychological wellbeing.

	Total		Team sports (G1) n = 235		Individual sports (G2) n = 207		Other physical-sports activities (G3) n = 225		F	ρ	f	Multiple comparisons
	M	SD	M	SD	M	SD	M	SD				
Self-acceptance	25.75	5.57	25.14	5.04	26.51	6.18	25.68	5.45	3.380	-0.035	0.100	G2 > G1 ($\rho = 0.048$)
Positive relations with others	25.89	6.11	24.49	6.10	26.99	5.79	26.33	6.17	10.312	0.000	0.174	G2 > G1 ($\rho = 0.000$) G3 > G1 ($\rho = 0.004$)
Autonomy	34.17	6.89	33.60	7.00	35.22	6.43	33.81	7.12	3.515	0.030	0.102	G2 > G1 ($\rho = 0.050$)
Environmental mastery	25.55	5.06	24.55	4.92	26.13	4.90	26.08	5.21	7.274	0.001	0.146	G2 > G1 ($\rho = 0.004$) G3 > G1 ($\rho = 0.004$)
Personal growth	32.73	5.22	31.62	5.52	33.61	4.89	33.09	5.02	9.024	0.000	0.162	G2 > G1 ($\rho = 0.001$) G3 > G1 ($\rho = 0.000$)
Purpose in life	27.5	5.39	26.74	5.52	28.32	5.18	27.55	5.35	4.785	0.009	0.120	G2 > G1 ($\rho = 0.000$) G3 > G1 ($\rho = 0.000$)
Total psychological wellbeing	171.62	25.14	166.16	24.35	176.79	24.49	172.56	25.51	10.360	0.000	174	G2 > G1 ($\rho = 0.000$) G3 > G1 ($\rho = 0.000$)

[$F(2,662) = 10.311$; $p < 0.001$, $\eta^2p = 0.03$], *autonomy* [$F(2,662) = 3.651$; $p = 0.026$, $\eta^2p = 0.011$], *environmental mastery* [$F(2,662) = 7.078$; $p = 0.001$, $\eta^2p = 0.021$], *personal growth* [$F(2,662) = 8.769$; $p < 0.001$, $\eta^2p = 0.026$], and *purpose in life* [$F(2,662) = 4.678$; $p = 0.010$, $\eta^2p = 0.014$].

Last, to follow up the univariate analysis after finding significant differences between groups in all the dimensions of the well-being scale, *post hoc* comparisons (Bonferroni and Games-Howell correction for equal and unequal homogeneity of variance cases) were performed in order to determine between which groups the differences arise in each dimension. Thus, in *self-acceptance* there were significant differences between the “Individual sports” and the “Team sports” groups ($p = 0.038$). Those who practice individual sports showed a greater level of self-acceptance relative to those that practice team sports. In the *positive relations with others* dimension, there were significant differences between the “Individual sports” group and both the “Team sports” group ($p < 0.001$), and the other physical-sports activities group ($p = 0.004$). The highest scores were obtained by those who practice individual sports followed by the “Other physical-sports activities” group and the “Team sports” group. In the *autonomy* dimension, again a statistically significant difference was observed between the “Individual sports” and the “Team sports” groups ($p = 0.038$), indicating that those who practice individual sports showed greater autonomy.

In the *environmental mastery* dimension, the “Team sports” group obtained scores that were significantly below the

“Individual sports” and the “Other physical-sports activities” groups (both $ps = 0.004$). Similar results were obtained for *personal growth*, with the “Team sports” group showing the lower mean, compared to both “Individual sports” ($p = 0.000$) and “Other physical-sports activities” ($p = 0.008$) groups.

Finally, in the *purpose in life* dimension significant differences were found only between the “Individual sports” and the “Team sports” groups ($p = 0.070$), with the higher scores in the former group.

DISCUSSION

In order for leisure activities to be considered positive and as having constructive potential, they must have the following characteristics: be a healthy activity, integrate positive experiences, and promote social capital and competencies for life (Navarro et al., 2018). In this regard, physical activity is one of the most valued sources of positive and constructive leisure activities, given the physical, psychological and social benefits it provides (World Health Organization, 2010; Garrido et al., 2011; Cuadra-Martínez et al., 2012; Ponce de León Elizondo et al., 2015).

The findings from this study confirm that young people with a preference for performing physical-sports activities in their leisure time present higher average scores in all the dimensions of wellbeing compared to those who do not perform any type of physical-sports activity. These data are congruent with those

provided by other studies that have found a direct relationship between both variables (Babyak et al., 2000; Sale et al., 2000; Cantón, 2001; Chen, 2001; Penedo and Dahn, 2005; Romero et al., 2009; Greenleaf et al., 2014; Reigal et al., 2014; González-Hernández et al., 2017; McMahan et al., 2017).

Similarly, the findings in this study are also aligned with studies that identify *positive relations with others* as one of the main strengths of young people's psychological wellbeing (Mayordomo et al., 2016; Meléndez et al., 2018). They also emphasize the potential of physical-sports activities as a strategy to promote the early development of other dimensions such as *autonomy* and *self-acceptance*, which are directly linked to having a more mature personality (Allport, 1961), which has been documented as improving with age (Ryff, 1989, 1991; Ryff and Keyes, 1995).

This is also related to the degree of self-confidence one has when practicing sport, whether individual or team activities (Martínez-Romero et al., 2016). The findings confirm and qualify the results obtained by Penedo and Dahn (2005) by corroborating that young people's preference for performing all types of physical-sports activities influences their positive psychological wellbeing, while identifying that the choice of "Individual sports" has a greater influence than "Team sports" and "Other physical-sports activities." Likewise, the preference for "Other physical-sports activities" also seems to have more influence than "Team sports." Notwithstanding, there are differences in psychological wellbeing depending on whether an individual practices an individual or team sport. González-Hernández and Valadez (2016) found the lowest indicators of affability and motivational orientation (ego) in individual sports, and the lowest indicators of open-mindedness and motivational orientation (task) in team sports. In turn, Almeida (2017), in a sample of 95 subjects with an average age of 25, found significant differences between subjective levels of post-exercise recovery, revealing higher levels of stress in those subjects practicing individual sports. However, Méndez (2017) found that in a sample of 329 participants that those who practice individual sports have higher levels of emotional intelligence than those who compete in team sports.

In short, it can be concluded that physical activity is a key source of valued leisure-time among young people, which has a high potential to promote their positive psychological wellbeing and, consequently, contribute to their self-realization and personal satisfaction (Valdemoros San Emeterio et al., 2016). Given that young people attach great importance to leisure activities in their daily lives (Rodríguez-Bravo et al., 2018), encouraging the performance of physical activity can contribute to stimulating dimensions of psychological wellbeing in which they excel (*positive relations with others* and *personal growth*) and reinforce others in which they fall behind (*self-acceptance*, *autonomy* and *environmental mastery*).

To this end, we believe it is essential to develop programs that use physical-sports activities in intervention strategies with young people, given the opportunities they provide to socialize, and come into contact and connect with people who have shared interests (De-Juanas et al., 2018; García-Castilla et al., 2018). Physical-sports activities are

an ideal resource for developing self-concept and self-esteem, learning and developing social skills that favor social inclusion, appropriate emotional management strategies, values that promote the assumption of responsibilities, decision-making capacity, tolerance to frustration and the development of resilience (Hartmann, 2003; Bowker, 2006; Zimmermann-Sloutskis et al., 2010; Eime et al., 2013; Buelens et al., 2015; Chen et al., 2015; Gotova, 2015; Fernández-Gavira et al., 2018).

In order for such programs to improve young people's wellbeing they must be based on social relationships that promote autonomy, participation, and also structure activities. Moreover, the educators/trainers responsible for their development must be trained in such aspects (Haudenhuyse et al., 2012, 2013; González et al., 2015; McDavid et al., 2017). In turn, such programs must offer young people opportunities to develop competencies linked to emotional intelligence (Di Fabio and Kenny, 2016) and to assess and reflect on their values and long-term goals (Berzonsky and Ciecuch, 2016). It should be highlighted that intervention programs must be supported and sustained by adequate funding, in order for the performance of physical-sports activities to really undertake the function of a mechanism for social inclusion and not just become another means of social exclusion (Collins and Haudenhuyse, 2015).

LIMITATIONS AND FUTURE RESEARCH

The data reported in this paper may constitute a unique reference framework for the sample studied in Madrid and Colombia. However, although the sample size is considerable, it should be noted that conducting a purposive sampling among a group of young people in Spain and Colombia may offer a specific insight into the results that limit their generalization to other populations. Having said that, we believe it is important to replicate the study with other European and Latin American populations. We also believe it is important to explore the psychological wellbeing of young people and their preference for physical-sports activities throughout their lives and not only in a cross-sectional study. In addition, we are aware that the objectives we proposed in this study did not contemplate the use of other measures that could be used to perform other analyses (for example: values, personality, etc.). We believe that this may be of great interest to future research.

DATA AVAILABILITY STATEMENT

All datasets presented in this study are included in the article/supplementary material.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Ethics Committee of the Universidad Santo

Tomás (Bogotá, Colombia) and the Ethics Committee of the Universidad Nacional de Educación a Distancia (Madrid, Spain) and is, therefore, in accordance with the Declaration of Helsinki (seventh revision 2013, Fortaleza, Brazil). The participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

AR-B coordinated the project. AD-J set up the database and completed the statistical analysis. AR-B and FG-C drafted the initial version of the article, which was then revised by all three authors. AR-B and FG-C prepared the introduction and theoretical framework and wrote the discussion section and AR-B also reviewed the references section. All authors contributed to the article and approved the submitted version.

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Evaluation of the Emotional and Cognitive Regulation of Young People in a Lockdown Situation Due to the Covid-19 Pandemic

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Background: In a situation of compulsory home isolation enacted by governments at the spreading of the Covid-19 pandemic, the emotional health and well-being of students became a key factor in the successful implementation of distance teaching methodologies in face-to-face education universities. Psychological well-being, an essential factor in preventing academic failure, has been threatened in this serious situation of unprecedented and stressful isolation. The aim of this study is to analyze the students' cognitive-emotional regulation as well as their beliefs and perceptions about the pandemic and this lockdown situation. With this extensive study we are carrying out, want to describe the extent to which the lockdown situation is a risk factor, and, in the future, make proposals for preventive and palliative actions, if necessary, to minimize this potential risk.

Method: We applied the CERQ Cognitive Emotion Regulation Questionnaire by means of an online application together with a questionnaire, CC/covid-19, of objective description and subjective perception of the lockdown situation of the students, their conditions to study, general opinions about the pandemic and specific opinions about the real possibilities of implementing online education in the middle of the academic year at the university. 1910 valid responses from more than 80 universities in 13 different Spanish-speaking countries were obtained and submitted to descriptive analysis and modeling using structural equations.

Results: Most of them consider that the lockdown decision is correct, that health systems are not prepared to deal with the pandemic, and that although the universities have adequate means, the teaching staff is not competent to implement online teaching methodologies. They have a good perception of the conditions of isolation, however, the time devoted to studying has not increased. One of the results of our study is the students' self-evaluation about their digital competence and their capacity to perform

in online interactive communication. This is key to rejecting a feeling of loneliness or social isolation, even if there is momentary physical separation with friends and classmates which is consistent with the results of emotional well-being the surveyed students present. The cognitive strategies used by the students surveyed have allowed them coping with events arising from the pandemic, mandatory isolation and university closure, certainly adaptive and functional, while maintaining a positive perception of their new living and learning situation.

Keywords: emotional cognitive regulation, higher education, dropout, pandemic covid-19, lockdown

INTRODUCTION

We know emotions guide response behavior to external stimuli as an adaptive reaction of people in their daily lives. Behavior does not always have to be controlled, but in those situations where it must be adapted, emotional self-regulation is necessary. The main strategies of emotional regulation are intentional deployment, cognitive re-evaluation and response modulation (Gross, 2015), and there seems to be an agreement in that the most frequent and adaptive strategy of emotional regulation is precisely cognitive re-evaluation (McRae, 2016). This re-evaluation makes possible to introduce changes in the way a situation is perceived in order to change the way it is felt, ultimately exerting control over the feeling itself and its intensity: maintaining, increasing or suppressing it.

The process of cognitive emotional regulation can be difficult for some people, especially after they have experienced particularly stressful events, to the point where a vicious circle is established (Stikkelbroek et al., 2016). The cycle is fuelled by information processing biased toward negative self-thoughts and by cognitive assessment difficulties. This is a problem for emotional regulation. These stressful events generate symptoms of depression.

For the general population, academic stress does not generate such important pathologies. It is precisely in the educational context where the processes of emotional regulation are tested early on. However, it is clear that academic stress influences students, that it does it differently in each person, and that emotional regulation, through cognitive assessment, allows them to adapt their behavior in accordance with perceived goals. Emotional regulation influences the cognitive processes involved in learning, from motivation, to the processing of information, to the establishment of significant links between new content and previous knowledge, and, of course, to the use of information or the demonstration of what has been learned through tests and exams (Fernández, 2015). This is why it is so important for educators and teachers to know the quality of cognitive assessment students carry out of the emotions in stressful academic situations and its effect on academic performance. This knowledge will be at the base of the prevention of academic failure.

There is extensive literature on the relationship between coping styles and strategies and academic performance (Ávila Quiñones et al., 2014). Coping is a response to stressful situations that can threaten a student's academic progress. Coping can be

adaptive and related to positive variables of psychological well-being such as self-regulation (Morales and Trianes, 2010) or, on the contrary, passive, maladaptive, paralyzing and generating dissatisfaction and stress. The student who lives a disadaptive coping is at risk of academic failure and drop-out. As pointed out by Tejedor et al. (2007), even when failure has a multifactorial origin, teacher training to know and guide the coping strategies of students at risk, can be a good preventive practice. Ávila Quiñones et al. (2014) insist on demanding the improvement of academic guidance processes, the teaching of study techniques and habits and the training of attitudes of responsibility, effort and self-demand as preventive measures.

Between March and April 2020, a large number of governments in Western Europe and Latin America, among many others around the world, took measures to restrict the movement of people to deal with the Covid-19 pandemic that had started 5 months earlier in Wuhan a province of China. Among the restrictive measures taken were the closure of universities and the declaration of lockdown. In this lockdown situation, universities continued to operate and adapted, in a rapid and compulsory manner, face-to-face teaching to distance education based on the use of online resources and telematic means. Two months later, lockdown and university closure were still in place.

In this new situation, the mental health and general psychological well-being of students became an essential key factor for the success of the new education modality based on the implementation of distance learning methodologies and resources (Shea and Bidjerano, 2019).

We have previously studied how the academic failure of young students in Higher Education, and its worst consequence – dropout – has serious personal, social and economic effects (Aulck et al., 2017). We know that early diagnosis of causes and risk groups can minimize the severity of these effects as sought by academic and policy makers (Mortagy et al., 2018). This is a complex and multi-causal phenomenon that can be explained by causes related to the personality of the youth; to the available structures of social integration; to the investment in time, money and effort that the student must make to complete his or her studies; to the institutional arrangements for hosting and accompaniment; to the effectiveness of the instructional model offered; and to vocational aspects (Lizarte, 2017).

Among the causes of psychological order, we can mention the deficient emotional regulation of young people and its consequent difficulty to face stressful academic situations such

as the effort to study, the accomplishment of activities within a set period of time, the demonstration of their knowledge in front of the evaluator or taking exams. To cope with this situation, scholars call for social support, institutional support, and personal commitment (Bar-Am and Arar, 2017); personal commitment requires general psychological well-being.

In short, psychological well-being, which is an essential factor in preventing academic failure, was threatened in this serious situation of unprecedented and stressful isolation. Therefore, it seemed necessary to investigate this issue with the following objective: to evaluate the cognitive emotional regulation of students as well as to reveal some of their beliefs and perceptions about the pandemic and the lockdown situation.

We know that a situation of pandemic and lockdown causes feelings of anxiety and fear in the whole population (Singh et al., 2020). This includes the youth population. We also know that the feelings of anxiety and fear that may have, in some subjects, undesirable consequences on their mental health, depend on previous psychological vulnerability and other pre-existing social, cultural, and economic conditions of vulnerability, as well as on the specific environmental conditions in which the lockdown takes place (Judge and Rahman, 2020). In a situation of lockdown, the development of feelings of anxiety among students (Majumdar et al., 2020) is influenced by general beliefs about the pandemic, beliefs about the effectiveness of the new on-line education situation, social conditions and domestic coexistence, as well as housing conditions.

With the extensive study we are carrying out, in a first instance, we want to describe the extent to which the lockdown situation is a risk factor, and, in the second instance, to make proposals for preventive and palliative actions, if necessary, to minimize that potential risk (Bolhaar et al., 2019). Proposals valid for the current situation of distance learning but also valid when face-to-face teaching has returned to our classrooms.

MATERIALS AND METHODS

Design

To evaluate the cognitive emotional regulation of students, a diagnostic instrument validated in populations of adolescents, young people and university students both in Spain and in different regions of the world was selected. It is the Cognitive Emotional Regulation Questionnaire (Garnefski et al., 2001; Garnefski and Kraaij, 2007) which is used to study how cognitive coping works in difficult, threatening, stressful or traumatic situations, through different strategies.

The instrument can be used to assess the general response to stress, or to assess responses to specific events. In our case, the instrument was used as a questionnaire to assess specific coping in the situation of forced isolation and university closure.

This instrument was applied by means of an online application together with a questionnaire of objective description and subjective perception of the lockdown situation of the students, their conditions to study, general opinions about the pandemic and specific opinions about the real possibilities of implementing online education in the middle of the academic year at

the university. This instrument, CC/covid-19, was prepared specifically for this study.

The study has been conducted in four phases:

- (1) *National focus*. During the first phase, the instruments have been applied on a national scale using contact networks of university teachers from all public and private universities in Spain. The implementation started during the second week of isolation in Spain during 4 weeks. The aim of this phase was to study emotional regulation in different personal situations and with different perceptions of the same national situation of isolation.
- (2) *International extension*. In the second phase, the study was extended to 13 Latin American countries as their governments implemented university closure and similar isolation measures, but never so strict like those in Spain. The Latin American region was chosen to apply the questionnaires in the same language: Spanish. With this international expansion we intended to contrast the study focused on Spanish youth. This international extension was carried out during the month of April 2020.
- (3) *Contrast in Second Wave*. In a third phase, a second wave of the instruments has been applied to the same national and international population that has participated in the previous phases. The aim is to find out how the use of different coping strategies has evolved, as well as the description and perception of their personal situation by the young people surveyed. This contrast operation may be repeated if the measures implemented by the spread of the pandemic are maintained or reappear over the time. Each contrast can be compared with the baseline already established.
- (4) *Elevation of proposals and recommendations*. In the last phase we intend to draw up proposals and recommendations to the political and university authorities with measures for the prevention of academic failure among university students.

Sample

The questionnaire was applied via a convenience and snowball sampling (Rockinson-Szapkiw et al., 2019) and distributed through different networks of university professors who, interested in the study, were willing to send it to their students requesting their collaboration. The application in Spanish universities began on March 2020 and was extended to Latin American universities in the way different governments of the region started to implement measures to close universities and confine students to their homes. Mexican universities were the last ones to join the study. We closed the first two phases of the research 6 weeks after its beginning, obtaining 1910 valid responses for the analysis.

The sample obtained is made up of 1464 women (76.6%), 434 men (22.7%), and 12 individuals who identify their gender as “other” (0.6%). The age of the participants ranges from 18 to 37 years, with 21 years being the mode age for 14% of the young people surveyed. In addition to Spain (which represents 81.9% of the sample) the participants reside in 13 other Latin American

countries of which Mexico is the most represented with 9.7%. The students belong to 81 different Higher Education Institutions, with the Spanish University of Las Palmas de Gran Canaria with 30.5% and the University of Granada with 23.6% being the most represented. The sum of both universities represents more than half of the sample.

We found out that 791 respondents are studying a degree or diploma in Educational Sciences, i.e., 42% of the total. The remaining respondents are widely spread among other professional and scientific fields. Meanwhile, the level of the students is homogeneously distributed among the different years of study: 26.9% in the first year, 20.2% in the second, 18.3% in the third, and 20.4% in the fourth year of study.

Instruments

CERQ

The Cognitive Emotional Regulation Questionnaire is an instrument of 36 items grouped into nine dimensions referred to other cognitive strategies of emotional regulation. Five of them help to reduce the unpleasant state caused by the stressful experience, such as Acceptance, Putting into Perspective, Positive Refocusing, Positive Reappraisal or Refocus on Planning, while the other four influence the increase of the unpleasant state, such as Rumination, Catastrophizing, Self-blame, and Other-blame.

Acceptance is the cognitive process of trying to live the stressful situation without generating negative emotions. Putting into Perspective allows us to put the stressful event into perspective by comparing it to others in order to relativize its severity. Positive Refocusing consists of directing attention to pleasant thoughts that diminish the effect of the stressful situation. Positive Refocusing requires not focusing exclusively on the negative consequences of an event, but seeking out its fewer negative aspects. Refocus on Planning allows us to focus our thoughts on solving the problem.

Rumination consists on focusing thoughts on the seriousness of the event and its possible consequences. Catastrophizing is the anticipation of disproportionate and extremely serious consequences. Self-blame is the personal assumption of the cause of the stressful event. Other-blame is the obsessive attribution of the cause to the action of others.

All the nine strategies can be functional and adaptive at any given time.

The response to the items in each dimension is made by means of a 5-point Likert scale, in which (1) indicates low frequency and (5) high frequency. In an individual the score in each dimension can range from 4 to 20 so that the scores obtained in the dimensions show the frequency of use of each of the cognitive strategies involved.

For its application, the Spanish version of the questionnaire translated and validated by Domínguez-Sánchez et al. (2013), was used. It was adapted specifically for this situation of mandatory isolation and university closure.

Lockdown Questionnaire CC/Covid-19

A specific Lockdown Description and Perception questionnaire was developed to be applied in conjunction with the CERQ. This allowed us to study possible relations between the personal

situation of isolation and the use of different cognitive strategies of emotional regulation. The questionnaire CC/covid-19 is made up of six sections and a total amount of 41 items:

- (a) Sociodemographic data that allowed us to describe the sample. It consists of six open response questions.
- (b) Inventory of general beliefs about the covid-19 pandemic. It consists of five response questions on a 5-point Likert scale. General beliefs about the pandemic include issues related to their perception of the health measures taken by the authorities. It is not a question to extract from them an expert or professional opinion that they do not have, but to know the position that they take as ordinary citizens of the situation.
- (c) Inventory of general beliefs about the effectiveness of on-line education. It consists of five response questions on a 5-point Likert scale.
- (d) Social conditions of the lockdown and description of the coexistence situation. It consists of one open question and seven dichotomous answer questions.
- (e) Habitability conditions and description of the place of Isola. It consists of 10 questions with a dichotomous answer.
- (f) Description and perception of the living situation in the place of isolation. It consists of eight questions with a dichotomous answer.

The construction of the questionnaire was carried out in three phases. In the first phase the relevant dimensions were selected for the description of the lockdown. In the second phase, a literature review was conducted for each dimension to extract the issues that were considered most relevant. In a third and final phase the list of items of each dimension was readjusted and refined with the idea of representing each of them with the minimum number of questions so that the instrument would not be that long.

The selection of questions for each section was entrusted to a different expert from the University of Granada Profesio-Lab Research Group, who was responsible for the study. This selection was submitted to discussion by the plenary of the Group until the adjustments made was considered valid.

RESULTS

Descriptive Analysis CC/Covid-19

Table 1 shows the results obtained on general beliefs about the pandemic. Students strongly agree that older people can spread the virus (4.13) and that they themselves are agents transmitting the virus to the older population (3.95). They disagree with the statement that authorities have taken the right measures (2.74), that the national health system (in each reference country) is prepared for a pandemic (1.97) and, finally, they strongly disagree with the idea that they are immune to the virus (1.45).

In **Table 2** you can see their beliefs about the effectiveness of the online education modality implemented after the university closure. The majority of the young people interviewed agree they have the necessary digital competence to be able to perform well

TABLE 1 | Beliefs about the Covid-19 pandemic.

Belief	N	\bar{X}	DS
Young people are virus transmitting agents to the elderly	1910	3.95	1.028
Young people are immune to the virus	1910	1.45	0.695
Older people can infect me the virus	1910	4.13	0.917
The authorities have been able to take appropriate action	1910	2.74	1.111
National Health System is prepared for pandemic	1910	1.97	0.936

TABLE 2 | Beliefs in the effectiveness of online learning.

Belief	N	\bar{X}	DS
My university has the appropriate services and resources for e-learning	1910	2.95	1.156
Teachers are prepared to develop online teaching	1910	2.47	1.119
Teachers have the necessary resources to develop online teaching	1910	3.02	1.120
I am digitally competent to manage in online education	1910	3.76	1.062
I improve the study time planning during lockdown	1910	2.93	1.274

in online education (3.76). They also agree that teachers have the necessary resources for this type of teaching (3.02). On the remaining issues there is more disagreement than agreement. Below average is the consideration that the university has adequate services and resources for this type of teaching (2.95) and some (2.93) believe that during lockdown the study time is better planned. Where there is less agreement (2.47) is in the belief that teachers are prepared for online teaching.

In **Table 3** we have collected data related to the social conditions of isolation and the description of the living situation. The average number of people in lockdown situation is between 3 and 4 (3.58), with the minimum being 1 (the student in isolation and solitude), and the maximum 13. The great majority of students (83.4%) have been confined to the family residence and do not live neither with people over 70 years of age (a special population at risk) nor with pets that require a walk thus eventual socialization.

In **Table 4**, we included data describing the house, which allowed us to indicate that most of the respondents have been confined to a dwelling located in an urban setting (74.1%) that mostly lacked a garden, terrace or patio, but at least had exterior views (85.1%).

In **Table 5** we find data referring to the perception of housing suitability. We can see that most of them qualify their house as spacious (60.8%), comfortable (88.6%), with wifi connection (92.6%), well equipped to study (77.6%), and good equipment for leisure (64.3%). Only one negative qualification stands out; it refers to the absence of equipment for physical exercise, indicated by more than half of population surveyed (52.6%). Although in a low percentage (4.6%) we are concerned about the fact that there are students who lack Wifi connection which deprives them from following distance learning, and what is worse of keeping fluid social contact through social networks. However, we think that the widespread use of mobile phones alleviates the difficulty of social interaction as we have already pointed out in previous studies (Martínez-Sánchez et al., 2020).

TABLE 3 | Lockdown social conditions and description of the living situation.

	N	Min	Max	\bar{X}	DS
Number of people confined at home	1868	1	13	3.58	1.419
			Yes %	No %	N
Family residence			83.4	14.2	1864
Any other relatives house			7.4	92.4	1905
Students eventual home			24.6	74.7	1895
Live together with kids			22.5	76.9	1897
Live together with adults older than 70 years old			13.7	86.0	1903
Live together with pets that require being taken for a walk			34.0	64.6	1883

TABLE 4 | Description of the place of isolation.

	Yes %	No %	N
Urban housing	74.1	23.8	1870
Rural housing	22.9	76.1	1890
House with large garden	16.5	82.9	1898
House with small garden	13.6	86.2	1906
House with large terrace	28.1	71.3	1896
House with small terrace	32.2	66.6	1886
House with a large interior courtyard	16.0	83.5	1900
House with small interior courtyard	24.2	75.5	1904
House without any outside space	23.2	76.2	1899
House with views	85.1	12.2	1859

TABLE 5 | Perception of housing adequacy.

	Yes %	No %	N
Large house	60.8	37.5	1878
Comfortable housing	88.6	9.1	1865
Small house	30.4	68.5	1889
Cramped housing	12.6	86.8	1897
WiFi connection	92.6	4.6	1857
Housing with good studying facilities	77.6	20.3	1870
Housing with good equipment for physical exercise	46.3	52.6	1889
Housing with good leisure facilities	64.3	33.6	1869

Descriptive Analysis CERQ

In **Figure 1** we include the frequency of use of each of the nine cognitive strategies analyzed using the arithmetic mean of the score obtained in each of the four items that make up each dimension or strategy. In the figure we have ordered the scores from highest to lowest frequency. Five of the strategies have a score above the average. These are precisely the ones that are characterized as more functional and adaptive insofar as they tend to diminish the effect of the negative feelings associated with the isolation situation. The most widely used is Putting into Perspective, with a score of 3.43, in which students put into perspective compulsory isolation by comparing it to more serious or stressful events. It is often followed by the Acceptance strategy with a score of 3.40, which allows students to deal with the lockdown without judging it and, therefore, generating negative feelings. The third strategy is that of Positive Reappraisal with 3.36 points, whereby the young people try to focus on

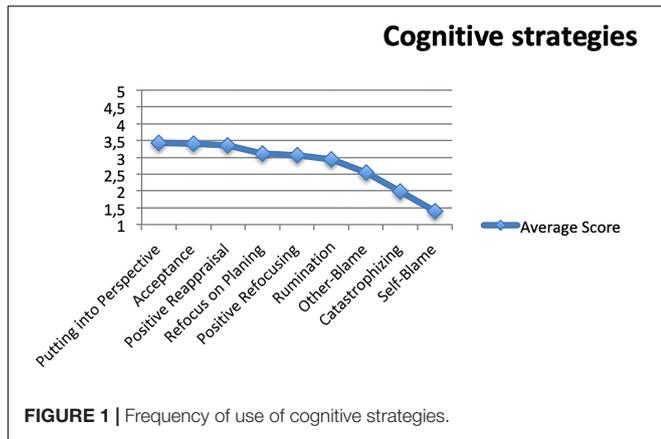


FIGURE 1 | Frequency of use of cognitive strategies.

those positive aspects that may be associated with the lockdown situation. The following in frequency is Refocus on Planning with 3.11, leading students to think about action plans and problem solving as a coping strategy. Positive Refocusing, with 3.07, leading students to redirect their attention to pleasant thoughts as a way of coping with the problem is the next one. These six cognitive strategies get above-average scores in each dimension. They are the ones most frequently used by young people.

Rumination, which defines coping as strongly focusing thoughts on the stressful situation lockdown represents, scores below the arithmetic mean, 2.94. It is followed by the strategy of Other-blame to face the current situation with 2.55. Much less frequently with 1.99 points, we find the strategy of Catastrophizing which to a lesser extent leads young people to focus their thoughts on serious consequences in a disproportionate way. Finally, the least frequent cognitive strategy is that of Self-blame with 1.40 points, the closest to the term “never” by which some young people hardly ever take care of the current situation of compulsory isolation and university closure due to the pandemic.

We have carried out a comparison between averages to investigate possible differences between the Spanish student population, with 1566 subjects, and the non-Spanish student population, in which we grouped the 344 subjects from different Latin American universities.

Table 6 shows that the values of the means are very similar for the variables Self-blame with a Spanish mean of 1.69 and a Latin American mean of 1.90; Acceptance with a Spanish mean of 3.75 and a Latin American mean of 3.68; Rumination with a Spanish mean of 3.35 and a Latin American mean of 3.04; Positive refocusing with a Spanish mean of 3.34 and a Latin American mean of 3.59; Refocus on planning with Spanish average of 3.45 and a Latin American average of 3.52; Positive reappraisal with a Spanish average of 3.66 and a Latin American average of 3.89; Putting into perspective with a Spanish average of 3.81 and a Latin American average of 3.71; Catastrophizing with a Spanish average of 2.35 and a Latin American average of 2.36; and Other-blame with a Spanish mean of 2.86 and a Latin American mean of 2.89.

However, as shown in Table 7, when the non-parametric Mann–Whitney test is applied to independent samples (because

TABLE 6 | Comparison between averages.

Strategy	Population	N	\bar{X}	DS	Typical average error
Self-blame	Spanish	1566	1.69	0.632	0.016
	Latinoamerican	344	1.90	0.658	0.035
Acceptance	Spanish	1566	3.75	0.854	0.022
	Latinoamerican	344	3.68	0.852	0.046
Rumination	Spanish	1566	3.35	1.051	0.027
	Latinoamerican	344	3.04	1.031	0.056
Positive refocusing	Spanish	1566	3.34	1.129	0.029
	Latinoamerican	344	3.59	1.018	0.055
Refocus on planning	Spanish	1566	3.45	0.928	0.023
	Latinoamerican	344	3.52	0.922	0.050
Positive reappraisal	Spanish	1566	3.66	1.066	0.027
	Latinoamerican	344	3.89	0.994	0.054
Putting into perspective	Spanish	1566	3.81	0.913	0.023
	Latinoamerican	344	3.71	0.899	0.048
Catastrophizing	Spanish	1566	2.35	0.862	0.022
	Latinoamerican	344	2.36	0.846	0.046
Other-blame	Spanish	1566	2.86	1.237	0.031
	Latinoamerican	344	2.89	1.162	0.063

TABLE 7 | Mann–Whitney test.

Estrategies	U de Mann–whitney	W de wilcoxon	z	Bil. A. Sig.
Self-blame	222667.500	1449628.500	−5.678	0.000
Acceptance	251629.000	310969.000	−2.053	0.040
Rumination	223841.000	283181.000	−5.096	0.000
Positive refocusing	237213.500	1464174.500	−3.582	0.000
Refocus on planning	259448.000	1486409.000	−1.126	0.260
Positive reappraisal	238398.500	1465359.500	−3.469	0.001
Putting into perspective	250881.000	310221.000	−2.100	0.036
Catastrophizing	265449.000	1492410.000	−0.459	0.646
Other-blame	263243.500	1490204.500	−0.681	0.496

it does not meet the condition of normality for parametric contrast), the result shows significant values in the Self-blame, Positive refocusing, Positive reappraisal variables in favor of the Latin American population; and in the Acceptance, Rumination and Putting into perspective variables in favor of the Spanish population. In both populations, two different adaptive strategies predominate, Positive refocusing and Positive reappraisal, as opposed to Acceptance and Putting into perspective. And in both populations, they differ in the predominance of a different non-adaptive strategy: Self-blame versus Rumination.

CFA (Structural Equation Model)

The CFA is used to confirm the structure and measurement capability of the dimensions that make up the CERQ. The Path Analysis represents another way to estimate the relationship between variables that are directly observed. The Structural Equation Modeling -SEM- provides the most solid procedures and technical criteria for the validation of measurement

models under these two assumptions. This is the analysis we have carried out.

We estimated the parameters of the model found based on the graphical representation that appears in **Figure 2**.

In Dimension 1, Self-blame, the belief that *the causes of isolation correspond to me* (F1.28) with 1.13 is the idea that has more weight, as opposed to *feeling the only person guilty for this situation* (F1.1) with 0.16 that reaches the lowest weight. On dimension 2, Acceptance, the idea given the highest weight is *I have to accept the situation* (F2.11) with 1.46 and the idea with the lowest weight is the belief *I cannot change anything about this situation* (F2.20) with 0.07. As for dimension 3, Rumination, the item that scores best is *willing to understand why isolation makes me feel this way* (F2.21) with 1.02 and the item with less weight is *to stop thinking about how I feel about the isolation* (F3.3) with 0.88. Regarding dimension 4, Positive Refocusing, the most important idea is *to think about pleasant things instead of lockdown situation* (F4.22) with 0.94, meanwhile *thinking about things more pleasant things* has the lowest score with 0.85 being the less important item. On dimension 5, Refocus on Planning, the item with the greatest importance is *to think about how best to deal with the situation* (F5.14) with 0.85 being the less relevant *how the situation could change* (F5.23) with 0.62. When analyzing dimension 6, Positive Reappraisal, with five items instead of 4, the items *I think I can learn something from this situation* (F6.6) and *to look for the positive aspects of the situation* (F6.33) both with 1.00 are the two ideas with more weight, as opposed to *everything could have been much worse* (F6.7) with 0.38) the one with less weight, an item that in the original structure belongs to dimension 7 Putting into Perspective and that in our model fits into dimension 6. Therefore, our dimension 7, Putting into Perspective, is left with only three items among which it appears that the idea with more weight is *there are worse things in life* (F7.34) with 0.86, as opposed to *I think other people go through worse experiences* (F7.16) with 0.59. On the other hand, in dimension 8, Catastrophizing, we find that the item with the highest weight is *thinking continuously about how horrible this situation is* (F8.35) with 0.91 and the item with the lowest weight is *this is the worst thing that could happen to a person* (F8.26) with 0.66. Finally, in dimension 9, Other-blame, the most relevant idea is that *others are responsible for what is happening* (F9.18) with 1.30 versus the less important to *feed in the errors that others have made in this matter* (F9.27) with 0.69.

The dimensions Refocus on Planning (F5), and Positive Reappraisal (F6) with 0.76 show a very strong relationship among them. On the other hand, the dimensions Rumination (F3) with Catastrophizing (F8) with 0.73, and Positive Refocusing (F4) with Refocus on Planning (F5) with a ratio of 0.65, also show a strong relationship to each other.

The main inverse relationships between dimensions are between Catastrophizing (F8) and three others: Positive Reappraisal (F6) with -0.38 ; Positive Refocusing (F4) with -0.38 ; and Putting into Perspective (F7) with -0.32 .

We can say that for the students surveyed the Refocus on Planning is greatly influenced by the Positive Reappraisal and Positive Refocusing of the problem. In addition, that an Excessive Reflection (Rumination) on stressful issues generates Catastrophizing.

The structural equation model obtained, converges with an excellent fit and we consider it confirmed. The goodness indices (Lévy and Varela, 2006) are included in **Table 8**.

DISCUSSION

Numerous researchers have used the CERQ scale on university students to clarify various aspects of their psychological well-being, social adjustment and emotional regulation (Martin and Dahlen, 2005; Abdi et al., 2012; Tuna and Bozo, 2012; Castro et al., 2013; Medrano et al., 2013; Costa Martins et al., 2016; Dominguez and Medrano, 2016). In this research, the CERQ instrument has proven to be effective in characterizing coping strategies for young students. Therefore, we understand that the instrument can be very useful in educational research to know emotional aspects linked to learning in Higher Education and to academic success or failure. In situations of virtual teaching and e-learning, in which the face-to-face teacher-student relationship is weakened, it will be especially useful.

We have seen how the goodness adjustment of the CERQ model presented, confirms the original structure in 9 dimensions (GFI,90 and RMSEA,046) generated by Garnefski and Kraaij (2007) as the studies in its Spanish application by Domínguez-Sánchez et al. (2013); Reche (2019) or Chamizo-Nieto et al. (2020) among others do. In any case, we have found a mismatch with respect to the original dimensionalization in an item that goes from dimension F7 to dimension F6, that is, from Putting into Perspective to Positive Reappraisal. These small mismatches have been found in other studies such as that of Medrano et al. (2013) applied in Spanish language to a population of Argentine university students or in that of Jermann et al. (2006) or Abdi et al. (2012) which refer to the low weight or negative weight of some item in the Catastrophizing dimension. We have not found any study that refers to our finding regarding item 7: *I think everything could have been much worse*.

The results obtained with the application of the CERQ differ in the different studies depending on the sample (age or composition) and the target (general or specific situation). Thus, in the original by Garnefski and Kraaij (2007), Catastrophizing and Rumination appear as two of the most used strategies. In Reche's study (2019) with fibromyalgia patients, the results are more similar to ours since the most used cognitive strategies are the most adaptive ones as opposed to the less adaptive ones such as Catastrophizing, Self-blame and Other-blame which reach lower frequencies. Perhaps the similarity of results is due to the fact that in both cases, the instrument was given a specific use (illness, in the case of Reche, and lockdown, in ours) and the cognitive strains for emotional regulation differ when referred to a very specific stressful event, as opposed to coping with general stress, which is how it is used in other studies.

The cognitive strategies used by the students surveyed have allowed them coping with events arising from the pandemic, mandatory isolation and university closure, certainly adaptive and functional, while keeping a positive perception of their new living and learning situation. Fiorillo and Gorwood (2020), as well as Holmes et al. (2020) have pointed out that the consequences on the mental health and psychological well-being

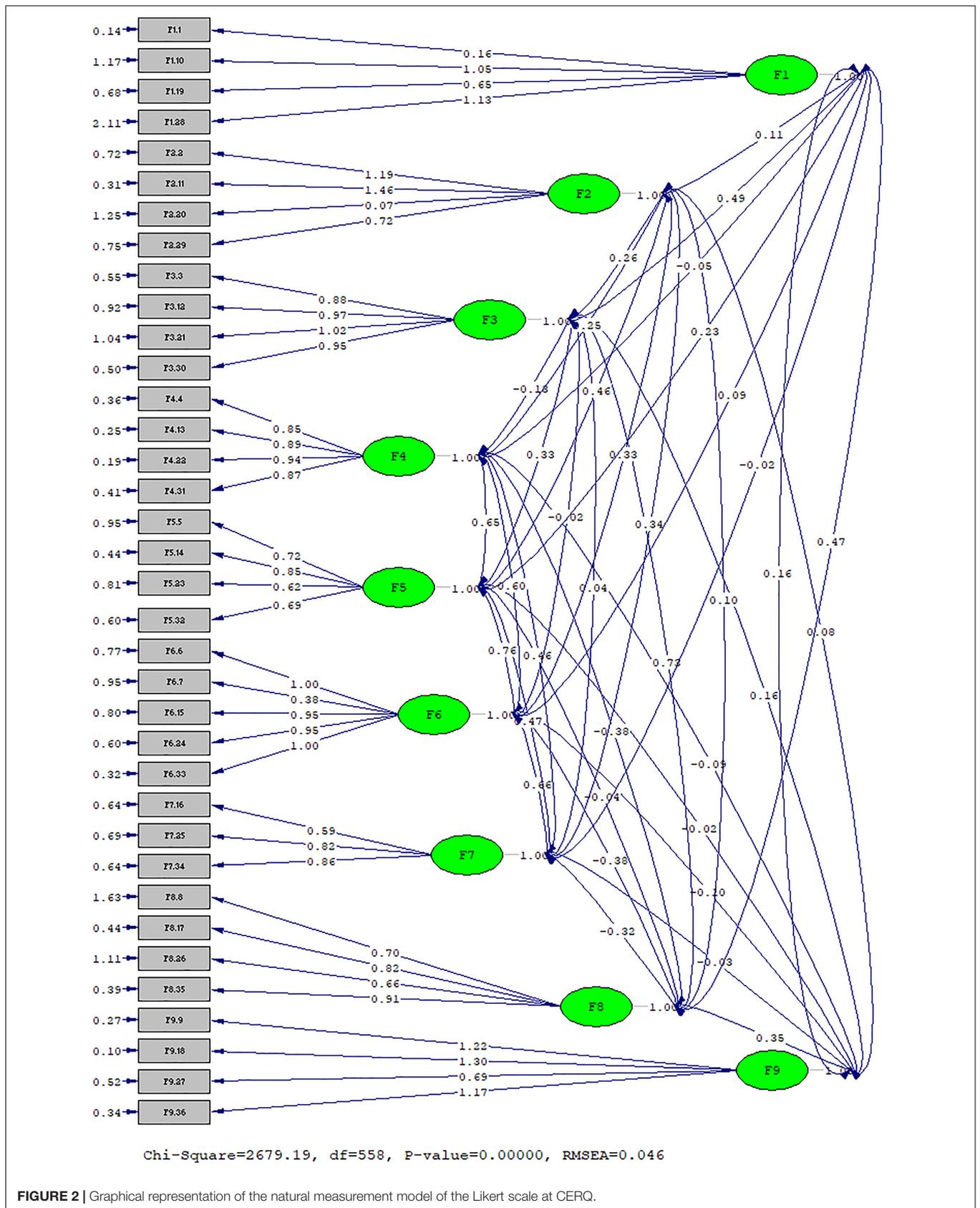


FIGURE 2 | Graphical representation of the natural measurement model of the Likert scale at CERQ.

TABLE 8 | Goodness-of-fit indices.

	χ^2	χ^2/df	GFI	RMSEA	ECVI	IFI	NFI	RFI
Real value	$p = 0.000$	4.80	0.90	0.046	0.74	0.97	0.96	0.96
Ideal value	$p < 5$	<5	>0.90	<0.08	>valor	>0.95	>0.95	>0.95

of the general population will increase over the weeks with effects similar to those generated by such stressful catastrophic events as natural disasters, earthquakes or tsunamis, or even wars and major international conflicts. Even so, from the perspective of Pfefferbaum and North (2020), the consequences of this pandemic do not currently meet the criteria for consideration as PTSD (post-traumatic stress disorder).

However, out of the population in direct contact with the virus (sick people with their families and caregivers and health workers), the general population suffers the stress of their daily activities closure, mandatory lockdown and overexposure to news about the pandemic. We agree with Fiorillo and Gorwood (2020) that the consequences take some time to be visible and therefore we consider our study, carried out during the first 6 weeks of home isolation, as a baseline in which there are still no evident signs of emotional distress in the population studied, and which reveals that the Catastrophizing strategy as a means of emotional regulation is one of the least used by young people. It is a strategy which, in this case, is not functional (Dominguez and Medrano, 2016) because its warning capacity does not allow to stay away from danger once physical-social distance measures and home isolation have been established. Holmes et al. (2020) warn that physical distance or social isolation will produce negative feelings in the general population which are at the root of anxiety, stress and depression. Cognitive coping strategies are used to minimize these risks. In the population studied, we have not yet seen signs of serious consequences since coping is carried out mainly by Putting into Perspective, Acceptance, Positive Reinterpretation, Refocus on Planning and Positive Refocusing as these are very adaptive strategies that move away from the bias of Self-blame, an indicator of depressive effects (Medrano et al., 2013) in emotional regulation. As Holmes et al. (2020) point out, the social isolation that is compensated by the strengthening of family ties, due to forced social distancing, is mitigating the negative effect and generating resilience to diminish the stressful circumstances. In our study, most young people are being confined to family homes in an average group of 3 or 4 people and in housing conditions that are considered optimal for the vast majority. This is consistent with the effective coping style they are following, at least in the first weeks of lockdown.

The data we have from China, the first region in the world to declare a pandemic state, were collected in February 2020, 3 months after the recognition of the covid-19 infection by health authorities. These data from the population with longer exposure time to the pandemic, does show the increase in indicators of emotional distress such as anxiety, depression, indignation or unhappiness, as shown by Li et al. (2020) in their analysis of thousands of posts made in the largest social network in the country. These data suggest that, despite the positive coping

the students we have surveyed are doing at the moment, they may be faced with pernicious effects on their psychological well-being as the weeks go by. Holmes et al. (2020); Pfefferbaum and North (2020) all point out that the effect of the coming economic crisis, in Western Europe and Latin America, and which will affect the less affluent population, will contribute to the worsening of mental health. The study by Wang et al. (2020), completed in February 2020, already indicates that more than half of the sample -1210 Chinese citizens- has a moderate to severe negative psychological impact (16.5% with depressive symptoms). Although our study does not reveal this, we fear that this is something that in other regions where the pandemic has come later, may be yet to come.

Van Bavel et al. (2020) draw the attention to the emotional effect generated by the feeling of threat and the optimism bias. They find that the threats transmitted by health authorities to produce cautious reactions in the population are only valid if people can opt for protective behavior. Otherwise, people generate self-defensive feelings to justify their own inaction. In our study we have seen how young people are aware of the real threat of the pandemic, of their own sensitivity to contagion and of their role as a vector of contagion. That is, they are well informed and aware and have not opted for defensive emotions or those related to optimism bias that would have led to the underestimation of risk. One of the results of our study is the self-evaluation the students show about their digital competence and their capacity to develop in the virtual communicative interaction. For Van Bavel et al. (2020) this is key to rejecting a feeling of loneliness or social isolation, even if there is momentary physical separation from friends and classmates [as it has been previously studied with school populations in homebound due to illness or disability by Benigno et al. (2014) and Trentin et al. (2015)] which is consistent with the results of emotional well-being students surveyed present. The university students analyzed have had to seriously modify their study habits to adapt to a new teaching model. They have transformed the consumption of several hours a week of listening to their teachers' lectures into more interactive learning strategies centered on the search, selection and reading of documentation, the carrying out of open tasks and the provision of evidence of the learning undertaken in order to obtain an evaluation. This would not have been possible without that feeling of optimism, positivity, confidence in their digital skills and social support maintained through the networks, as we have pointed out.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

JAR, MCL, and FDR have carried out literature review and the design of the studio. IAR, EGC, PIC, and EJLS have selected evaluation instruments, developed the first version of the specific instrument and directed the application of both. dBCC has coordinated the international application. DGG and AHF have performed the data analysis. MFC has coordinated the study. All authors contributed to the article and approved the submitted version.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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The Relationship Between Psychological Well-Being and Autonomy in Young People According to Age

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Psychological well-being manifests itself in all aspects of human activity and is essential to understanding whether young people experience life satisfaction and whether, as they mature, well-being can be associated with different levels of personal autonomy. This quantitative study was developed within the framework of international research on young people's autonomy in the transition to adulthood. Its main objectives were to analyze the relationship between psychological well-being and autonomy and examine potential variations between the two variables according to age. To this end, Ryff's Psychological Well-Being Scale and the Transition to Adulthood Autonomy Scale (EDATVA) designed by Bernal et al., were used with a sample of 1,148 young people aged 16–21 from Madrid, Spain, and Bogotá, Colombia. The results show that almost all the dimensions on the Psychological Well-Being Scale correlate significantly and positively with the dimensions on the EDATVA scale. Specifically, moderate correlations were obtained between *self-organization* on the EDATVA scale and *purpose in life* ($r = 0.568$; $p = 0.01$) and *environmental mastery* ($r = 0.447$; $p = 0.01$) on the Psychological Well-Being Scale. In turn, *autonomy* on Ryff's scale obtained the highest correlation ($r = 0.382$; $p = 0.01$) with *understanding context* on the EDATVA scale. It was also found that the older 18–21 age group obtained higher scores than the younger 16–17 age group in all dimensions on both the EDATVA and the Psychological Well-Being Scale. Earlier studies endorse the results found in this research, especially the differences in the scores for both scales according to age groups. This opens avenues for future research to analyze the relationship between psychological well-being and autonomy as independent variables in other sectors of the population.

Keywords: autonomy, psychological well-being, transition to adulthood, young people, positive psychology, self-organization

INTRODUCTION

Advances in positive psychology have given rise to heightened interest in psychological well-being across various disciplines (Henn et al., 2016; Hides et al., 2016). This has led to the scientific literature taking an approach to the construct from two polarized perspectives. In the first one, psychological well-being is construed from a hedonic perspective, the result of an internal state

that the individual experiences on a subjective temporal plane, associated with high levels of positive affect and life satisfaction (Weiss et al., 2016; Oprea et al., 2018). Consequently, it focuses on subjective experiences of well-being specifically relating to happiness, life satisfaction, and positive affect (Henn et al., 2016). In contrast, in the second perspective, psychological well-being is construed from a eudemonic perspective as a process of self-realization through which individuals evolve over time. Subsequently, it is not associated with results but with capacities (Díaz et al., 2015; Berzonsky and Ciecuch, 2016; Disabato et al., 2016; Urquijo et al., 2016).

In line with the second perspective, Ryff (2014; 2018; 2019) designed a series of indicators based on the theory of positive human functioning that are consistent with a eudemonic perspective on happiness. To this end, she configured a composite and multidimensional model, the Psychological Well-Being Scale, that has been used as the basis for this study, comprising *self-acceptance*, *positive relations with others*, *autonomy*, *environmental mastery*, *personal growth*, and *purpose in life*. These dimensions focus on the different capacities of individuals to regulate their own behavior, assume the demands of the context, develop individual potential by maintaining *positive relations with others*, accept their own limitations while maintaining a positive attitude, and establish meaning and direction in their own lives (Keyes et al., 2002; Viejo et al., 2018; Gómez-López et al., 2019). In turn, these dimensions, and in particular *environmental mastery*, are closely related to the individual's sense of autonomy and capacity for self-determination and independence (Rosa-Rodríguez et al., 2015). As a result, these indicators are often referred to as “health assets” given that they affect young people's physical and mental health and, ultimately, the development of their behavior (Chen et al., 2019).

Moreover, it has been determined that sociodemographic correlates, such as age, are linked to psychological well-being in various ways. It has also been determined that psychological well-being is related to psychological constructs, such as life experiences, emotional intelligence, and personality traits, and that there is a significant positive correlation between level of education and psychological well-being—in reference to *personal growth* and *purpose in life* (Bucchianeri et al., 2016; Henn et al., 2016; Butler-Barnes et al., 2017). In turn, Mayordomo et al. (2016) found a positive correlation between age and level of psychological well-being, which might be the result of successful adaptation to the social environment. In this regard, these authors specify that adaptability can be defined as the flexibility to choose how to govern one's own behavior. In contrast, the progressive loss of psychological well-being could denote exposure to threats and challenges which the individual in question cannot resolve due to lack of adequate skills (Bradshaw et al., 2013).

In the transition to adulthood, psychological well-being evolves to the extent to which the individual is capable of successfully interacting with their environment and assuming the vital challenges inherent to the different stages in life (Vera-Villaruel et al., 2013; Bluth et al., 2017; Gómez-López et al., 2019). To this end, García-Moya et al. (2015)

suggest that psychological well-being can be promoted through the generation of positive experiences in young people's environments which help them perceive their purpose and direction in life and set their own goals. However, promoting psychological well-being requires identifying which variables interfere with or condition well-being.

In this context, autonomy is seen as one of the dimensions that constitute psychological well-being (Ryff, 1989). Consequently, the interaction between both variables is often taken for granted, as autonomy is considered an integral construct of well-being that describes people's positive functioning based on their ability to maintain their individuality in different contexts and situations. As a result, the study of autonomy has been approached from various disciplines, including psychoanalysis, philosophy, pedagogy, politics, psychology, and biology, *inter alia*. Importantly, all agree that autonomy is a complex concept in which different perspectives can be identified and grouped. One such group is the one that focuses on the study of an individual's ability to make decisions or govern their actions according to their own criteria, which are independent from external influences (Garberoglio et al., 2017). In a broad sense, this perspective emphasizes the development and construction of the criteria used by individuals to make decisions and act in consequence. Other perspectives on autonomy recognize the influence of different scenarios in which individuals construct decision-making processes. Similarly, some authors defend that within decision-making and the very construct of autonomy, the idea of interdependence between individuals takes on a leading role (Álvarez, 2015; Seidl-De-Moura et al., 2017).

Personal autonomy as an integral part of quality of life has been studied as a process that develops throughout an individual's lifetime. Thus, several studies in this respect show that the older a person is, the greater the degree of autonomy (Barbosa and Wagner, 2015). In this regard, Campione-Barr et al. (2015) analyzed the effect of age on young people's autonomy and the impact of siblings' ordinal positions within the family. The authors conclude that both age and the organization of fraternal subsystems are important in the development of autonomy in individuals. In the same vein, Barbosa and Wagner (2015) found that higher levels of autonomy are found in groups of older young people. In this regard, it was determined that the desire for autonomy increases during adolescence regardless of gender (Alonso-Stuyck and Aliaga, 2017). However, Mayordomo et al. (2016) conducted a study with more than 700 participants distributed in three different age groups— young people, adults, and older adults—which revealed that there were no significant differences in autonomy between adults and older adults on Ryff's Psychological Well-Being Scale, although both groups scored higher than the group of young people.

These studies highlight the importance of research on young people's autonomy which could lead to a better understanding of their life cycle development processes, as well as the ways in which they assume responsibility in life and for their own well-being (Davies et al., 2015; Li and Hein, 2019). Taking into account the aforementioned literature, our

study is based on the approach designed by Bernal Romero et al. (2020), in which autonomy is considered as a wide-ranging, complex construct that involves the capacity to ask oneself questions, reflect on one's life in relation to others, make interdependent decisions and assume the consequences, and organize oneself in relation to others and society. In consequence, Bernal Romero et al. (2019) designed a model, called the Transition to Adulthood Autonomy Scale (EDATVA), comprising four fundamental dimensions for understanding autonomy in young people: *self-organization*, *understanding context*, *critical thinking*, and *sociopolitical engagement*. This approach has been incorporated to this study with the aim of determining the potential relationships between young people's psychological well-being and autonomy in their transition to adulthood.

MATERIALS AND METHODS

Specific Objectives

This article presents selected partial results from research performed in Spain and Colombia as part of a wider study on the autonomy of young people and psychological well-being. The main objective of the study was to analyze the relationships between young people's psychological well-being and autonomy. This responds to the hypothesis (H1) that there are statistically significant relationships between psychological well-being and autonomy for the sample participating in the study. The second objective was to examine the differences between psychological well-being and autonomy according to age by establishing two groups: young people under 18 and those 18 and over. This responds to the hypothesis (H2) that there are statistically significant differences in both the dimensions of psychological well-being and autonomy as a function of age, the assumption being that participants in the older age group will have higher scores.

For practical reasons and according to the nature of this descriptive study, a quantitative methodology and an *ex post facto* pre-experimental design were used.

Participants

The field work was performed from late 2018 to early 2019. An incidental non-probabilistic sampling was performed in which 1,148 young people aged 16–21 were selected ($M = 18.20$; $SD = 1.80$). Of the total, 60.3% were female and 39.7% were male. The percentage of adolescents aged 16–17 was 39.7%, while those aged 18–21 at the time of the study represented 60.3%. The sample was divided into these two subgroups, given that the legal age is 18 in both countries. Most of the young people were Colombian (55.7%, from Bogotá), while the rest were Spanish (44.3%, from Madrid).

Most of the participants were studying in high schools and universities. Data were also collected from young people who were employed, as well as from participants who were under the tutelage of child protection services. As an exclusion criterion, it was decided not to include those individuals who had

functional, physical, or mental difficulties that prevented them from participating in the study.

Tools Used

Two methods were used to perform the study. The first one, Ryff's Psychological Well-Being Scale adapted in Spanish by Díaz et al. (2006), is a multidimensional scale that assesses the factors that contribute to an individual's psychological well-being. It has 39 items with responses from 1 (strongly disagree) to 6 (strongly agree) on a Likert-type assessment scale, with six dimensions corresponding to the positive attributes of psychological well-being established by Ryff (1989). The first dimension is *self-acceptance* or fostering a positive attitude toward one's self. This dimension presents six items ($\alpha = 0.83$) and measures self-esteem and the awareness of one's own strengths and weaknesses. The second is *positive relations with others*. This dimension also has six items ($\alpha = 0.81$) and measures an individual's ability to maintain trusting, stable, and intimate relationships. The third is *autonomy*, which has eight items ($\alpha = 0.73$) that measure an individual's capacity to maintain their individuality in different contexts and situations with determination, independence, and personal authority. The fourth is *environmental mastery* and has six items ($\alpha = 0.71$); it explores whether individuals consider themselves to be efficient at managing and controlling their daily responsibilities. This dimension is intimately related to the locus of control, self-efficacy, and the capacity to generate favorable environments that enable the individual to satisfy their needs and desires. The fifth dimension is *personal growth*, which has seven items ($\alpha = 0.68$) and examines an individual's capacity to evolve, develop their potential, and continue to grow on the basis of positive learning. Finally, the sixth dimension is *purpose in life* which comprises six items ($\alpha = 0.83$) and measures an individual's positive psychological well-being by analyzing their capacity to set goals, establish objectives, maintain the level of motivation to achieve them, and give purpose to their life.

The second method, which was used to measure young people's autonomy, is the Transition to Adulthood Autonomy Scale (hereinafter EDATVA) designed by Bernal Romero et al. (2020). It has a total of 19 items composed of statements with responses on a Likert-type scale with four options (1 = strongly disagree and 4 = strongly agree). The items are grouped in four dimensions. The first dimension is *self-organization*, which comprises six items ($\alpha = 0.80$) that examine whether young people successfully plan their time and the processes in which they participate. This capacity requires young people to make personal choices according to their priorities (Lammers et al., 2016; Bernal Romero et al., 2019). The second dimension is *understanding context*, which has four items ($\alpha = 0.74$) and explores young people's interaction with their environment, which leads to them becoming more autonomous (Reis et al., 2018). The third dimension is *critical thinking*, which has five items ($\alpha = 0.70$) and aims to measure an individual's competence in establishing their position and guaranteeing their interests in relation to different social situations that affect them and/or may interest them (Van Petegem et al., 2015). Finally, the fourth dimension is *sociopolitical engagement*, which has four items ($\alpha = 0.77$). This dimension measures

young people's commitment to the society they belong to, the processes of community participation, and the political rights of contemporary citizens (Young, 2017). As a whole, the model obtained a Cronbach's alpha of 0.84.

Procedure and Data Analysis

This study adheres to the Declaration of Helsinki (64th WMA, Brazil, October 2013) and was approved by the Human Research Ethics Committee of the universities involved in the research. The application of the models was systematic, and data were collected using a pencil and paper format mostly during school hours. Approval and informed consent were obtained from the participating centers, as well as the legal guardians and the participants themselves. Once the data had been collected, the responses were coded, arranged, and recorded in a computer database for subsequent statistical processing.

Descriptive statistics of the participants' general characteristics were then calculated. Pearson's correlation coefficient was also calculated for the study's first objective, aimed at determining the relationship between the dimensions of the well-being scale and EDATVA for the sample as a whole. For the second objective, the assumptions of the statistical tests were verified using common procedures (e.g., Kolmogorov–Smirnov test, Shapiro–Wilk tests, Levene's test, histograms, and Q-Q and P-P diagrams for normality). Mean difference analyses were performed for the two groups to determine potential differences according to age. The effect sizes were estimated using Cohen's *d*. Non-parametric tests were used in those cases where assumptions of normality were not met, specifically the Mann–Whitney *U* test with the Bonferroni correction.

All statistical analyses were performed using the SPSS version 25.0 statistical package for Macintosh (IBM® SPSS® Statistics 25). The statistical significance level was set at <0.05 .

RESULTS

The following are the results for the first objective, in which the relationships between the dimensions of the Psychological Well-Being Scale and EDATVA were analyzed. **Table 1** shows the results of Pearson's correlation coefficient for the different dimensions of the Psychological Well-Being Scale and EDATVA. Significant correlations with positive directionality were found between almost all dimensions on both scales. High correlations were obtained in *self-organization* on the EDATVA scale and *purpose in life* ($r = 0.568$; $p = 0.01$) and *environmental mastery* ($r = 0.447$; $p = 0.01$) on the Psychological Well-Being Scale. These results give rise to moderate correlations and show that the higher young people score in *self-organization*, the higher they score in *purpose in life* and *environmental mastery*.

The dimension *understanding context* obtained the highest correlations with *autonomy* ($r = 0.382$; $p = 0.01$) and *personal growth* ($r = 0.356$; $p = 0.01$) on the Psychological Well-Being Scale.

Critical thinking obtained the highest correlations with *personal growth* ($r = 0.279$; $p = 0.01$) and *purpose in life* ($r = 0.276$; $p = 0.01$).

Sociopolitical engagement obtained the lowest overall correlations, while *purpose in life* obtained the highest ($r = 0.186$; $p = 0.01$).

The overall results show that all the dimensions on the EDATVA scale correlate significantly with the dimensions on the Psychological Well-Being Scale. In this regard, *self-organization* obtained the highest total correlation ($r = 0.437$; $p = 0.01$), followed by *understanding context* ($r = 0.426$; $p = 0.01$). In turn, *purpose in life* obtained the highest correlation between the Psychological Well-Being Scale and EDATVA ($r = 0.466$; $p = 0.01$), followed by *environmental mastery* ($r = 0.406$; $p = 0.01$). Lastly, the total for both scales gave a result of 0.441 ($p = 0.01$).

Comparison of Mean Values Between the Psychological Well-Being Scale and EDATVA According to Age

In order to determine the potential differences for each of the scales according to age, tests were performed to contrast central tendency scores.

The Psychological Well-Being Scale is represented in **Table 2**, which shows the size of each group, mean values, and standard deviation. For both groups of young people, the highest average scores were found in *autonomy* and *personal growth*. Moreover, in all cases, the results show that those aged 18–21 obtained higher scores than those aged 16–17. However, the results of Student's *t*-test show statistically significant differences in five of the six dimensions of psychological well-being and for the scale's total score. No statistically significant differences were found in *positive relations with others*.

In relation to EDATVA, **Table 3** shows the size of each group, the mean values, the Mann–Whitney *U* statistic, the statistical classification and significance, and the effect size. In turn, the results show that the 18–21 group obtained the highest average scores in *self-organization* and *critical thinking*. For the under 18 group, the dimensions with the highest average scores were *sociopolitical engagement* and *understanding context*. Similarly, the effect of age on *autonomy* is also shown. As can be seen, the older group of young people obtained higher average scores. These differences are statistically significant in all dimensions except *sociopolitical engagement*.

DISCUSSION

The results of our study confirmed the hypothesis (H1) that there are statistically significant relationships between the dimensions on the Psychological Well-Being Scale and the autonomy dimensions on the EDATVA scale. A significant positive correlation was identified between the total of the Ryff's scale and the total of the EDATVA scale. We consider the relationship between the two scales to be highly significant, given that autonomy is only considered as one of the factors of psychological well-being and conceived as a multidimensional construct in other studies (Panahi et al., 2013; Roslan et al., 2017; Gao and McLellan, 2018; Ryff, 2019). In our study, psychological well-being and autonomy are considered as two different constructs. In the Psychological Well-Being Scale, autonomy

is construed as an individual's capacity for self-regulation independent of others, whereas in EDATVA, it is conceived as a construct defined as a complex process of reflection and decision-making interdependent of others, constituting a relational construct (Bernal Romero et al., 2020). This conceptual difference highlights the importance of establishing relationships between the two constructs, as in this study.

Earlier studies had already documented correlations between psychological well-being and autonomy, conceiving both concepts as independent processes. Thus, studies by Rivas et al. (2012) and Romero et al. (2013) correlated psychological well-being with perceived autonomy, taking into account two dimensions of the latter: choice and volitional intention. Both studies found that the greater the perceived autonomy, the greater the level of well-being, with the exception of the volitional dimension of autonomy. In turn, other studies also coincide with

our study by determining that increased levels of autonomy are associated with higher levels of well-being (Ratelle et al., 2013; Weiting, 2014; De Leersnyder and Kim, 2015).

In this study, we also found significant positive relationships between almost all the dimensions on the two scales. The correlations are higher between *self-organization* on the EDATVA scale and *purpose in life* and *environmental mastery* on the Psychological Well-Being Scale. This suggests that those individuals whose life goals and objectives are clearer and who are better able to control their environment according to their needs may also be better at organizing themselves to make better decisions, which gives them more autonomy (Valle et al., 2011).

Interestingly, *autonomy* on the Psychological Wellness Scale presents three positive and significant correlations with the EDATVA dimensions: the highest correlations were obtained with *understanding context*. In this regard, the results suggest that

TABLE 1 | Correlation between autonomy and psychological wellbeing.

	Self-organization	Understanding context	Critical thinking	Socio-political engagement	Total EDATVA
Self-acceptance	0.367**	0.275**	0.167**	0.145**	0.325**
Positive relations with others	0.066*	0.215**	0.063*	0.091**	0.151**
Autonomy	0.199**	0.382**	0.200**	0.038	0.274**
Environmental mastery	0.447**	0.333**	0.251**	0.160**	0.406**
Personal growth	0.354**	0.356**	0.279**	0.097**	0.369**
Purpose in life	0.568**	0.340**	0.276**	0.186**	0.466**
Total wellbeing	0.437**	0.426**	0.275**	0.159**	0.441**

* $\rho < 0.05$. ** $\rho < 0.01$.

TABLE 2 | Differences on the psychological well-being scale according to age.

	Age				df	t	p	d
	Under 18 (n = 450)		18–21 (n = 679)					
	M	SD	M	SD				
Self-acceptance	24.37	5.99	25.65	5.49	1,127	−3.70	0.000	0.223
Positive relations with others	25.16	6.45	25.70	5.92	1,127	−1.42	0.157	–
Autonomy	33.52	7.16	34.57	6.57	1,127	−2.53	0.011	0.153
Environmental mastery	24.16	5.12	26.08	5.01	1,127	−6.24	0.000	0.380
Personal growth	31.59	5.30	33.42	5.12	1,127	−5.77	0.000	0.351
Purpose in life	25.97	6.05	27.81	5.37	1,127	−5.66	0.000	0.322
Total psychological well-being	164.39	27.66	173.23	24.46	1,127	−5.64	0.000	0.339

TABLE 3 | Differences in perceived autonomy according to age.

	Age		Z	U	p	D
	Under 18 (n = 450)	18–21 (n = 679)				
	Mean value	Mean value				
Self-organization	521.14	604.07	−4.180	133,379	0.000	0.368
Understanding context	546.98	586.93	−2.026	145,136.50	0.043	0.144
Critical thinking	516.07	607.43	−4.608	131,074	0.000	0.312
Sociopolitical engagement	550.18	584.81	−1.747	146,592	0.081	0.113
Total EDATVA	519.10	605.42	−4.335	132,450	0.000	0.300

the more younger people are concerned about their development and giving direction to their lives, the more they are able to defend their ideas and uphold their decisions. These findings are similar to those of other studies (Morales and González, 2014; Rodríguez-Fernández et al., 2016; Valle et al., 2019).

Other results to be considered are that the lowest correlations in our study were found between all the dimensions on the Ryff's scale and *sociopolitical engagement* on the EDATVA scale. This can be attributed to the fact that the Psychological Well-Being Scale focuses on intrasubjective aspects, while the EDATVA focuses on intersubjective aspects. Specifically, *sociopolitical engagement* involves a tendency to construct autonomy in relation to others, rather than to oneself. Thus, Arnett (2014) describes how young people are more focused on their processes of individuation, leaving aside the effects of their decisions on the context. In contrast, Valle et al. (2019) found that psychological well-being is related to the relationships established by individuals in public domains. Based on the difference in the results, future research needs to study this aspect further (García-Alandete et al., 2018).

Our study's second objective, namely the hypothesis (H2) of the existence of statistically significant differences both in the dimensions of psychological well-being and in the dimensions of autonomy according to age, was also confirmed. The results prove the existence of variations in psychological well-being according to age coinciding with other studies (Ryff, 1989, 1991, 2014, 2019; Ryff and Keyes, 1995; Springer et al., 2011). Specifically, we found that the older group scored higher than the younger group. In this regard, Bluth et al. (2017) state that during adolescence, well-being tends to decrease due to the changes experienced during that particular period, which could partly explain our findings. However, in relation to the positive correlations with other dimensions on the Psychological Well-Being Scale, no differences were found between the two age groups. These results are consistent with the studies by Roecke et al. (2009) and Carstensen et al. (2011), who determined that affective relationships are more stable the older the individual.

On the other hand, the differences caused in autonomy as an effect of age during transition to adult life must also be taken into account. In this respect, our findings indicate that there is a significant increase in the levels of autonomy in older individuals. These results coincide with the ones obtained by Ryff (1989, 2014), Barbosa and Wagner (2015); Campione-Barr et al. (2015), Mayordomo et al. (2016), and Alonso-Stuyck and Aliaga (2017). In line with the said studies, our findings show that young people over the age of 18 achieved a higher average score and that their highest average ranking was in *self-organization* and *critical thinking*. Among other factors, this result can be explained by the fact that during this period young people are making very important decisions that require looking toward the future, for example in choosing what they are going to study at university (Kiang and Bhattacharjee, 2018).

It should also be noted that the results for *sociopolitical engagement* on the EDATVA scale were not significant. According to Ryff (1989) and Barrera et al. (2019), autonomy

involves adopting personal standards that allow the individual to take control of their decisions and discard external influences in relation to personal choices. However, in the case of EDATVA, these influences are taken into account, especially in *sociopolitical engagement*. Therefore, it is noteworthy that the differences according to age are not maintained in this dimension, which involves the individual reflecting on the consequences of their decisions on others. From a developmental perspective, it might be expected that this level of reflection would increase with age as in the other dimensions of autonomy, but this was not the case with the sample in this study. Likewise, Parés and Subirats (2016) research findings corroborate that young people's political behavior is diverse, and the differences are not the result of age. Consequently, we believe that this is an area that requires future research.

Lastly, although the data in our study confirmed our hypotheses, we should not ignore its limitations. This study dealt with two particularly complex objectives within the concept of young people's transition to adulthood. Future research should take into account other sectors of the population when exploring the relationship between psychological well-being and autonomy: different age ranges, problems, nationalities, and contexts.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the UNED Ethical Committee; USTA Ethical Committee. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

ÁD-J coordinated the project, designed the database, completed the statistical analysis, and reviewed the final version of the article. TB and RG prepared the introduction and theoretical framework, and wrote the discussion section. RG reviewed the references section. All authors wrote the initial version of the article.

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Vulnerability and Well-Being Decades After Leaving Care

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One of the most important goals of out of home placements is to reduce vulnerability and to enable well-being in the long term. This article hermeneutically reconstructs biographies decades after leaving-care to understand the impact of residential care experiences on selected dimensions of care-leavers' well-being, that were discovered in the data material. For this article three analytic areas were selected from the core of the narratives of former care leavers: Social networks, parenthood and state interventions. The selected findings on long-term outcomes presented here are based on a qualitative research project funded by the Swiss National Science Foundation on life trajectories after residential care (1950–1990). The authors have conducted 37 biographical narrative interviews with former children placed in residential care between 1950 and 1990 in the Canton of Zurich, Switzerland. The analysis of these narrative interviews was structured by the inductive procedures of Grounded Theory. Its foundation is the conceptualisation and dimensionalisation of data through inductive coding within the narratives. Research question: We mainly were interested in aspects of transitions exclusively relevant from the actors' point of view. The objective of this paper is to learn for the future by taking biographical experiences and long-term outcome in account. As we know residential care facilities have changed in last decades, but structurally some key figures are still continuing. They still interrupt the life course two times: when you start to live in the institution and when you leave. One main question is how young people manage to integrate residential experiences through their life course and where they keep on struggling until the end of their lives. From a life-course perspective, the impact of social service intention on individual life courses, behind sending the individuals to such facilities, are important to investigate. They implicate relevant information concerning current practice and impact of placing children in residential care. Social networks and experiences of parenthood show why we must frame and accompany transitions out of care.

Keywords: well-being, vulnerability, long-term outcome, residential care, Child Care Research, life-course perspective

INTRODUCTION

In Switzerland, over the past century, tens of thousands of children and young people have been placed in foster care and residential care. The same number only left these places many years later. The research shows that their well-being and the adolescents' individual development were often of secondary importance after the placement went through, or after they left care (Lengwiler et al., 2013). Between 1950 and 1990, many child protection measures even culminated in penal institutions, and sometimes the adult penal system – a common administrative practice. It has been extensively confirmed that the children's needs and the reasons for their behaviour played no role in placement decisions. More emphasis was placed on maintaining social order and conformity and the established power balance, entirely following the logic of those within the system who enjoyed power, authority and the right to act on behalf of the state.

In the highly federalised Swiss system, welfare, education and legal policy are largely a cantonal responsibility. National rules and regulations are imposed in specific cases only. Thus, this system does not rely on any developed federal bureaucracy or government agency. That is also why no federal Ministry of Child, Family or Welfare exists. Further, for both political actions and for professional family interventions conservative family ideologies still are implicit and often also explicit motivating forces in Switzerland. Low levels of interventions, but also less support and social security in an international comparison can be seen as consequences. The latest change of philosophies is marked by the new law on child and adult protection in 2012, which organises child protection in a more professional and coordinated way and gives more rights to children and families. Today, it is known that transitions in people's lives are social phenomena which are not just subjectively experienced and embedded in everyday life but also a challenge for institutional regulations. They are always connected to conditions of uncertainty, unpredictability and possibility; to openness and contingency; to inequalities and differences; to chances of success and failure (Walther et al., 2019, p. 5). However, the few longitudinal studies to have been carried out in the field of children's residential care show that when young people experience positive individual biographical developments on leaving residential care, this is often unexpected and usually goes against professionals' predictions (Bullock et al., 1993). These findings are less an expression of individual resilience (Schofield et al., 2017) and more a sign of the poor understanding of the connections between institutions, biographies and society. The results of the study presented here show that the paths people's lives take following residential care cannot be explained monocausally or following the logic of subsumption, based on individual, isolated risk factors they encounter as they grow up (neglect in the parental home or experience of stigmatisation; Gabriel and Keller, 2014). From a scientific point of view, it thus does not seem sufficient to consider individual influencing factors in isolation, as the various influences on well-being can be assumed to have an interactive dimension which is especially likely

to surface during transitions and which can be reconstructed with some clarity.

MATERIALS AND METHODS

Transitions thus cannot simply be assumed to be a given; we need to expose and understand the practices which turn social processes into transitions. Thus, we carried out a biographical, reflective study involving people with experiences of residential care. Among other things, this was interested in how the interviewed actors made aspects of transitions relevant, and who was significant in this practice. We also wanted to know what social ties, structures and processes are expressed before, during and after residential care (Walther et al., p. 11), and how they are reproduced and have a relevant effect on people's subsequent biographies. Our study takes into consideration journeys to adulthood out of residential care as a lifelong process for individuals based on their views, reconstructions and experiences narrated in biographical interviews (Rosenthal, 1993; Schütze, 2004).

As part of the Sinergia project 'Placing Children in Care 1940–1990', the subproject 'Life trajectories after residential care placements in the canton of Zurich 1950–1990' included biographical interviews with 37 former residents of children's homes in the canton of Zurich. The distribution of interviewed men and women over the decades (1950–1990) was balanced. There were also no major gender-related differences in these decades in terms of placements – only the reasons were long dependent on gender (Businger and Ramsauer, 2019). The earliest that any of the interviewees left residential care was in 1951; the latest entry was in 1989. This means that at the time of the interviews the interviewees were between 25 and 85 years old. The reasons for entering the children's home and age on entry varied. A frequent reason for leaving was to start vocational training at the age of 16 to 18.

Former residents of homes for children and young people in the canton of Zurich between 1950 and 1990 were made aware of the research project through notices in the press, online and on handouts. The interviews were carried out in various places selected by the interviewees themselves, such as cafés, rooms at the university or sometimes the interviewees' homes. They lasted between 2 and 5 h. The interviewer and the interviewee drew up an agreement saying that the information would be treated as strictly confidential and had to be anonymised before being transcribed or used. The interviewees were also able to withdraw the information they had provided or delete some of their statements. The names of the people cited in the present text have been anonymised for reasons related to research ethics and the law on personal security and data protection. Except for our interest and listening, no further incentives were promised. Travel expenses were covered and as a symbolic thank you, we gave sweets worth about 25 Euros. Many were willing to participate because they want today's residential care to learn from the mistakes of the past and/or because they want to tell their story. For some, it was the first time they had talked about their experiences in care; they had not wanted to speak about

it to their partners, children or friends, usually as they were afraid of painful questions and memories. Others had found that, when they 'confessed' to having being brought up in care, their experiences were downplayed ('it can't have been that bad'), they were not believed or they were even accused of being partly responsible for their stigma.

A highly intensive and detailed analysis of selective biographical trajectories (Gilligan, 2009; Zeller, 2014) is a promising way to methodologically deal with biographical complexities. In this context, it was of special interest to scrutinise the biographies, which would then make it possible to hermeneutically reconstruct (Rosenthal, 1993; Schütze, 2004), understand and analyse the biographies of adults with residential care experience. In research on transitions (Henderson et al., 2009; Sherif and Sherif, 2009), institutional transitions (school, profession, residential care, etc.), but also unforeseen biographical events are mostly focused on in their structural contexts. Reflective processing on the part of the subjects is of central importance here, as is their environment throughout their entire lifespan. According to this, narrated biographies are conditioned by subjective logics.

However, our biographical study's research aims were not limited to any individual case, or to descriptively retelling subjects' first-hand accounts of their life stories. Instead, the research was focused on grounding theories about intersubjective experiences of care leavers; contexts which came up repeatedly and gave structure to people's overall or interim assessments of the lives they had lived, in relation to different biographical topics and dimensions of well-being. With their open narrative questions (Schütze, 2004), the interviews left plenty of leeway for non-directed memories and stories. Using the methods of Grounded Theory (Strauss and Corbin, 1990; Glaser, 2004), teams of analysts were able to extract central dimensions of well-being from the data by using the transcribed narratives. They reconstructed biographies and distinguished between them in an iterative process. All analytical steps were done in analysis-groups of three researchers to ensure their self-reflection.

This qualitative analysis of the narrative interviews was structured by the clear and extensive procedures and its straightforward approach to theory generation of Grounded Theory (Strauss and Corbin, 1990; Glaser, 2004). Its foundation is the conceptualization of data through inductive coding within the narratives – and further – data: the main three steps led us from open coding to axial coding and ended in selective coding which allowed us to inductively elaborate core variables; the analytical process was accompanied by constant comparisons and 'memoing' (Glaser, 2004). The product of this method is a set of grounded concepts. They are always integrated into inductively grounded hypotheses as well as organised around one core category. The goal is to explain the preponderance of behaviour in a substantive area: 'The goal of grounded theory is to generate a conceptual theory that accounts for a pattern of behavior which is relevant and problematic for those involved. The goal is not voluminous description, nor clever verification' (Glaser, 1978, p.93). As the character of this methodological access is not problem-centred but open, it was possible to inductively identify group-specific dimensions of experience in biographical

transitions out of care and after care as well as within situations of daily living.

RESULTS

Well-Being and Vulnerability in Selected Fields of Life and Its Connection to Experiences in Residential Care

Depending on how they are defined, sensitive and relevant transitions out of institutions or child and youth welfare measures cover various different time frames. One thing on which the discourse does agree on, however, is that transitions from residential youth welfare to adulthood take place in specific individual and structural conditions which have to be understood and included in social pedagogical endeavours (Stein, 2012; Köngeter et al., 2016; Refaeli et al., 2016). The effect of case-by-case, long-term support planning and intensive professional assistance after leaving the care structure would appear to be correspondingly strong.

Below, the biographical effects of experiences in care and during the wide range of transitions from care are addressed based on selected areas of life. These have emerged as key categories when it comes to the interplay between vulnerability and well-being in transitions and life courses after residential care. They also represent central nodes between the micro and meso levels and are related to each other: (1) social networks and social ties, (2) subjects' own experiences of parenthood and (3) dealing with state interventions. Focusing on these fields of life, empirical material is used to shed light on the connections between subjects' upbringing in and experience of residential care and the biographical topics. Although the selective examination of certain fields of life among subjects with experience of residential care calls for professional assessment, it should also be noted that, particularly in sensitive phases of people's lives, topics come up which are related not only to the effects of residential care but also to their entire previous biography.

Social Networks and Social Ties

Subjects' personal social network, seen as a resource for coping with life, influences the way they deal with critical life events centrally (Stein, 2008; Melkman, 2017). What is important in this context is the quality of the support and whether and how an individual can take advantage of support, in what situations. In the case of people who were taken into care as children, Freisler-Mühlemann (2011) shows that after leaving care, they render their social networks 'unusable' through their own behaviour. Others have social connections, but are revealed to find it challenging to know when and how to use them (Melkman, 2017).

Between 1950 and 1990, social ties were monitored and sanctioned in homes for children and young people. Carers reacted with suspicion to social connections, 'deeper emotional relationships' between children and adolescents, and the formation of groups (Hafner, 2014). Contact between children and adolescents was thus strictly controlled and minimised where possible. Everyday life in residential care was tightly structured

through rules, discipline and order. Feelings of empathy and safety – the prerequisites for building trust between children in homes and their carers – were few and far between (Bombach et al., 2017). The top priority was on managing the children and young people as a group; individual needs came second.

In these conditions, children's homes were rarely seen as safe places (Bettelheim, 1974) from the care leavers' point of view. Attachment figures, who play a key guiding role in children's socialisation, appear in their memories of everyday life in care home as taking advantage of their power, abusing, mistreating or neglecting children (Backes, 2012). Stanulla (2003) thus poses the question of whether, and how, they can regain trust in other people, and indeed in themselves, after leaving care, when that trust has become fragile or been lost altogether. The fact that this can become a central challenge and a lifelong task is clear from reports by former residents of children's homes describing feelings of emotional distance from other people (Kuhlmann, 2008).

Loneliness and isolation within the group

Feelings of loneliness, isolation and being left to their own devices are present in the narratives. The feeling of being unwelcome or superfluous is clearly expressed in the following quotes: 'Yeah, sure. God, they could have just put an end to us instead' (Jonas). 'You were simply superfluous, like a chunk of meat, except we were still alive' (Jonas). These dehumanised descriptions clearly illustrate how former placed children see themselves, as their lives at the home, as one of many, appear to be worth little.

The loneliness experienced within the numerically large group of children in residential care can be explained when the social matrix of the peer group is examined (Polsky, 1962; Gabriel, 2009). Outwardly, children in residential care appear to be a homogeneous group, in the 1960s partly because they looked the same, e.g., having the same clothes or hairstyles. Travelling together on their way to the external school, children from children's home are described as a close group who stand up for one another and join together in solidarity when there is conflict with the 'other, normal' children. At the same time, the social structure of the children from the residential care follows its own, different rules (Emond, 2003). The need to assert themselves as individuals within the group is often described: 'The ones who don't manage to battle their way through alone, let's just say, go under' (Jonas). In that context, the group offers no protection and can even exacerbate experiences of discrimination and exclusion. Many former placed children reported that they tried to get away from everyday life at the residential home – even if it was often only for short periods of time – for example by roaming through the woods alone, escaping supervision and enjoying the feeling of wandering about aimlessly. At the same time, social contacts were increasingly perceived as risky and avoided (Bombach et al., 2017).

Significant adults: powerful and rare

The children experience a very broad range of relationships with the carers during everyday life in residential care, offering an insight into the highly individual way in which children and young people are treated there. Affection or positive

reinforcement are experiences which rarely come up in their memories: 'But otherwise, love or that, or trust in any one teacher or carer or that, forget it' (Jonas). From the late 1960s there was an increasing tendency for interns who were still in training to work in residential care (Bombach et al., 2018b). They were described by former residents as people who are interested in the individual child. Generally, it can be said that, in stories by former placed children, 'significant other' (Courtney et al., 2001, p. 697) appeared who evidently had scope for action, which they put to use in highly individual ways and thus had a major impact on children's journey through life. It can be seen that people acting in a child-centred manner in or outside the children's home sometimes became important sources of power for children and young people. It is also striking that non-educational staff such as the cook, laundress or gardener took on the role of attachment figures who looked after the children with something like maternal or paternal care. As long-term attachment figures who were chosen by the children themselves, did not punish them and at the same time provided certain resources (e.g., food), they were important in helping them grow up (Bombach et al., 2018b).

Agency after leaving care: the wish to finally control their own lives

From the point of view of the former placed children we interviewed, on leaving care their aim was frequently to escape from the networks which they had not chosen freely while in residential care and were primarily linked to monitoring and sanctions: 'No-one could tell me what to do any more; I could live my own life and actually did a good job of it; I don't owe anyone anything' (Jonas). For many former residents, their own lives thus only began after they left the children's home. Their relationship with themselves is then often described as the only relationship they can rely on. For some interviewees, the time they spent in residential care means that opening up to other people, being trusting and letting go of control becomes a task that is related to the responsibility of working on themselves as people: 'And that's the problem if, as an adult, you simply know from experience that you can't rely on anyone or anything and that if you don't manage to do something yourself, no-one else will' (Alex). Becoming attached to new places, things and people is often described as a challenge, with particular emphasis placed on their life as a loner. Meanwhile, as they had few experiences of community and relationship-building to draw upon, when it came to building and maintaining social relationships, constant attacks and defence were frequently a biographical topic.

Social and emotional scepticism towards others and themselves

Generally, it can be said that the people who were interviewed display great social and emotional scepticism. This distrust was expressed not only towards other people, but also towards themselves. Among other things, this is due to the experience of stigmatisation among former residents of children's homes, which may persist throughout their lives, repeatedly exposing them to the experience of *I do not belong and am different* (Goffman, 1963). Being able to open up to relationships with friends, partners and children is often described as a major

difficulty which affects almost all children in residential care. *'Very difficult, because you never really trust anyone. You don't know the basic trust that a child enjoys'* (Alex). This often means that former placed children no longer run the risk of entering into relationships, or are not willing or able to get that close to other people. The interviews describe their distant 'social coldness' and lack of any expectations towards other people, including as a coping strategy that enables them to actively, and thus autonomously, counteract any disappointments and uncontrollable situations that might arise: *'People often say that there's a certain hardness about my feelings, but, yes, that might be the case, but it just came about because of life somehow, [...] the first ten or fifteen years. I'm not emotionally stunted; not at all, but at some point I put on the brakes a bit and don't go any further'* (Franz). In the following quote, it becomes even clearer that the fear of being hurt can block people to the extent that they have no social ties, and always have to do their coping alone: *'I can't open up because I'm afraid of being hurt. That is, in all my life I've never had a friend I could simply trust. There's no-one like that in my life, so I just go through it all on my own'* (Nora). This interviewee went on to report that: *'I don't have any viable relationships outside my family and I think that's a shame'* (Nora). At the age of almost 50, after an accident she realised that she did not know anyone who could have bought groceries for her.

The challenge of creating social connections was most evident when seen in contrast: stable relationships were cited as proof that people had 'made it'; succeeded in living with someone in a manner recognised by society. One point which stood out was that, of all types of connection, long-term relationships with partners or friends were possible when these had had similar experiences in their childhood.

The way subjects dealt with their own experience at the children's home varied from going on the offensive to hiding their actual social identity, which extended, for example, as far as a strategy of deception: some interviewees reported that they did (or wanted to do) things that they did not think children in residential care were entitled to, such as driving a limousine, living in an upmarket neighbourhood of Zurich or owning a home. These findings are complementary to other study results, which underline the high relevance of often forgotten social aspects and networks in and throughout residential care (Stein, 2012; Melkman, 2017; Schofield et al., 2017; Ammann and Schwendener, 2019).

Experiences of Own Parenthood

Baader (2014) offers evidence of how strongly their childhood experiences affect former residents of children's homes when they become parents, and of secondary traumatisation in the subsequent generation. According to Kuhlmann (2008), raising their own children becomes a challenge as it is related to their fears of repeating their own childhood experiences. Rosenthal (2010) describes similar intergenerational effects in another context. In her intergenerational studies on how people process their past under Nazism, she shows how they take on an identity as a victim and the following generation display signs of pseudo-identification. Dealing with that challenge can thus result, for example, in cold distancing, being overwhelmed by the children's

needs and a general attempt to hide their own experiences from the children. Ionowlock (1993) is another writer to point out that the next generation suffers more if the parents' traumatising experiences are not discussed.

Disrespect, integrity and recognition

Together, the experience of many former placed children showed that they were denied central dimensions of recognition during their childhood. Alongside experiences of physical violence, Honneth (1992) describes experiences of disrespect as being of far-reaching effect. This type of experience relates, for example, to family interactions which infringe in a non-violent manner on people's needs and entitlement to affection, respect and appreciation – that is, their needs and entitlement to recognition. Experiences of disrespect can harm their trust in themselves and the world, impacting not on their physical integrity but on their mental and social integrity. When examining the mutual recognition between generations, the term '*reconnaissance*' (Ricoeur, 2006), as used in social philosophy, seems fruitful. This has both an active and a passive dimension:

- active (*'reconnaître'*): recognising something; things, people, someone else, one another
- passive [*'(demander à) être reconnu'*]: being recognised, asking/demanding to be recognised.

Recognition thus moves away from the act of 'mere *connaissance*' (in the sense of the mastery of meaning) and, thanks to Ricoeur's addition of the passive expectation of 'wanting to be recognised', becomes a dialogical form of recognition that can be satisfied only by mutual recognition (Ricoeur, 2006). This dialogical, interactive component of '*reconnaissance*' as the basis of abilities, acquired through socialisation, to recognise oneself and others, forms the link to the findings on intergenerationality discussed here in the context of people's own biographical experiences. The experience of not being 'recognised' by their parents often plays a central role in the biographies of former children's home residents. Among people who were placed in residential care in early childhood, the question of the legitimacy or illegitimacy of their own birth is notably of lifelong significance. In the following quote, for example, the intergenerational links between recognition and disrespect becomes clear: *'I placed my trust in my mother, but she went off to Spain. I can't rely on my father; he said that a friend of his was also there during group sex, and you came out of it by accident, and that was my father; he told me that too at 18, and then I knew I didn't have a father'* (Paul).

Violation of integrity

Both nationally and internationally, studies indicate that the mortality rate is higher among people who have experienced residential care. A now somewhat dated study by Tanner showed a mortality rate throughout Switzerland of 10% (9.3% in French-speaking and 11.3% in German-speaking areas; Tanner, 1999). Suicide and life-threatening risky behaviour can be understood as a radical answer to the central, basic question on integrity posed by Pollmann: 'Is my own life worth living?' (Pollmann, 2005). If the answer is negative or ambiguous, this can be a

sign of fundamental disruptions to their integrity, or even its total loss. ‘Fear’ and ‘depersonalisation’ are emotional indicators that a person’s integrity may have been disrupted. According to Pollmann’s definition, people have integrity if, in a manner relatively free from internal and external constraints, they are able to live life

- (a) in accordance with their own, firm will,
- (b) within the limits of the morally tolerable, and
- (c) on the basis of an integrated ethical and existential self-understanding, and
- (d) with a general feeling of wholeness, which at the very least requires them to be mentally and physically unscathed (Pollmann, 2005).

Many reports of experiences in residential care describe ‘invasive encroachments’ on the integrity of children and young people in care by peers and adults (Bombach et al., 2018d). Feelings of ‘shame’ and ‘guilt’ for being placed in a home are particular indicators that their integrity has been violated, most clearly among people who have kept their experiences in the children’s home a secret from their children and partners to the present day. One aspect which seems to be central in this regard is the social dimension of integrity in the context of reappraising and publicly addressing the history of residential care. A lack of understanding (‘Many people were even beaten in their own families in the 1950s’) or a failure to recognise experiences in care which damaged their integrity can cause suffering and further undermine the integrity of the people affected (Pollmann, 2005). If, however, former residents of children’s homes were able to see and understand the reason why they were placed in care in the situation and conditions of the time, the issue of guilt was less likely to arise, and their integrity, and/or that of other people involved, was far less badly impaired, including the effects this had on the ways they saw themselves in the present day.

Tabooed sexuality in residential care

The descriptions of everyday life in residential care show that there were not many ways for children to locate self or become empowered, as the focus was more on managing large groups than on the children’s individual needs (Bombach et al., 2017). They became physically and psychologically accustomed to strict schedules. There was hardly any privacy; children shared bedrooms and bathrooms divided by sex. Sexuality, getting to know their own body or coming into contact with the opposite sex were taboo subjects. The young people rarely had relationships, and those who did had to do so in secret, as it was rarely tolerated by the homes’ managers. The same was true of relationships between the young people and staff at the children’s home. No lessons were planned on perceptions of their own or the opposite sex, on how to deal with intimacy and physicality, how to work on relationships, get the right balance between distance and closeness, or how to view themselves or others – and more than that, these subjects were actually suppressed: ‘*They didn’t teach us how to deal with the opposite sex. They always kept us apart. We didn’t have any contact with one other*’ (Marie). In these conditions, it was almost impossible for them to learn how to deal with their own needs, their body and their own sexuality.

For many former residents, self-care remained a challenge long after they had left residential care. Their first sexual experiences were often described as highly ambivalent: ‘*I didn’t know what to do! And I was defenceless, too. I mean, if someone wanted something, I couldn’t say no even if I wanted to say no*’ (Marie).

Becoming a parent – a confrontation with their own childhood experiences

Having children or starting a family was a topic addressed in all the biographical interviews. Each subject described how, before their first child, they had engaged with the subject in an ambivalent manner, adopting a cautiously reticent or strongly negative attitude always based on their experiences in their own childhood. The following quote is representative of the greater number of men than women who decided against having children, sometimes at an early age – in this case on leaving care at age 16: ‘*There’ll never be any children for me, because if someone takes the children away I’ll run amok. And that’s why it’s always been a taboo for me, and I’ve never married, I’ll never have children, nothing. I didn’t want that any more because I’m afraid of that sort of thing, that really affected me*’ (Jonas). In this case, this firm decision represents protective empowerment, focusing on his own wishes and ensuring that these formative experiences cannot be repeated.

One woman who was interviewed saw herself as being forced to deal with her own past due to her partner’s wish to have a child. This triggered feelings of inability and insecurity; she distrusted her skills as a mother, which also offered an insight into her self-image: ‘*I always thought that I couldn’t have children with my past; that it wouldn’t be good; that I couldn’t be a good mother for the children. I didn’t feel capable*’ (Marie). When her daughter was born, she swore that she would never let her down, and that she would always be there for her. However, she was not able to keep that promise. She described her inability to take action on recognising her daughter’s needs: ‘*And I did notice it at the time, but I couldn’t change it*’ (Marie). The reservations she described before she became pregnant were confirmed in a self-fulfilling prophecy (Merton, 1948): ‘*I have the feeling that I made a lot of mistakes and she definitely needed something totally different and didn’t get it [...]. And now, in retrospect, I’m simply sad that I didn’t do right by her*’ (Marie).

For another woman, encountering her own children brought memories of her own experiences in residential care back to the surface, confronting her with aspects of the past that she had, as she said herself, ‘consigned to a dusty shelf’. The long-suppressed or long-forgotten past suddenly and inadvertently sprang back to life, triggering several personal crises. Watching her children play, she realised: ‘*Playing, being happy. As my children got older, I went through a lot of personal crises as I saw what I’d missed myself: I wasn’t able to be a child*’ (Nora). Grieving for her own childhood experiences, she also underwent an uncontrollable freeze response. When it came to riding a bike, for example, her body refused point-blank to cooperate: ‘*My husband once said, when the children were smaller, “Come on, darling, try it again now”. [...] No, it doesn’t work, it doesn’t work at all. I wanted to do it though, for the sake of the children.*’ (Nora). As a consequence, she set her own boundary of never trying

cycling again, which brought her from a powerless position to a more powerful one. While she was forced to ride a bicycle during everyday life at the home, as an adult woman she had the choice, and was able to decide not to do so.

Other former children's home residents also cautiously re-interpreted the damaging hardships of their childhood in a positive light: *'Yeas, sometimes I'm glad that I didn't grow up in a family. When I think about all the things I've seen in families, sometimes I'm almost glad. I had to invent myself'* (Robert).

Dealing With State Interventions

Between 1950 and 1990, many child protection measures (sometimes also 'compulsory measures') ultimately led to criminal justice institutions, and sometimes even adult prisons (Lengwiler et al., 2013). This was the case for some of the women interviewed: after running away from the children's home, they were tracked down by the police, then always placed in even more secure accommodation before finally, in the following case, ending up as a minor in a women's prison: *'I was away for about 3 months, and then when I came back I had to go to the women's prison and then I never went back to youth custody. And then I came in with the murderers and criminals. At 15 or 16; yes, I was 15, not yet 16'* (Hedi). Justifications on the part of the authorities did not relate to any explicit violation of the law, but instead to a lack of discipline and failure to adapt to the residential care setting, or to the risk of them running away again. To this day, secure accommodation supports the logic of the criminal law relating to young offenders and the youth welfare system, but this is strongly criticised (Peters, 2014).

Whatever the reason why children are placed in care, and wherever they are placed, when they have no contact with the justice system (if there is proof they have not re-offended) during and especially after residential care, this is often seen by experts as a verifiable factor testifying to the success of residential care (Gabriel and Stohler, 2008; Stein, 2012; Gabriel and Keller, 2015). This type of evidence is a very popular basis for social policy decisions, but says very little about the motives and conditions which eventually led to an act being reported as a violation of the law. Explanations based on the idea that patterns of delinquency are learned from other children and young people in the home (Bandura, 1997) or that the combination of a low level of schooling and poor families encourages them to achieve their social goals by illegitimate means [in the sense of anomie theory (Merton, 1938)] are to some extent confirmed by the interviewees' memories of growing up in residential care: *'And that's how you learned everything, firearms and drugs, breaking into cars, simply everything. [...] After 2 years in the children's home I was so well trained, I had no respect for anything'* (Alex). However, with their strong focus on the delinquent acts themselves, these explanations barely pick up at all on the related subjective meaning; the underlying explanation. As a salient addition to the perspective on possible motives for delinquent acts, it also becomes clear from the narratives that coming into contact with the justice system, or with other (directive) state interventions in general (social assistance, the tax authorities) later in life represents another experience of restricted autonomy

and agency, and can be seen as another example of being dealt with in an inhuman manner (Bombach et al., 2018c).

Immunity to interventions, rules and punishments

Every time young people are placed in residential care – they themselves also use the prison-related phrases *'locked up'* or *'committed'* – this is a state intervention in their lives. The 'inmates' – as they repeatedly called themselves in the interviews – had no influence on this influential decision. This led to profound and far-reaching consequences regarding the conditions in which they later grew up, and is one of the reasons why the children mostly perceived the adults they came into contact with during their placement as abstract representatives of the authorities, and of a state that controlled them somehow, from somewhere. Because the responsibilities, justifications and objectives behind the process of their being taken into care almost always remained unclear from the point of view of the children and young people, they frequently developed a high degree of scepticism towards other people and above all towards civil servants and everything related to the state, which often lasted long after they had left care.

It was not just that the children and young people were helplessly at the mercy of state decisions and actions; they often also (consciously or unconsciously) learned how to deal with disciplinary mechanisms – in full accord with Erving Goffman's 'secondary adjustments' Goffman (1961) – or how to deal with the culture of the other children and young people at the children's home (Polsky, 1962). While children with few resources had to give in to the power mechanisms of formal or informal everyday life at the home, others tried to repurpose them to their own advantage, or escape them. As it was not directly possible to escape punishment (including physical punishment), almost all the children and young people increasingly developed what they described in retrospect as an 'inner immunity' to interventions, rules and punishment: *'Like many children, I wasn't actually bothered by punishment. My father had already dished it out a bit, so actually punishment didn't really mean anything to me; nothing special, no, and it doesn't hurt me either. That doesn't mean that, in your head maybe either, but physically it doesn't matter to me anyway'* (Michael).

The young people almost always saw it as highly paradoxical that, for such a long time, they were not allowed to leave care without official permission, only to be suddenly forced to leave at the end of the intervention. These contradictions between the worlds in and outside the home, as they saw and described it, were exacerbated by the lack of support, assistance and financial, social and spatial (accommodation) resources (Bombach et al., 2018a). As a result, after leaving residential care, as one interviewee put it, they had to try to *'integrate themselves'* (Alex; Bombach et al., 2018d). The temptation was correspondingly high to do so by making use of whatever opportunities arose, even if these were often contrary to the normative idea of social integration: *'Then I just thought, "Fine, then I'll make sure I get my stuff myself" and then you just start stealing and at some point [...] you start dealing'* (Karin). In this context, almost all the interviewees also speak of other former residents who were or still are in prison having left care, or who have died from drugs and alcohol.

The state as a constant, omniscient and unjust opponent

As a result of these experiences, many former residents of children's homes are today still quick to feel personally humiliated, repressed, under attack and monitored in all possible kinds of interactions with representatives of the state, without having any rationally defined reasons to feel that way: *'Anyone that wants to tell me what to do, the authorities, police, anything that has anything to do with that, I have a massive problem with them'* (Karl). This is even more painful if, for example, as in the following quotes, contact with an office underlines or consolidates their precarity and continued dependence, even in their current situation in life: *'I've sometimes been treated like total dirt there. You're simply put in a group and, above all, the social welfare office has access to your files! They start out by looking in those – What do we already know about this person? – and that's how you're judged'* (Heinz). The experience of the woman quoted below is representative of many ex-residents: *'It's the authorities that make me sick. I'm caught up in it again, the social welfare office, feel like [...] back in prison. That is, you have to work there, when they have a place for you to work, if you don't there are sanctions [...]. They decide where I have to work and [...] how much I have to work, not allowed to have a car, not meant to have a dog'* (Hedi).

In many cases, the feeling of never having escaped the clutches of dependency, rules and monitoring since childhood leads to anger: *'The thought already came into my mind that they should chuck a bomb under the social welfare office'* (Karl), or helpless resignation: *'The state's won'* (Alex). This can go so far that big, omniscient systems are seen as lifelong opponents, in a kind of conspiracy theory. Every time, for example, they come into further contact with the judiciary, this is seen as proof that, even decades after leaving residential care, they are not accepted and are being unjustly punished: *'Then they took my driving licence away for 6 years because I crashed my car. But of course they knew my story, and so, of course I've always thought that if things were shit at home, or you've been in a children's home or whatever, that's a bad thing; it puts you in a bad light. [...] Yes, [...] of course you're not worth as much [...] as an illegitimate child from residential care'* (Paul).

The basic consequence that they lose confidence in both themselves and the state or welfare state seems to have even more far-reaching effects: *'I have to respect the state's laws, but the state doesn't have to show me any respect, they can do anything'* (Alex). Although Alex feels regulated by the state, he is deprived of any entitlement to rely on being recognised by the state – which also deprives him of his status as a citizen. However, not wanting to be controlled by others is not the same as wanting anarchy. This extreme rejection of external directives can also lead people to incorporate their own self-monitoring: *'I've always had the feeling that I have to clean first, to clear up first, to tidy everything up first, before I am allowed to have any time off'* (Monika). It seems clear that, as long as the acts of the state and welfare state are perceived as disempowering acts of humiliation, then during critical life events, former children's home residents will remain unable to accept offers of support which would enable things to change. Instead, such acts appear to reinforce their position as outsiders or victims. In the case of punitive interventions by the

judicial system – from fines to court hearings or imprisonment – they have an even stronger impression of that position and their biographically established experiences of helplessness and anger being reinforced (Bombach et al., 2018d).

DISCUSSION

The relevant, empirically established links between experiences in residential care and the biographical topics central to people's well-being, as discussed here, clearly reveal how children's experiences of being placed in care between 1950 and 1990 can manifest later in life. This finding can also be linked to other studies with a life course perspective (Brady and Gilligan, 2018; Gradaille et al., 2018). This, in turn, underlines the current need to search for and find answers to critical questions about children's residential care which do not involve putting an end to homes (as is frequently demanded), but are instead about creating 'evidence-based' expertise and quality criteria relating to children being in and leaving residential care (Holden et al., 2010). The present insights into the results of our study imply that there is significant potential for development on the level of individual cases, and at the same time rebut any assumptions of determination caused by socio-structural risk factors or people's biological or genetic dispositions. As well as a re-assessment of how their upbringing, education and social circumstances affect their life course; however, it also brings to mind topics relating to institutional criticism and reform, such as relevance of participation and relationships, or necessary reflections on family metaphors, inconsistencies and contradictions (Kendrick, 2013; ten Brummelaar et al., 2018; Hauss, 2020). Thus, the quality of their social networks and the recognition and the subjective degree of free rein children enjoy inside and outside the children's home appear to have an important influence on their biographical trajectories and various spheres of their adult life.

How a Lack of Scope for Action in Care Defines Later Scope for Action

A reconstructive analyses of the biographies of former residents of children's homes showed that explicitly restricting their scope for decision-making and action while they were at the home, in relation to their social integration, can be seen as a direct consequence of the logic behind their upbringing and disciplining at that time. The goal of adjusting their behaviour and appropriately integrating people who grew up in youth welfare into society hampered their access to education and stopped them from developing social networks and building up confidence in themselves and others in the long term. Other ways in which their scope for action was limited were not experienced directly in everyday life at children's home, such as later parenthood or how they dealt with state interventions, but instead made themselves all the more noticeable in later encounters and opportunities, when past experiences were, so to speak, reproduced in current ones. In terms of the consequences discussed, both developments led, in particular, to long-term violations of their physical or mental integrity which they sometimes experienced, and indeed continue to experience, as

severe. These then trigger a feeling of helplessness, shame and guilt, which can lead on one hand to resignation and social withdrawal, grief, anger and aggression or on the other to a pronounced sense of justice, to empathy or to resilience and ambition. Ultimately, these experiences show that being removed from their families and placed in care did not initially create any opportunities for them to emancipate themselves socially and/or socio-economically. Instead, their intersubjective experiences indicate that the stigma of being brought up in residential care causes their exclusion from education and social participation in life to be constantly reproduced – usually by others, but also, subsequently, by the subjects. Paradoxically, the professionals' goals, such as enabling them to manage their own well-being, to become socially and economically independent, to develop self-esteem or participate in society and politics, are in fact made impossible, sometimes in the long term, by the children's experiences of the (actual) professional interventions. At the same time, however, it can be seen that these episodes also enable them to experience empowerment when, after leaving care, they create and use new opportunities for action in an active, self-empowered manner which contrasts with their experience at the children's home. Despite, or even because of the unfavourable conditions of their development, many succeed in proactively, independently shaping their own biographies; in the words of Werner and Smith: 'Not all development is determined by what happens early in life' (Werner and Smith, 1982, p.98).

Individual Pressure to Prove Themselves Remains as Recognition Is Denied

Precisely because they have always experienced their own biographical scope for action being restricted and blocked, many former children's home residents feel considerable pressure to prove themselves as adults. During the transitions into adulthood, the obligations of their disciplinary upbringing often turn into implicit obligations to make their own success or suffering visible, and thus proving it to everyone. Success, for example, is objectified by presenting status symbols, claiming superiority over the situation of other children in residential care or other minorities such as foreigners, or by seeing their own standards as the most important and questioning all other standards. Suffering, meanwhile, is made visible and brought up again and again by writing books, making television appearances on the topic or discussing it in networks for former placed children, or in the form of becoming politically active regarding inquiries and demands for compensation. Many, however, have chosen to place their past under a taboo among their close social relationships and consequently avoid making any connections to their experience in care when they experience either success or injustice – or at least not openly.

The way in which they prove what they have achieved, and prove themselves – constantly making comparisons and looking for recognition – also makes them vulnerable: they rarely receive the recognition they desire from other people or the state in a manner they would consider appropriate. However, it can lead to them becoming dependent on the opinions and

assessments of other people who wield a certain discursive power or legitimising influence, such as lawyers, doctors, scientists or politicians. However, this does not contradict the experience described by many former children's home residents, of being solely responsible for themselves and not being able to rely on anyone. This latter experience relates to their having to 'fight their way through' life, while the former aspect is linked to 'making the struggle visible'. These different dimensions of dependency clearly remind science and research of their ambivalent role, caught between empowering and disempowering former residents of children's homes, and thus of the extreme sensitivity required from them in this field.

For many of the children and young people, growing up in care was associated with the experience of isolation and a lack of care. While they were in the children's home, one fact which frequently negated their personality, specific needs and individual experiences was being described as '*the children from the home*' or '*from the orphanage*'. This was, and still is, associated with various multifaceted attributions, simplifications and devaluations. For the former residents, being called the '*children from the home*' today still frequently means being of little interest as individuals with their own needs, views and individual behaviours. For some people who have experienced life at a children's home, the label of '*children from the home*' follows them their entire life, and they often even internalise some of the attributions themselves. Paradoxically, the experience of professional intervention itself has in some cases made it impossible, even in the long term, to achieve professionally desirable goals such as an independent assurance of well-being, social and economic independence, self-esteem or even participation in social and political life. Future qualitative and quantitative research in these fields should focus on understanding how residential care could take recent as well as long-term needs and wishes of young people into consideration. More research questions are needed to find out how children in care can be empowered as individuals and in groups within an institutional framework: How and from which relevant persons can they learn to shape their lives in a self-determined way? How can we prevent them from feeling like 'children in care' all their lives? We need a better understanding of biographical turning points. Because turning points can show important interrelations between interventions and vulnerability in life-terms. But these different dimensions of dependencies clearly point out the ambivalent role of science and research between empowerment and disempowerment of former placed children and thus their necessary high sensitivity in this field.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available for reasons of the specific importance data protection and research ethics in this sensitive field, no data sharing will be possible. For ethical research reasons, because biographical interviews still allow conclusions to be drawn about the person even with intensive anonymisation due to the still apparent life story. The fact that no data can be shared open source with the community is an ethical statement of principle resulting from

the nature of the data in a highly sensitive, tabooed and not yet processed field with vulnerable groups. In short: biographical interviews cannot be anonymised by changing names and years. If you change much more, data become arbitrarily and thus cannot be analysed anymore. Due to the highly sensitive nature of the field, it is particularly important that anonymised interview data is only passed on for research purposes with the explicit consent of the interviewees. No request possible (see above).

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

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AUTHOR CONTRIBUTIONS

TG: head of the study, guarantor of integrity of entire study, study concepts, study design, acquisition, data analysis/interpretation, and manuscript final version approval. SK and CB: study design, literature research, field and data access, interviewing, data analysis/interpretation, manuscript preparation, manuscript editing, manuscript revision, and manuscript final version approval. All authors contributed to the article and approved the submitted version.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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