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Video modeling intervention for home use to improve social skills in children with ASD

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Introduction: The article presents the design and development of a computer-supported video-modeling intervention for home use that aims to improve social skills in children with autism spectrum disorder (ASD).
Methods: The intervention was developed in several stages: researching the social needs of children with ASD through a parent's survey and a focus group with specialists; writing scenarios; producing and technically designing the video; and creating a tutorial for implementing the intervention. During the first stage, parents, to a greater extent than specialists, emphasized the need to include language understanding and the use of language as a communication tool in the presentation of social skills. This approach placed the focus of the scenarios on dialogues and the use of words and expressions specific to social situations and further emphasized social communication.
Results: The intervention introduced a new explanatory interactive modeling of social behaviors and a "visual coach," a soft-spoken adult, who explains the social situation and repeats the important words and expressions that were present in the video. Furthermore, the intervention implied parental involvement and the possibility of training at home. Explanatory modeling supports parents by focusing the child's attention on the most important moments in each social situation and repeating them. In this way, parents can follow the model and continue to perform activities with their children in a similar way for other social situations. The scenarios included three modules: communication with peers, communication with adults, and communication with both peers and adults. In preparing the recordings and their technical design, emphasis was placed on authentic settings and sounds, as well as on making the videos easy for the parents to use at home.
Discussion: An interactive element was introduced through the preparation of a guide for parents, in which specific instructions for each video enabled them to interact with the child within the topic, extending the learning of new skills beyond said video, and improve their communication with the child. As a result of the intervention, we expect that children will acquire the skills necessary for functioning in the most common social situations, by gaining a better understanding through explanatory modeling of why and how people act and what words and expressions they use to communicate and exchange information. We expect that this knowledge will help reduce children's anxiety in social situations and give them more independence and confidence.

KEYWORDS

ASD, home-based digital intervention, parent-mediated intervention, social skills, video modeling

Introduction

Children diagnosed with autism spectrum disorder (ASD) often demonstrate difficulties in social communication and restrictive and repetitive behaviors (American Psychiatric Association, 2013). Despite the heterogeneity of disorders within the ASD group, social communication or pragmatic disorders are universal across all ages and levels of severity; (Tager-Flusberg et al., 2001) and they constitute the defining features of the clinical representation (Lord and Paul, 1997). Social communication impairments in children with ASD can be organized into two main areas: (a) difficulties in joint attention, which reflects difficulty coordinating attention between people and objects; and (b) difficulties in the ability to use symbols, which reflects difficulties in mastering gestures, words, imitation, and play (Wetherby, 2006).

Individuals with autism experience higher levels of general and social anxiety (van Steensel et al., 2012). Children with autism experience rejection and bullying from others more often (Hebron et al., 2015). Communication is vital for learning and establishing relationships with others, and difficulties with communication limit opportunities for play, socialization, academic achievement, and integration with peers. Thus, interventions aimed at facilitating and supporting communication for individuals on the autism spectrum are crucial for academic achievement and the ability to adapt to real life (Prelock et al., 2025). Impairments in social skills can have a negative impact on interpersonal relationships, behavior, and mental health in adulthood (Özerk et al., 2021). Difficulties in social communication can strongly affect success in various areas of life, including employment, health, and higher education (Montroy et al., 2014).

Evidence-based practices for social skills development for children with autism

Social skills impairments are usually described as consisting of two main categories: difficulties in acquiring skills and difficulties in performing these skills. Interventions for children with autism should target and develop behaviors that are socially meaningful and that society considers important for daily functioning (Elliott et al., 2008). Several evidence-based interventions have been developed to improve the development and effective use of social skills, strengthen social competencies, and maintain socially valid behavior. Some of the most effective interventions are peer-mediated intervention (PMI), social stories, social skills training (SST), structured play groups (SPG), pivotal response treatment (PRT), and video modeling (VM) (Wong et al., 2015).

Video modeling involves presenting a model of a skill using video technology, most often showing a peer or the individual themselves demonstrating positive examples of desired behavior (Cihak et al., 2010). Video modeling has been identified as a particularly promising intervention for supporting social communication in adults with autism (Wilson et al., 2019).

Video modeling (VM) and video self-modeling (VSM) are effective intervention strategies for improving behavioral functioning, functional skills, and social and communication skills in children and adolescents with ASD. These practices promote skill acquisition, and skills acquired through video modeling are maintained over time and are transferable across individuals and situations (Bellini and Akullian, 2007). There are several variations of video modeling, including (a) traditional video modeling, in which the situation is shown by another person performing a desired skill; (b) video self-modeling, in which the patient themselves performs the skill; (c) and perspective modeling, in which the video depicts a situation or an action from the individual's perspective. Each of these variations has been found to be effective in research literature with autistic adults, pointing out the usefulness of this individualized, situation-specific tool (Le et al., 2021).

Technology-based tools, such as artificial intelligence (AI) and ICT-based assessments, have shown promise in supporting social-communication development by enhancing emotional understanding, monitoring, and practice opportunities in naturalistic contexts (Adako et al., 2025; Chaidi and Drigas, 2022). Immersive technologies, such as virtual reality, can further enhance social attention, emotional recognition, and interaction skills, functioning as a useful complement to traditional video modeling approaches (Yang et al., 2025; Li et al., 2023). Evidence also points to the value of social robots, which support structured practice of social behaviors by offering predictable interaction patterns and increasing children's engagement during training sessions (Syriopoulou-Delli et al., 2021). Together, these interventions provide a wide range of methods that can be tailored to the needs of each child, promoting skill acquisition and transfer across situations.

Social skills training through the use of technology, supported by parents

Independent functioning in daily life is a key goal of many therapeutic interventions for children with ASD. The development and use of virtual training by parents in specific skills can be effective for children with autism spectrum disorder in home settings. Teaching a child to independently manage video prompts can improve their ability to perform daily tasks. In addition, mobile learning tools and educational apps can further support this process by increasing motivation, providing structured repetition, and allowing parents to guide learning in a more flexible and accessible way (Stathopoulou et al., 2019).

Children can use video modeling as a strategy for self-teaching and self-motivation to perform various daily tasks, thereby increasing their independence as they approach adulthood (Yakubova and Chen, 2021). The use of video modeling for skill acquisition at home leads to learning the target skills, maintenance of the skill after the intervention ends, and transfer of skills across different conditions and similar situations. According to participating parents, video modeling saves a lot of time because it eliminates the need to repeatedly demonstrate the targeted skill. Additionally, video modeling is very cost-effective because the same video can be used multiple times (Besler and Kurt, 2016). Parents report that they can be precise and successful in providing the training procedures to children through technology and that thanks to such training, children manage to acquire and retain the learned skills over time (Cruz-Torres et al., 2020). Finally, technology-supported training can make children more cooperative and responsive (Chaidi et al., 2024).

Although video modeling is useful for children with autism, it provides a static model of presenting social behavior that lacks

interactivity. Moreover, this intervention does not provide enough guidance for parents on how to implement it at home with the child or prompts that explain each social situation and break it down to its most important elements. The intervention presented in this article introduces an element of a "visual coach," a pleasant-looking and soft-spoken adult, who explains the situation and repeats the key words and expressions that were present in the video, and explanatory interactive modeling of social behaviors that can be challenging for children with autism. The intervention helps the parents participate and carry out the training at home. Explanatory interactive modeling through a video coach supports parents by directing the child's attention towards the most important moments in each social situation. In this way, parents can follow the model and continue to perform activities with their children in a similar way even with social situations not included in the scenarios. The intervention focuses on understanding and applying a model of behavior, rather than simply learning specific phrases and sentences that are appropriate in some common situations.

Materials and methods

The purpose of this article is to present the process of developing an intervention, to be implemented by parents at home, that uses video modeling to support the development of social communication skills in children with autism spectrum disorders.

The following stages were applied when preparing the intervention:

1. A survey of parents and specialists on the most common social situations that pose a challenge to children with autism.
2. Preparation of scenarios according to the situations identified as challenges.
3. Filming the situations performed by peers and adults; creating a summary presentation of explanations by a visual coach; technological design for computer use.
4. Preparation of a guideline tutorial for parents to support the interactive application of the intervention.

In Stage 1, a survey with pre-prepared questions was administered to a focus group of specialists, while parents participated in an online survey with open-ended questions. Both the focus group and the survey group used the same core questions to identify the most important situations for children with autism that require training and education in social skills.

The focus group for specialists was used to identify the most difficult social situations for children with autism spectrum disorders.

The group included 12 specialists who work with children with ASD: 2 social workers, 5 SLPs, 4 psychologists, and 1 occupational therapist. All specialists had between 10 and 20 years of professional experience. The inclusion criterion was a minimum of 10 years of experience in working with children with developmental disorders.

They were given the following instructions:

> "Please answer the following questions based entirely on your professional experience, without worrying about looking for definitions or guidelines in books, but only reflecting your personal experience."

The analyses of the specialists' answers are summarized in Tables 1–5.

The survey of parents of children with ASD included 16 parents of children aged from 8 to 16 years. The parents were invited to participate because their children were patients in a center for working with children with developmental disorders. Their participation was voluntary and anonymous.

They were given the following instructions:

> "Please answer the following questions, based entirely on your personal experience with your child and other children with ASD, as well as your discussions with other parents of children with ASD, without worrying about looking for the right or appropriate answer." The analyses of the parents' responses are summarized in Tables 1–5. In their responses, some parents described their own children, while others responded more generally.

Conceptual analysis (Wilson, 2011) was applied to analyze the results of the survey for the questions 1, 2, 3, and 4. This process

TABLE 1 Responses to question 1 from a survey of parents and a focus group with specialists.

Survey for parents	Focus group for specialists
Question 1: Please list the most significant, in your opinion, social dysfunctions that are characteristic of children with ASD.	
Themes/the number of responses exceeds the number of participants, due to the fact that more than 1 topic is mentioned in some responses: Difficulties in social–emotional reciprocity – 10 answers; difficulties in non-verbal communication – 3 answers; difficulties in developing, maintaining, and understanding relationships – 5 answers. Examples of answers: "They do not respond to verbal appeals, poorly developed or absent speech, stereotypical and ritualistic behavior, lack of eye contact." "Lack of verbal and non-verbal communication" "Lack of verbal behaviors, lack of eye contact, inability to adequately express emotions" Examples of not-coded answers: "They can never assess the risk in a given situation."	Themes/the number of responses exceeds the number of participants, due to the fact that more than 1 topic is mentioned in some responses: Difficulties in social–emotional reciprocity – 11 answers; difficulties in nonverbal communication – 5 answers; difficulties in developing, maintaining, and understanding relationships – 3 answers. Examples of answers: "Taking turns in conversation, maintaining a conversation, waiting for one's turn, waiting for a partner" "Emotional outbursts, fears that they cannot control" "Taking turns in conversation, maintaining a conversation, waiting for one's turn, waiting for a partner"

TABLE 2 Responses to Question 2 from a survey of parents and a focus group with specialists.

Survey for parents	Focus group for specialists
Question 2: Which social dysfunctions in children with ASD do you think are obstacles in daily life?	
Difficulties in: maintaining a conversation – 3 answers; sharing of interests – 2 answers; regulating emotions, or affect – 8 answers; initiating or responding to social interactions – 1 answer; maintaining verbal and nonverbal communication – 10 answers; adjusting behavior to suit various social contexts – 2 answers; making friends – 1 answer; showing interest in peers – 1 answer Examples of answers: "Communication, understanding the emotions and reactions of others is limited or paradoxical" "Communication with others, understanding, awareness" "Using language to communicate and exchange information" Examples of not-coded answers: "To know what day of the week it is, where they are going, what their schedule is for the day and to follow it on their own, without help"	Difficulties in: maintaining a conversation – 1 answer; regulating emotions, or affect – 1 answer; maintaining verbal and nonverbal communication – 2 answers; adjusting behavior to suit various social contexts – 10 answers; Examples of answers: "Eating at a restaurant, buying something, dressing oneself" "Waiting in line" "Following of etiquette" Examples of not-coded answers "Self-service, toilet, bathing"

TABLE 3 Responses to Question 3 from a survey of parents and a focus group with specialists.

Survey for parents	Focus group for specialists
Question 3: Which social dysfunctions in children with ASD, in your opinion, are obstacles in communication with peers?	
Difficulties in: maintaining a conversation – 1 answer; sharing of interests – 2 answers; regulating emotions, or affect – 3 answers; initiating or responding to social interactions – 4 answers; maintaining verbal and nonverbal communication – 11 answers; adjusting behavior to suit various social contexts – 3 answers; sharing imaginative play – 1 answer; making friends – 1 answer; showing interest in peers – 3 answers. Examples of answers: "Non-verbal, asocial, easily frustrated, reacts unacceptably" "Inability to regulate and structure emotions" "Functional speech and play, interaction with peers"	Difficulties in: maintaining a conversation – 2 answers; initiating or responding to social interactions – 4 answers; maintaining verbal and nonverbal communication – 3 answers; adjusting behavior to suit various social contexts – 1 answer; sharing imaginative play – 2 answers; showing interest in peers – 2 answers. Examples of answers: "Responding adequately to questions and communicative intentions of other children" "Play" "Knowing how to withdraw or interrupt communication"

TABLE 4 Responses to Question 4 from a survey of parents and a focus group with specialists.

Survey for parents	Focus group for specialists
Question 4: Which social dysfunctions in children with ASD, in your opinion, are obstacles in communication with adults?	
Difficulties in: maintaining a conversation – 1 answer; sharing of interests – 1 answers; regulating emotions, or affect – 2 answers; maintaining verbal and nonverbal communication – 11 answers; adjusting behavior to suit various social contexts – 2 answers; making friends – 1 answer; showing interest in peers – 1 answer. Examples of answers: "Social communication, unpredictability" "Building relationships" "Do not respond to verbal addresses from parents, do not initiate and do not maintain relationships with peers, as if they do not notice their existence or avoid them"	Difficulties in: maintaining a conversation – 3 answers; initiating or responding to social interactions – 4 answers; maintaining verbal and nonverbal communication – 9 answers; adjusting behavior to suit various social contexts – 1 answer. Examples of answers: "To wait in different situations, in front of an office, in a shop, in a communicative situation" "To ask, to answer a question" "To be able to follow the instructions of adults, to be able to express an opinion, to be able to accept or refuse something when adult communicates with them"

included defining the level of analysis /themes, defining theme frequency and coding themes when they appear in different forms.

Question 1: Please list the most significant, in your opinion, social dysfunctions that are characteristic of children with ASD.

The following themes were extracted based on the criteria in group A: Persistent deficits in social communication and social interaction across multiple contexts in ASD DSM-5 (American Psychiatric Association, 2013). Diagnostic criteria were given as follows: difficulties in social–emotional reciprocity; difficulties in non-verbal communication; difficulties in developing, maintaining, and understanding relationships. The frequency of occurrence of the respective theme in the participants' responses, alongside examples, is indicated in Table 1.

Question 2: Which social dysfunctions in children with ASD do you think are obstacles in daily life? Question 3: Which social dysfunctions in children with ASD, in your opinion, are obstacles in communication with peers? And Question 4: Which social dysfunctions in children with ASD, in your opinion, are obstacles in communication with adults?

The following themes were extracted based on the criteria in group A. Persistent deficits in social communication and social

TABLE 5 Responses to Question 5 from a survey of parents and a focus group with specialists.

Survey for parents	Focus group for specialists
Question 5: Give examples of social situations in which you think it is very important for children with ASD to cope successfully, trying to rank them in order of importance.	
Communication with peers, examples:	Communication with peers, examples:
Functioning at school	Follow a conversation
Communication with adults, examples:	Communication with adults, examples:
Buying food	Asking for help
Asking for help	Shopping
Asking for information	Communicating with medical professionals
Communication with peers and adults, examples:	Reporting their basic needs
Being able to communicate	Communication with peers and adults, examples:
Greeting, respecting the limitations, waving to say goodbye	Interacting with others
Go shopping, use public transport and public services.	Communicating
Following safety	Following safety
Accept and refuse	
Understanding others	

interaction across multiple contexts in ASD DSM-5 (American Psychiatric Association, 2013):

Difficulties in:

1 Maintaining a conversation
2 Sharing of interests
3 Regulating emotions or affect
4 Initiating or responding to social interactions
5 Maintaining verbal and nonverbal communication
6 Eye contact and body language
7 Understanding and use of gestures
8 Facial expressions and nonverbal communication
9 Adjusting behavior to suit various social contexts
10 Sharing imaginative play
11 Making friends
12 Showing interest in peers

The frequency of occurrence of the respective theme in participants' responses, alongside some examples, is indicated in Tables 2–4.

The last question had the following content: Question 5: Give examples of social situations in which you think it is very important for children with ASD to cope successfully, trying to rank them in order of importance. The authors' expectation was to collect information about the specific life situations that are challenging for children with autism and their parents to extract the content of the scenarios, focusing on frequent situations that fall into three groups: communication with peers, communication with adult, and communication with both. Table 5 presents a summary of the results in each group.

The parents' answers for the first question "Please list the most significant, in your opinion, social dysfunctions that are characteristic of children with ASD," were more focused on verbal communication—addressing by name, answering a question, responding to verbal instructions, lack of eye contact, while the specialists put more emphasis on general coping and behavior. When discussing the social functions and the general problems of children with autism spectrum disorders and their functioning in everyday life, parents often reported that the child's lack of verbal communication and response to verbal instructions frustrates them and they do not know how to react. For both groups, the children's behavioral reactions to frustration were mentioned, but did not occupy a large part of the listed disorders.

There was a similar difference in question 2: "Which social dysfunctions in children with ASD do you think are obstacles in daily life?" Here, parents gave more importance to speech, verbal communication, following instructions, communicating needs, and expressing emotions, while specialists placed more emphasis on eating, maintaining toileting, behavior in public, and independent living skills.

Both parents and specialists highlighted the skills of play and verbal communication with peers, the ability to accept, refuse something, conduct a dialogue, and understand what others are saying in Question 3, "Which social dysfunctions in children with ASD, in your opinion, are obstacles in communication with peers?" The answers of the two groups were similar in Question 4, "Which social dysfunctions in children with ASD, in your opinion, are obstacles in communication with adults," with specialists focusing a bit more on the children's ability to seek help from adults.

Question 5 was "Give examples of social situations in which you think it is very important for children with ASD to cope successfully, trying to rank them in order of importance." Almost half of the parents put verbal communication in various social situations in the forefront. The rest put safety, self-care, functioning in common social situations in first place. Specialists often considered self-care and seeking help as most important.

Scenarios development

Social skills can be defined as "a set of learned abilities that enable an individual to interact competently and appropriately in a given social context. The most commonly identified social skills in Western cultures include assertiveness, coping, communication and friendship-making skills, interpersonal problem solving, and the ability to regulate one's cognitions, feelings, and behavior" (American Psychological Association, 2013).

The video modeling intervention for home use, aiming at improving social communication in children with ASD, was developed based on social learning theory. Social learning theory, proposed by Albert Bandura, emphasizes the importance of observing, modeling,

and imitating the behaviors of others, attitudes, and emotional reactions (Bandura, 1969; Bandura, 1971; Bandura, 1977). In our intervention, we added "explanation" and "interaction" to the main components of social learning theory or an upgrade of the model as "explanatory interactive modeling," based on the assumption that children with ASD observe and focus more on the target behavior when it is presented visually, as well as on the fact that they probably do not understand social situations and social keys, and they need additional information on why certain reactions are expected in given situations. This explanation was presented by introducing a "visual coach," a pleasant-looking and soft-spoken adult, who explains the situation and repeats the important words and expressions that were present in the video. "Interactive" was also added, as each video also allowed for interaction between the parent and the child on the topic of the situation in the guide with developed instructions for implementing the intervention. Explanatory interactive modeling creates prerequisites for modeling with explanation from the visual coach and interactive presentation by an adult /parent/, rather than just offers modeling through observation.

Scenarios for video modeling of social competence were developed based on responses to questions from a parent's survey and a focus group with specialists, and the principles of social learning theory adapted to the requirements of social skills training for children with ASD. Through this intervention, parents can observe social situations together with their children, listen to the explanations of the visual coach, who provides additional information about the situation, the expectations of the environment, and feedback on what and why specific behaviors are expected from the participants in the situation. In addition to parents interactively discussing the situation with the child, they can act out the situation with the child at home, as well as recall and practice what they have observed and what they have received as an explanation during a real-life situation.

The explanatory interactive modeling approach can help children with ASD not only to learn social situations and be motivated to imitate the behavior of others, but also to understand the meaning of many behaviors, verbal and non-verbal, that people use in social situations. If they cannot understand the social situation, children with ASD tend to not focus on it and do not have the motivation to imitate others. Our intervention emphasized frequently used words, phrases, and expressions typical of common social situations, because based on preliminary research on the social needs of children with ASD, it turned out that parents placed a strong emphasis on verbal communication—understanding and using language and language tools in communicating with others.

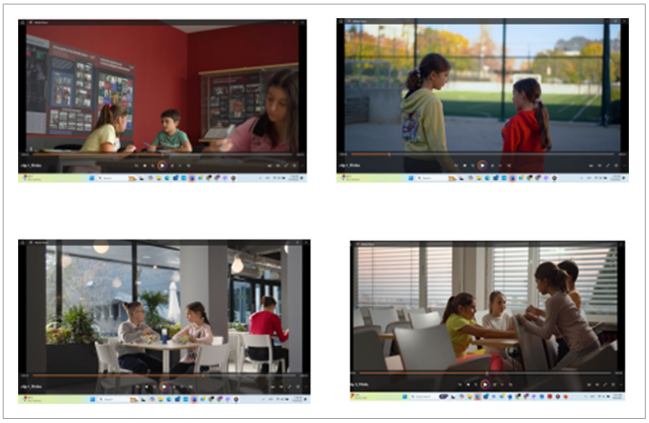
The video modeling scenarios for social competence followed a structured format: Title of the situation, presentation of the situation, role-playing of the situation by children or adults, explanation by a visual coach, which included a verbal presentation, commentary on the conversation highlighting the important moments and clarifying the requirements of the situation, as well as the role of each participant. One important role of the visual coach was to recall the most important moments of the communicative situation and to repeat the important words and expressions. References with excerpts from these important moments were given in the recording, so that there was also visual support for what the visual coach said.

When developing the topics, the most frequently noted difficulties in children with autism were extracted areas with three or more responses were selected: maintaining verbal and non-verbal communication; maintaining a conversation; adjusting behavior to suit various social contexts; regulating emotions, or affect; initiating or responding to social interactions. The specific situations and settings were extracted from the answers to the question: "Give examples of social situations in which you think it is very important for children with ASD to cope successfully, trying to rank them in order of importance."

All participants in the video recording have provided informed consent for their images to be used freely on the internet, as well as in scientific publications.

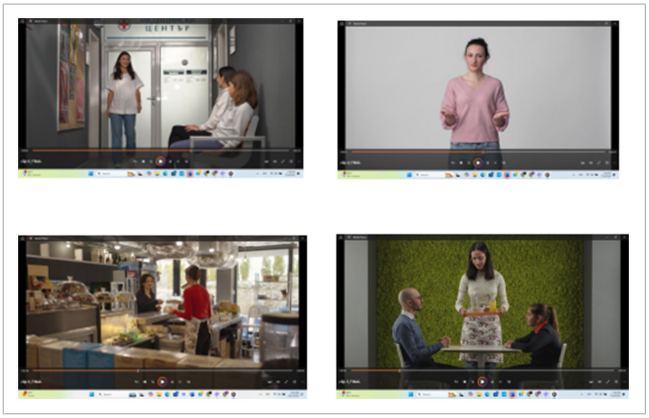
> Topics:
> The intervention contained 7 video recordings with 2 or three videos each.
> The videos were divided into the following thematic modules:
>
> Communication with peers module. Titles: "Let us play football," "Can I borrow the pen?" "Let us play basketball after school," "Play cards," "Let us go to the cinema," "This is my pen," "I want to invite you to a birthday party."

Sample shots:



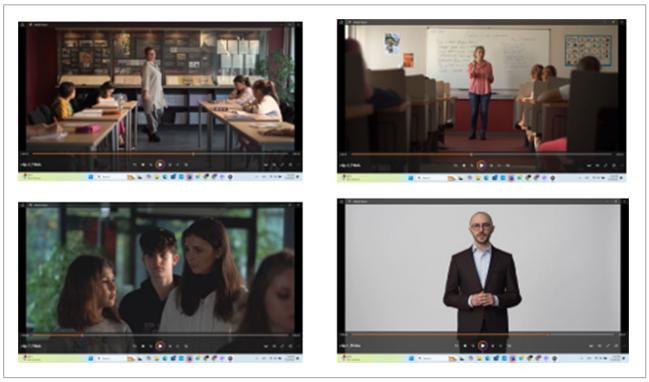
> Communication with adults module. Titles: "Mrs., I got my hands dirty," "Let us order," "In the teacher's office," "Please give me the cane," "Have you chosen a book?," "What color pen do you prefer?," "Do you have any snacks?," "In front of the doctor's office," "Where is the bus stop?"

Sample shots:



> Communication with peers and adults module. Titles: "Would you pass the salt?," "Let us work in a team," "At the bookstore."

Sample shots:



Video production methodology

Video recordings for interventions involving video modeling can range in length from 30 s to 20 min. However, for maximum effectiveness, it is recommended that video models be between 3 and 5 min long.

Ensuring high video and audio quality is an important element in video production. Considerations also include whether the video is adequately focused on the desired skills, whether auditory and visual distractions are minimized, and whether the video is engaging viewers properly (Wilson et al., 2024).

The intervention was implemented as a computer-based digital presentation. Training videos were recorded with modern mirrorless cameras, providing 4 K resolution of the source material. This allowed for greater freedom in the subsequent editing of the frames. Most of the scenes were captured with a dual-camera setup to speed up the process and preserve the authenticity of the dialogue.

The sound was recorded entirely on location, using 2 or more directional shotgun microphones, as well as lavalier microphones placed on the actors. The editing and post-production of the clips, including the final sound corrections and the addition subtitles, were done with specialized software—ADOBE Premiere Pro and DaVinci Resolve. The clips were mastered with the H264 (MP4) codec, compatible with a multiplatform environment (Windows, macOS, Android).

Video recordings were produced and post-processed by the highly specialized team of the Photography Workshop of the New Bulgarian University, ensuring professional image and sound quality. To increase accessibility, the videos were adapted for playback on various digital devices, including desktop computers, laptops, and tablets.

The final video recordings were integrated into a web-based platform with free access for parents and professionals, allowing navigation by thematic areas, pausing, replaying, and adjusting the speed of the video. Each clip was accompanied by metadata (topic, learning objective, key phrases, non-verbal cues) to increase accessibility.

Empirical research confirms the effectiveness of such technological solutions. Tablet-based video modeling with interactive prompts improves the performance of multi-component tasks in a real-world environment (Burke et al., 2013), and video modeling delivered via a portable media player (Apple video iPod) leads to immediate and significant improvements in task performance, sustainability of acquired skills, and high social acceptability as a means of integrating individuals with autism spectrum disorders (Kellems and Morningstar, 2012).

Parental guide for implementing the intervention

The parental guide includes the following components:

1 General information about the intervention;
2 Definitions of video modeling and presentation of the main principles of the method;
3 What to expect when going through the social skills intervention?
4 How the intervention is organized—number of videos, thematic areas, title of each video;
5 Steps for implementing the intervention.

Initial survey. Before the intervention begins, parents can complete an introductory survey. The purpose of the survey is to make an initial and final self-assessment and to assess whether they have achieved progress in individual components of the child's functioning.

After the initial survey, instructions for each of the seven videos followed. The instructions were linked to a weekly schedule for the use of each video. The schedule was recommended to parents to facilitate the use of the intervention.

> Example:
>
> Step 2 (after completing the survey) in the first week of the intervention:
>
> Open video clip 1. This clip contains 3 videos on different topics.
>
> 1. Watch the video titled "Thematic area Communication with peers: "Let us play football" with the child."
>
> Ask the child (if the child can speak, wait for the answers, if the child cannot speak, you answer for them and continue the interaction): "Did you like the video?"
>
> "We understood that the children talked about playing football."
>
> "We see that when you want to invite someone to play with you and you do not know them, you should first say "Hello."
>
> "Let us try. I come up to you and say - Hello, what's your name? What will you answer?"
>
> /If the child is nonverbal, you can act out the dialogue and answer for them/.
>
> "And how will you ask me my name if you do not know me?"
>
> "Now let us try to suggest something - Do you want to play with cubes?"
>
> "How will you say you want to?"
>
> If the child is non-verbal, you can act out the answer in front of the child. Use sentences that include "I want," "yes, I like playing ...," "okay, let us play..."
>
> "Good job! We learned how to get to know and play with children we do not know."

The interaction allowed for additional communication between the parent and the child. Even in cases when the child is non-verbal, the guide provided keys and tips for overcoming communication difficulties, since nonverbal children with ASD can also be trained to participate more actively in social situations, to understand them, and to react according to expectations.

Discussion

The intervention we developed incorporates the idea that children with ASD can develop additional social skills. We believe that these skills can help them be more involved in their peer community. For example, at school, social skills can help children connect and work with others, who are motivated to learn, and thus promote academic engagement (Wilson et al., 2024).

Teachers identify the following social skills as important for a child's adaptation to kindergarten: 1. Listening to others; 2. Following directions; 3. Following rules; 4. Ignoring distractions from peers; 5. Skills to ask for help; 6. Skills to take turns in a conversation; 7. Skills to cooperate with others; 8. Skills to control oneself in conflict situations; 9. Skills to behave responsibly when in a group; 10. Learning to show kindness to others (Elliott and Gresham, 2007). These answers correspond to the opinions of specialists in our study of which social skills are important for children with ASD. However, when identifying the needs of children by parents, a serious focus was placed on verbal communication and understanding and use of language. Therefore, in the registered video modeling intervention for home use to improve social communication in children with ASD, topics related to communication with peers, communication with adults, and communication with both peers and adults were more focused on social communication.

The proposed intervention introduced visual presentation as a method of attention focusing, as visual learning is not fully supported by research (Trembath et al., 2015). Visual support is recommended in clinical guidelines for ASDs and can help learning in children with autism and thus video modeling improves skills (Pierce et al., 2001). It can reduce anxiety, increase predictability, support communication, and improve participation (Rutherford et al., 2020). We added an interactive element and encouraged communication between the child and the parent, which is highly supported in research (Kamenski et al., 2025; Althoff et al., 2019; Brian et al., 2022). In addition to learning skills, there was also the positive effect of improving communication between the child and the parent (Frolli et al., 2021).

Research supports the use of video modeling to develop communication skills, behavioral strategies, and social skills in children with ASD (Bellini and Akullian, 2007; Delano, 2007), and point-of-view video modeling can help academic skills, play and social initiations (Moustaka et al., 2025). Children with ASD acquire additional social skills with the implementation of video modeling interventions (Apple et al., 2005).

Considering in addition to clinical outcomes, the intervention demonstrates how video modeling can be embedded in digital platforms. Supported by AI solutions, these platforms can provide various innovative solutions by enriching and adding new functionalities to computer-aided education and healthcare, especially for children with special educational needs (Frolli et al., 2020).

By applying an interactive method and with the help of the visual coach, we expect that parents will successfully implement this method to develop new skills in their children and improve their communication.

Limitations

The information collected relies on a small group of respondents—specialists and parents of children with autism. Although it covers general topics, the information is based on the personal experience of the specialists and the life experience of the parents.

Another limitation includes the limited number of situations and scenarios.

Conclusion

Social skills are important for all people in society. They enable children with ASD to successfully participate in school and in group activities, to communicate with adults, to seek help, to ask, to refuse, to have fun.

Social skills training for children with ASD can be fully assisted by parents if they have support from methods that allow them to move in a direction given in advance and according to scenarios and instructions prepared specifically for this purpose.

Communication between parent and child is invaluable, both for children with ASD and for typical children. The child can learn from the parent, through fun and enjoyable interaction, and the results will not only include new knowledge and skills, but also a strong and fulfilling relationship in the future.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The study was reviewed and approved by the Research Ethics Committee of the Department of Health Care and Social Work, NBU (Protocol No. 131/08.10.2024). Participation in the study was voluntary, and all information was collected anonymously and treated confidentially. 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), and minor(s)' legal guardian/next of kin, for the

publication of any potentially identifiable images or data included in this article.

Author contributions

MS: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft. PM: Investigation, Methodology, Resources, Visualization, Writing – review & editing. TK: Data curation, Funding acquisition, Investigation, Methodology, Writing – review & editing. EN: Methodology, Project administration, Writing – review & editing. VV: Resources, Visualization, Writing – review & editing.

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Conflict of interest

The author(s) declared that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declared that Generative AI was not used in the creation of this manuscript.

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