IOJPE

ISSN: 1300 – 915X
www.iojpe.org

International Online Journal of Primary Education *2026, volume 15, issue 2*

CHALLENGES FACED BY CHILDREN WITH AUTISM SPECTRUM DISORDER IN PARTICIPATING IN PHYSICAL ACTIVITIES

Aslıhan NERGİZ
Anadolu University, Faculty of Education, Eskişehir, Türkiye
ORCID: https://orcid.org/0009-0007-4479-2627
aslihannergiiz@gmail.com

Durdane ÖZTÜRK
Assoc. Prof. Dr., Ahi Evran University, Faculty of Education, Kırşehir, Türkiye
ORCID: https://orcid.org/0000-0001-5116-7933
durdane.ozturk@ahievran.edu.tr

Oner SOYKAN
Gazi University, Faculty of Education, Ankara, Türkiye
ORCID: https://orcid.org/0000-0002-6967-2281
durdane.ozturk@ahievran.edu.tr

Deniz AKDAL
Assoc. Prof. Dr., Ahi Evran University, Faculty of Education, Kırşehir, Türkiye
ORCID: https://orcid.org/0000-0001-9272-3422
denizakdal@gmail.com

Received: November 5, 2025 **Accepted:** April 20, 2026 **Published:** June 30, 2026

Suggested Citation:
Nergiz, A., Öztürk, D., Soykan, O., & Akdal, D. (2026). Challenges faced by children with autism spectrum disorder in participating in physical activities. *International Online Journal of Primary Education (IOJPE), 15*(2), 154-178. https://doi.org/10.55020/iojpe.1818032

Abstract

Children diagnosed with Autism Spectrum Disorder (ASD) encounter numerous individual, environmental, and social challenges in participating in physical activities. Despite the developmental benefits of physical activity, such as improvements in motor skills, social interaction, sensory regulation, and emotional balance children with ASD often experience limited participation. This limitation not only affects their development but also impacts their families quality of life of. The purpose of this study is to explore the barriers faced by children with ASD in engaging in physical activities, as perceived by parents and professionals working who closely with them. This research employed a qualitative design. Participants included teachers, parents, speech therapists, physiotherapists, and occupational therapists who provide care or educational services to children with ASD. Data were gathered through semi-structured interviews and analyzed using content analysis techniques. Analysis of the data revealed four main themes: individual behavioral characteristics, intensity of environmental stimuli, socio-emotional challenges, and educational/structural deficiencies. Participants emphasized that these factors significantly hinder active participation in physical activities. Additionally, there was a strong consensus on the necessity for individually tailored environments and professional support in physical activity programs. The study concludes that improving physical activity participation among children with ASD requires the implementation of structured, individualized programs that are professionally supported and carefully balanced in terms of environmental stimuli.

Keywords: Autism spectrum disorder, physical activity, participation barriers, environmental factors, social factors.

INTRODUCTION

The participation in physical activities is a crucial factor supporting the social, emotional, and motor development of children diagnosed with Autism Spectrum Disorder (ASD). However, the challenges encountered in this process are considerable. ASD is a neurodevelopmental disorder that typically emerges before the age of three and persists throughout life. It is characterized by difficulties in social communication and interaction, along with repetitive, restricted, and stereotyped behaviors, activities, and interests (Boyd & Shaw, 2010). Motor skill impairments, in combination with low physical fitness levels and developmental delays, substantially limit the ability of individuals with ASD to

engage in physical activities (Rinehart et al., 2001). Moreover, the social and behavioral difficulties associated with ASD further hinder participation in such activities, often leading to sedentary lifestyles (Pan, 2009). This restriction is also reflected in findings that children with ASD are less likely to participate in physical activities compared to their typically developing peers (McCoy et al., 2016).

Both individual and environmental factors are influential in limiting participation in physical activities. For example, lack of motivation for physical activity (Stanish et al., 2015), low motor skill competence (Loprinzi et al., 2015), and not enjoying physical activity negatively affect the participation of individuals with ASD (Eversole et al., 2016). Similarly, limited access to physical activity resources, lack of parental encouragement, and the absence of trained instructors for organized activities are also among the important barriers (Must et al., 2015; Gregor et al., 2018). Features such as delays in motor development and sensory sensitivities further increase the difficulties in participation (Nichols et al., 2019; Scharoun et al., 2017).

Physical activity programs offer various benefits for children with ASD. Research has shown that these programs reduce stereotypical and self-stimulatory behaviors, improve social skills, and enhance physical functioning and cognitive performance (Lytle & Todd, 2009; Suárez-Manzano, 2024). Especially activities that support social interactions may increase time-on-task and enhance the effectiveness of inclusive environments (Shahane et al., 2024). However, despite the positive effects of physical activity, the activity levels of children with ASD are generally low, and the increased time spent on screens exacerbates this problem (Must et al., 2015).

Evaluating barriers to physical activity requires a multifaceted process. According to the socio-ecological model, the analysis should extend from child-level behavioral problems to factors at the family, community, and public policy levels (Must et al., 2015). Such an evaluation may help develop comprehensive strategies to increase the participation of individuals with ASD in physical activity. Therefore, obtaining the views of parents and teachers is of great importance in understanding the barriers to participation in physical activity more comprehensively and identifying possible solutions. The role of parents is vital in increasing their children's participation in physical activity (Arnell et al., 2020). Social barriers such as lack of parental support or the absence of partners in organized activities make it even more difficult for these individuals to engage in leisure activities (Nichols et al., 2019). The perspectives of parents who play a critical role in the daily lives and physical activity participation of children with ASD and teachers who provide education to these children are considered important in identifying barriers and developing effective strategies. In this context, the purpose of this study is to examine the challenges faced by children with ASD in participating in physical activities from the perspectives of parents and teachers.

METHOD

Research Design

To investigate the challenges faced by children with autism spectrum disorder (ASD) in participating in physical activities, a qualitative research method was employed. Qualitative research involves the use of data collection techniques such as observation, interviews, and document analysis to explore perspectives, perceptions, and events in a realistic and holistic manner within their natural contexts (Mertens, 2014; Yıldırım & Şimşek, 2018). The research design adopted in this study was a phenomenological approach. Phenomenology is a qualitative research approach that aims to describe how individuals perceive and interpret a phenomenon, event, or situation about which knowledge is limited (Smith & Fowler, 2009; Creswell et al., 2013; Chigbu, 2019). In this study, the phenomenological design was utilized to understand and explain the challenges experienced by children with ASD in participating in physical activities, as interpreted through the perspectives, experiences, and perceptions of their parents and teachers.

Participants

Participants were selected through criterion sampling, one of the purposeful sampling strategies. Criterion sampling involves including all cases that meet specific, predetermined conditions, thereby ensuring access to the most relevant data sources for the purpose of the research (Patton, 2014). Within this framework, the study aimed to collect data from parents of children with ASD and professionals responsible for their education and care, to evaluate the challenges these children face in participating in physical activities. The children of the families participating in the study are preschool and primary school students. The inclusion criteria were defined as follows: for parents, having a child diagnosed with ASD who was receiving rehabilitation services; and for professionals, working in a rehabilitation setting and having experience with children with ASD. Following the necessary approvals obtained from a private rehabilitation center in Kırşehir, both parents of children with ASD and field experts were informed about the research. Written informed consent was collected from all participants prior to data collection. Information regarding the participating parents is presented in Table 1, and details concerning the professionals are provided in Table 2.

Table 1. Demographic information of parents.

Participant Code	Gender	Age	Education Level	Occupation
P1	Female	28	Secondary School	Unemployed
P2	Female	30	Secondary School	Unemployed
P3	Erkek	42	University	Teacher
P4	Female	32	High School	Unemployed
P5	Female	29	High School	Unemployed
P6	Female	38	University	Officer
P7	Female	41	High School	Unemployed
P8	Female	33	High School	Unemployed
P9	Female	26	High School	Unemployed
P10	Female	35	Secondary School	Unemployed
P11	Female	36	High School	Cook
P12	Female	38	Secondary School	Unemployed
P13	Female	28	High School	Unemployed
P14	Female	31	High School	Worker
P15	Female	27	University	Unemployed
P16	Female	32	High School	Unemployed

The majority of the participants were mothers in their young to middle adulthood. Most had completed secondary or high school education. A large proportion of them were not employed, while those who were working were engaged in various professions.

Table 2. Demographic information of field experts.

Participant Code	Gender	Age	Field / Profession
T1	Male	28	Preschool Teacher
T2	Male	25	Guidance Counselor
T3	Female	31	Classroom Teacher
T4	Female	30	Classroom Teacher
T5	Female	35	Preschool Teacher
T6	Female	28	Classroom Teacher
T7	Female	37	Preschool Teacher
OT1	Male	29	Occupational Therapist
OT2	Female	25	Occupational Therapist
PT1	Female	29	Physiotherapist
SLT1	Female	26	Speech and Language Therapist
SLT2	Female	33	Speech and Language Therapist

The field experts consisted of participants from various disciplines, including preschool, classroom, and guidance teachers, as well as occupational therapists, physiotherapists, and speech and language therapists. The majority of the participants were women and within the young adult age range.

Within the research process, preliminary individual interviews were conducted with parents and experts who agreed to participate in the study. An interview schedule was prepared to ensure that the interviews were carried out in a planned and systematic manner. Schedules were structured independently for each participant group to accommodate their unique requirements and availability. Interviews with parents were scheduled in accordance with their daily routines and comfort. Accordingly, the interviews were held at times when parents brought their children to the rehabilitation center for special education sessions, ensuring that the children were in a safe environment. This approach was adopted to facilitate parents' participation in the interviews and to encourage their meaningful contribution to the research process. The interview schedule for parents is presented in Table 3. To ensure the protection of personal data, the parents' names were anonymized and replaced with code identifiers.

Table 3. Parent interview schedule.

Participant	Date	Day	Time	Interview Duration
P1	January 28, 2025	Tuesday	15:00	20 minutes
P2	January 28, 2025	Tuesday	16:00	30 minutes
P3	January 29, 2025	Wednesday	15:00	20 minutes
P4	January 29, 2025	Wednesday	17:00	25 minutes
P5	January 30, 2025	Thursday	12:00	25 minutes
P6	January 30, 2025	Thursday	14:00	25 minutes
P7	January 30, 2025	Thursday	17:00	20 minutes
P8	January 31, 2025	Friday	11:00	25 minutes
P9	February 6, 2025	Thursday	16:00	30 minutes
P10	February 12, 2025	Wednesday	16:00	25 minutes
P11	February 20, 2025	Thursday	17:00	30 minutes
P12	February 21, 2025	Friday	12:00	25 minutes
P13	February 21, 2025	Friday	14:00	30 minutes
P14	February 22, 2025	Saturday	11:00	20 minutes
P15	February 22, 2025	Saturday	12:00	25 minutes
P16	February 27, 2025	Thursday	12:00	25 minutes

The interviews with parents were conducted over a specific period, scheduled on different days and times during both weekdays and weekends. The duration of the interviews was generally similar across participants, and the sessions were flexibly organized according to their availability. In the study, interviews with experts were arranged based on their available times during working hours. The interviews were scheduled for the time slots previously identified by the experts as free according to their teaching schedules. Accordingly, the workload and time management constraints of the experts were carefully considered, thereby ensuring that the interviews were conducted in an effective and efficient manner.

The interview schedule for the experts is presented in Table 4. To ensure the protection of personal data, the experts' names were anonymized and replaced with code identifiers.

Table 4. Interview schedule with experts.

Participant	Date	Day	Time	Interview Duration
T1	January 28, 2025	Tuesday	12:00	35 minutes
T2	January 29, 2025	Wednesday	11:00	20 minutes
T3	January 31, 2025	Friday	12:00	30 minutes
T4	February 1, 2025	Saturday	13:00	30 minutes
T5	February 7, 2025	Friday	14:00	25 minutes
T6	February 8, 2025	Saturday	15:00	20 minutes
T7	February 11, 2025	Tuesday	12:00	25 minutes
OT1	February 13, 2025	Thursday	12:00	30 minutes
OT2	February 13, 2025	Thursday	13:00	30 minutes
PT1	February 15, 2025	Saturday	12:00	20 minutes
SLT1	February 18, 2025	Tuesday	12:00	25 minutes
SLT2	February 18, 2025	Tuesday	13:00	25 minutes

The interviews conducted with expert participants were scheduled within a specific timeline, covering both weekdays and weekends. The sessions were organized at different days and times, taking into account each participant's individual availability, and the duration of the interviews was generally consistent across participants

Setting

During the research process, interviews with parents and experts were conducted in a meeting room of a rehabilitation center in Kırşehir that provides special education services. The physical features of this room met specific standards to ensure that the interview process could be carried out efficiently. The interview room covered an area of approximately 16 square meters and had a rectangular layout. It was designed to receive natural light through a large window overlooking the institution's garden. This bright environment allowed participants to feel more comfortable and at ease during the interviews. In addition, the room's furniture was arranged to ensure participants' comfort. The layout included single and double armchairs, a table, chairs, and a bookshelf, creating a warm, organized, and inviting atmosphere conducive to effective communication and meaningful interaction throughout the interviews.

Data Collection Tools

This study aimed to examine the challenges faced by children diagnosed with ASD in participating in physical activities. In this context, semi-structured interview questions were developed to be used in interviews with parents and teachers. The interview questions were carefully prepared based on the purpose of the research and the relevant literature. The prepared interview form addressed key issues such as the difficulties experienced by children with ASD in participating in physical activities, the reasons underlying these difficulties, and the effects of physical activities on their development. Accordingly, the questions were designed to allow participants to reflect their experiences in detail. The initial draft of the interview form was evaluated by four academic experts in the field, and necessary revisions were made based on the feedback received. In light of the experts' opinions, the final set of questions was determined, and the form was reviewed for content and structural appropriateness. Following the feedback process, the interview form was finalized to include four main questions, each designed to serve the purpose of the study and to explore participants' experiences and observations in depth. Within the scope of the research, the questions to be addressed during the interviews with parents and teachers were determined as follows:

What are the biggest challenges you face regarding your child's/student's participation in physical activities?

What do you think about the influence of the environment (e.g., playgrounds, sports facilities) on your child's/student's participation in physical activities?

Do you think there are physical, social, or emotional factors preventing your child/student from participating in physical activities? Please explain.

What types of resources or training do you think are needed for your child/student to become more active in physical activities?

The interviews were both audio- and video-recorded to ensure the accurate documentation of participants' responses. These recordings allowed the interview process to be properly archived and enabled meticulous analysis of the conversations. Additionally, the use of both audio and video recordings provided researchers with the opportunity to revisit observations made during the interviews, thereby enhancing the accuracy and reliability of the data. During this process, participants' consent was obtained prior to recording, and their privacy and confidentiality were strictly protected. To support the qualitative data collection process, a researcher's reflective journal was also utilized. The journal systematically documented observations, experiences, notable events, and personal reflections related to the research process (Mills, 2007). It included pre- and post-interview impressions, the physical and emotional conditions of the interview setting, participants' reactions and body language, noteworthy situations that emerged during the interviews,

and the researcher's self-awareness regarding their role in the process. This reflective practice contributed to maintaining transparency, reflexivity, and depth in the qualitative inquiry.

Data Collection Process

In this study, the challenges experienced by children with ASD in participating in physical activities were examined through data collected from interviews conducted with parents and experts. The interviews were semi-structured in format and lasted between 20 and 35 minutes. The data collection process was designed in accordance with the aim of the research and carried out following established ethical principles. The participants consisted of parents and educators of children with ASD who were receiving education at rehabilitation centers. The selection of these participants was based on their direct experience and relevance to the research questions. Participation in the interviews was entirely voluntary, and each participant was provided with an informed consent form to ensure their explicit approval to take part in the study. Additionally, the researcher kept a reflective journal to record both personal experiences during the data collection process and immediate observations regarding participants' reactions. This journal served as an important tool for documenting the research process and ensuring reflexivity and transparency in qualitative inquiry.

Credibility and Trustworthiness of the Study

The credibility of this research was strengthened through various methods and procedures implemented throughout the study. The reliability and validity of the research were ensured by employing multiple strategies such as triangulation of data sources, use of multiple researchers, expert review, participant confirmation, and inter-researcher consistency in data analysis (Creswell, 1998). Ethical principles and the control of researcher bias were also taken into consideration. The study was conducted with parents and teachers of children with autism who were receiving education in rehabilitation centers. Participant selection was carried out carefully to ensure the accuracy and validity of the research topic. Parents and teachers were considered appropriate participants since they possessed firsthand knowledge of the children's physical activities and the challenges encountered during these activities. Including participants directly related to the research topic was regarded as essential for ensuring content validity. The research was based on the principle of data triangulation. Data were collected from different stakeholders, including parents and teachers of children with ASD enrolled in rehabilitation centers. This approach enhanced the external validity of the study and provided a more comprehensive understanding of the phenomenon from multiple perspectives. Moreover, the study was conducted by a team of three researchers, incorporating the principle of investigator triangulation. Collaboration among researchers ensured that different aspects of the data collection process were meticulously managed and contributed to maintaining researcher neutrality. Each researcher took responsibility at different stages, enabling the study to progress in a coherent and reliable manner. To ensure validity, peer debriefing and expert consultation were employed. The interview questions were initially drafted by one researcher and subsequently reviewed by two others.

The questions were subsequently submitted to field experts, and necessary revisions were carried out in line with their feedback. Obtaining expert opinions was a crucial step in ensuring content validity and the alignment of questions with the research objectives. This process strengthened the scientific validity of the research questions and facilitated the collection of accurate and reliable data.

Researcher bias was carefully monitored throughout the study. During data analysis, continuous communication and discussion were maintained among the researchers to minimize the impact of bias. The use of double coding where each piece of data was independently analyzed by two researchers helped ensure internal consistency. Discrepancies in coding were discussed and resolved through consensus, and a common coding scheme was established. This approach minimized the influence of personal interpretations and biases on the analysis process.

Participants' perspectives were accurately and ethically represented in the study. The member checking process was conducted in accordance with ethical research principles. Preliminary meetings were held with the parents and teachers participating in the study, during which the research purpose was explained in detail and informed consent forms were obtained. Participants were assured that

their statements would remain confidential and used solely for research purposes. In addition, the interview transcripts could be shared with participants for feedback to ensure accuracy of representation. However, the text does not indicate that the draft report was shared with participants, which remains a limitation. Nevertheless, attention was given to protecting participants' rights and ensuring that their views were represented accurately.

To enhance the validity and reliability of the interviews conducted with parents of children with ASD, pilot interviews were carried out. The pilot interviews aimed to test the effectiveness of the main research questions and the interview form, assess the clarity of the questions, and observe the overall flow of the interview process. The pilot study was conducted with two parents who had similar characteristics to the target population. During these sessions, the questions were clearly communicated, and potential issues encountered during the interviews were noted. The duration of the interviews, parents' reactions, and their response patterns were also observed. Based on the feedback obtained, necessary adjustments were made to the interview questions, and the final version of the form was prepared for the main study. The pilot interviews played a crucial role in ensuring the reliability and validity of the research.

The data collection and analysis processes were described in rich and detailed narrative form. Participants' views were presented comprehensively in line with the research context, enabling readers to gain a clear understanding of the research process. Transparency was maintained by providing detailed information about the findings and methods used, which strengthened the credibility of the study's results.

In this research, an external auditor, an academician specialized in special education, was assigned to oversee and evaluate the entire process. The interview sessions, which constituted one of the most critical stages of the research, were video recorded to ensure external auditing. The recordings were used to accurately document and later analyze the interviews. This method served as an important tool to enhance both the validity and reliability of the study. The external auditing process allowed the auditor to observe the research without intervention, providing an objective evaluation of the procedures. The video recordings also enabled the auditor to review each stage in detail and allowed the researchers to assess and analyze the interviews more reliably.

Data Analysis

During the qualitative research process, both audio and video recordings were collected during the interviews. The obtained data were transcribed into Word format using the Notebook LM program. After transcription, the written texts were compared with the audio recordings to verify content accuracy, and necessary corrections were made. After these procedures, the data were prepared for the coding process. The research data were analyzed through content analysis. In qualitative research, content analysis is an analytical method that enables the systematic examination of written, verbal, or visual data to transform them into meaningful themes (Yıldırım & Şimşek, 2018). This method is particularly common in studies that aim to understand individuals' experiences, attitudes, perceptions, and perspectives on social phenomena in depth (Krippendorff, 2019). Content analysis involves several stages, including dividing the data into meaningful units, coding, categorizing, and developing themes. Throughout this process, the researcher aims to reveal the underlying meanings while preserving the integrity of the data. According to Yıldırım and Şimşek (2018, p. 242), unlike descriptive analysis, content analysis includes a deeper level of interpretation and seeks to uncover the latent meanings embedded in the data. Consistent with the purpose of this study, content analysis was employed to interpret, in depth, the perspectives of participants special education teachers, speech and language therapists, occupational therapists, and physiotherapists regarding the challenges experienced by children with ASD in participating in physical activities. The interview data were transcribed and transferred into the MAXQDA 2020 software for analysis. Independent coding was conducted by the researchers, and the similarities and differences between the codes were examined collaboratively. To ensure the reliability of the data, the agreement/disagreement principle proposed by Miles and Huberman (1994) was applied. The inter-coder reliability coefficient was calculated

using the following formula: Reliability = (Agreement / (Agreement + Disagreement)) × 100 the overall reliability of the analysis was calculated as 84%. A high level of similarity was observed between the coders, while differing codes were re-evaluated and recoded through consensus. As a result of the coding process, categories and themes were derived, corresponding to the interview questions. In qualitative research, data analysis is conducted in four main stages: (1) coding the data, (2) identifying themes, (3) organizing codes and themes, and (4) defining and interpreting the findings (Yıldırım & Şimşek, 2018).

In accordance with these stages, the data were analyzed, and four overarching themes were identified: challenges in participation in physical activities and the influence of the environment on participation.

Physical, social, and emotional factors preventing participation, Resources and training required to increase active participation. Under these themes, similar data were grouped, and a meaningful structure was established among the codes, categories, and themes to comprehensively describe the findings.

RESULTS

"As a result of the analysis of the participants' responses to the questions related to physical activity, the findings were presented under four themes and supported with direct quotations. These themes are illustrated in Figure 1."

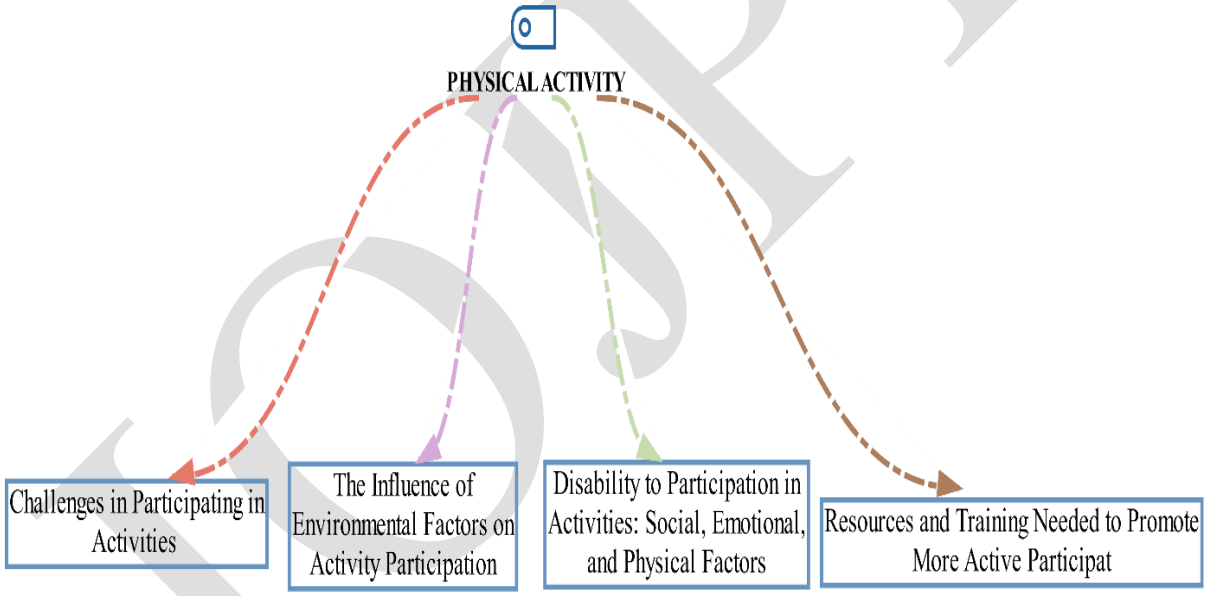

Figure 1. Hierarchical code–subcode model of the themes.

Findings on Challenges in Participation in Physical Activities

The participants were first asked: "What are the biggest challenges you face regarding your child's/student's participation in physical activities?" This question aimed to identify the difficulties encountered by participants in ensuring students' engagement in physical activities. The findings related to challenges in participation were grouped under four categories and are presented in Figure 2.

As shown in Figure 2, the theme "Challenges in participation in physical activities" consists of four categories: child-related challenges, activity-related challenges, special education-related challenges, and parent-related challenges. Participants reported that the most frequently encountered difficulties within the child-related challenges category included: displaying obsessive or repetitive behaviors (e.g., arranging objects in a specific order or reacting intensely to minor changes in daily routines) (f=14), restricted movement (f=12), hyperactivity (f=7), attention and concentration problems (f=3),

noncompliance with instructions (f=3), poor self-control (f=2), focus on a single game or toy (f=2), possessive behaviors and believing that everything belongs to them (f=1), lack of physical strength (f=1), and limited self-expression skills (f=1).

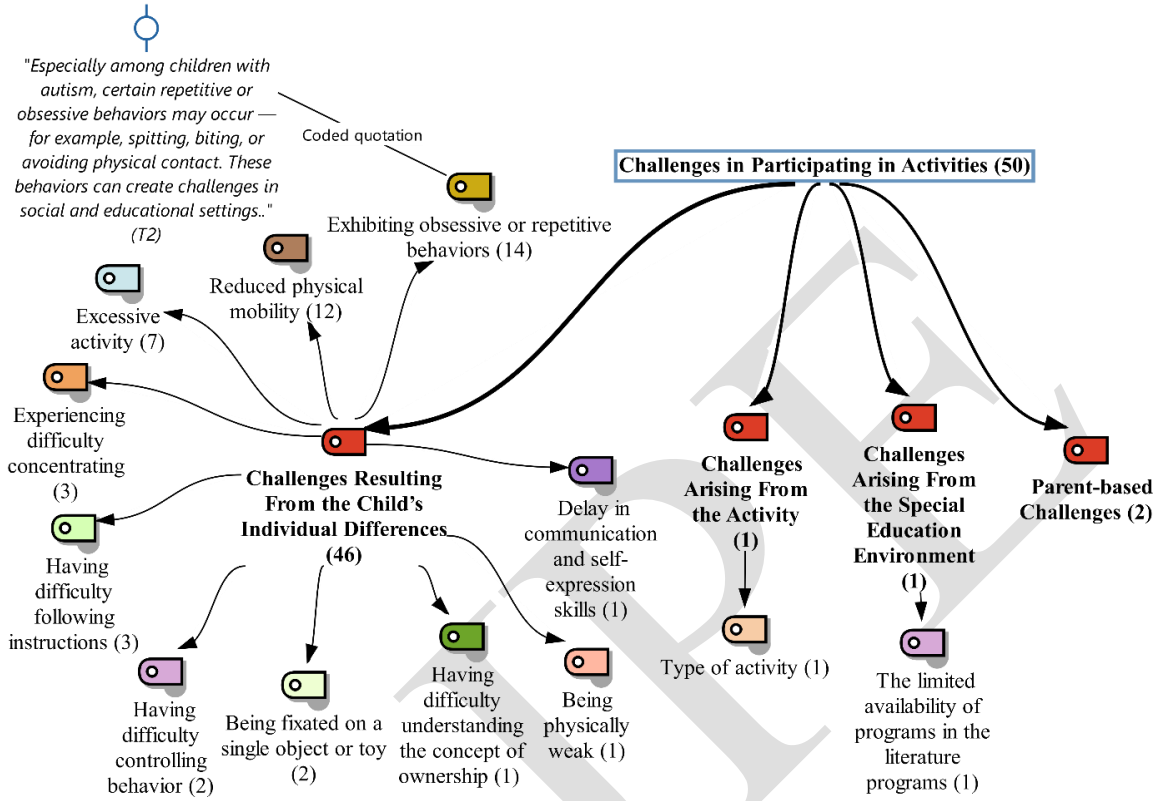

Figure 2. Hierarchical code–subcode model of the theme challenges in participation in physical activity.

A parent coded as P9 described their child's obsessive behaviors as follows: "He seems unwilling to move. When we go outside, he throws himself on the ground and refuses to get up." Similarly, a speech and language therapist (SLT1) stated: "Obsessive behaviors can significantly hinder participation in physical activities. Students who are strongly attached to certain objects or routines often experience intense anxiety when faced with environmental or procedural changes during activities." These findings indicate that obsessive and repetitive behaviors commonly observed in children with ASD act as barriers to active participation in physical activities. Within the activity-related challenges category, participants noted that the most common problem was the inappropriateness of activities for children (f=1). A parent (P1) commented: "Most physical activities are too demanding for my child, so he is often reluctant to participate and struggles to adapt to the activity." A teacher (T6) further explained: "When physical activities are not aligned with the child's interests, sensory needs, or motor skill level, it becomes difficult for them to adapt to the process. This often leads to withdrawal or lack of motivation." These results suggest that when physical activities are not tailored to individual needs, children with ASD experience adaptation difficulties and display low motivation toward participation. Under the special education-related challenges category, participants emphasized the inadequacy of existing programs (f=1). A parent (P3) expressed: "My child has been receiving special education for a long time, but I think the programs do not include enough physical activity. Although my child really needs to move, this need is not reflected in the educational plans." A teacher (T4) similarly noted: "In the special education programs we implement, content related to physical activity is quite limited. I observe that many students particularly need movement-based activities. However, since programs mainly focus on academic goals, physical and motor development often remain in the background." This finding highlights that current special

education programs insufficiently address the physical activity dimension, failing to adequately meet students' motor development needs. In the parent-related challenges category, participants pointed out issues such as parents' lack of awareness of the importance of physical activity (f=1) and limited parental support or involvement (f=1). A teacher (T1) remarked: "Parents do not consider physical activity as an academic subject, so they do not take it seriously. They often complain about their child's hyperactivity, but they make no effort to provide opportunities for physical movement." Similarly, the researcher noted in the reflective journal: "The mother explained that her child displayed problem behaviors during physical activity sessions. However, as the interview progressed, it became evident that these behaviors stemmed more from family attitudes than from autism itself." These findings reveal that parental attitudes play a decisive role in shaping children's overall developmental processes and participation behaviors in physical activities. Findings on the Influence of the Environment on Participation in Physical Activities The second question addressed to the participants was: "What do you think about the influence of the environment (e.g., playgrounds, sports facilities) on your child's/student's participation in physical activities?"

This question aimed to identify participants' views on how environmental factors affect children's participation in physical activities. The findings related to this topic were gathered under the theme "The Influence of the Environment on Participation" and organized into two categories, as illustrated in Figure 3.

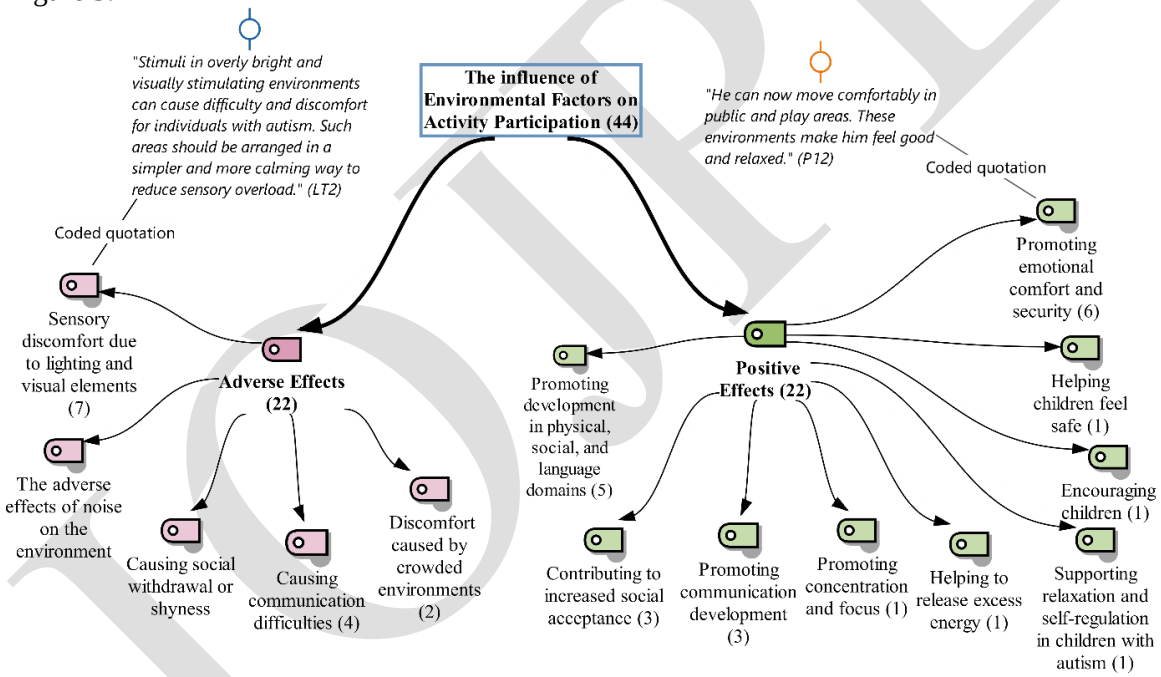

Figure 3. Hierarchical code–subcode model of the theme "Environmental factors affecting challenges in participation in physical activity"

As illustrated in Figure 3, the theme "The Influence of the Environment on Participation" was examined under two main categories: positive effects and negative effects. In the negative effects category, participants reported that excessive light and visual stimulation in the environment (f = 7), noisy surroundings (f = 5), and crowded settings (f = 2) caused discomfort in children, leading them to display withdrawn behaviors (f = 4) and experience communication difficulties (f = 4). As seen in Figure 3, the most frequently emphasized environmental barrier was the excessive presence of light and visual stimuli, which negatively affected the child's engagement in physical activity. One participant, an occupational therapist (ER1), expressed the following view regarding this issue: "Playgrounds that are overly bright and visually overwhelming can make children uncomfortable. The simultaneous presence of different lights and sounds can negatively affect their participation in physical activities." Similarly, the researcher's diary included the following observation: "During the

interview, I observed how the child's problem behaviors complicated daily life and how these behaviors became even more challenging due to environmental factors." These findings indicate that the intensity of environmental stimuli interacts with problem behaviors, creating a significant environmental barrier that hinders participation in physical activities. In the positive effects category, participants noted that the environment played a supportive role in various aspects of the child's development. They emphasized that the environment helped children feel comfortable and relaxed (f = 6), contributed to their physical, social, and language development (f = 5), facilitated social acceptance (f = 3), improved communication skills (f = 3), enhanced attention (f = 1), provided an outlet for excess energy (f = 1), promoted calmness (f = 1), increased courage (f = 1), and supported a sense of safety (f = 1). As shown in Figure 3, the most frequently mentioned positive environmental effect was the sense of comfort and relaxation that children experienced in supportive environments. For instance, a parent (P4) stated: "When my child spends time in play areas involving physical activity, I observe that he both relaxes and behaves more harmoniously; such environments really make him feel good." Similarly, a teacher (T2) explained: "Playgrounds and sports facilities help children release their energy. For example, activities such as playing in a ball pit or sliding down a slide promote physical movement and contribute to sensory integration therapy. These areas are highly beneficial for helping children expend their energy."

Overall, these findings demonstrate that physical activity environments play a positive role in children's relaxation and adaptation processes. It can be concluded that physical activity contributes to the development of behavioral regulation and sensory integration skills by helping balance children's energy levels.

Findings on Physical, Social, and Emotional Factors Preventing Participation in Physical Activities

The third question addressed to the participants was: "Do you think there are any physical, social, or emotional factors that prevent your child/student from participating in physical activities? Could you please explain?" This question aimed to identify the participants' perspectives regarding the physical, social, and emotional factors that may hinder children's participation in physical activities. The findings related to this question were organized under the theme "Physical, Social, and Emotional Factors Preventing Participation in Physical Activities" and categorized into three subcategories, as illustrated in Figure 4.

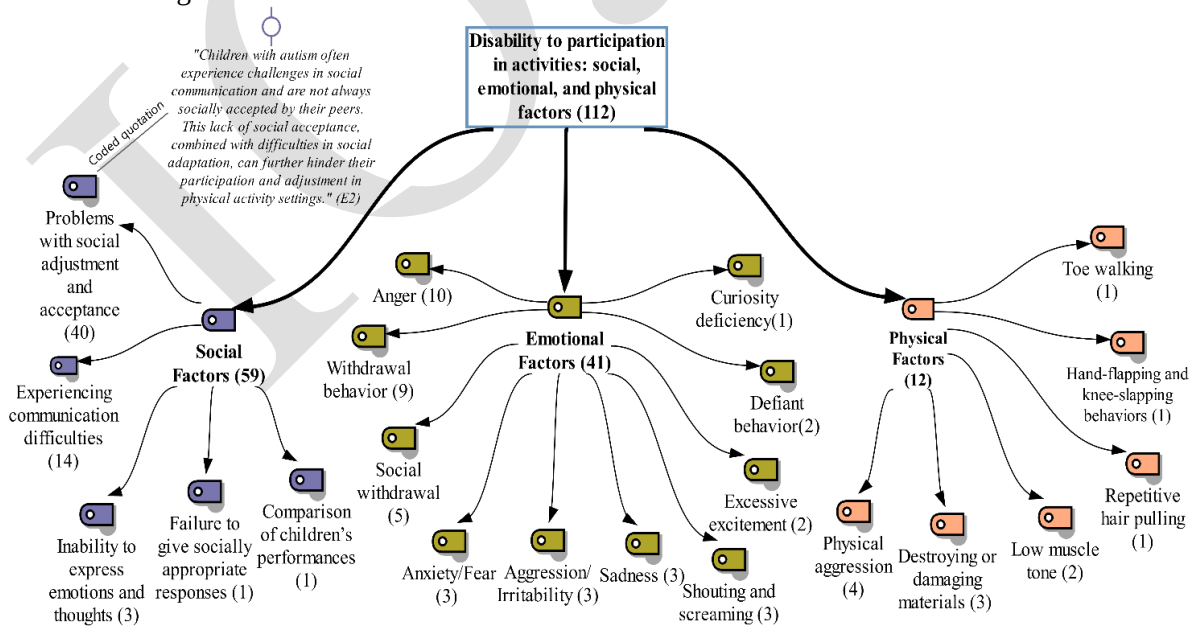

Figure 4. Hierarchical code–subcode model of the theme social, emotional, and physical factors hindering participation in physical activity.

As illustrated in Figure 4, the theme "Physical, Social, and Emotional Factors Preventing Participation in Physical Activities" consists of three categories: social factors, emotional factors, and physical factors. In the social factors category, participants most frequently mentioned social adaptation/acceptance problems (f = 40), followed by communication difficulties (f = 14), inability to express oneself (f = 3), inappropriate responses (f = 1), and comparison with other children (f = 1). As seen in Figure 4, the most emphasized social factor was difficulty with social adaptation and acceptance. One parent (P5) expressed this as follows: "When playing a game, it was sometimes difficult for him to get along with other children." In addition, the researcher's diary included the following observation: "During the interviews, I noticed that parents believed societal awareness toward children with special needs was quite low. This lack of awareness seemed to make both parents and children more withdrawn in social settings." These findings suggest that social adaptation and acceptance problems negatively affect the participation of children with special needs in physical activities. Moreover, parents' hesitancy in social contexts stemming from low societal awareness appears to limit children's opportunities to join group activities and reduces their access to physical activity experiences. In the emotional factors category, participants identified anger problems (f = 10) as the most common issue, followed by introversion (f = 9), withdrawal (f = 5), anxiety/fear (f = 3), aggression/irritability (f = 3), sadness (f = 3), shouting/screaming (f = 3), excitement (f = 2), stubbornness (f = 2), and lack of curiosity (f = 1). As shown in Figure 4, anger problems were the most frequently mentioned emotional barrier. A parent (P8) described this as follows: "Sometimes he gets angry and has difficulty expressing himself. For instance, when he can't do something, he may throw his toys or start shouting, whereas other children may try to find a solution." In the researcher's diary, this was reflected as: "According to the mothers' responses, children's emotional anxieties make it difficult for them to participate in group-based learning, which in turn negatively affects their engagement in physical activities." These findings indicate that anger and behavioral problems lead to challenges in social interaction processes, acting as a significant emotional barrier to participation in physical activities. In the physical factors category, participants most frequently mentioned hitting others (f = 4), followed by throwing or breaking objects (f = 3), muscle weakness (f = 2), hair pulling (f = 1), hand flapping or knee slapping (f = 1), and toe walking (f = 1). As illustrated in Figure 4, the most frequently emphasized physical factor was hitting others. A parent (P11) expressed this as follows: "My son struggles in social interactions; when he gets excited and cannot express himself, he sometimes shows behaviors such as hitting or biting." Similarly, a teacher (T3) stated: "Children sometimes struggle with social integration when they go to a park, school, or family gathering. Especially during physical activities, they may hit other children. The other children may react in the same way or withdraw, and in both cases, the physical activity ends."

These findings reveal that children with autism spectrum disorder (ASD) may display physical aggression as a response to intense emotions or overstimulation in social environments, which in turn hinders their healthy participation in physical activities.

Findings on Social, Emotional, and Physical Factors Preventing Participation

As shown in Figure 4, the theme of barriers to participation consisted of three categories: social, emotional, and physical factors. In the social factors category, participants most frequently reported problems of social adaptation/acceptance (f=40), followed by communication problems (f=14), inability to express oneself (f=3), inappropriate responses (f=1), and being compared with other children (f=1). As seen in Figure 4, the most emphasized social factor was social adaptation/acceptance problems. Parent P5 stated: "While playing a game, sometimes it was difficult to adapt to other children." The researcher's journal reflected: "During the interview, I realized that families believed societal awareness of children with special needs was quite low. This caused them to keep both themselves and their children in the background in social environments." These findings show that social adaptation and acceptance problems negatively affect the participation of children with special needs in physical activities. Moreover, families' shy behavior in social contexts, due to a lack of awareness, restricts children's participation in group activities and reduces opportunities for physical activity. In the emotional factors category, the most frequently reported issue was anger

problems (f=10), followed by introversion (f=9), withdrawal (f=5), anxiety/fear (f=3), aggression/irritability (f=3), sadness (f=3), shouting/screaming (f=3), excitement (f=2), stubbornness (f=2), and lack of curiosity (f=1). As reflected in Figure 4, the most emphasized emotional factor was anger. Parent P8 explained: "Sometimes he gets angry and has difficulty expressing himself. For example, when he cannot do something, he may throw the toys in his hand or shout, while other children can find solutions in such situations." The researcher's journal also noted: "From the mothers' responses, it became evident that children's emotional concerns made it difficult for them to participate in group education, and this also negatively affected their participation in physical activities." These findings suggest that anger and behavioral problems cause difficulties in children's social interaction processes and constitute an important barrier that negatively affects participation in physical activities. In the physical factors category, participants most frequently reported hitting others (f=4), followed by throwing/breaking objects (f=3), lack of muscle strength (f=2), hair pulling (f=1), hand flapping/knee slapping (f=1), and tiptoe walking (f=1). As seen in Figure 4, the most emphasized physical factor was hitting others. Parent P11 shared: "My son struggles with social interaction. Especially when he gets excited and has difficulty expressing himself, he sometimes shows behaviors such as hitting or biting." Teacher T3 explained: "When children go to a park, school, or family gathering, they may struggle with social integration. Especially during physical activities, they may display hitting behaviors toward other children. Other children either respond similarly or avoid them. In both cases, the physical activity ends."

These findings indicate that children with ASD, when unable to express themselves in response to intense emotions and stimuli in social environments, sometimes resort to physical aggression, which complicates healthy participation in physical activities.

Findings on Education and Resources Needed for More Active Participation in Physical Activities

The fourth question asked to the participants was: "In your opinion, what kind of resources or training are needed for your child/student to be more active in physical activities?" This question aimed to identify the participants' perspectives regarding the resources and educational supports necessary to enhance students' active participation in physical activities. The findings related to this question were organized under the theme "Resources and Training Required to Increase Active Participation" and categorized into two subcategories, as illustrated in Figure 5.

Findings on Education and Resources Needed for More Active Participation

As illustrated in Figure 5, the theme "Resources and Training Required to Increase Active Participation" consists of two main categories: Required Trainings and Required Resources. In the Required Trainings category, participants most frequently emphasized the need for movement/physical development training (f = 7). Other areas mentioned included training that supports children's socialization (f = 5), training on attention deficit and hyperactivity (f = 3), training conducted by educators specialized in individual differences (f = 2), multidisciplinary training approaches (f = 2), early-age intervention programs (f = 2), training for special education teachers (f = 2), group training (f = 1), community-based awareness training (f = 1), and training that supports child development through various modalities (f = 1). A physiotherapist (PT1) highlighted the importance of movement-based training by stating: "Physical activity programs should take a greater place in the curriculum and not be limited to physical education classes. In preschool and early childhood, activities involving movement are essential. Especially for children with attention deficit or hyperactivity, these are far more beneficial than desk-based learning. Therefore, physical activities should be planned according to each child's interests and needs." Similarly, a teacher (T5) emphasized the professional development of educators: "First, special education teachers need training in physical activity. It is important to expand initiatives run by the Ministry of National Education and the Ministry of Youth and Sports. Moreover, physical activities tailored for children with autism should be demonstrated to teachers and parents with concrete examples. This would increase children's participation in physical activities." These findings underline the necessity of integrating systematic and comprehensive physical activity education into early curricula and

enhancing educators' competencies. Expanding adapted physical activity programs for children with autism spectrum disorder (ASD) is expected to have a positive impact on both participation and development. In the Required Resources category, participants most frequently pointed to the need for special education schools, parks, and areas designed for individuals with special needs (f = 21). Other needs included quiet and comfortable spaces (f = 1), special facilities in every city (f = 1), and socially engaging environments (f = 1).

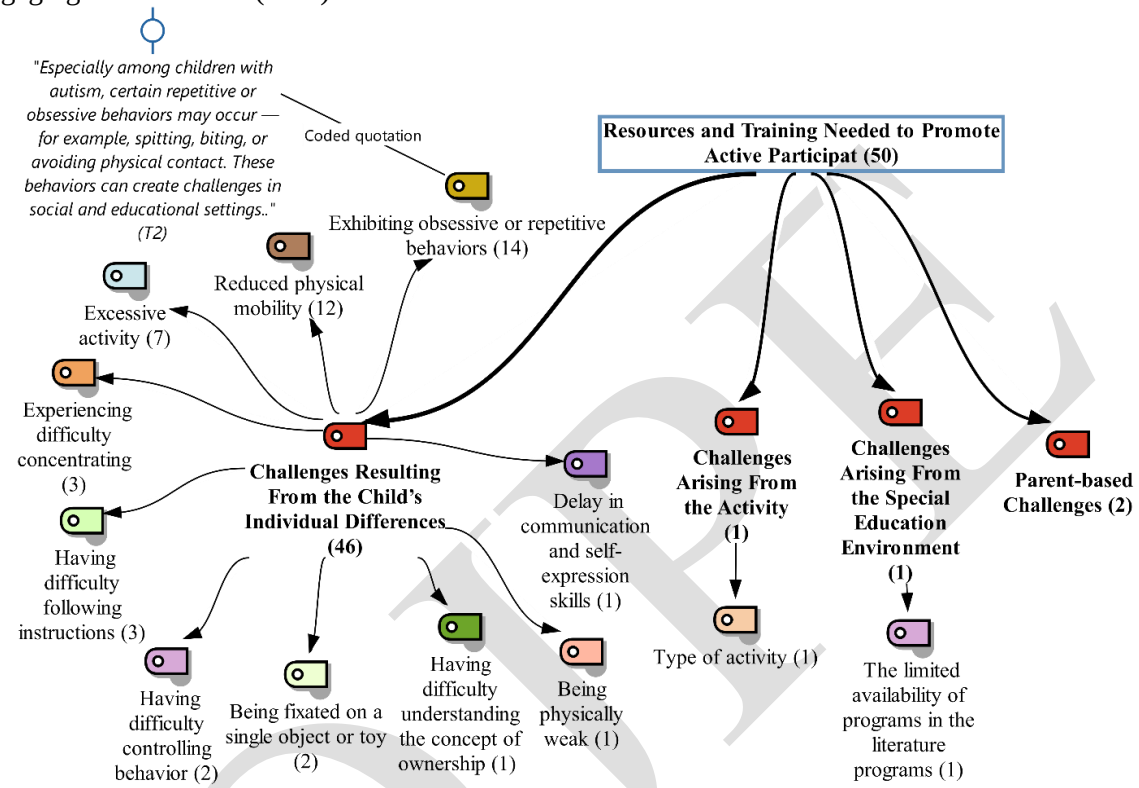

Figure 5. Hierarchical code–subcode model of the theme resources and education needed to promote more active participation in physical activities.

As seen in Figure 5, the most frequently emphasized resource requirement was the availability of inclusive and accessible spaces for individuals with special needs. A parent (P14) expressed this as follows: "Facilities that meet the needs of children with autism should be built first. Currently, I don't think there are enough of these in our country. There should be special centers designed with consideration for what these children can and cannot do, both physically and psychologically. However, this cannot be achieved through individual efforts alone it requires collaboration between the Ministry of National Education and other relevant institutions." Similarly, an occupational therapist (OT2) noted: "Parks should include more diverse and developmentally supportive materials. Right now, most parks only have slides and swings. Designing more comprehensive playgrounds could help children improve their motor skills." Additionally, the researcher's diary included the following reflection: "Lack of resources frequently emerged in almost every interview. Based on my observations, the existing facilities do not adequately meet the interests and needs of children with ASD." Overall, these findings indicate that the shortage of suitable physical spaces and resources to support the development of children with special needs limits the effectiveness of related interventions. This represents a systemic issue that calls for institutional collaboration and infrastructure improvements.

DISCUSSION, CONCLUSION, and RECOMMENDATIONS

Difficulties Arising from the Nature of the Activity

One of the challenges faced by children with autism spectrum disorder (ASD) in participating in physical activities stems from the structural characteristics of the activities themselves. Research findings indicate that activities which are poorly structured in content or not aligned with the child's developmental level and interests often result in loss of motivation and unwillingness to participate. This, in turn, negatively affects the continuity of participation and makes it more difficult for children to adapt to the process. The need for planning activities that are sensitive to individual differences was also emphasized by teachers in their interviews. Arnel et al. (2018) noted that when children's individual needs are met, participation becomes more sustainable. This finding is also consistent with the Family of Participation-Related Constructs (fPRC) model proposed by Imms et al. (2017), which suggests that individual, social, and environmental factors collectively and directly shape participation levels. Therefore, physical activity should not be viewed solely as a means of developing motor skills but rather as a personalized and structured intervention domain. For children with ASD to engage in physical activities effectively and consistently, the content, duration, and implementation methods of programs should be adapted to their unique developmental and behavioral needs.

Difficulties Arising from the Special Education System

Structural limitations within the special education system represent a significant barrier to the participation of children with autism spectrum disorder (ASD) in physical activities. The findings of this study indicate that current special education programs primarily emphasize cognitive and academic development, while goals related to physical development remain secondary. This imbalance restricts the improvement of children's motor skills and physical competence, consequently limiting their participation in physical activities. Implementation-related issues were also noteworthy. Parental reports revealed that programs focusing on physical activity are limited in number and that staff members working in these programs often lack sufficient knowledge and expertise regarding the specific needs of children with ASD (Ayvazoğlu et al., 2015). The shortage of qualified professionals poses a major obstacle, particularly for interventions that must be sensitive to behavioral and sensory differences. Similarly, Gregor et al. (2018) found that a majority of teachers had little to no experience conducting physical activity sessions with individuals with ASD. Moreover, when learning environments are not adequately adapted, the use of physical activity as a supportive and therapeutic tool within special education becomes highly limited. These findings highlight the need for the special education system to regard physical activity not as a secondary component, but as a developmental necessity. The establishment of individualized, high-quality physical activity programs tailored to the unique needs of children with ASD is essential for promoting both motor and social development.

Child-Related Challenges

One of the most fundamental barriers to the participation of children with autism spectrum disorder (ASD) in physical activities arises from individual developmental limitations. The findings of this study indicate that these children experience a range of personal challenges, including attention deficits, hyperactivity, difficulty following instructions, deficiencies in social skills, and motor impairments. In particular, obsessive behavior patterns, reluctance to share, and difficulty in following directions were observed to directly hinder adaptation to physical activity settings. These findings are consistent with a broad body of literature. For instance, Schenkelberg et al. (2015) reported that children with ASD often struggle with peer interactions in unstructured activities and tend to prefer individual participation. Similarly, Must et al. (2015) demonstrated that motor skill deficits, coupled with behavioral difficulties such as distractibility, limit participation in physical activities. Hughes et al. (2006) also emphasized that poor motor competence and low motivation are direct determinants of engagement. Sowa and Meulenbroek (2012) identified social exclusion and coordination difficulties as major barriers, while Emck et al. (2009) highlighted that children with attention problems often have a low perception of their own motor abilities, negatively influencing motivation. Eaves and Ho (2008) found that social inadequacies may lead individuals with ASD to withdraw from social environments, and Bandini et al. (2013) described social exclusion as one of the most significant

psychosocial barriers to participation. Within this framework, increasing the participation of children with ASD in physical activities requires more than merely structural or environmental adjustments. It is equally essential to acknowledge individual differences, design targeted programs for motor skill development, and support social interaction skills within structured and guided contexts. The behavioral characteristics of children with ASD directly influence the pedagogical design of physical activities, suggesting that interventions aimed at enhancing participation should adopt an individualized, flexible, and multidimensional approach.

Parent-Related Challenges

Parental attitudes play a critical role in shaping the participation of children with autism spectrum disorder (ASD) in physical activities. The findings of this study indicate that some parents lack sufficient understanding of the developmental benefits of physical activity, which results in limited encouragement and support for their children's engagement. Insufficient knowledge, lack of guidance, and low awareness levels among parents indirectly restrict children's participation in physical activities. Salar et al. (2024) found that although parents recognize the benefits of physical activity, low child motivation, sedentary lifestyles, and a lack of regular routines serve as barriers to consistent participation. Moreover, families often experience a lack of knowledge regarding appropriate guidance strategies for their children. Observations recorded in the researcher's diary revealed that some behavioral difficulties may stem not only from ASD itself but also from parental attitudes. Edwards et al. (2024) similarly emphasized that family attitudes play a decisive role in children's emotional, social, and behavioral development, indirectly influencing their participation in physical activities. Additionally, environmental stressors such as limited time, energy, and financial resources further reduce the parents' capacity to support their children and hinder their active involvement in the process. In this context, it is necessary to develop awareness and support programs that include not only children but also their parents. Enhancing parental awareness regarding the developmental role of physical activity is a critical prerequisite for ensuring the sustainability of children's participation and development.

The Impact of the Environment on Participation in Physical Activity

One of the most significant factors influencing the participation of children with autism spectrum disorder (ASD) in physical activities is the physical environment. The findings of this study revealed that environmental stimuli directly affect children's attention, behavior, and level of social participation. In particular, environments with intense lighting, high noise levels, or excessive visual stimuli were observed to heighten sensory sensitivities in children, resulting in discomfort, distractibility, and problem behaviors. Such conditions make it difficult for children to adapt to physical activity settings and hinder the continuity of participation. Moreover, crowded and socially complex environments were found to trigger shyness and social withdrawal behaviors among children. These settings tend to lower social motivation and cause children to associate physical activity with negative experiences. Carson et al. (2010) noted that institutional structures and societal norms can restrict participation among individuals with ASD by offering inflexible physical activity programs. On the other hand, environments that are designed with sensitivity to individual needs help children feel safe and comfortable, thus facilitating participation. Such settings support behavioral regulation, enhance attention span, and positively influence emotional regulation. Furthermore, safe and structured physical environments promote social interaction, thereby supporting language development, peer relationships, and social acceptance. In conclusion, for children with ASD to engage in physical activities actively and sustainably, environmental factors must be systematically addressed. Designing appropriate physical environments that consider sensory sensitivities and individual developmental needs not only facilitates accessibility but also enhances the developmental benefits of physical activity.

Physical, Social, and Emotional Factors Preventing Participation

The barriers to participation in physical activities among children with autism spectrum disorder (ASD) are multidimensional, encompassing social, emotional, and physical domains. The findings of this study reveal that communication difficulties, inability to express oneself, and insufficient social

responsiveness limit children's interactions with peers and, consequently, hinder their participation in physical activities. Low social awareness and experiences of social exclusion lead families to withdraw from social environments, thereby reducing children's opportunities for social participation (Salar et al., 2024). From an emotional perspective, factors such as anxiety, stress, low motivation, and poor anger regulation pose major obstacles to participation, particularly in group-based activities. These emotional regulation challenges exacerbate difficulties in adaptation during physical activities and make it harder for children to engage in the process (Edwards et al., 2024; Grosprêtre et al., 2024). Physical difficulties often coexist with behavioral problems, such as throwing objects, hitting, muscle weakness, or repetitive movements. Such behaviors reduce the effectiveness of activities and negatively affect social interaction. According to parents, as children grow older, differences in motor competence become more pronounced, further restricting participation in physical activities. Increased peer exclusion with age also leads children to withdraw from physical engagement. The cumulative impact of these negative experiences may shape individuals' attitudes toward physical activity later in life (Shields & Synnot, 2016; Hillier et al., 2020). These findings underscore the necessity of adopting a holistic approach that simultaneously addresses the social, emotional, and physical needs of individuals with ASD. Enhancing participation requires not only interventions targeting physical skills but also the development of supportive programs aimed at strengthening social environments, emotional resilience, and behavioral regulation capacities.

Recommendations for Enhancing Participation Through Educational and Resource Support

Increasing the participation of children with autism spectrum disorder (ASD) in physical activities requires comprehensive educational programs and accessible resources. Based on the views of parents and experts, movement-based and physical development-oriented programs are identified as the most essential forms of training. Moreover, the importance of programs that promote socialization, address attention and hyperactivity challenges, accommodate individual differences, and integrate multidisciplinary approaches was strongly emphasized. Early intervention programs and group training practices, along with teachers equipped with sufficient knowledge and practical skills, are considered critical components for effective implementation. Additionally, community-based awareness and education programs are necessary to promote a more inclusive understanding of physical activity for children with ASD. In terms of resources, the creation of special education schools, parks, and physical environments adapted for individuals with special needs emerges as a fundamental requirement. These spaces should be quiet, comfortable, and provide opportunities for social interaction, while also supporting children's motor development. However, infrastructure limitations and the lack of inter-institutional collaboration make it difficult to meet these needs effectively. Existing literature highlights the scarcity of adequate and effective programs that address the physical activity requirements of children with ASD (Dwyer et al., 2008). Although schools have the potential to promote physical activity, parents frequently report that their children's needs are not fully met (Pan & Frey, 2006). Therefore, teachers in special education must possess expertise in adaptive physical activity and develop strategies tailored to children's motor and sensory needs (Healy et al., 2019). Clearly defined program goals and training sessions designed to enhance participation are key to increasing children's interest and engagement in physical activity (Nichols et al., 2019; Bremer et al., 2020). Both parents and professionals identified accessibility and the provision of appropriate environments as top priorities. It is also recommended that physical education teachers expand their efforts to keep children active through developmentally appropriate practices (Obrusnikova & Miccinello, 2012). Accessible facilities, opportunities for social interaction, and peer support were identified as structural factors that facilitate participation (Shields et al., 2012; Buchanan et al., 2017). However, the intensity of after-school therapy sessions and limited leisure time restrict families' ability to encourage physical activity (Tobing, 2010). In Turkey, there are notable deficiencies in access to sports facilities, participation in organized events, and financial support for individuals with disabilities, all of which negatively affect participation (Çınarlı & Ersöz, 2010). Financial constraints are particularly evident among individuals with ASD, who often face high healthcare expenses and higher unemployment rates (Martin Ginis et al., 2016; Shields & Synnot, 2016). Broader economic difficulties and insufficient public policies in Turkey further

exacerbate barriers to participation (Aydın & Sarol, 2020). To enhance participation in physical activities among children with ASD, it is essential to: Strengthen teachers' knowledge and skills in special and adapted physical education, develop multidisciplinary programs tailored to individual needs, and establish accessible and safe physical activity environments. In addition, implementing parent-focused support programs, increasing public awareness, and ensuring the efficient use of financial resources are critical for sustainability. A multifaceted and holistic approach one that integrates educational, environmental, social, and policy dimensions will ensure lasting improvements in the participation of children with ASD in physical activities.

Researcher's Diary

An examination of the researcher's diary revealed that limited resources, parental attitudes, deficits in social and communication skills, as well as environmental and emotional factors, constitute major barriers to the participation of children with autism spectrum disorder (ASD) in physical activities. The lack of resources, insufficient individualized educational programs, and absence of consistent policies were observed to negatively influence both children's development and their engagement in physical activities. Additionally, low levels of parental awareness and the fact that many behavioral problems stem from family attitudes were identified as factors restricting participation in physical activity. Deficiencies in social skills and emotional anxieties were also found to make participation in group activities more difficult, consequently increasing the risk of social exclusion. In light of these observations, it is essential to implement individualized and multidimensional approaches tailored to the specific needs of children with ASD. Such efforts should be supported through parental education, environmental adaptations, and the development of comprehensive policies aimed at promoting inclusive participation and sustainable engagement in physical activities.

Conclusion

This study comprehensively examined the multifaceted challenges and proposed solutions influencing the participation of children with autism spectrum disorder (ASD) in physical activities. The findings revealed that participation is affected by a complex interaction of individual, familial, educational, and environmental factors. Under the theme of child-related challenges, it was found that motor skill deficiencies, attention problems, and behavioral difficulties significantly limit participation in physical activities. To overcome these barriers, individualized support programs that address developmental and behavioral needs are essential. Activity-related challenges showed that standardized and inflexible programs fail to meet the unique needs of children, thereby reducing participation. This finding highlights the necessity of developing adaptable and child-centered activity designs that accommodate individual differences. Challenges stemming from the special education system were associated with teachers' lack of knowledge and competence regarding adapted physical activity, as well as insufficient material and infrastructural support. Therefore, capacity-building training programs in special education and adaptive physical activity should be expanded to ensure effective implementation. Parent-related challenges indicated that low parental awareness, limited support, and financial constraints directly affect children's participation in physical activities. The implementation of parent education programs and the establishment of financial support mechanisms are therefore crucial to sustain engagement. The findings regarding the impact of the environment on participation showed that unsuitable environmental conditions that do not accommodate sensory sensitivities hinder participation, while appropriately adapted and structured environments enhance engagement. Environmental arrangements must therefore be planned in accordance with individual needs to promote comfort, safety, and motivation. Physical, social, and emotional factors preventing participation were also identified as critical barriers. Communication difficulties, emotional regulation problems, and physical limitations were found to jointly restrict children's participation in physical activities. Multidisciplinary interventions that integrate physical, psychological, and social support are required to effectively address these challenges. Finally, recommendations for enhancing participation through educational and resource support emphasized the importance of strengthening teachers' knowledge and skills in special and adapted physical education, developing accessible and safe physical activity environments, increasing family and community awareness, and providing financial

and structural support to ensure sustainability. Overall, the findings of this study highlight the necessity of adopting a multidimensional and holistic approach to increase the participation of children with ASD in physical activities. Addressing both individual and environmental factors in a coordinated and systematic manner will promote active and sustained engagement in physical activity, contributing to children's developmental progress, emotional well-being, and social adaptation.

Limitations and Recommendations

This study aims to examine the challenges experienced by children diagnosed with Autism Spectrum Disorder (ASD) in participating in physical activities, based on the views of parents and professionals. However, considering the research conditions and the characteristics of the study group, certain limitations should be acknowledged. These limitations stem from the nature of the study and should be taken into account when interpreting the results.

First, the study was conducted in a single private rehabilitation center located in the province of Kırşehir. This setting caused the data to be collected within a specific socio-cultural context. Nevertheless, this limitation arose from practical challenges such as the difficulty of accessing institutions that provide education for children with ASD and the lengthy administrative procedures required to obtain research permissions in these settings. Therefore, the principle of accessibility was adopted, and the institution that could be reached was selected as the study site. In this respect, the findings are not intended for broad generalization but rather aim to provide a deep understanding that can shed light on practices in similar educational environments.

Second, the number of parents and professionals who constituted the study group was limited. Reaching families of children with ASD is often a sensitive process—both ethically and emotionally—which made it difficult to find parents willing to participate in the interviews. Similarly, the heavy workload of professionals working in the field of special education restricted the number of available participants. Despite this limitation, the selected participants offered rich and in-depth insights, which aligns with the exploratory nature of qualitative research.

Third, the study was conducted using a qualitative research design, and the data were based on the subjective views and experiences of participants. This is a natural characteristic of qualitative inquiry, which aims to understand individuals' lived experiences and perceptions. Therefore, the findings are not intended to achieve statistical generalization but to present participants' experiences in a comprehensive and meaningful way.

Fourth, the study included only parents and professionals, and the direct views of children with ASD were not obtained. Conducting direct interviews with children diagnosed with ASD was not feasible due to communication challenges, limited attention spans, and the complexity of ethical approval processes. However, information gathered from parents and professionals—those who are most closely involved in the children's developmental and behavioral processes—provided indirect yet reliable representations of the children's experiences.

Fifth, the research was carried out within a specific time frame (January–February 2025). The participants' responses reflect the conditions and experiences of that particular period. This limitation arises from the cross-sectional nature of the study and the lack of resources necessary for conducting long-term longitudinal research. Nevertheless, the data obtained offer a comprehensive snapshot of the current situation regarding the participation of children with ASD in physical activities.

In light of these limitations, the following recommendations are proposed for future studies:

- ✓ Conduct multi-center studies involving special education institutions in different provinces to examine regional variations in the experiences of children with ASD.
- ✓ Employ mixed-method research designs (qualitative + quantitative) to integrate statistical data with in-depth qualitative findings.

- ✓ Incorporate child-centered approaches, such as play-based observations, video analyses, or structured interaction sessions, to collect more multidimensional data.
- ✓ Implement longitudinal research designs to monitor changes in participation levels and developmental outcomes over time.
- ✓ Evaluate the effectiveness of parent education programs, interdisciplinary collaboration models, and environmental interventions across different samples to strengthen participation outcomes.

Funding
No funding was received from any individual or institution for this research.

Ethics and Conflict of Interest
This study was conducted in accordance with the principles of ethical research and the Declaration of Helsinki. Ethical approval was obtained from the Kirşehir Ahi Evran Üniversitesi Ethics Committee (Approval Date: 20.11.2024, Decision No: 2024/13/05). All procedures were conducted in accordance with research ethics principles and the guidelines. The authors declare that they have no conflicts of interest.

Author Contribution
Aslıhan Nergiz (35%) contributed to the design and planning of the research and data collection processes. Assoc. Prof. Dr. Durdane Öztürk (30%) contributed to data analysis, interpretation of findings, and reporting of the results. Öner Soykan (20%) contributed to the design and planning of the research and to the literature review process. Assoc. Prof. Dr. Deniz Akdal (15%) contributed to ensuring implementation fidelity, manuscript review, and final editing of the text. All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

Data Availability
The data that support the findings of this study are available on request from the corresponding author.

Corresponding Author
Correspondence to Deniz AKDAL, denizakdal@gmail.com

REFERENCES

Akşit, S. (2023). *Otizm spektrum bozukluğu tanısı konmuş çocuklarda fiziksel aktivite müdehalesinin beyin ve bilişsel gelişim üzerindeki etkileri: bir EEG çalışması* [Effects of physical activity intervention on brain and cognitive development in children diagnosed with autism spectrum disorder: An eeg study] [Unpublished doctoral dissertation]. Pamukkale University.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.

Anderson, A., Moore, D. W., Godfrey, R., & Fletcher-Flinn, C. M. (2004). Social skills assessment of children with autism in free-play situations. *Autism*, *8*(4), 369–385. https://doi.org/10.1177/13623613040452

Arnell, S., Jerlinder, K., & Lundqvist, L. O. (2020). Parents' perceptions and concerns about physical activity participation among adolescents with autism spectrum disorder. *Autism*, *24*(8), 2243–2255. https://doi.org/10.1177/1362361320942092

Balcı. A. (1507). *Sosyal bilimlerde araştırma: Yöntem, teknik ve ilkeler* [Research in social sciences: Method, technique and principles]. Ankara: Pegem Publishing.

Bandura, A. (1997). *Self–efficacy: The exercise of control*. New York: Freeman and Company.

Bandini, L. G., Gleason, J., Curtin, C., Lividini, K., Anderson, S. E., Cermak, S. A., ... & Must, A. (2013). Comparison of physical activity between children with autism spectrum disorders and typically developing children. *Autism, 17*(1), 44–54. https://doi.org/10.1177/1362361312437416

Boyd, B. A., & Shaw, E. (2010). Autism in the classroom: A group of students changing in population and presentation. *Preventing School Failure: Alternative Education for Children and Youth, 54*(4), 211–219. https://doi.org/10.1080/10459881003744552

Buchberger, F., Campos, B. P., Kallos, D., & Stephenson, J. (1500*). Green paper on teacher education in Europe*. Umeå, Sweden: Thematic Network on Teacher Education in Europe. 30 March 2016 retrieved from http://www.cep.edu.rs/sites/default/files/greenpaper.pdf

Carson, V., Kuhle, S., Spence, J. C., & Veugelers, P. J. (2010). Parents' perception of neighbourhood environment as a determinant of screen time, physical activity and active transport. *Canadian Journal of Public Health, 101*, 124-127. https://doi.org/10.1007/BF03404356

Chaidi, I., & Drigas, A. (2020). Autism, expression, and understanding of emotions: A literature review. *International Journal of Online and Biomedical Engineering, 16*(2), 94–111. https://doi.org/10.3991/ijoe.v16i02.11991

Chigbu, U. E. (2019). Visually hypothesising in scientific paper writing: Confirming and refuting qualitative research hypotheses using diagrams. *Publications, 7*(1), 1–22. https://doi.org/10.3390/publications7010022

Cohen, L., & Manion, L. (1997). *Research methods in education* (4th ed.). Routledge.

Çelik, O. T., & Buğday, B. (2022). Otizmli çocuklarda fiziksel aktivite [Physical activity in children with autism]. *Anatolian Journal of Health Research, 3*(1), 30–32. https://doi.org/10.29228/anatoljhr.55619.

Damme, T. V., Simons, J., Sabbe, B., & Van West, D. (2015). Motor abilities of children and adolescents with a psychiatric condition: A systematic literature review. *World Journal of Psychiatry, 5*(3), 315–329. https://doi.org/10.5498/wjp.v5.i3.315

Davison, K. K. (2004). Activity-related support from parents, peers and siblings and adolescents' physical activity: Are there gender differences? *Journal of Physical Activity and Health, 1*(4), 363–376. https://doi.org/10.1123/jpah.1.4.363

Dwyer, J., Needham, L., Simpson, J. R., & Heeney, E. S. (2008). Parents report intrapersonal, interpersonal, and environmental barriers to supporting healthy eating and physical activity among their preschoolers. *Applied Physiology, Nutrition, and Metabolism, 33*(2), 338–346. https://doi.org/10.1139/H07-195

Eells, R. J. (2011). *Meta-analysis of the relationship between collective teacher efficacy and student achievement* [Unpublished doctoral dissertation]. Layola University Chicago, Chicago, IL.

Eversole, M., Collins, D. M., Karmarkar, A., Colton, L., Quinn, J. P., Karsbaek, R., ... & Hilton, C. L. (2016). Leisure activity enjoyment of children with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 46*(1), 10-20. https://doi.org/10.1007/s10803-015-2529-z

Görgün, B., & Melekoğlu, M. A. (2016). Otizm spektrum bozukluğu (OSB) olan bireylerin fiziksel aktivitelerine ilişkin yapılan çalışmaların gözden geçirilmesi [Review of studies on physical activities of individuals with autism spectrum disorders (ASD)]. *Ankara University Faculty of Educational Sciences Journal of Special Education, 17*(3), 347–376. https://doi.org/10.21565/ozelegitimdergisi.268559

Gregor, S., Bruni, N., Grkinic, P., Schwartz, L., McDonald, A., Thille, P., Gibson, B. E., & Jachyra, P. (2018). Parents' perspectives of physical activity participation among Canadian adolescents with autism spectrum disorder. *Research in Autism Spectrum Disorders, 48*, 53–62. https://doi.org/10.1016/j.rasd.2018.01.007

Gürgür, H. (2016). Eylem araştırması [in Turkish]. In A. Saban & A. Ersoy (Eds.), *Eğitimde nitel araştırma desenleri* [in Turkish] (pp. 3–50). Ankara: Anı Publishing.

Goddard, R. G., Hoy, W. K., & Hoy, A. W. (1504). Collective efficacy: Theoretical development, empirical evidence, and future directions. *Educational Researchers 33*(3), 3-13.

Halk Sağlığı Genel Müdürlüğü. (2014). *Engellilerde fiziksel aktivite* [in Turkish] Ankara: Tuğba Matbaacılık.

Hatipoğlu Özcan, G. (2022). *Otizm spektrum bozukluğu tanısı almış çocuklarda hareket eğitimi programının akademik beceriler, motor beceriler ve sosyal iletişim becerileri üzerindeki etkisinin incelenmesi* [Examining the effects of a movement training program on academic skills, motor skills, and social communication skills in children diagnosed with autism spectrum disorder] [Unpublished doctoral dissertation]. Marmara University.

Healy, S., & Garcia, J. M. (2019). Psychosocial correlates of physical activity participation and screen-time in typically developing children and children on the autism spectrum. *Journal of Developmental and Physical Disabilities, 31*(3), 313–328. https://doi.org/10.1007/s10882-018-9642-9

Healy, S., Aigner, C. J., Haegele, J. A., & Patterson, F. (2019). Meeting the 24-hr movement guidelines: An update on US youth with autism spectrum disorder from the 2016 National Survey of Children's Health. *Autism Research, 12*(6), 941–951. https://doi.org/10.1002/aur.2095

Hewitt, A. S., Stancliffe, R. J., Hall-Lande, J., Nord, D., Pettingell, S. L., Hamre, K., & Hallas-Muchow, L. (2017). Characteristics of adults with autism spectrum disorder who use residential services and supports through adult developmental disability services in the United States. *Research in Autism Spectrum Disorders, 34*, 1–9. http://dx.doi.org/10.1016/j.rasd.2016.11.007

Hillier, A., Buckingham, A., & Schena, D. (2020). Physical activity among adults with autism: Participation, attitudes, and barriers. *Perceptual and Motor Skills, 127*(5), 874–890. https://doi.org/10.1177/0031512520927560

Jones, R. A., Downing, K., Rinehart, N. J., Barnett, L. M., May, T., McGillivray, J. A., ... & Hinkley, T. (2017). Physical activity, sedentary behavior and their correlates in children with autism spectrum disorder: A systematic review. *PLOS ONE, 12*(2), e0172482. https://doi.org/10.1371/journal.pone.0172482

Karasar, N. (2005). *Bilimsel araştırma yöntemleri* [in Turkish]. Ankara: Nobel Publishing.

Kizir, M. (2021). Otizm spektrum bozukluğu olan bireylere iletişim becerilerinin öğretiminde uzaktan aile eğitim uygulamaları [Distance parenting education applications in the instruction of communication skills to individuals with autism spectrum disorder]. *Ankara University Faculty of Educational Sciences Journal of Special Education, 22*(1), 253–281. https://doi.org/10.21565/ozelegitimdergisi.554714

Krippendorff, K. (2019). *Content analysis: An introduction to its methodology* (4th ed.). SAGE Publications.

Kuhlthau, K., Orlich, F., Hall, T. A., Sikora, D., Kovacs, E. A., Delahaye, J., & Clemons, T. E. (2010). Health-related quality of life in children with autism spectrum disorders: Results from the autism treatment network. *Journal of Autism and Developmental Disorders, 40*(6), 721–729. https://doi.org/10.1007/s10803-009-0921-2

Kumral, O. (2010). *Eğitsel eleştiri modeli ile eğitim fakültesi sınıf öğretmenliği öğretim programının değerlendirilmesi: Bir durum çalışması* [Faculty of education elementary school teacher's programme evaluation with educational criticism: A case study] [Unpublished doctoral dissertation]. Adnan Menderes University, Aydın, Turkey.

Loprinzi, P. D., Davis, R. E., & Fu, Y. C. (2015). Early motor skill competence as a mediator of child and adult physical activity. *Preventive Medicine Reports, 2*, 833–838. https://doi.org/10.1016/j.pmedr.2015.09.015

Lublin, A., & Feeley, C. (2016). Transportation issues of adults on the autism spectrum: Findings from focus group discussions. *Transportation Research Record, 2542*(1), 1–8. https://doi.org/10.3141/2542-01

Lytle, R., & Todd, T. (2009). Stress and the student with autism spectrum disorders: Strategies for stress reduction and enhanced learning. *Teaching Exceptional Children, 41*(4), 36–42. https://doi.org/10.1177/004005990904100404

McCoy, S. M., Jakicic, J. M., & Gibbs, B. B. (2016). Comparison of obesity, physical activity, and sedentary behaviors between adolescents with autism spectrum disorders and without. *Journal of Autism and Developmental Disorders, 46*(7), 2317–2326. https://doi.org/10.1007/s10803-016-2762-0

Memari, A. H., Panahi, N., Ranjbar, E., Moshayedi, P., Shafiei, M., Kordi, R., & Ziaee, V. (2015). Children with autism spectrum disorder and patterns of participation in daily physical and play activities. *Neurology Research International, 2015*, Article 531906. https://doi.org/10.1155/2015/531906

Mertens, D. M. (2014). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods.* New York: SAGE.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: SAGE.

Mills, G. E. (2007). *Action research: A guide for the teacher researcher* (3rd ed.). Upper Saddle River, NJ: Pearson.

Must, A., Phillips, S., Curtin, C., & Bandini, L. G. (2015). Barriers to physical activity in children with autism spectrum disorders: Relationship to physical activity and screen time. *Journal of Physical Activity and Health, 12*(4), 529-534. https://doi.org/10.1123/jpah.2013-0271

National Association for the Education of Young Children [NAEYC] (1509). *NAEYC standards for early childhood professional preparation programs*. 28 July 2015 retrieved from https://www.naeyc.org/files/naeyc/file/positions/ProfPrepStandards09.pdf

Nichols, C., Block, M. E., Bishop, J. C., & McIntire, B. (2019). Physical activity in young adults with autism spectrum disorder: Parental perceptions of barriers and facilitators. *Autism, 23*(6), 1398–1407. https://doi.org/10.1177/1362361318810221

Obrusnikova, I., & Cavalier, A. R. (2011). Perceived barriers and facilitators of participation in after-school physical activity by children with autism spectrum disorders. *Journal of Developmental and Physical Disabilities, 23*(3), 195–211. https://doi.org/10.1007/s10882-010-9215-z

Obrusnikova, I., & Miccinello, D. L. (2012). Parent perceptions of factors influencing after-school physical activity of children with autism spectrum disorders. *Adapted Physical Activity Quarterly, 29*(1), 63–80. https://doi.org/10.1123/apaq.29.1.63

Orsmond, G. I., Krauss, M. W., & Seltzer, M. M. (2004). Peer relationships and social and recreational activities among adolescents and adults with autism. *Journal of Autism and Developmental Disorders, 34*(3), 245–256. https://doi.org/10.1023/B:JADD.0000029547.96610.df

Ostfeld-Etzion, S., Feldman, R., Hirschler-Guttenberg, Y., Laor, N., & Golan, O. (2016). Self-regulated compliance in preschoolers with autism spectrum disorder: The role of temperament and parental disciplinary style. *Autism, 20*(7), 868–878. https://doi.org/10.1177/1362361315615467

Öz, A. O. (2022). *Oyunlaştırılmış fiziksel aktivitenin otizm spektrum bozukluğu olan çocukların otizm semptomları ve temel motor becerilerine etkisi* [The impact of gamified physical activity on autism symptoms and basic motor skills in children with autism spectrum disorder] [Unpublished master's thesis]. Hitit University.

Pan, C. Y. (2008). Objectively measured physical activity between children with autism spectrum disorders and children without disabilities during inclusive recess settings in Taiwan. *Journal of Autism and Developmental Disorders, 38*(7), 1292–1301. https://doi.org/10.1007/s10803-007-0518-6

Pan, C. Y. (2009). Age, social engagement, and physical activity in children with autism spectrum disorders. *Research in Autism Spectrum Disorders, 3*(1), 22–31. https://doi.org/10.1016/j.rasd.2008.03.002

Pan, C. Y., Tsai, C. L., Chu, C. H., Sung, M. C., Ma, W. Y., & Huang, C. Y. (2016). Objectively measured physical activity and health-related physical fitness in secondary school-aged male students with autism spectrum disorders. *Physical Therapy, 96*(4), 511–520. https://doi.org/10.2522/ptj.20140353

Pan, C. Y., & Frey, G. C. (2006). Physical activity patterns in youth with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 36*(5), 597–606. https://doi.org/10.1007/s10803-006-0101-6

Patton, M. Q. (2014). *Nitel araştırma ve değerlendirme yöntemleri* [Qualitative research and evaluation methods] (M. Bütün & S. B. Demir, Trans.). Ankara: Pegem Publishing.

Rech, J. P., Irwin, J. M., Rosen, A. B., Baldwin, J., & Schenkelberg, M. (2022). Comparison of physical activity between children with and without autism spectrum disorder: A systematic review and meta-analysis. *Adapted Physical Activity Quarterly, 39*(4), 456–481. https://doi.org/10.1123/apaq.2021-0152

Rinehart, N. J., Bradshaw, J. L., Brereton, A. V., & Tonge, B. J. (2001). Movement preparation in high-functioning autism and Asperger disorder: A serial choice reaction time task involving motor reprogramming. *Journal of Autism and Developmental Disorders, 31*(1), 79–88. https://doi.org/10.1023/A:1005617831035

Scharoun, S. M., Wright, K. T., Robertson-Wilson, J. E., Fletcher, P. C., & Bryden, P. J. (2017). Physical activity in individuals with autism spectrum disorders (ASD): A review. In M. Fitzgerald & J. Yip (Eds.), *Autism—Paradigms, recent research and clinical applications* (pp. 301–331). InTechOpen. https://doi.org/10.5772/66680

Schenkelberg, M. A., Rosenkranz, R. R., Milliken, G. A., & Dzewaltowski, D. A. (2015). Social environmental influences on physical activity of children with autism spectrum disorders. *Journal of Physical Activity and Health, 12*(5), 636–641. https://doi.org/10.1123/jpah.2013-0312

Shahane, V., Kilyk, A., & Srinivasan, S. M. (2024). Effects of physical activity and exercise-based interventions in young adults with autism spectrum disorder: A systematic review. *Autism, 28*(2), 276–300. https://doi.org/10.1177/13623613231169058

Shedd, M. K. (2005). *Parent behavior change in developing literacy skills in young children,* [Unpublished master's thesis]. Michigan State University. USA.

Smith, M. D., & Fowler, K. M. (2009). Phenomenological research. In J. Paul, J. Kleinhammer-Tramill, & K. Fowler (Eds.), *Qualitative research methods in special education* (pp. 159–176). USA: Love Publishing Company.

Stanish, H. I., Curtin, C., Must, A., Phillips, S., Maslin, M., & Bandini, L. G. (2017). Physical activity levels, frequency, and type among adolescents with and without autism spectrum disorder. *Journal of Autism and Developmental Disorders, 47*(3), 785–794. https://doi.org/10.1007/s10803-016-3001-4

Stanish, H., Curtin, C., Must, A., Phillips, S., Maslin, M., & Bandini, L. (2015). Enjoyment, barriers, and beliefs about physical activity in adolescents with and without autism spectrum disorder. *Adapted Physical Activity Quarterly, 32*(4), 302–317. https://doi.org/10.1123/APAQ.2015-0038

Suárez-Manzano, S., Ruiz-Ariza, A., de Loureiro, N. E. M., & Martínez-López, E. J. (2024). Effects of physical activity on cognition, behavior, and motor skills in youth with autism spectrum disorder: A systematic review of intervention studies. *Behavioral Sciences, 14*(4), 330. https://doi.org/10.3390/bs14040330

U.S. Department of Health and Human Services. (2017). *Autism spectrum disorder: Facts about ASD.* Division of Birth Defects, National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention. https://www.cdc.gov

Yarimkaya, E., İlhan, E. L., & Karasu, N. (2017). Akran aracılı uyarlanmış fiziksel aktivitelere katılan otizm spektrum bozukluğu olan bir bireyin iletişim becerilerindeki değişimlerin incelenmesi [An investigation of the changes in the communication skills of an individual with autism spectrum disorder participating in peer mediated adapted physical activities]. *Ankara University Faculty of Educational Sciences Journal of Special Education*, *18*(2), 225-252. https://doi.org/10.21565/ozelegitimdergisi.319423

Yıldırım, A., & Şimşek, H. (2018). *Sosyal bilimlerde nitel araştırma yöntemleri* [Qualitative research methods in social sciences]. Ankara: Seçkin Publishing.

About the Authors:

Aslıhan NERGİZ
Aslıhan Nergiz graduated with a Bachelor's degree in Psychological Counseling and Guidance from Kırşehir Ahi Evran University. She is currently pursuing her Master's degree in Education of Individuals with Intellectual Disabilities at the Institute of Educational Sciences, Anadolu University. Her academic and professional interests include autism spectrum disorder, learning disabilities, and early intervention.

Durdane ÖZTÜRK
Associate Professor Dr. Durdane Öztürk was born in 1984 in the Düziçi district of Osmaniye, Türkiye. She completed her primary, secondary, and high school education in her hometown. Between 2002 and 2006, she earned her Bachelor's degree in Social Studies Education from the Faculty of Education at Gazi University (Kırşehir Campus). She subsequently completed her Master's degree in Social Studies Education at the Institute of Social Sciences, Kırşehir Ahi Evran University, between 2009 and 2011, and obtained her Ph.D. in Social Studies Education from the Institute of Social Sciences, Kastamonu University, between 2013 and 2017. In 2020, Dr. Öztürk joined the Department of Turkish and Social Sciences Education, Social Studies Education Program, at Kırşehir Ahi Evran University as an Assistant Professor. She currently serves as an Associate Professor in the Social Studies Education Program within the Faculty of Education at Kırşehir Ahi Evran University. Her research interests include social studies education, controversial issues and their teaching, children's rights, multiculturalism, and digital literacy. She has published numerous articles in national and international peer-reviewed journals and has presented papers at national and international conferences in these fields. Dr. Öztürk has also contributed as an author and editor to several academic books, including Children's Rights, Citizenship Education, Alternative Educational Models and Approaches in Social Studies Teaching with Activity Examples, Practice-Based Social Studies Teaching in Primary Schools, Gamification in Education, and Foundations of Social Studies.
She is married and the mother of two children.

Öner SOYKAN
Öner Soykan graduated from Kırşehir High School in 2010. In the same year, he enrolled in the Faculty of Sports Sciences at Kırşehir Ahi Evran University, where he completed his undergraduate studies in 2014. He subsequently obtained his Pedagogical Formation Certificate in 2015. In 2017, he began his Master's studies in the Physical Education and Sports Program at the Institute of Educational Sciences, Sakarya University, and graduated in 2019. Since 2022, he has been pursuing his doctoral studies in the Department of Physical Education and Sports at the Institute of Health Sciences, Gazi University. Since 2021, Soykan has been serving as an administrator in the field of special education and rehabilitation. In this capacity, he has been conducting studies and professional practices focusing on physical activity and sports applications for individuals with special needs.

Deniz AKDAL
Associate Professor Dr. Deniz Akdal graduated from Ankara Ayrancı High School in 2001 and from the Faculty of Education at Gazi University in 2006. Following graduation, he served as a primary school teacher in the provinces of Erzurum, Kars, Sivas, and Kırşehir, gaining extensive teaching

experience across diverse socio-cultural and educational contexts. He completed his master's degree in the Department of Primary Education at Kırşehir Ahi Evran University and earned his doctoral degree in the Department of Special Education at Ankara University. During a 13-year period of his professional career, he worked in special education classrooms and Guidance and Research Centers, serving as a specialist in educational assessment and placement processes. Throughout this period, he developed substantial practical expertise in individualized instruction, family counseling, and educational diagnosis and evaluation. In 2019, Dr. Akdal joined the Department of Special Education, Faculty of Education, Kırşehir Ahi Evran University as an Assistant Professor, where he continued his scholarly and research activities in the field of special education. He currently serves as the Head of the Department of Special Education at Kırşehir Ahi Evran University, Faculty of Education, while also undertaking departmental leadership and academic coordination responsibilities. Note: If this text will be used in an international academic CV, university profile, or journal publication, I can further adapt it to a more formal academic biography (academic bio) style commonly used by universities and scholarly journals.