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Resilience-oriented navigation and negotiation processes of at-risk students at upper-secondary schools: a mixed-methods case study

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Introduction: From January 2020 to June 2023, we investigated the success pathways on how at-risk students from low-income families with migration backgrounds and unstable grades could graduate from upper secondary school in a German-speaking region of Switzerland by attending an Academic Advancement Programme (AAP). Considering successful school resilience, we applied metaphor of navigation (access to resources) and negotiation (child-centered interactions with the environment providing services) to school settings.

Methods: We conducted a longitudinal (10th to 12th grades) mixed-methods case study to analyze the data of at-risk students. Based on our research question, we selected three participants (two young women and one young man) from the program to examine how at-risk young people navigate and negotiate their way through a program designed to help them achieve an upper-secondary qualification. At various measurement points, we used both qualitative (guided interviews, observations, and field notes) and quantitative (standardized questionnaires) methods to gain insight into how young people perceive and use the AAP and how they develop in terms of school performance.

Results: The results indicate that navigation and negotiation processes vary but that overall, grades guide the process. Self-efficacy can be achieved if teachers are adaptable and learning strategies can be developed. Relationships with teachers and peers were central to the learning process. Additionally, it was crucial for at-risk youth to have various graduation options at various levels.

Discussion: Our study highlights the need for systemic and customized support to promote equitable schooling practices, emphasizing that students' individual activities, access to resources, and human relationships are crucial for resilience.

KEYWORDS

resilience, late adolescence, mixed-methods, upper-secondary school, migration

Introduction

Given the fact that completing upper-secondary education paves the way for further education and trajectories for adolescents and young adults, it is hardly surprising that qualifications achieved at this educational level are closely monitored internationally in terms of quality and quantity (OECD, 2024). Therefore, the current state of research not only reveals

and elaborates various theoretical and methodological approaches to explaining these educational disparities (Berger and Combet, 2017; Imdorf, 2017; Scharf et al., 2020). It also becomes apparent that issues of educational equity are constantly being debated in academia, in society, and in politics. Thereby we notice a vivid discussion on how public and/or private initiatives increasingly address the question of how to increase the rate of upper-secondary education both in terms of equal opportunities and from a human capital perspective (Bauer and Landolt, 2024; Scharf et al., 2020). Considering the state of research regarding educational transition and attainment (Becker and Glauser, 2018), predominantly quantitative studies identify specific risk groups as students with migration backgrounds (Makarova and Kassis, 2022) and/or those from families with a low socioeconomic level (Hofmann et al., 2025; Jaik and Wolter, 2016; Bayard et al., 2014). However, little attention is being paid to how these at-risk youth are currently addressed and supported in the diverse realities of schools through various (Bauer and Landolt, 2022; Dueggeli et al., 2021). Above all, these quantitative explanations of school success seem to take little account of qualitative and mixed-methods studies (Cameranesi et al., 2023), which provide in-depth insights into how educational trajectories (and, ultimately, school success) have to be interpreted as a complex multidimensional transition processes (Cuconato and Walther, 2015).

We take up this point and ask *how at-risk students navigate and negotiate their way to an upper-secondary qualification, supported by an academic advancement program (AAP).* This specific AAP's goal was to provide academic and personal support for successful graduation at the upper-secondary level for young people who were labeled at-risk due to a migration background, their parents' low socioeconomic status, and unstable grades in school.

Resilience-oriented navigation and negotiation processes at the upper-secondary school

The perspective on shaping processes addresses school-related understandings of resilience that focus on the individually processed interaction between individual and structural factors, usually against the backdrop of (lack of) academic success (Cefai et al., 2022). Masten's (2014) definition of resilience as a "positive adaptation in the context of risk or adversity" (p. 9) fully applies to upper-secondary education and provides a useful theoretical framework that approaches the formulations Eccles and Wigfield (2002) elaborated with expectancy-value models along with Seidel's contributions to effective teaching. A fundamental insight is that Masten's empirical work indicates a process of resilience that normally occurs in adaptive systems during the high school years (Masten et al., 2021). This indicates that resilience (here, specifically the school success of students with a migration background), is not just about individuals' "just do it" attitude when they are facing adversity (Makarova and Kassis, 2022).

Such an approach underscores the necessity of reconciling students' commitments with their institutional responsibilities for them to march toward academic success (Ungar and Theron, 2020). Research on school resilience has contested broad-based, negative assumptions and deficit-oriented models describing the difficulties that migrant high school students face (Kassis et al., 2024; Theron, 2013; Ungar et al., 2019). Nonetheless, although there is no shortage

of evidence-based knowledge about school resilience and protective factors in general terms (and up to a certain stage), research on how they are developed within the confines of upper-secondary education remains insufficient (Kassis et al., 2024; Dueggeli et al., 2021). We continue from Masten's ordinary-magic concept (Masten, 2001, 2014) to examine general resilience and school resilience based on ordinary processes (i.e., everyday school practices rather than magic or mystery of the black box strategies). We need insights about school adaptation systems tailored to migrant students (Makarova et al., 2019) in upper-secondary education that will enable positive individual or social practices while minimizing existing threats to their healthy development (Makarova and Kassis, 2022).

Resilience is defined as the process of achieving positive adaptation despite adversities (Masten, 2014). However, how do we know when we see resilience unless there is a common definition of the positive adjustment and positive outcomes (within specified domains, such as academic success despite adversity) that are associated with this capacity? In the process of relating new knowledge to practice, we examine upper-secondary school retention from a resilience perspective and discuss inflection points for enhancing school-based resilience among high-risk students through the lens of child- and youth-serving studies (Kassis et al., 2024). As Masten (2014) recommends, Ungar, in his study on the pathways to resilience among children and youth, argues that those whose parents have died are also "travelers" along the same road of social service delivery systems (Ungar, 2011, 2015, 2017). Ungar examines the processes within dynamic systems that foster resilience pathways and enable developmental turning points for youth.

Ungar utilizes the metaphor of navigation (access to resources) and negotiation (child-centered interactions with the environment providing services) when considering successful resilience (Ungar, 2015). By incorporating Ungar's messages from social services in school resilience, the identification of resilience in schools is centered on pathways engendered by active behaviors guided through student- and child-specific interpersonal rather than institutional school interactions (Dueggeli et al., 2021; Kassis et al., 2024). Ungar's proposals are, in some sense, a way for us to borrow from the social service research lessons and translate that knowledge into school situations. Our paper is guided by Masten's definition of resilience (Masten, 2014, p.10): "the capacity of a dynamic system to adapt successfully to disturbances that threaten system function viability or development."

Ungar (2015) considers school or social service interventions attached only to the perspective of provision, ignoring that children are also active consumers of services, professionally myopic. Therefore, school resilience is not just about the coping and adaptive practices of young people at the upper-secondary level but something different and more than how pupils manage to overcome their academic problems. Ungar (2015) suggested that functional resilience pathways involve service ecologies, referring to the interaction among "what is delivered to children at risk, what resources are available in health or other services on behalf of their interests and how well those arrangements suit different constellations of problem behaviors and psychopathology," (p. 425). Resilience cannot be well understood without modeling protective and risk factors at the individual level as also integrated with less studied contextual ones (family or school class) (Ungar et al., 2013).

A third *important* area of advanced intervention is the division/ sharing between individuals and society, particularly of equal opportunities. It is not learners' responsibility to ensure that those

without social capital are included in navigation- or negotiation-based resource promotion but rather a problem for the system. Resilience programs, meanwhile, also stress individuals' ability to surmount obstacles, underscoring individual responsibility and hardiness. This can, at times, tip into the problematic conception of resilience as superhuman overachievement. The findings presented here show that systemic programs can address some problems they have created and that resilience discourse, which is legitimated through individually sustained selection mechanisms, leads to justice-related issues.

Insights from Ungar's (2015) work that are added to Masten's (2014) resilience model include the understanding of proactive pathways, suggesting that passivity and resistance can be translated into navigational or negotiation capacities in a school context. Based on the exemplified specific importance of migration background and low socioeconomic position for school success at the upper-secondary level, we conducted an analysis of resilience turning points exemplified by young adolescents with migrant backgrounds and in disadvantaged socioeconomic positions. We focused our attention on strategies that students employed to navigate and negotiate their way through school at the upper-secondary level and what factors contribute to their success at the program's conclusion.

Context: an AAP in an upper-secondary school

The main goal of the AAP was to offer academic and personal resources to support school success, leading to graduation for young people considered at risk of not completing upper-secondary education in the Swiss context. In the applied AAP, support was developed for students with migration backgrounds, low socioeconomic status, and unstable grades in school. The program was implemented in an upper-secondary school in a German-speaking region of Switzerland from January 2020 to June 2023, a so-called Secondary Business School (SBS). It is an upper-secondary vocational education track, different from the general case of company-based vocational training (apprenticeship) existing in Switzerland, which results in vocational education and training (VET; in German, EFZ) (ISCED 35) and allows students to graduate with a Swiss federal vocational baccalaureate (FVB; in German, BM) (ISCED 34) in a school-based vocational education model (Esposito, 2024). The SBS curriculum provides for general and character educational training from the 10th to 12th grades and enables students to take both diplomas (VET and FVB). Its wide range of profiles enables students to create personalized profiles for their future careers and study paths. SBSs have an above average number of young people with a migrant background. Education economics and rational choice models explain this overrepresentation with educational preferences among parents and young people with a migrant background (Abrassart et al., 2020). Sociological studies on education explain this shift to school-based programs in connection with discrimination in the apprenticeship market (Imdorf, 2017). In addition, at the school in question, the proportion of student dropouts with migrant or low socioeconomic backgrounds has been among the highest at the cantonal level. The SBS attracts many students with migration backgrounds and low socioeconomic status (Statistisches Amt des Kantons Basel-Stadt, 2021). Additionally, at this school, the dropout rate among students with migration backgrounds and low socioeconomic status has been high since 2015. Therefore, the program was intended to reduce the dropout rate, per the school's goal (Secondary Business School, 2016).

This is consistent with the school's overarching goal to decrease dropout rates in the future.

The AAP was intended to support a cohort of 24 students in one support class through the entire three-year school period (2020–2023). The 24 participants were pupils with a migration background, low socio-economic status, and unstable grades after receiving their first report card in January 2020. All of them attended the first-year classes of the SBS (a total of four classes). Their class teachers recommended them for participation in the AAP program. The final decision to take part was made individually by each pupil. During the first interview wave (December 2020 – May 2021), all 24 pupils participated. In the second wave, 17 pupils took part. Only the four pupils who had to repeat a grade or retake the final exam were interviewed during the final wave.

In three weekly tutoring sessions with four teachers from various subject areas, the AAP was intended to address the specific academic needs expressed by the students. The learning time increase that was adopted, however, was not targeted as traditional classroom teaching, which is typically regulated by teachers. Instead, learners were expected to schedule themselves. Although the teachers were present and available at each session, they were not directing the learning process. The students had to manage this aspect of the program. Upon admission, learners were required to attend the program. The current support and stabilization program was introduced to achieve this overall objective and was introduced over 3 years. It was intended to counter recent reports from migration studies that had stressed the significance of opportunity to learn in educational success, especially among students of lower socioeconomic status. The course was mandatory for those who signed up, and many of these students were required to show up if they were enrolled, thereby encouraging their engagement with the content. This expectation deliberately provoked student negotiation and was a means for making student needs and program realities begin to come together. As aforementioned, the students were supposed to keep their own time, and the teachers were on-site to provide support. This approach was diametrically different from traditional teaching and allowed the students to control their educational activity. Three broad areas were approached in the intervention: (a) academic performance (grades and school diplomas), (b) self-organization as part of navigation of studies, and (c) relationships of social learning in negotiation and adaption between the participants and the projects offerings. The program was therefore flexible and customizable to suit the participants' needs over time (Dueggeli et al., 2021).

Of the initial 24 participating students, five had to be withdrawn from the school in the first program year due to their failing grades. No other students left the school for the remaining 2 years. A group of teachers was formed (teaching in the areas of mathematics, German, history, biology, economics and law [EL], finance, English and French, information and communication, and administrative subjects) for the accompanying courses during August and December 2019. This was followed by targeted advertising of the project to attract the target group (students with migration backgrounds, low socioeconomic status, and unstable grades). In December 2019, young people who showed fluctuating and low performance in several subjects could be directly approached. The first report card in mid-January 2020 was very relevant for the young people's decisions. Twenty-four young people—ten female pupils and 14 male pupils—registered and were subsequently invited to an oral interview.

In late January 2020, the project started with a collective support class of all 24 students and teachers. Five three-hour support sessions followed until the project was forced to end in March 2020 because of the pandemic. No support lessons were delivered from mid-April to June 2020 due to COVID closures. The project also offered personalized, dedicated, one-to-one support via MS Teams regarding well-being and personalized learning, especially in the areas of German and EL. Special pandemic measures have been in place since the school opened in August 2020, disrupting the initially desired class mixing. During the second pandemic wave in October/November 2020, the students missed on-site support hours. Stabilizing academic performance remained difficult until the end of 2021. Despite these difficulties, most planned support sessions took place, focusing on the students' problems and questions. Subject-specific content and learning strategies were provided. Firstly, we applied resilience-oriented navigation and negotiation concepts to analyze educational trajectories at risk. Secondly, we used these insights to develop strategies for supporting at-risk students through their upper secondary school education.

Methods

Methodological approach

From an empirical perspective, the study is based on quantitative and qualitative data collected evaluating the support class of AAP. At various measurement points over 2 years, both qualitative (guided interviews, observations, and field notes) and quantitative (standardized questionnaires) methods were used to gain more insight into how young people perceive and use this AAP and how they develop in terms of school performance. The study employed a mixed-methods longitudinal approach, focusing on analytical dimensions such as academic performance, self-efficacy, motivation, attribution

strategies, support, and recognition by teachers and peers. The necessary consent forms were acquired from the students, and no extrinsic motivations were provided.

Study design: a mixed-methods approach focusing on three cases

There is a research gap concerning an in-depth focus on at-risk youth and their journey to upper-secondary qualification. We still know relatively little about how they navigate and negotiate their way through their academic careers. Moreover, qualitative data alone cannot provide a complete picture, and exclusively using quantitative data may cause at-risk youth to disappear within the statistics (Yin, 2014). Therefore, we employed a mixed-methods case study research design (see Figure 1) to analyze the data.

As Guetterman and Fetters (2018) state, conducting a case study employing both qualitative and quantitative methods can lead to the extraction of new insights and foster a more complete understanding. The various paradigms are essential to illuminate and compare the processes to understand the strategies students employ to navigate and negotiate through the AAP program (Schoonenboom, 2022). Bringing together the sets of findings from these three cases, we corroborated, directly compared, and connected them. As a next step, to merge the data, joint displays were developed (Creswell and Plano Clark, 2017; Fetters and Guetterman, 2021) to enhance our understanding of the process and strategies of students navigating and negotiating the AAP. Finally, claims were constructed, and meta-inferences were developed (Schoonenboom, 2022) to answer the research question: How do at-risk students navigate and negotiate their way to an upper-secondary qualification through an AAP?

Bringing together the data from all researchers generated collective reflexivity (Cayir et al., 2022) while they created joint displays, constructed claims, and developed a meta-inference, which
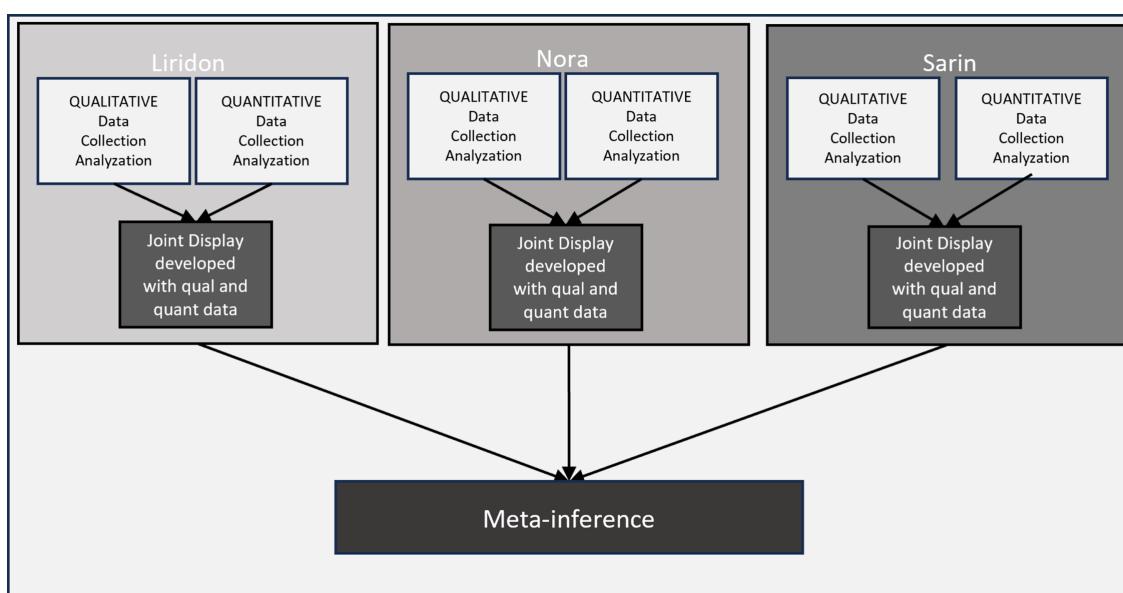

FIGURE 1
Mixed-methods case study design.

are essential for the credibility and transparency of the mixed-methods research process. This design allowed us not only to capture students' perspectives and perceptions from qualitative data but also to reflect on their quantitative data. The quantitative data therefore is intended as descriptive supplementary information to the qualitative analyses. Thus, they are providing new insights and enhancing support strategies for at-risk youth on their path to tertiary studies (see Figure 1 on the research design).

Participant description

Based on our research question, we identified three cases from the 24 participants within this program to understand how at-risk youth navigate and negotiate a program designed to support them on their way to an upper-secondary qualification.

The three selected cases involve learners who attended a vocational educational and training school (ISCED 35), did not consider German their native language, came from families with lower socioeconomic status, and had migratory backgrounds. To capture the diversity of educational experiences within the program, three cases were purposively selected to represent its different participant groups. These cases illustrate ascending, linear, and descending educational trajectories, providing a foundation for examining and comparing the varied ways in which students navigate and negotiate their educational pathways. Despite sharing similar socioeconomic statuses and migratory backgrounds, the three students came from markedly different family environments, each shaping their influence on their school success in distinct ways. The cases reveal differences in how the pupils experienced and engaged with the AAP Program and offer valuable insights into the individual yet similar strategies young people employ to obtain a final diploma. Due to incomplete data caused by participant dropout, a fourth case in which no diploma was awarded was excluded from the analysis.

Qualitative survey

Data sources and collection

We employed a qualitative research design, collecting multiple forms of empirical material to build a comprehensive picture of the program's effects.

Data sources included: Observations and field notes collected every second week throughout the program. These records captured events, contexts, *in vivo* conversations with students and teachers, and researchers' impressions. Field notes were thematically organized and compiled into detailed reports to support systematic analysis. In addition, semi-structured interviews with all participating students at three points: Wave 1: December 2020 – May 2021, Wave 2: March 2022 – May 2022, Wave 3: March 2023 – May 2023 (retained students).

The interviews were designed to capture adolescents' perceptions of their learning processes and their views on the program's impacts, with a particular focus on how they navigate and negotiate participation in the support class.

Analytical framework

Data collection and analysis followed the grounded theory methodology as described by Corbin and Strauss (1996), Charmaz

(2021), and Clarke and Charmaz (2019). For the analysis of the interviews, open, axial, and selective coding were used, and interview-specific categories and links between them were created (Heiser, 2018). The categories of navigation and negotiation were the focal points of the analysis in all interviews and were reflected on with additional data, such as observations and *in vivo* conversations. The interviews were contrasted with one another to create a further level of abstraction throughout the whole dataset (Heiser, 2018). The process comprised three stages:

Open coding

Each interview transcript was analyzed paragraph-by-paragraph. Initial codes were generated directly from participants' statements (*in vivo* codes) and the researcher's observations. For example, in the first interview with "Nora" (December 2020), open codes included her reasons for entering the support class, academic goals, perceptions of teacher input, family responsibilities, and reflections on effort. These codes were documented in Table 1 containing transcript line numbers, sequential code numbers, direct quotes, and observations.

Axial coding

Codes were compared within and across interviews to identify conditions, actions/interactions, and consequences. In Nora's case, the codes clustered into categories specific to the interview: Entry due to peer influence (67); attempting to improve grades (68, 75); better understanding through teachers (69, 70, 71); family background hindrance (71, 72); difficulty maintaining concentration (73); and self-reflection on use of the support class (76).

Selective coding

The core categories identified across all cases were: Navigation and negotiation. In Nora's case: Causal conditions: Family obligations and pandemic-related stress. Intervening conditions: School adaptations and irregular schedules. Action strategies: Sporadic attendance; arranging meetings with teachers (which are sometimes missed); and focusing on improving mathematics. Consequence: Insecure navigation of the support class and inconsistent negotiation of learning content, resulting in fluctuating performance.

Triangulation

Observations and in vivo conversations with support class teachers corroborated interview data. Teachers expressed dissatisfaction with the irregular attendance and lack of organization. Comparative analysis with other student cases (e.g., Sarin and Liridon) enabled the definitions of 'navigation' and 'negotiation' to be further abstracted and refined.

Quantitative survey

We conducted the baseline survey at the very start of the AAP in February 2020. Due to the pandemic, it was decided to repeat the first quantitative survey to provide a more reliable baseline. This second survey took place in mid-September 2020. As part of the accompanying evaluation, a third survey was conducted in early June 2021, followed by a fourth survey in mid-April 2022. The research team delivered a brief verbal introduction about the online survey, and the students completed the questionnaire, a process that typically took about 45 min. The quantitative data is depicted descriptively as individual trajectory in separate figures, scaled in quintile segments,

TABLE 1 Excerpt of open coding (Nora, Wave 1).

Transcript lines	Code no.	Direct quotes/Observations
586–591	67	"I can also benefit from that"
605–613	68	"If I score poorly in mathematics, I will receive provisional admission"
618–622	69	The Support class expands foundational knowledge for present and future
622–631	70	"Receive explanations from teachers that I can understand" "Teachers present information in a way that allows me to take notes"
636–639	71	"My Mother has no time for me" "I can use the learning time in support class for that"
646–648	72	"Couldn't come often, had to look after my siblings"
649–653	73	"The support class starts after school, but maintaining concentration for the next 3 h is difficult"
654–656	74	"I improved thanks to the support class, but I could not make use of it because I did not put in enough effort"
656–662	75	"I checked the contents in the support class and after the exam, I was sufficient"
666–667	76	"If I really use the support class and really want to learn, then it helps me a lot"

along the two dimensions of navigation and negotiation. The reference here is the Likert scale, on which the characteristic is measured and divided into five equal parts. Therefore, the reference is the scale range, not the value range of the sample examined. This enables the information provided by the grades, which are represented on a six-point scale, to be interpreted in a meaningful way. This retains the distinction between 'sufficient grades' (grades 4–6) and 'insufficient grades' (grades 1–3.9), which is important for the individual learning biography. Additionally, this approach strictly focuses on individual cases, emphasizing that no aggregated values are considered or reported due to the small sample size ($N = 3$). This procedure can, to some extent, offset the measurement inaccuracy caused by the singular measurement. On the other hand, changes and developments can be depicted in a way that corresponds to the selected mixed-methods design for answering the research question. Furthermore, this form of presentation enables intrapersonal comparisons of changes in characteristics, independent of the respective response formats of the scales used here. This means that the quantitatively collected data contributed to a more detailed description of each of the three cases. Therefore, the information from the quantified data is geared exclusively toward achieving a more differentiated and standardized understanding of each case, rather than being considered in terms of inferential statistics. Due to the small sample size (N = 3), it is not possible to conduct any sample evaluations.

Navigation and negotiation, which underpin this study conceptually and are therefore fundamental dimensions of resilience development, were each recorded with three characteristics. Navigation focused on three personal aspects of action control with the characteristics of *self-efficacy, work motivation,* and *internally stable attribution of failure*. When introducing the quantitative measures, we will not report Cronbach's alpha of the applied scales, as our sample size of $N = 3$ does not allow us to conduct reliability analyses.

The *work motivation* scale focused more generally on the activation to commit oneself to tasks to be completed. In this way, work motivation refers to the willingness to tackle upcoming tasks and to work on them with the will to achieve a good result. Work motivation therefore includes thinking related to a successful goal or thinking processes in relation to action (e.g., "to get through school with little effort") (adapted from SELLMO; Spinath et al., 2002). This

characteristic was measured using a scale consisting of nine items, each of which was rated on a 5-point Likert scale ranging from 1 = not true to 5 = completely true. The quintile-thresholds (Q1 – Q5) of this scale are as follows: Q1: [1, 1.8]; Q2: [1.81, 2.6]; Q3: [2.61, 3.4]; Q4: [3.41, 4.2]; Q5: [4.21, 5].

The *self-efficacy* scale focused on individuals' assessment of their ability to be effective in completing specific tasks. It was based on a scale developed to measure self-efficacy expectations in a school context (e.g., "If I have to solve a difficult task on the blackboard, I believe that I can do it.") (Jerusalem and Satow, 1999). We applied the corresponding seven-item scale, in which items are rated on a 4-point Likert scale ranging from 1 = not true to 4 = completely true. The quintile-thresholds (Q1 – Q5) of this scale are as follows: Q1: [1, 1.6]; Q2: [1.61, 2.2]; Q3: [2.21, 2.8]; Q4: [2.81. 3.4]; Q5: [3.41, 4].

The *internally stable attribution of failure* scale, on the other hand, focused more on how the results of actions are attributed to causes. This included a characteristic that becomes relevant after the action's result has been achieved (i.e., it focuses on the cause-related interpretation of action results) (e.g., "If I'm not doing well at school, my mind is often elsewhere."). The internal stable attribution style is the tendency of individuals to attribute failures systematically and fundamentally to themselves (adapted from Bos et al., 2005). The items were rated on a 4-point Likert scale ranging from 1 = not true to 4 = completely true. The corresponding scale consists of nine items. The quintile-thresholds (Q1 – Q5) of this scale are as follows: Q1: [1, 1.6]; Q2: [1.61, 2.2]; Q3: [2.21, 2.8]; Q4: [2.81, 3.4]; Q5: [3.41, 4].

Negotiation, captured by the characteristics of *peer recognition, teacher recognition,* and *teacher suppo*rt, addressed more of the social perspectives in the learning and development process. The negotiation features are, therefore, supplementary to the more individual-related features of navigation, located in a broader sense in the social learning context. It is about the ability to interact productively with other actors in learning situations and processes aimed at improving one's own learning.

The *recognition from the peers* scale allowed the learners to assess their emancipation as individuals in interpersonal forms of reference and of being perceived and valued by other students as authentic beings (e.g., "People around me make me understand that my skills are useful for achieving common goals"), based on Renger et al. (2017). This characteristic was measured on a scale consisting of four items rated

on a four-point Likert scale ranging from 1 = not true to 4 = completely true. The quintile-thresholds (Q1 – Q5) of this scale are as follows: Q1: [1, 1.6]; Q2: [1.61, 2.2]; Q3: [2.21, 2.8]; Q4: [2.81, 3.4]; Q5: [3.41, 4].

Teacher support focused on learning, thus highlighting a central goal of the program, namely that learners can make progress in terms of content through the additional learning time (e.g., "When I do not understand something, the teachers take the time to explain it to me again."), based on Moser and Berger (2013). The scale consists of six items rated on a 6-point Likert scale ranging from 1 = not true to 6 = completely true. The quintile-thresholds (Q1 – Q5) of this scale are as follows: Q1: [1, 2]; Q2: [2.1, 3]; Q3: [3.1, 4]; Q4: [4.1, 5]; Q5: [5.1, 6].

The *recognition by teacher* scale assessed three subscales, empathy, solidarity, and law, based on Honneth's (1996) recognition theory. The revised version contained 16 items (tested by Böhm-Kasper et al., 2022) created on a 4-point Likert scale ranging from 1 = do not agree at all to 4 = strongly agree (e.g., "Teachers not only look for our weaknesses but also see our strength.") We used a reduced scale consisting of six items. The quintile-thresholds (Q1 – Q5) of this scale are as follows: Q1: [1, 1.6]; Q2: [1.61, 2.2]; Q3: [2.21, 2.8]; Q4: [2.81, 3.4]; Q5: [3.41, 4].

Grades: Academic performance was primarily recorded as grades. On one hand, these are reported in two school subjects that are fundamentally important to academic success (i.e., German and mathematics). In addition to these, the two averages relevant for passing the final exam are reported. One is the average for achieving the VET, and the other is the average that counts toward earning the FVB. In the education system examined, the grade range is 1 (very poor) to 6 (excellent), and a grade of 4 is the boundary between satisfactory and unsatisfactory performance. The quintile-thresholds (Q1 – Q5) of this scale are as follows: Q1: [1, 2]; Q2: [2.1, 3]; Q3: [3.1, 4]; Q4: [4.1, 5]; Q5: [5.1, 6]. Values of 4 and higher mean satisfactory performance, and values below 4 mean unsatisfactory performance. Half and full marks are awarded in the certificates.

Results

Following the mixed-methods case study design, we present the results in three steps. First, we briefly introduce the three cases. Second, we present the data in joint displays of students' navigation and negotiation experiences while they attended the program and merge the respective qualitative and quantitative data. The latter, as said, is to be understood as additional idiosyncratic information on each case, and third, we make meta-inferences from all three cases to construct overall claims (Schoonenboom, 2022) to answer and discuss the research questions in the discussion section.

Descriptions of the three cases

Case Liridon

After completing compulsory schooling without a follow-up to upper-secondary education (apprenticeship, high school), Liridon was enrolled in bridge year courses (a one-year transitional education program between lower- and upper-secondary education, ISCED 3) to enhance his grades and create new opportunities for the transition to upper-secondary

education. Liridon was 19 years old in 2020, the time of the first survey. The only child of migrant parents from southeastern Europe, he was born in Switzerland. His mother, a second-generation immigrant, speaks Swiss German with him, but Liridon communicates exclusively in Albanian with his father. Because his parents had to work full-time, Liridon often spent his preschool years with his grandparents in Albania, which is one reason he has a good command of his first language orally. Since kindergarten, he had attended Swiss schools. With the transition to the primary level (ISCED 1), the school became more demanding. At this point, he showed little engagement with learning and described himself as a "lazy" pupil. His class teacher tried to motivate him, assuring him that he could succeed in high school and that he was intelligent. Nevertheless, Liridon did not achieve the required score for the transition to the high attainment track[1] in lower-secondary education (ISCED 2), nor did he pass the available admission exams. Reflecting on this time, he explained, "At that time, I did not care about school," attributing this to his young age. He then moved to a lower-secondary school and was placed in the middle attainment track, where he remained until the end of lower-secondary schooling. However, in his final year, his grades declined, which complicated his situation in the apprenticeship market regarding transition to upper-secondary education. Only after attending an additional school year (bridge year course), which he described as calmer for him and not particularly demanding academically but a chance to stabilize his grades, did he gain access to a school-based vocational upper-secondary education (ISCED 35). This option provided a solid foundation for future educational decisions. A year and a half later, Liridon was convinced that he had made the right choice and was aiming for a FVB (ISCED 34) to obtain entrance admission to universities of applied sciences.

Case Sarin

Sarin was one of the older students in the sample. She was 20 years old at the time of her first interview, on January 19, 2021. This was the case because Sarin found her way to the SBS via a circuitous route. She was born in the southern part of Switzerland and lived there until she started school. She also spent some of her preschool years in Southeast Asia. When she enrolled in primary school, Sarin and her family, which includes her parents and two brothers, were living in the German-speaking part of Switzerland. Unlike Liridon, Sarin was placed in the low track in lower-secondary education (basic requirements), a decision she did not understand. As she explained, she was assigned to a level that did not align with her "true" abilities. She remained at this level for a month before her new teachers reassigned her to middle attainment level. Unfortunately, Sarin contracted a virus and had to take an extended leave from school, leading to her repeating the first year

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1 In various cantons in Switzerland, learners in lower-secondary education (ISCED 2) are divided into attainment levels and tracks. These tracks (low, middle, and high) differ not only in the way teaching is carried out (class schedule, number of hours, teaching staff, pedagogical approaches) but above all in the formal opportunities (access) and effective chances for transition to upper-secondary education (Sacchi and Meyer, 2016).

of secondary school. She stayed at the medium level of secondary school for 3 years. Like Liridon, she had to attend a bridge year course to transition to upper-secondary education. This allowed her to finally express her abilities and successfully transition to a baccalaureate school (in German, gymnasium) (ISCED 34). She stayed there for a year but then switched to another gymnasium in town, where her favorite subject, artistic design, was offered. Sarin reports that she loves painting and drawing in her free time. However, she did not stay in the new gymnasium, either, for more than a year. Sarin did not want to have "just school," as she puts it, but wished to progress at her own pace, which is why she purposely navigated away from the gymnasium once again. It was her decision to transition to SBS, as a friend suggested to her, and she found the economic subjects she first encountered in the gymnasium "very interesting." Her parents accepted that she no longer wanted to attend the gymnasium, but they also advised her not to attend the upper specialized middle school (in German, Fachmittelschule (FMS), ISCED 3–4). Sarin researched the SBS and found the internship at the end of the school period positive, as it allowed her to aspire to VET in a scholarly way and to find a job after completing her education. She felt motivated to learn in the SBS, which was not the case at the gymnasium; here, she was "more relaxed."

Case Nora

Unlike Liridon and Sarin, Nora entered directly into the SBS, as was her wish. She is one of the younger students in the sample. Nora was born in Switzerland and was 17 years old at the time of the first survey. She is the oldest daughter in a family with five siblings, which means that the family often had to search for a larger apartment. The constant movement had negative effects on her school life: Nora kept changing schools and classes, which led to her friendships being disrupted, as she reports. On a positive note, however, Nora learned to adapt. When the family moved again 7 years ago, she quickly managed to integrate into her new class, for which her homeroom teacher praised her. Nora saw herself as an open and team-oriented person. At the end of primary school, when it came time to transition to lower-secondary education, like Liridon, she was placed in the middle attainment track, where she stayed until the end of 9th grade. However, she reported that she was only a few points short of being placed in the high attainment track. In her narrative, Nora made it clear that she had never aimed for a baccalaureate school; rather, she wanted to be a good learner in the middle attainment track. However, the transition to secondary level II was stressful for Nora. At first, she wanted to start an apprenticeship as a carpenter, but she changed her mind a week before the final registration. She clearly decided on SBS to obtain a school-based vocational education with an internship that offered her either a direct entry into working life or the possibility of further studies. In her early days at the SBS, Nora came home crying every day; she struggled with the new subjects, the new school environment, and the many demands which overwhelmed her. Over time, she grew accustomed to having numerous assignments and many tests at the end of the semester. After a certain adjustment period, she began to think, "Yes, this is a good path for me." Nevertheless, Nora was uncertain, as she might be placed on probation the next semester.

Results along joint displays

As we merged the data, following our mixed-methods case study design, joint displays featuring both qualitative and quantitative results of the selected cases were developed. In the following chapter, the joint display will first be presented, followed by explanations and details for each case.

The first case: Liridon

The findings from the mixed methods analysis show that Liridon navigates the AAP program by balancing effort and autonomy with the available support, while negotiating shifting sources of recognition. Even when grades stabilize at a low level or decline in specific subjects, Liridon compensates through targeted strategies and sustained engagement, ultimately achieving both diplomas. Teacher recognition remains for Liridon a consistent anchor, while peer recognition diminishes over time, signaling a shift in social negotiation from peer to teacher-centred validation. The ability to adapt, as demonstrated by the swift resumption of learning routines following pandemic-related disruptions, emerges as a vital navigational tool, enabling Liridon to successfully navigate his academic journey despite fluctuating performance.

Liridon: experiencing navigation

During the first and second interviews (see Figure 2), Liridon emphasized navigating the process and the importance of stabilizing his grades. However, this stabilization is not only related to his learning efforts but also dependent on the teachers' grading processes: "When I get a grade back and it's not good, then I know that in these subjects I must make more effort now so that I can achieve a higher average. (…) In biology, I had an average of 3.5 last semester, and with the last test, I wanted to reach a 4, so I studied for that. But then I missed a point to get a 4, so I had 3.73, and it wasn't rounded up but rounded down" (1st Interview, 2.9.2021, 00:28:18-0). Regarding the final exams, Liridon continuously calculated his preliminary grades. To pass, he must achieve a grade above 3 in EL and financial accounting (FA): "I actually only need to score above a 3 in EL and FA. (…) Yes, and then the other subjects are comfortable. Except in math, it does not matter what I write. I will not pass math, but I'll pass FVB and VET "(2nd Interview, 5.17.2022 00:02:27-3).

At the same time, even though the grades affect the process, Liridon's perception of self-efficacy increased during the program, particularly during the second period. This means that his self-perceived ability to cope successfully with school requirements became more stable, a prerequisite to be able to act successfully in the context of school requirements.

For Liridon, the investment of effort increased over time: In mathematics, a subject in which Liridon needs support, the content became more difficult, and Liridon needed to put in more effort to understand it: "For example, mathematics. I understand it quite well, but it becomes increasingly difficult, and you must put in more effort to understand something. But I do think I am keeping up well" (1st Interview, 2.9.2021 00:19:46-9).

Qualitative (first interview)

Experiencing Navigation:
Requires autonomous learning decisions as organization of oneself.
Needs self guidance for general as well as subject-specific learning effort in school regarding learning content and learning process.
Is influenced by the grading practices of the teachers and the school's selection processes
The school subjects are becoming increasingly complex, so he must therefore learn more.

Experiencing Negotiation:
Effective learning negotiation in the regular class when time to learn for himself and the teacher is not only lecturing.
In the project as assistance with good teachers, especially relevant for exams academic support from teachers.
The unwanted support from teachers, after pandemic, is hindering his learning.
Learning negotiation with peers does not create learning pressure.

Qualitative (second Interview)

Experiencing Navigation:
Must remain an autonomous in decision of learning content.

Is coping with challenging demands in school life, can concentrate on math and perceived himself as successful.
Preliminary grades determine the learning navigation for the final exams.

Is influenced by the grading practices of the teachers and the school's selection processes.

Experiencing Negotiation:
In retrospect, he perceived the teachers as supportive throughout the support class: providing clear explanations to reach success.
Teachers who motivate and provide recognition.
Active peer negotiation with a focus on final exams

Qualitative (observations, field notes)

- He comes to AAP because his headteacher proposed this to him
- He comes regularly to AAP until the end (Final Exams)
- In the beginning, he usually studies in a small group with peers. They ask the present teachers only if they are unsure about their answers
- Towards the end of the AAP and before the final exams, he studies more frequently alone or with a teacher
- Throughout the entire AAP, he wants to decide which learning contents to focus on. He frequently complains when teachers makes decisions regarding the learning contents
- He structures his study time during the AAP, taking two breaks during the sessions. The breaks become shorter towards the end of the third grade and before the final exams

Claims

Liridon - *it has to come from me-*

Qual: Grades are navigating the process but quant: experiences self-efficacy because qual: even though the investment of effort increases over time, quant: it could be calculated because he receives both diplomas with a low grade.
Quant: The grades show stabilization tendency towards improvement and the psychometric data as well, but the math grade takes a dip, but it could be compensated and quant and qual: the support class concludes in experiencing learning the content, academic success, and diplomas.

Qual: Experiences maximal investment of effort and prefers and requires autonomous learning because of maturity and quant: the work motivation is improving and stabilizing over time such as the recognition and support from teachers. But the recognition of classmates is decreasing over time.

Qual: To be successful it was important to return to the presence mode after the pandemic but is not anymore in the second interview. The hurdle of remote leaning could be overcome quickly by returning to routines in the classroom.

Qual: Knows from experience how learning works best, and teachers helped him to develop further but quant: this was only recognized after successful completion of the program because qual: at the beginning some teachers provided unwanted support.

Qual: At the beginning learning with peers is relaxed and quant: the perceived recognition is relatively high. Qual: By the end they are becoming more focused. but quant: the recognition of peers declines rapidity and is low by the end of the support class. On the other hand, the recognition and support of teachers stays high and stable over time and the grades are stabilizing on a low level for reaching both degrees.

Quantitative (grades, navigation, negotiation)

Grades — line chart. Y-axis from 1 to 6. X-axis: t0, t1, t2. Series: Grade German, Grade Math, Grade BM average, Grade EFZ average

Navigation — line chart. Y-axis 1 to 5. X-axis: t0, t1, t2. Series: Self-efficacy, Motivation to work, Internally stable attribution of failure

Negotiation — line chart. Y-axis 1 to 5. X-axis: t0, t1, t2. Series: Recognition from classmates, Recognition from teachers, Support from teachers
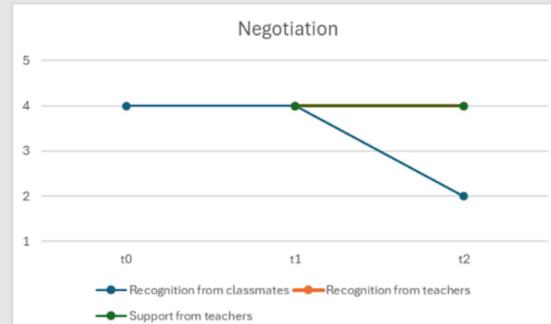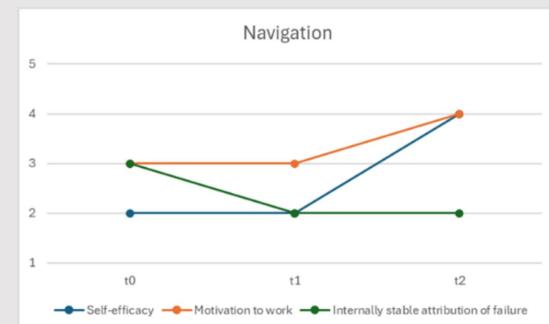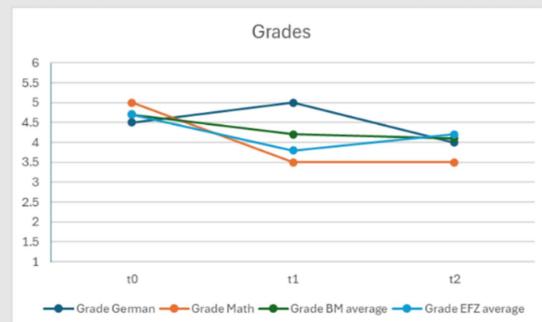
FIGURE 2
Case Liridon, results on navigation and negotiation along joint displays.

Liridon's grades declined or varied over time. Whereas his recorded grades (G/M/VET cut/FVB cut) were between 4.5 and 5 at the first measurement, they scattered more at the second measurement, between 3.5 and 5. This spread decreased at the third measurement, between 3.5 and 4.75 (i.e., lower than at the first measurement point). His grade in mathematics is striking because it was the highest at the first measurement, with a 5, but at the second measurement, it was the lowest of all grades, with a 3.5. It then remained unchanged and was therefore also the lowest value of all grades at the third measurement. Even though Liridon's investment increased and his math grades decreased over time, the effort was successful in his view because he received both diplomas with low grades. The quantitatively measured characteristics generally developed in a positive way. Concerning Liridon's development, we can not only see an increasing self-efficacy but also an increasing work motivation. Furthermore, his attribution style regarding failures changed. This underlines his positive development while he was in the program. The decreasing value for this characteristic points to a positive development from a broader perspective of explanations for failure, and his way of explaining failure can perhaps be somewhat relativized. In a broader context, these trends indicate a development that can be understood as a stabilization of Liridon's ability to act.

In the support class, Liridon desired autonomy in learning from the beginning. He wanted to be able to decide when to approach the support class teacher with his questions: "I find that I can learn better when I am alone, so when I focus on something by myself and work on the tasks alone. (…) If I have questions, I can still approach the teachers. I do not like it when I am alone with a teacher and we solve the tasks together and they constantly interrupt. I do not think that helps me as much as when I do it alone and then go to a teacher" (1st Interview, 2.9.2021 00:44:55-1). After a year and with final exams approaching, his desire to independently decide his learning content remained strong. In the support class, he only wanted to focus on the subjects in which he needs help, not language subjects, which are not his weak points. The time allocated for these subjects could be better utilized for other topics that are more challenging for him. The English support teacher seemed to disrupt his autonomy in learning. Liridon says critically," In French and in English, we really had to do French and English even though I thought the time could have been used better. For others, it was probably helpful, but I really thought, and I still believe that I could have done something more useful in French than practicing French. I think I would have needed to work on math or EL, FA rather than French, especially because we always covered topics that were not on the final exam, for example reading comprehension or something like that" (2nd Interview, 5.17.2022 00:24:53-2).

As described above, even though autonomous learning was required but not always practiced, work motivation improved, and the recognition and support from teachers remained consistently high. Work motivation as a characteristic of navigation was very stable.

Liridon: experiencing negotiation

In contrast, the value of recognition by classmates is a characteristic of negotiation changes in the opposite direction (see Figure 2). At the end of the study (i.e., the third measurement point [t2]), the value was between the 20th and 40th quintile, and at the two

previous measurement points (t0, t1), it was between the 60th and 80th quintiles and therefore in the fourth quintile.

Liridon says that he knows from experience how learning works best. With the introduction of the personal computer (bring your own device), Liridon initially had difficulties, for he was easily distracted by his classmates. However, he brought it under control and was able to stay focused during lessons: "At first, I was more distracted. I think that I am less distracted now but also the other students. In the beginning, everything was new. We wrote to each other more often on Teams because everyone had the computer in front of them, but it is not like that anymore now" (1st Interview, 2.9.2021 00:18:42-7). A year later, Liridon had become even more mature, and he was able to set learning focuses, such as the final exams: "I mean, just 1 year makes you older, and the final exams are approaching. That means more pressure, also for other students, and then you try to approach things more focused, learning everything just for one exam, for instance" (2nd Interview, 5.17.2022 00:19:17-9). Liridon not only developed strategies for effective learning; teachers helped him develop further: "I have already received help. We also have good teachers in economics and mathematics, yes, but especially in German and history because we also have the class teacher as a support program teacher. That is the biggest help. It has benefited me the most" (1st Interview, 2.9.2021 00:43:25-9).

However, at the beginning, Liridon was not happy about all the support teachers' efforts. He says critically, "At the beginning, some teachers provided unwanted support. (…) For example, in biology, (…) I was studying for a test and a teacher was sent to me. Then I had to do the tasks with him because he came especially for that. I could not say, 'Yes, I'll do the tasks alone now,' so we did the tasks together" (1st Interview, 2.9.2021 00:48:34-6).

At the time of the first interview, Liridon could not truly say that the support class helped him improve in school subjects. He believed that his active learning was primarily responsible for stabilizing his grades. A year later, he reconsidered the support of teachers' efforts, giving more credit to their impact on students' school improvement and personal support. His class teacher remained very important: "Especially Mr. R. He is an open and relaxed person. I like him a lot. But also Mr. S and Mrs. G. I think they are all great teachers, great people. You can always talk to them about anything. But with Mr. R, it was mostly the case (…) because he is also my class teacher" (2nd Interview, 5.17.2022 00:42:53-3).

Regarding the characteristics of negotiation, the value of experienced teacher support between the second and third measurement time points was relatively high. Recognition by teachers was also stable at a high level between these two measurement points. Liridon noticed a difference when he learned with teenagers instead of teachers in the support class: "With the teenagers, it's different than when you are with the teachers. I feel kind of pressured when a teacher sits next to me all the time and I must do the tasks and stay on it. It's different when I'm with friends; things are a bit more relaxed. I do not like it when there is pressure on me. I cannot learn as well when there is pressure compared to when I work it out myself" (1st Interview, 2.9.2021 00:47:56-1).

A year later, Liridon approached his studies with a new focus. He aimed to consciously seek support from teachers to clarify his questions, as he was not always ready to keep up with his classmates' learning. As he puts it, "[I] actively approach the teachers, maybe. That means if you need something, go directly and do not take it easy with your classmates. Instead, look for what you need on your own and do

not follow the students. In that regard, I approached the teacher and said this and that is the topic. For example, now in mathematics, I need to improve here, and can you help me? Then I was well assisted, and I believe that way I could (…) I could use it best "(2nd Interview, 5.17.2022 00:17:29-3).

At this point, peers took center stage as learning supporters. This focus on concrete learning with peers was perhaps thematically located in an area that is less central in everyday encounters between them. In their encounters, peers often discussed topics and used forms of recognition different from those in school-based learning. Therefore, there was probably no direct contradiction of the decrease in the value of peer recognition, as this recognition focused more on the social element of acceptance by peers and less on learning as content.

Summarizing Liridon's development over time, we identify a strong navigational drive to be an autonomous learner, strongly supported by his high self-efficacy and high motivation to complete school with both diplomas. He showed that by systematically attending the program over its duration and following his navigation priority on autonomy, he increasingly saw teachers as his most effective personal and academic support, enabling him to complete school successfully.

The second case: Nora

Nora's learning pathway showed a socially anchored start and motivation, but she faced persistent challenges in structured navigation. Initially, high peer recognition supports engagement, but the loss of close peers caused her to rely more heavily on consistently valued teacher support. Quantitative indicators showed a decline in both grades and self-efficacy at the mid-point of the program. While self-efficacy recovered in the later phase, grades and work motivation continue to decline toward the end. Despite experiencing periods of overload and reduced attendance, as well as partial disengagement from broader coursework, Nora has maintained an adaptive focus on key subjects. This targeted approach has enabled her to successfully complete the EFZ diploma, which represents a partial yet well-aligned success for her profile.

Nora: experiencing navigation

Nora saw no need to receive support at the beginning of the project and entered it because of a friend: "I did not want to go at all; it wasn't my plan. I also did not go for myself at first but because my classmate was worse than me and then she was asked by the teacher to join this project. So, I just supported her and thought to myself, well, it cannot be a bad thing. I can benefit from it, too, and just went along" (1st Interview, 11.26.2020 00:49:08-2).

At the same time, navigation was problematic (see Figure 3). Nora describes herself as having been a good student before the pandemic. Initially, she participated actively in online classes but lost interest when she noticed that no one was monitoring her. She followed other teenagers' behavior, treating it like a vacation. In August 2020, when in-person classes resumed, she struggled, her grades declined, and she became inattentive. Realizing she could not complete school this way, she began working harder in September 2020 to improve her grades and decided to finish school with a diploma. "I mean, it's my own decision whether I want to go to school or not. I could drop out now

if I wanted to. When I became aware of this again, I started to catch up on my grades. Of course, it was very hard and stressful. (…) Starting mid-October, around there, I started to improve again, and up to now, it has been going well. I mean, if I want to raise a grade two, I must get somehow (…) two 6 s. (…) I'm still struggling with insufficient grades, so I have a few subjects to catch up on" (1st Interview, 11.26.2020 00:28:45-0).

Her trend in grades stabilized, but there was also a tendency for them to decline. Apart from her grade in German, which remained stable between the second and third measurement points (4.5), the recorded grade values decreased between the first and the second measurement points. Except for mathematics, the decrease was about half a grade. The math grade remained at a 4 at the two first measurement points. Then, we can see a decrease to 3 at the last measurement point. The average FVB grade was also below 4 and therefore insufficient.

Even more important to Nora was receiving confirmation from peers and teachers within the support program, feeling accepted and safe, and being able to learn. Nora felt recognized in those conditions and perceived herself as an important member of the support class. She learned alongside her classmates, and they help each other with school subjects.

However, her classmates' high level of recognition fell over time. This decrease can also be seen in Nora's grades. Therefore, the vocational baccalaureate average (FVB average) was initially in the sufficient range but fell into the insufficient range at the end. The FVB average and the recognition from classmates decreased by different amounts. This means that at the end of the intervention, the FVB average was in the unsatisfactory range, and recognition from classmates remained at the second-highest level. Therefore, Nora's declining grades were not accompanied by a fundamental loss of recognition.

In English and French, two problematic subjects for Nora, her grades remained unsatisfactory even a year later, although she saw small qualitative developments in both subjects; "In French, I have improved a bit in reading comprehension, but really, it's about 0.5, so clearly, it's progress. I have gotten better but not much better. On average, I went from 3.5 to a 4 because I put in more effort and learned the words more. And in English, I've also improved verbally. Only grammatically, I'm not that far yet, so I need more time to catch up on my gaps and improve there" (2nd Interview, 2.22.2022 00:12:04-6).

Nora's work motivation was in the middle range over time. Toward the end of the program, the values decreased somewhat. Interestingly, her school self-efficacy increased. This increase was reflected neither in grades nor in specific school subjects, but did influence the internship that is about to start within the next month, allowing her to leave school and follow a new biographical path. Nora believes this is far better suited to her social competences, unlike her academic performance at school. It also remains to be seen whether the slight increase in the attribution of failure indicates that she became more aware that she could be more responsible for her failures.

Nora: experiencing negotiation

Nora learned that some of her fellow students' grades were rounded up to help them pass and not become provisional (see Figure 3). She cannot imagine such rounding for herself in English, for example. Nora hints that her English teacher in her regular class does not accept her for who she is, especially when the teacher tells

Qualitative (first interview)

Experiencing Navigation
Stable learning navigation in regards of the grades before the pandemic.
Organization of oneself is problematic but focuses on team projects and is enthusiastic and motivated.
Influenced by the grading practices of teachers and the school's selection processes (phenomenon of rounding up/down and provisional status).

Perceives that she is differently treated than others (in a negative way).

Starts the project because of a friend in the project and can only partially focus on academic success.

Experiencing Negotiation

In the support class: understandable and step by-step explanations from Teachers.
Perceives that learning negotiation with familiar people is easier.

Qualitative (second Interview)

Experiencing Navigation
Problematic learning navigation after the pandemic.
Ability to remain organized and follow routines stays problematic some stabilization in the fourth semester.
Psychosomatic problems after long school days in the support class hinders to be present.
Experiencing competence in subjects such as French but fails in DELF and English.
Unstable self-efficacy: can focus on math only in waves.

Experiencing Negotiation
The one-to-one work with teachers is perceived as an efficient learning strategy.

Specialist teachers provides academic support, when the theory is understood.
Expansion to learning in group is possible.
Is learning for herself and with the teachers,
Group dynamic is changing.
Learns with different teachers and facilitates understanding but needs to be focused on herself.

Qualitative (observations, field notes)

- She comes to AAP because of her classmate friend
- She comes unregularly during the whole time of the program (except in the fourth semester)
- At the beginning, she usually studies in groups with her classmates and is a socially active girl whose liveliness often stands out in group discussions. She is frequently seen laughing, talking with peers, or complaining about school pressure. She and her study group often spend long breaks together during the first and second year of AAP
- The first Interview and due to Pandemic was an online meeting: her mother comes in her room two times and asks when she does the household chores
- She often complains about headaches and decreasing concentration during or at the end of AAP
- Towards the end of the AAP and before the final exams, she studies more frequently alone or with a teacher
- On several occasions, Nora has missed scheduled meetings (such as the second interview or sessions arranged with teachers), citing family constraints as her excuse
- Before the final exams, she is looking forward to working and is excited and happy about the internship she has found. She does not want to come to school anymore
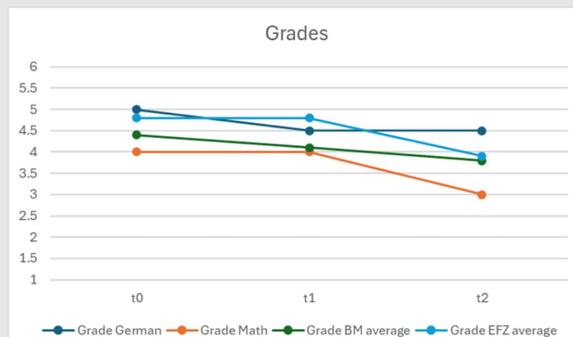
Claims
Nora - *I am a very spontaneous person, I let life come to me - I am a team player-*

Qual: Enters project because of a friend and finds motivation and enthusiasm in learning and edutainment and with peers but at the same time learning navigation is and stays problematic and chaotic. Quant: The tendency of the grades are stabilizing towards deteriorating and psychometrical data such as the attribution and work motivation are decreasing, but self-efficacy takes the same course such as the math grade by t2, meaning is improving.

Qual: The conformation from others is important to feel accepted (and safe) and to be able to learn and quant: the recognition of peers is perceived as high but decline by the end of the support class such as the grades. Qual: By the end of the program is rather without peers because two friends are leaving but experiences more focus on learning moreover learning to the test with some teachers is perceived as helpful and quant: perceives the recognition and the support of teachers as stable and high.

Qual: Perceives academic stability but quant this cannot be seen in all the grades. Self-efficacy declines by the middle of the program, following a trajectory similar to the mathematics grade, but improves again in the later phase despite the continued decline in grades. Qual: complains about physical symptoms and overload because of long school days and is not present in the class regularly.

Quant and qual: Able to focus on math and has partial temporary academic success but looses the overview of the support class (grades) but concludes with the EFZ diploma.

Quantitative (grades, navigation, negotiation)
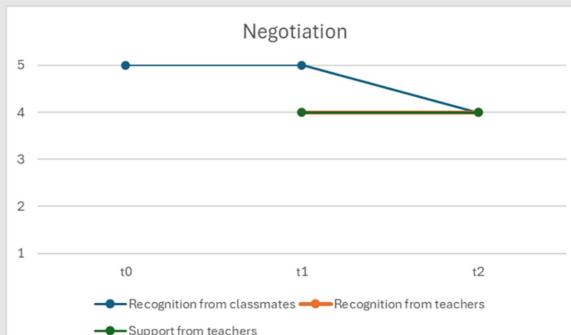
FIGURE 3
Case Nora, results on navigation and negotiation along joint displays.

her that she is the "worst" in the class: "There were just a few students next to me, but (…) I wasn't humiliated, and (…) the class knows that I'm not good in this subject. (…) The teacher knows exactly that I have trouble with this subject, that they also accommodate me a little and tell me, 'No matter you are not a hopeless case. We can look at the stuff together. I will just explain it to you again,' (…) and things like that" (1st Interview, 11.26.2020 00:46:29-7).

By the end of the program, Nora was without peers, finding test-focused learning with some teachers helpful. In the previous semester, two classmates left the support class after a conflict with a teacher, impacting her life there. Individual sessions with a teacher became a great help for Nora, allowing her to understand the material better and progress more quickly. Consequently, she preferred individual support in mathematics over group practice: "I do not know exactly what the reason for their leaving was, but since they did not do anything, I did not do anything either. I was distracted. We did almost nothing for the class or were not efficient, and we also did not work seriously. Instead, we were just laughing or, to put it bluntly, looking out the window. Now that they are no longer there, I work more focused because I am alone" (2nd Interview, 2.22.2022 00:27:01-7).

Nora's scores for teacher recognition and teacher support were high, indicating that she felt valued and accepted by her teachers, which is highly relevant for her. Support, on the other hand, says more about concrete learning (she had the impression that she was well supported by her teachers in her learning and in her learning progress).

However, Nora did not perceive everything in the program as helpful. With support, Nora was able to make progress; however, she has not been able to fully take advantage of it so far. Unfortunately, she was frequently absent throughout the duration of the program, and the full schedule of the support class posed a challenge to her concentration: "It's hard to say now because I often did not go to the support class because I either did not have time or had to look after my siblings because my parents did not have time. Also, (…) my aunt was in the hospital, and I often, for example when I did not have tests, told myself, 'No never mind. I'm going home,' because my schedule is just like that. I have school from eight in the morning until four o'clock with only one lunch break lesson, and when I directly have three more tutoring lessons after that, then my concentration just is not there anymore" (1st Interview, 11.26.2020 00:55:20-5).

Nora spoke during the first and second interviews about good, helpful teachers in the support class. She especially benefited in mathematics, and the teachers there not only helped her to clarify her academic questions but also to focus on herself. With the guidance of her economics teacher, Nora came to realize how she should learn. "But when I learn in a group, I mostly do not necessarily learn what I need; instead, it's mainly just discussions where I usually also explain because I already understood it. Of course, this helps to repeat everything, but I have noticed, um, and Mrs. G. always tells me this too, I should first focus on myself to understand it. (…) I mean, I also want them to get good grades. Then I can help them, um, but I should first focus on myself" (2nd Interview, 22.2.2022 00:54:51-4).

Her recorded grades decreased between the first and the last measurement point (i.e., between the beginning and the end of the program). The drop was about a half grade point, except in mathematics. This grade deteriorated by a whole grade point, from a satisfactory 4 to an unsatisfactory 3. The overall FVB average at the end of the program was no longer in the satisfactory range. Nora's impression that she was well supported and recognized by her teachers

does not seem to be fully reflected in her grades, and her realization that she must first look after herself and then support others did not accompany a parallel improvement in her grades. An unsatisfactory FVB grade presented a risk that she would not pass the final examination. Nora's average for the lower VET qualification level was also slightly insufficient, adding to the risk that she would not pass the final exams at this level.

Summing up, during the support class, Nora showed an unstable navigation profile and a high need for continuous support and acceptance by teachers. Expectations from her family placed a noticeable burden concerning her academic success, clearly limiting her learning focus. For Nora, school increasingly resembled a needed "hazard" as opposed to a possibility to develop specific academic skills. She was looking very much forward to leaving school and starting a job. Nora did not pass her final exams in June 2022 and needed to attend school for one more year; she finally passed the exams in June 2023 with a VET diploma (i.e., without vocational baccalaureate and entrance qualification for universities [of applied sciences]).

The third case: Sarin

Sarin considered school important but not all defining, yet when pursuing specific goals, she treated it as central. She deliberately transitioned from Gymnasium to WMS (declining trajectory), values regrades, and avoided the FMS route. While her performance in maths was initially unstable, her performance in other challenging subjects stabilized. She transitioned from independent study to effective small-group work, gradually increasing peer recognition while maintaining high levels of teacher recognition and support. Teachers were her main resource, particularly when working in small groups. Self-attribution and self-efficacy both improved markedly thanks to the motivating and stabilizing influence of the support class. Motivation recovered upon returning to in-person schooling and remained stable throughout the program.

Sarin: experiencing navigation

Sarin intentionally made her way from the gymnasium to SBS, clearly aware of which other schools were not potential options for her: "Yes, so in gymnasium, we also had a sort of elective mandatory subject for economics, and I also learned a few things there and thought it was very interesting, and I definitely did not want to go to the ISCED 3–4. Going from gymnasium to the ISCED 3–4 is a pretty big difference in terms of levels, and I thought, 'I do not belong there,' and I always wanted to push myself a little bit, so I thought that would be the next best option" (1st Interview, 1.19.2021, 00:06:18-1). Sarin needed support to improve her grades in math, economics, law, and accounting. She is quite talented in languages, and she did not have to study much; English is a strong subject for her, because she also speaks English with her father. In the past, she always had difficulties in math, but in the last exam, she achieved a high score—and that with "normal studying," as she puts it. Although she had once again expected a grade of 3, she surprisingly received a 6, the best score (Figure 4).

It was also important to Sarin to get sufficient preliminary grades in subjects in which she struggled. This remained her consistent goal throughout the program's duration. In the second

interview, she asked, "So, how should I say it? I've always had a weakness in math, for example, and I just wanted to be supported there (support class). That's why I often engaged with math in the support project, or subjects related to math, like accounting. Right, and I managed it. I achieved my desired grade, because before it was, I believe, a 4, and then I managed to get it to 4.5. That was already a good achievement for me" (2nd Interview, 3.28.2022, 00:04:41-0).

At the first measurement point, the quantitative data showed grades between 4 and 5 (i.e., all sufficient). At the second measurement point, dispersion was somewhat greater, and the VET average became unsatisfactory. Her highest grade was 5 in German, which remained stable across all three measurement points. At the third measurement point, the dispersion was slightly greater due to the decrease in her mathematics grade from 4.5 to 3.5. Also at the third measurement point, the average for the FVB or the VET was almost 4.5 (i.e., in the "sufficient to good" range). Her grade in mathematics was stable at 4.5 at the first two measurement points, but at the third measurement point, it fell to the unsatisfactory range at 3.5.

Regarding navigation characteristics, it is noticeable that Sarin's attribution of failure ran somewhat counter to her expectation of self-efficacy. Whereas self-efficacy decreased in the first phase, the internal stable attribution of failure increased. During the next phase, we see the opposite movement of these two characteristics; self-efficacy increased, and the internal stable attribution of failure decreased. This is a positive result concerning Sarin's ability to act to achieve her academic goals. In addition to the changes in these two characteristics, work motivation remained moderately stable over time.

The challenge for Sarin was homeschooling prompted by the pandemic. She did very little and struggled with discipline and motivation. She never completed the tasks given during the online conferences. In her opinion, she could work better at school, which is why her grades dropped significantly during this time. With the reopening of the school in August 2020, the situation stabilized for her. She managed to turn her failing grades into passing ones: "Yes, then it worked perfectly again, so I put in the effort again and you could see it directly in my performance. At the beginning, most of my grades were around 3 or 4, but now most of them are above 4. (…) There is no provisional situation, I am only insufficient in accounting right now with a 3.5" (1st Interview, 1.19.2021, 00:13:17-8). As described above, Sarin's grades decreased during the pandemic, but after returning to school, her motivation in the main class and support class increased, and she stabilized her grades to successfully conclude the program.

After the school reopened in August 2020, Sarin was able to restabilize her learning, and she began to study intensively and in an organized manner. "Yes, that went perfectly again, so I put in a lot of effort again, and it was immediately evident in my performance. At the beginning, in most subjects, I was at a 3 or 4, but now most of them are actually above a 4" (1st Interview, 1.19.2021 00:12:57-9). Sarin believed she could achieve success in the SBS, as she puts it. Apart from the pandemic period, she thought she could make it. Even just before her final exams, she remained confident, believing her strength in certain subjects would compensate for her weaker ones: "I have always been, well, I have always been confident in myself. So, I can manage it, grades-wise. That's not the problem. I have never had that problem. (…) Because in other subjects, in languages, I am already over 5 without

problems. So yes, in German I also had a 5, in French I had a 5.5, and in English I had a 6. So, it's really only the math stuff that just does not work, yes" (2nd Interview, 3.28.2022, 00:05:30-9).

The support class not only assisted in Sarin's academic development but also increased her motivation. Sarin states that she has always been present. Her motivation had waned due to previous school dropouts, but in the support class, she was able to stay motivated until graduation. She actively worked for her grades, and she perceived the support teachers' dedication to support the students achieve their diplomas. "I have to say, maybe it helped me with motivation, because I had quite a lot of trouble with motivation. I did not want to do school at all at first. Um, I just thought it would be better than standing there with nothing, because I had dropped out of high school, and then I really struggled with motivation. (…) And I think, I also came into the support class with the intention of becoming more motivated. Right at the beginning. I did not have the thought that I necessarily wanted to be promoted in specific subjects, but just so I would stay motivated over the years, because I knew that somehow, at some point, it would become a problem. And yes, it really helped me a lot" (2nd Interview, 3.28.2022, 00:42:20-3).

Throughout the program, she flourished regarding navigation, showing positive changes in all three navigation resources. Parallel to her assessment, she remained motivated through the program and perhaps also prevented possible problems. She showed a medium level of work motivation that remained stable over time, an improvement in self-efficacy toward the end of the program and training, and a reduction in a stable attribution of failure. Sarin was confident in herself and her learning ability. However, she still needed motivational boosts for the final exams due to a certain uncertainty, which she received from the teachers in the support class.

Sarin wanted to stay motivated until the final exams, a goal that she achieved overtime through the support class. Dropping out of gymnasium twice in previous years hurt her motivation to learn. Sarin stayed at the new school (SBS), confident that she would meet the required performance standards. She had no difficulties with studying; compared to her fellow students, she needed less time and quickly mastered the material.

Sarin: experiencing negotiation

At the beginning, Sarin studied mostly by herself, but over time, she began to study with one other student, which worked well: "I work best alone most of the time, at most with two people, but not too intensely. I do my stuff, and then, if it is (…) yes, I work with Anna very often. So, we just do our things separately and then we compare. Exactly. We compare our results, exactly" (1st Interview, 1.19.2021, 00:37:25-2) (Figure 4).

Over time, Sarin discovered privileges in her learning development when she taught her colleagues in the support class. She regularly attended the Monday promotion sessions, in which only the linguistic subjects were addressed (structural change in the project since August 2021), even though she did not need it: "So, I was always there and helped my friends or other classmates, and you learn a lot by doing that. For example, with homework that we had to solve and maybe they—well, the teacher was there, too, they could have asked her, but

Qualitative (first interview)

Experiencing Navigation
Conscious navigation from high school to SBS regarding learning content and learning process.
Own learning navigation during the pandemic problematic outside of school.
Growing motivation: coping with challenging demands in school life.
Learning navigation as organization of oneself
(remains organized and follow routines).
Learning navigation to and within the support class.
Learning navigation strengthened in the support class.
Growing self- efficacy (cross-disciplinary) in the support class.

Experiencing Negotiation
Occasionally academic support by teachers.
Learning together with one classmate.

Qualitative (second Interview)

Experiencing Navigation
Learning navigation as subject-related learning effort in critical subjects.
Stable self-efficacy over time.
Ability to remain organized and follow routines and increasing competence.
Organization of oneself as a navigation process regarding learning content and learning process.

Experiencing Negotiation
Peer support in the support class.
Understandable learning negotiation with the teacher of the support class.
Subject-specific support by the teacher.
Personal support from teachers.

Qualitative (observations, field notes)

- She comes to AAP because of the positive feedback of former AAP participants
- From the beginning, her attendance has been strong; she goes to AAP regularly except when she is ill
- At the beginning of AAP, she studies alone and occasionally collaborating with one peer of her class
- Towards the end of the AAP and before the final exams, she studies more frequently in small groups or with a teacher
- She explains her strong subjects (languages) to small groups of her classmates in the third year of AAP
- Throughout the entire AAP, she wants to decide which learning contents to focus on. She never complains when teachers make decisions also due to pandemic regarding the learning contents
- Throughout the entire duration of the program, she systematically takes two short breaks

Claims
Sarin - *School is important but not everything in life. But if I really want something school can be everything.*

Qual: Navigates her way from gymnasium to WMS and is very particular about not going to FMS and her pre-grades are important.
Quant: Moreover, he grades are stabilizing in the for her difficult subjects. Quant: At the beginning the math grade is not stable and qual: she really wants to receive a good grade.

Qual: At the beginning studies mostly for herself but within time learns with one other student or in small groups and that works well. In addition, quant: the recognition of peers is in the median plane at the beginning and is increasing by the end of the support class. Quant: Recognition of teachers is perceived as very high and is stable. The perceived support of teachers is lower but still high and stable as well but only the math grades is declining over time.

Qual: At the end of the program exchanging and comparing is beneficial. But the biggest asset and support are still teachers because being in small groups is a way to reach teachers quant: because the support of teachers are perceived as high.
Quant: There is a parallel development of self-attribution and self-efficacy: both are improving over time, which is expected but qual: the reported self-efficacy in the interview is constantly high.

Qual: Has difficulties to navigate learning throughout the pandemic and quant: some grades are going down (math and FA) but is back at school in person. Qual and quant: The motivation in the main class and support class is coming back and going up and stabilizes to conclude the support class.

Quant and qual: self-efficacy goes up so much from t1 to t2 which can be explained through qual: the interviews and the support class gives her stability and motivation.

Quantitative (grades, navigation, negotiation)

Grades

Navigation

Negotiation

FIGURE 4
Case Sarin, results on navigation and negotiation along joint displays.

it was easier to ask me, because I could show them how to do it from another perspective, because I had my own methods (laughs). And, exactly, I could learn indirectly this way, because explaining things

makes it easier for me to organize things in my head and understand how I should apply them, exactly" (2nd Interview, 3.28.2022, 00:15:08-3).

In addition, the recognition of classmates was in the middle range at the first two measurement points (t1 and t2). At the end of the training, the value was even higher.

Not only was recognition of classmates at a high level by the end of the program but also recognition by teachers. In addition, the value for teacher support remained comparatively high between the second and third measurement points. However, the biggest assets and support for Sarin during the whole program were the teachers who helped her focus. Sarin collaborated very well with the teacher of economics, law, and accounting. Many pupils prefer to work with one specific teacher individually, because they can explain very well. Sometimes, though, Sarin needed to wait a long time before she could ask questions. Therefore, she also participated in group work with other students from her regular class, because they all had the same topics for the final exams. "Well, we have already had that. We also had meetings where everyone from my class sat together and then worked with her. Um, that went quite well; we could exchange ideas with each other and maybe even explain things to each other that maybe Miss Grey explains differently, and [it] is more understandable for us, because among the students we have a certain kind of communication that makes it easier for us. Yes. So that went well, too" (2nd Interview, 3.28.2022, 01:01:11–1).

Summing up, Sarin perceived the teacher's support throughout the program as relatively high and as a key indicator for her positive academic development. She also developed the ability to learn effectively with various classmates. Her organized routines and strong self-efficacy significantly contributed to her academic success. Sarin remained focused and highly motivated to complete school because of the program, achieving her goals by successfully passing on June 2022 and obtaining both diplomas.

Meta-inference all three cases

The key similarities and differences of the three cases are synthesized here, forming the basis for the discussion section of this paper. All three cases share a pattern of academic growth supported by strong teacher involvement, meaningful peer interactions, and a resulting increase in self-efficacy over time. Liridon demonstrates steady academic improvement, accompanied by rising self-confidence, with sustained motivation linked to increased teacher support. In contrast, Nora's performance fluctuates; although she initially struggled with motivation, she improved through peer exchange and targeted teacher feedback, which strengthened her self-efficacy. Sarin makes deliberate educational choices and achieves stable or rising performance in most subjects, except during the pandemic, with high levels of teacher support, increasing peer recognition, and notable self-efficacy growth from participating in a support class.

The key differences among the three cases lie in the distinct trajectories of their educational development and the ways in which challenges and support systems interact within each. Liridon's pathway reflects steady and continuous school success, with minimal disruption from external factors. His progress illustrates consistent growth in academic performance, abilities, and competitive skills, underpinned by autonomous determination and a reliable support network that enables sustainable development. In contrast, Nora's trajectory is a dynamic and non-linear process of change, marked by fluctuations and phases of instability. Her growth acknowledges that academic and personal development are often intertwined with challenges that must be navigated over time. Sarin's case highlights a proactive and deliberate approach to education, in which challenges are openly recognized and effectively addressed through resilience and the reinforcement of robust support systems.

Discussion

Underlying this article is the centrality of upper secondary school and the success pathways to late adolescents' social and emotional capital and their future opportunities (Bayard et al., 2014) as well as global attention to qualifications and equity (OECD, 2024). Studies highlight risk groups, including students from migrant or low socio-economic backgrounds (Makarova and Kassis, 2022; OECD, 2024). Although the current state of research elaborates various theoretical and methodological approaches to explaining these educational disparities (Berger and Combet, 2017; Imdorf, 2017; Scharf et al., 2020), it neglects to consider how students are already being supported in schools through specific AAPs (Bauer and Landolt, 2022; Cefai et al., 2022; Dueggeli et al., 2021).

School success is not just about grades. This is particularly evident in Nora's case, but also in Liridon's and more generally in upper-secondary schools, particularly concerning school dropouts; participants reported having dropped out several times and experiencing the associated overlapping negative individual and social effects. The cascading effects in educational contexts for migrant students with low socio-economic backgrounds involve situations in which an initial action, event, or educational decision triggers a series. Young people who are neither in education nor in employment (NEETs) at the corresponding age for upper-secondary education (Papadakis et al., 2020) carry a high risk of social exclusion. Additionally, the development of their professional identity is profoundly negatively influenced by their confrontation with exclusion and disintegration (OECD, 2024). Furthermore, all over Europe, migrants are NEETs significantly more often than native students, and it is suggested that they are one of the most vulnerable social groups when it comes to attaining an upper-secondary school education (Papadakis et al., 2020). The fact that all three students were able to continue attending school and successfully graduate despite multiple vulnerabilities, including a pandemic, speaks volumes about the success of the program.

On the contrary, in the EU zone in 2023, the percentage of 25- to 54-year-olds with a lower upper-secondary education was more than twice as high among people born in non-EU countries as among the corresponding national individuals in the EU member states, and very similar numbers applied to Switzerland. It is not surprising that people (aged 20–64 years) with a migration background are twice as likely to be at risk of poverty or social exclusion as so-called nationals (Alieva et al., 2018).

We applied Ungar's metaphor of navigation and negotiation, calling attention to active student behaviors (navigation) as well as to how institutional and social support (negotiation) (Ungar, 2011, 2015, 2017) contribute to students' resilience, defined as positive adaptation in the context of adversity (Masten, 2014). Focusing on the interplay of navigation and negotiation, it is now possible to identify potential factors that may lead some vulnerable youth to succeed.

Based on the research question and the method applied, we could evaluate what types of navigation and negotiation trajectories are taking place in the school environment? What type of actions do the participants take, and what is the result?

We delved first into the intricate connection among grades, students' self-efficacy, and how students navigate to create a pathway through their education. The COVID-19 pandemic brought upheaval to students' learning and confidence levels. Discipline became shaky a few weeks after the program started, but gradually increased. However, not all students completed the program with the expected diplomas. Like Dueggeli et al. (2021), we were able to identify that navigation and grade calculation were important in demanding school settings. Additionally, students felt different when perceiving immediate distance from passing thresholds than when finding themselves close to such thresholds, and in particular, a failed attempt at passing could threaten their chances of obtaining a diploma. However, across all three cases, even in instances where academic grades remained relatively stable but showed a slight decline, there was consistent evidence of self-efficacy in both the qualitative and quantitative data. This indicates that students developed significantly more in terms of content knowledge, life skills, interpersonal relationships, and preparation for their future than could be captured by grades alone (Schunk and DiBenedetto, 2020). As mentioned above, self-efficacy and the teacher–student relationship appeared to be closely interconnected in all three cases and played a crucial role in the interplay between navigation and negotiation processes. Recent studies highlight that supportive teacher–student relationships can significantly strengthen students' self-efficacy, which in turn enhances their capacity to navigate academic and social challenges and to negotiate learning pathways effectively (Vaughn et al., 2024).

Although grades did not substantially improve at first, self-efficacy, or the belief that one can accomplish something, increased toward the end of the program in all three cases, indicating that structured support and positive interactions with faculty and staff helped grow students' confidence over time.

It is possible that, following Ungar (2015), this could be explained by the process of negotiation, in which students learn to face challenges and recognize progress. In all, the combination of structure, social support, and instructional strategies created a nurturing environment to develop self-efficacy in the face of academic adversity. By the assessed negotiation experiences, we established [similarly to Cefai et al., 2022] the role of program organization, relations, and support mechanisms as related to students' learning and self-efficacy. Over-adherence to structure can sometimes prevent effective learning, as autonomous navigation presupposes a great deal of prior experience and adaptivity on students' behalf, which in turn requires teachers to be attuned to individuals' needs. This establishes the need for a close connection between navigation and negotiation processes (Ungar et al., 2019).

Examining Nora's case, a teenager who faced multiple challenges, demonstrated how intensive negotiations with teachers helped her to focus, optimized her learning, and regained her confidence. Her ability to navigate her educational journey depended on her active negotiations and relationships with teachers who accepted her as an individual. For Nora, distancing herself from distractions was crucial and required a great deal of time and effort from her teachers, particularly given her vulnerability. Although she did not graduate with both diplomas, the program provided her with invaluable support in developing her character. Ultimately, graduating enabled Nora to pursue her professional goals and achieve social integration, marking a significant success.

Over all three cases, the interplay between self-regulated learning and responsive, adaptive teaching was a crucial determinant for successful navigation and negotiation processes and strategies. Although our analysis was limited to students' perceptions and perspectives, the data clearly suggest that instructional adaptability by teachers is pivotal for ensuring effective learning among at-risk students, given that each student demonstrated distinct strategies for acquiring knowledge. Recent research confirms that adaptive teaching practices, which respond to learners' individual needs and promote self-regulatory capacities, are particularly effective in supporting students facing increased academic vulnerability (Vaughn et al., 2024). Flexibility was an emphasis of the program because some students needed to be able to work independently, and others needed to be closely connected; therefore, teachers provided for the diverse range of students. As Masten et al. (2021) point out, adaptability and close relationships with teachers can help at-risk students to flourish and support resilience processes, providing an atmosphere in which students can succeed emotionally and academically.

The example of Liridon makes this insight on the connection between individual adaptability and close relationships with teachers particularly evident. At the beginning of the program, he saw himself as the sole driver of his academic success, with his self-imposed learning navigation being of utmost importance. With his classmates, he did not want to learn under stress but in relaxed rhythms. He expanded this perception gradually. Through academic and emotional support from his teachers—in other words, through positive negotiation—he became increasingly willing to approach his teachers directly and ask questions. This positive negotiation experience strengthened his navigation actions, which in turn supported a successful graduation.

Conclusions and implications for practice and research

Overall, the findings suggest that students' belief in their abilities and their sense of self-efficacy can be fostered through sustained relational and strategic support. While academic grades play a guiding role in the educational process, lasting growth in self-efficacy emerges primarily from meaningful teacher–student relationships, active engagement with learning content, and the cultivation of life skills. Schools serve as structured learning environments, but they also serve as safe spaces where trust, stability, and a sense of belonging can develop, particularly for vulnerable youth. However, family conflict can sometimes hinder progress. Familial responsibilities and expectations can restrict learning time and hinder navigation through upper-secondary education. For example, Nora frequently cared for younger siblings, managed household chores, and substituted for other family members, which, despite the absence of major conflicts, posed significant challenges to her educational progress.

Like Cefai et al. (2022), we suggest that by speeding up the learning of efficient strategies, support programs could concentrate on individual, tailored interventions that target specific issues and encourage self-directed learning. Supporting insights by Makarova and Kassis (2022), students flourished in a supportive context, possessing greater confidence and self-learning strategies as well as engaging in more positive peer and teacher relations, indicating the significance of flexible relationship-centered support in promoting not only academic success but also self-efficacy. This holds especially true for students with migration backgrounds (Makarova et al., 2019).

In general, the findings emphasized, in line with recent research (Kassis et al., 2024; Makarova and Kassis, 2022), the necessity of systemic, custom support for the promotion of resilience and equitable schooling practices. They call for a shift out of the deficit model to investigate positive, resilience-promoting practices in schools (Ungar, 2011). We were able to identify that students' individual activities, resource access, and social relations were important to their resilience (Ungar, 2015; Kassis et al., 2024). The three cases illustrated how a teacher's support throughout the program was a key indicator of positive academic development because it stabilized motivation to learn. The findings of this study highlight the importance of educational approaches that strike a balance between academic achievement, socio-emotional development, and personal agency.

Limitations

Even though the mixed-method case study design offers many advantages, and the focus was an exploratory one, there are some limitations that need consideration. The three cases in this study serve as thoroughly investigated examples for a single program in one area in Switzerland and therefore cannot be generalized to a larger population. However, the findings still offer insights into the need to combine individual meaningful navigation and negotiation processes at school. As a result of the COVID-19 pandemic and the associated protective measures, many young people repeatedly missed their support lessons. In retrospect, school reintegration in August 2020 was not smooth. Young people reported many difficulties in finding a learning rhythm until the end of 2021. Their unstable grades could also be attributed to the effects of the pandemic. For lead teachers, the entire support program was particularly challenging, particularly in terms of stabilizing students' performance, as planned in the intervention. Longitudinal studies with an equity focus, such as this program, must therefore be continued and expanded to other upper-secondary schools so that more targeted comparisons can be made.

With only two waves of qualitative data, we started this investigation well, but a true longitudinal investigation ideally requires at least three waves, as we mostly had for the quantitative data. This limitation is connected to our study's exploratory focus. In relation to the interviews (particularly the openness about getting over immediate issues, which was referred to as a coping resource in the interviews), participation was voluntary, and the young people who turned up may have reflected this attitude. School success is context-dependent, and because of that, analyses must be context-specific concerning a school or political or geographical region. We additionally focused our analyses on adolescent students' understanding of their school pathways. This focus also limits the possibility of comparing adolescents' self-perceptions and the mentioned navigation and negotiation processes through the lenses of their respective teachers. It would have been interesting to add teachers' perceptions of the respective students because relations with teachers play a distinct role in adolescent students' school success, even if we partially captured that by discussing students' analyzed negotiation experiences with their teachers. Although we included students with different developmental school pathways, all three of them obtained at least one diploma, prompting a smooth transition to further steps toward college or the labor market. Still, it would have been interesting to include and compare future case studies with students leaving the program or even dropping out of school.

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 requirement of ethical approval was waived by Ethikkommission School of Education FHNW for the studies involving humans. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

MK: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Writing – original draft, Writing – review & editing. FW: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. AD: Formal analysis, Funding acquisition, Methodology, Project administration, Writing – original draft, Writing – review & editing. WK: Writing – original draft, Writing – review & editing. LP: Formal analysis, Writing – original draft.

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