

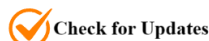
# Exploring Diverse Perspectives on the Participation of Individuals with Autism Spectrum Disorder in Physical Education and Sports Activities

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**Abstract:** The present study aims to examine the perspectives on the participation of individuals diagnosed with Autism Spectrum Disorder (ASD) in physical education and sports (PES) activities from diverse viewpoints. In this context, the study explores the opinions of parents, rehabilitation center administrators, coaches, and academicians regarding the participation of individuals with ASD in PES activities. This qualitative study adopts a phenomenological approach to explore. Participants were selected using the criterion sampling method, a type of purposive sampling. The sample consisted of two parents with a child diagnosed with ASD, two administrators working in rehabilitation centers organizing PES activities for these individuals, two coaches conducting activities with individuals with ASD, and two academicians with undergraduate or graduate education in PES who had experience participating in sports activities with individuals with ASD. Data were collected through interviews using a semi-structured interview form. The data were analyzed using content analysis. As a result of the analysis, four main themes were identified: (1) motivation for participation in PES activities and influencing factors, (2) challenges encountered during participation, (3) contributions of PES activities to the development of individuals with ASD, and (4) additional opinions and suggestions regarding the participation of individuals with ASD in PES activities.

**Keywords:** Autism, sports, physical activity.

## 1. Introduction

Autism Spectrum Disorder (ASD) is conceptually defined as a type of neuropsychiatric disorder that typically begins in early childhood and persists throughout the individual's lifetime, manifesting primarily through deficits in social relationships, communication, and behavioral development (Aydm, 2008). The diagnosis of ASD has been increasing worldwide (Yu et al., 2018). Although its exact cause remains unknown, factors such as genetic predispositions, migration, poor and contaminated nutrition, exposure to toxins, environmental influences, and stress are considered potential contributors (Beversdorf et al., 2005).

ASD directly impacts individuals' functional lives, presenting as challenges in social interactions, deficits in academic skills, speech disorders, spatial and bodily awareness difficulties, and repetitive behaviors (Loukusa et al., 2007; Russell et al., 2010; Cotteceau et al., 2012; Elwin et al., 2012). Additional features associated with ASD include lack of eye contact, unresponsiveness when called by name, restricted interests, emotional and behavioral problems, and stereotyped behaviors (Dawson et al., 2004; Lecavalier et al., 2006). Among these characteristics, social deficits are considered the most prominent. Various intervention methods, such as hippotherapy, hydrotherapy, art, and dance, have been employed to support the development of these skills, with participation in sports activities also recognized as a significant intervention strategy (Loukusa et al., 2007; Elwin et al., 2012).

Sports are regarded as a promising avenue for fostering physical, mental, and especially social development among individuals with ASD. The number of studies in this area has been steadily increasing (Daşkesen et al., 2024; Yarıyan et al., 2023; Uzunçayır et al., 2023; Fakazlı et al., 2021; Kozak et al., 2019). The benefits of sports for typically developing individuals are similarly deemed crucial for facilitating the social integration of individuals with ASD (Namlı, 2012). Engaging in sports enables individuals with ASD to step outside their familiar routines and establish new social connections (Gültekin & Başığit, 2018). Additionally, participation in sports enhances cognitive alertness, improves focus, and has positive effects on metabolic functions, including the prevention of obesity, cardiovascular diseases, and insulin resistance (WHO, 2002). Furthermore, sports activities have been shown to mitigate psychiatric conditions such as anxiety, behavioral disorders, mood disorders, and chronic stress (Lecavalier, 2006; Mansour et al., 2017; Lecavalier et al., 2019).

Beyond physical and psychological support, sports also foster social development by instilling feelings of trust, tolerance, sharing, and friendship among individuals with ASD. Given the substantial social difficulties faced by these individuals, this contribution is particularly significant. Sports serve as a universal language, enabling individuals with ASD to express themselves, discover their potential, and facilitate balanced integration into society (İlhan, 2008). Moreover, sports help establish a bridge between the individual and their self, enhancing bodily and mental awareness (Akıncı, 2007). Numerous studies have demonstrated the positive contributions of sports to the physical, mental, and social development of individuals with ASD (Bumin et al., 2003; Lee, 2004; Todd & Reid, 2006; Memari et al., 2015; Khadera & Pehlivan, 2016).

A review of the relevant literature reveals that existing studies predominantly focus on the perspectives of caregivers, such as parents and teachers, regarding the effects of sports on individuals with ASD (Alqahtani, 2012; Töret et al., 2014; Memari et al., 2015; Khadera & Pehlivan, 2016; Görgün & Melekoğlu, 2016). However, research incorporating the multifaceted viewpoints of parents, academicians, and coaches remains scarce. Evaluating the issue from diverse perspectives is essential for comprehensively identifying the impacts of sports and enriching the diversity of insights and recommendations. Moreover, motivation for participation in sports activities emerges as a critical theme within this context. Participation in sports is not always straightforward for individuals with ASD, as both individuals and their parents often experience motivational challenges (Todd & Reid, 2006; Todd et al., 2010). Additionally, various barriers encountered during participation may also hinder engagement.

In light of these considerations, the present study aims to explore the perspectives on the participation of individuals diagnosed with ASD in sports activities from different viewpoints. The study gathers insights from parents, rehabilitation center administrators, coaches, and academicians regarding the participation of individuals with ASD in physical education and sports activities. Given its inclusion of diverse perspectives, the study is considered unique and is expected to provide a valuable reference for future research in the field.

## 2. Materials and Methods

### 2.1. Research Design

This study employed a qualitative research design, specifically adopting a phenomenological approach, which aims to understand and uncover the phenomena underlying human experiences within the framework of reality (Güçlü, 2019). The phenomenological design allows for an in-depth exploration of phenomena that individuals encounter in daily life but may not fully recognize or comprehend (Yıldırım & Şimşek, 2018). In this study, the phenomenon under investigation is the participation of individuals diagnosed with ASD in physical education and sports (PES) activities. The research was conducted by adhering to the principles and procedures of phenomenological inquiry.

### 2.2. Research Group

The study group was determined using criterion sampling, a type of purposive sampling method. Criterion sampling involves the inclusion of participants who meet pre-established criteria relevant to the objectives of the study (Merriam & Tisdell, 2015). Accordingly, the inclusion criteria for participants were as follows:

- For parents: (a) having a child diagnosed with ASD, (b) having experience with their child's participation in PES activities, and (c) voluntarily agreeing to participate in the study;

- For academicians: (a) holding an undergraduate and/or graduate degree in the field of PES, (b) having participated in sports activities involving individuals with ASD, and (c) voluntarily agreeing to participate;
- For coaches: (a) currently working with individuals diagnosed with ASD, and (b) voluntarily agreeing to participate;
- For rehabilitation center administrators: (a) managing a center that includes individuals diagnosed with ASD, (b)

**Table 1.** Demographic Characteristics of the Participants

NO	Participant Code	Participant Tyoe	Gender	Age	Education
1	E1	Parent	Female	40	Bachelor's Degree
2	E2	Parent	Female	42	Bachelor's Degree
3	R1	Rehabilitation Center Administrator	Male	37	Bachelor's Degree
4	R2	Rehabilitation Center Administrator	Male	45	Bachelor's Degree
5	A1	Coach	Male	38	Bachelor's Degree
6	A2	Coach	Female	36	Bachelor's Degree
7	Ö1	Academic	Male	44	Graduate Degree / Professor (Prof. Dr.)
8	Ö2	Academic	Female	33	Graduate Degree / Associate Professor (Assoc. Prof.)

Participants were coded as follows: P = Parent, R = Rehabilitation Center Administrator, C = Coach, and A = Academic.

### 2.3. Data Collection Instruments

In order to collect data for the study, a semi-structured interview form comprising open-ended questions was utilized (Yıldırım & Şimşek, 2006). Semi-structured interviews offer several advantages, including the ability to obtain in-depth information and providing participants the opportunity to express themselves openly (Büyüköztürk et al., 2018).

As part of this process, relevant questions were initially developed by reviewing national and international literature concerning the participation of individuals diagnosed with ASD in sports activities. The initial version of the interview form was then submitted for expert review, involving one assessment and evaluation specialist, two field-specialist academicians, and one special education expert. Subsequently, pilot interviews were conducted to assess the clarity and comprehensibility of the form.

Following the pilot study, necessary revisions were made, and the final version of the form was established.

### 2.4. The semi-structured interview form included the following questions:

1. What factors influence the motivation of individuals diagnosed with ASD to participate in physical education and sports (PES) activities?
2. What challenges do individuals diagnosed with ASD encounter during their participation in PES activities?
3. How do PES activities contribute to the developmental processes of individuals diagnosed with ASD?
4. What are your opinions and suggestions regarding the participation of individuals diagnosed with ASD in PES activities?

### 2.5. Data Collection

The data were collected through face-to-face interviews scheduled in advance according to the participants' availability. Participants were informed about the study, and interviews were conducted with those who provided informed consent. All interviews were audio-recorded with the participants' knowledge and consent. To ensure participant comfort and establish a secure environment, the interviews were conducted in private settings without the presence of third parties. Participants were informed about the nature of the questions beforehand, and the questions were asked sequentially once the participants indicated that they were ready.

### 2.6. Statistical Analysis

An inductive analysis approach was employed to analyze the data collected in the study, utilizing the content analysis method. Content analysis involves the systematic examination of data to reveal the meanings contained within

(Mayring, 2014). The following steps were followed throughout the analysis: coding the data, identifying themes, organizing codes and themes, and interpreting the findings (Yıldırım & Şimşek, 2018). Initially, the data were thoroughly reviewed, and participants were coded to maintain confidentiality. Subsequently, codes were generated, and these codes were grouped to form overarching themes. The consistency between codes and themes was reviewed by the researchers, necessary adjustments were made, and the findings were presented and interpreted.

To strengthen the findings, direct quotations from participants were included. In order to ensure the validity and reliability of the study, several strategies were employed (Yıldırım & Şimşek, 2016). To enhance credibility, member checking was conducted with participants willing to participate in the verification process during the reporting phase. For reliability, the data were independently analyzed by two researchers. The agreement between coders was calculated using the formula:  $P \text{ (Percentage of Agreement)} = \frac{Na \text{ (Number of Agreements)}}{[Na \text{ (Number of Agreements)} + Nd \text{ (Number of Disagreements)}]} \times 100$ . The inter-coder reliability coefficient was calculated as 86%, indicating a high level of reliability. According to Miles and Huberman (1994), a reliability coefficient exceeding 70% suggests that the findings can be considered trustworthy.

### 2.7. Ethical Approval

Ethical approval for this study was granted by the Ethics Committee for Social and Human Sciences at Bartın University (protocol number: 2024-SBB-0816) on September 27, 2024. Participation was based on the principle of voluntariness, and all ethical principles were adhered to throughout the research process. In addition, the study was conducted in accordance with the "Directive on Scientific Research and Publication Ethics of Higher Education Institutions". Before data collection, participants were thoroughly informed about the study through a detailed presentation and subsequently provided written consent. The research was carried out in accordance with the ethical guidelines of the Declaration of Helsinki.

## 3. Results

**Table 2.** Motivation for Participation in Physical Education and Sports (PES) Activities and Influencing Factors Among Individuals Diagnosed with Autism Spectrum Disorder (ASD)

Theme	Code	Participants
Motivation for Participation in Physical Education and Sports (PES) Activities and Influencing Factors	Gradual Acclimatization	E2 A1 A2 R2
	Family Support and Trust	E2 R1 R2
	Sense of Trust	E2 Ö1
	Communication and Interaction Skills	A1 R1
	The Role of the Coach	E1 A2
	Willingness	E1
	Experiencing Happiness	Ö2
	Inclusive Adaptations	A1

As shown in Table 2, the theme titled "Contributions of Physical Education and Sports (PES) Activities to the Development of Individuals Diagnosed with Autism Spectrum Disorder (ASD)" was identified. Within this theme, it was observed that the gradual acclimatization of individuals with ASD to PES activities and their subsequent adaptation over time significantly enhanced their developmental progress. Moreover, the active presence and support of family members during participation, as well as the trust established in both the environment and instructors, were among the key factors facilitating the developmental gains of individuals with ASD. Feeling safe during the activities also contributed positively to their developmental processes. The findings revealed that participation in PES activities supported the development of communication and interaction skills in individuals with ASD, and, conversely, improvements in these skills further encouraged sustained participation. Additionally, the positive role played by coaches, coupled with the willingness and happiness of the individuals, were found to further strengthen the developmental benefits derived from participation in PES activities. Finally, the implementation of inclusive adaptations that enable all individuals to engage meaningfully in activities was identified as another important factor supporting the developmental outcomes for individuals with ASD.

Direct quotations from participants that highlight these points are presented below.

### 3.1. Gradual Acclimatization

"At first, he was not willing, but over time, he became enthusiastic." (P2)

"I observed that when engaging in a new sport or exercise for the first time, they initially approached it with anxiety and hesitation; however, over time, they managed to overcome these feelings." (A2)

### 3.2. Family Support and Trust

"I realized that there could be people who truly cared for my child. During one of the activities, my child fell, and one of the instructors picked him up and hugged him. I thought to myself, this is exactly what matters." (P2)

"They struggle to adapt to a new pool, new field, and new friends. However, over seven years, we managed to produce a champion among individuals with ASD. At this point, mothers play a truly crucial role — every one of them deserves to be called 'Mother of the Year.'" (R2)

### 3.3. Sense of Trust

"For example, he used to be afraid even when he needed to go to the restroom due to a stomachache. He couldn't make sense of it. He would also fear the moonlight shining through the curtains while lying in bed. Similarly, he was initially afraid of sports activities, but over time, he overcame these fears. Through sports, he realized that nothing bad would happen to him even when he was separated from us." (P2)

### 3.4. Communication and Interaction Skills

"Individuals who show improvement in their social interaction and communication skills, and who have no additional diagnoses alongside ASD, demonstrate greater interest and willingness to participate in physical education and sports activities." (A1)

### 3.5. The Role of the Coach

"However, it is important to emphasize the role of the sports instructor. The instructor should approach the child positively and help foster a love for sports." (A2)

### 3.6. Willingness

"He is definitely willing. Since he is a very active child, he eagerly and happily goes to the sports center." (P1)

### 3.7. Experiencing Happiness

"The happiness of the children is the greatest motivator for their participation." (A2)

### 3.8. Inclusive Adaptations

"Despite difficulties and limitations, a carefully prepared and adapted physical education and sports environment can significantly contribute to the participation of individuals diagnosed with ASD." (A1)

**Table 3.** Challenges Faced by Individuals Diagnosed with Autism Spectrum Disorder (ASD) in Participating in Physical Education and Sports (PES) Activities

Theme	Code	Participants
Challenges Encountered in the Participation of Individuals Diagnosed with Autism Spectrum Disorder (ASD) in Physical Education and Sports (PES) Activities	Socioeconomic Status	E1 R1 Ö1
	Family Awareness Level	R1 A2
	Pressure and Interference on the Coach	R1 R2
	Government Support	E1
	Environment and Program	A1
	Inadequacy of the Coach	A1
	Health Status	E1
	Difficulties in Communication and Expression	A1

As shown in Table 3, the theme titled "Challenges Encountered in the Participation of Individuals Diagnosed with Autism Spectrum Disorder (ASD) in Physical Education and Sports (PES) Activities" was identified. Within this theme, the primary challenges affecting the participation of individuals with ASD in PES activities were found to include



socioeconomic status, the level of family awareness, and family pressure placed on coaches. Additionally, based on participant views, other significant challenges identified were the insufficient governmental support, difficulties in creating suitable PES environments and programs for individuals with ASD, inadequacy of coaches, health-related issues, and difficulties in communication and expression.

Direct quotations from participants reflecting these challenges are presented below.

### 3.9. Socioeconomic Status

"The biggest problem is the economic burden because it is very expensive, and most families cannot afford these educational opportunities." (P1)

"Among these children, those whose families have good financial means can participate in all activities, whereas those with limited resources face difficulties accessing sports opportunities." (R1)

"I believe families should be financially supported in this regard." (A1)

### 3.10. Family Awareness Level

"It is difficult to reach the families of these individuals. Sometimes families are not aware and may show a lack of willingness." (R1)

"Families are often unaware in this matter... They tend to take the easy way out by distracting their children with technological devices such as phones and tablets. My advice would be to encourage activities or games at home instead, helping children spend time in a healthier way." (A2)

### 3.11. Pressure and Interference on the Coach

"Sometimes families interfere between the coach and the child. Ideally, the coach and the child should work directly together. However, families may intervene and question the coach's activities, placing additional pressure on their children." (R1)

### 3.12. Government Support

"Since the government does not provide sufficient educational opportunities in this area, I have to attend a private center... Unfortunately, such educational services are offered very limitedly by the state." (P1)

### 3.13. Environment and Program

"Preparing appropriate sports environments and physical activity programs for individuals with ASD, who frequently exhibit repetitive and aggressive behaviors, constitutes a major challenge." (A1)

### 3.14. Inadequacy of the Coach

"Participation becomes more difficult when physical education teachers or coaches are not well-informed about the fundamental characteristics of individuals diagnosed with ASD." (A1)

### 3.15. Health Status

"If there is no physiological issue on a given day, he starts sports activities very happily." (P1)

### 3.16. Difficulties in Communication and Expression

"The limitations individuals with ASD display in social interaction and communication skills can hinder their willingness to participate in activities and their ability to express this willingness through verbal or non-verbal communication." (A1)

As shown in Table 4, the theme titled "Contributions of Physical Education and Sports (PES) Activities to the Development of Individuals Diagnosed with Autism Spectrum Disorder (ASD)" was identified based on participant views. Within this theme, four related sub-themes emerged: "Affective Development," "Social Development," "Psychomotor Development," and "Cognitive Development." Under the sub-theme of Affective Development, participants indicated that PES activities contributed positively to the development of self-confidence skills, the reduction of repetitive behaviors, improvements in self-efficacy, and enhancements in impulse control among individuals with ASD.

Direct quotations from participants highlighting these findings are presented below.

**Table 4.** Contributions of Physical Education and Sports (PES) Activities to the Development of Individuals Diagnosed with Autism Spectrum Disorder (ASD)

Theme	Sub-Theme	Code	Participants
Contributions of Physical Education and Sports (PES) Activities to the Development of Individuals with Autism Spectrum Disorder (ASD)	Affective Development	Self-Confidence	E1 E2 R1 R2 A1 A2 Ö2
		Reduction in Repetitive Behaviors	A1 A2 R1
		Self-Efficacy	E1 E2 R2
		Impulse Control	A1 A2
	Social Development	Communication Skills	E1 R1 R2 A1 A2 Ö1 Ö2
		Eye Contact	A1 Ö1 Ö2
		Play Participation (Social Engagement)	E1 E2 A2
		Motor Skill Development	A1 A2 Ö1 Ö2
	Physical Development	Self-Care Skills (Physical Independence)	E2 A1
		Postural Development	A1
		Cognitive Development	E1 A1 R2
		Self-Care Skills (Cognitive Processes)	E2
	Cognitive Development	Learning to Play (Cognitive Development)	E2

### 3.17. Self-Confidence

"There were times when he was even afraid to meet his own needs. For instance, he would be scared to go to the restroom when he had a stomachache. He couldn't understand it, or he would be frightened by the moonlight shining through the curtains while lying in bed. Similarly, he was initially afraid of sports, but over time, he overcame these fears and developed self-confidence." (P2)

"He feels like a normal individual now and says, 'I can do it too.'" (R1)

"Through sports, the child adapts to life, gains self-confidence, and becomes a more socially integrated individual." (A2)

"We observe that children with special needs develop a sense of self-confidence through sports and even become professional athletes." (A2)

### 3.18. Reduction in Repetitive Behaviors

"They move away from their obsessive behaviors." (A2)

"However, when they participate in physical activities, it creates a sense of relaxation, and they distance themselves from some of their repetitive behaviors." (R1)

### 3.19. Self-Efficacy

"For example, previously my son would run aimlessly, but now he picks up a ball, starts dribbling while running, and feels very happy because he has accomplished something — and seeing that makes me very happy too." (P1)

"One of the most important gains after these training sessions was that my child realized he would be safe even when separated from us; he was able to participate in different activities by holding someone else's hand and act independently." (P2)

"Previously, Berkay couldn't leave the house on his own, but now he can go to the training field by himself." (R2)

### 3.20. Impulse Control

"A decrease in aggressive and restricted-repetitive behaviors has been observed among individuals with ASD who participate in physical education and sports activities." (A1)

Under the sub-theme of Social Development, participant views indicated that participation in PES activities helped improve the communication skills of individuals with ASD. More specifically, it was found that individuals began to establish eye contact and engage in play with other peers as a result of participating in these activities.

### 3.21. Communication Skills

"I observed that these children were able to overcome their socialization and communication problems through sports." (A2)

"We have noticed a significant improvement in the children's communication skills, especially after their participation in the activities." (A2)

### 3.22. Eye Contact

"Participation in sports activities supports the development of children's ability to establish eye contact." (A2)

### 3.23. Play Participation (Social Engagement)

"My child started playing games with his older sister and younger brother. This did not happen immediately — it took time. As you know, children diagnosed with ASD often experience communication difficulties. However, thanks to these sports activities, he played games in large groups, and we saw that he learned to trust his friends and engage in play with them." (P2)

Under the sub-theme of Physical Development, it was found that participation in Physical Education and Sports (PES) activities contributed positively to improvements in the motor skills, self-care skills (in terms of physical independence), and postural development of individuals diagnosed with Autism Spectrum Disorder (ASD).

Direct quotations from participants reflecting these findings are presented below.

### 3.24. Motor Skill Development

"Sports activities, in particular, have a positive impact on the gross and fine motor development of these children. They contribute to strengthening their muscles, enable them to respond to stimuli more quickly, and enhance their reaction speeds." (A2)

"Participation in sports and physical activities supports the development of balance and coordination skills, thereby facilitating children's daily lives." (A2)

### 3.25. Self-Care Skills (Physical Independence)

"It has been observed that individuals diagnosed with ASD who participate in adapted physical education and sports activities develop self-care skills." (A1)

### 3.26. Postural Development

"Individuals diagnosed with ASD who engage in adapted physical education and sports activities show positive improvements in postural alignment." (A1)

Under the sub-theme of Cognitive Development, it was found that participation in Physical Education and Sports (PES) activities contributed positively to the mental development of individuals diagnosed with Autism Spectrum Disorder (ASD).

Additionally, improvements were observed in their ability to execute planned and sequential cognitive processes related to self-care skills, as well as in their cognitive ability to engage in play activities.

Direct quotations from participants reflecting these findings are presented below.

### 3.27. Mental Development

"Following the cone and slalom drills we conducted, he spontaneously learned to step forward and even began attempting shots when he approached the basketball hoop. While I was originally focused on extinguishing negative behaviors, I discovered that he was actually starting to learn new skills." (A1)

"We have an athlete named X. Previously, he could not even leave his home by himself, but now he travels independently to the training field. He performs very well in athletics training, and during one championship — where the president of the Athletics Federation and a former minister were present — he even demonstrated shot put



techniques. He is able to retain what he learns in his memory. In fact, the president of the federation commented that *he teaches better than some of our coaches.*" (R2)

### 3.28. Self-Care Skills (Cognitive Processes)

"At one point, it seemed impossible for anyone to convince us of this progress. However, we witnessed it ourselves. My child can now perform many tasks independently. Although he sometimes needs support, he can go to the restroom on his own, open the door, and turn on the lights — executing planned and sequential tasks — and he is able to meet his self-care needs." (P2)

### 3.29. Learning to Play (Cognitive Process)

"Previously, my child had no concept of play and did not know how to engage in play. Now, he has gradually begun learning how to play. (This refers specifically to learning the cognitive process of play, not merely participating in it.)" (P2)

**Table 5.** Additional Opinions and Suggestions Regarding the Participation of Individuals Diagnosed with Autism Spectrum Disorder (ASD) in Physical Education and Sports (PES) Activities

Theme	Code	Participants
Opinions and Suggestions	Early-Age Sports and Athlete Training	E1 R1 R2 A2
	Family Support and Involvement	R1 R2 A1 A2
	Qualified Expert Trainers and Coaches	E1 A2 R2
	Diversification	E1 Ö1 Ö2
	Sustainability	E1 E2
	Accessibility	E2 R2
	Government Support (facilities, transportation, etc.)	E1 Ö2
	Inclusion	A1

As shown in Table 5, the theme titled "Opinions and Suggestions" was identified based on participants' views regarding the participation of individuals diagnosed with Autism Spectrum Disorder (ASD) in Physical Education and Sports (PES) activities. Within this theme, participants emphasized the importance of early-age participation in PES activities accompanied by family support and involvement, the need for qualified and expert trainers and coaches, the diversification of activities, and the necessity for these activities to be sustainable and accessible. Additionally, participants highlighted the need for increased government support (e.g., facilities, transportation) and the importance of adhering to the principles of inclusion.

### 3.30. Early-Age Sports and Athlete Training

"My recommendation is that as soon as children start walking and reach a certain developmental level, their development should be supported through sports — gymnastics around ages 4–6, and other sports branches around ages 7–8." (R2)

"Children should ideally start sports by the age of five, especially if we want them to reach a high level of athletic performance. However, if the goal is merely to mitigate the effects of ASD, they can even start at age 30. Nonetheless, for the acquisition of certain skills, it is critical not to miss key developmental periods." (A2)

### 3.31. Family Support and Involvement

"Children must definitely be accompanied by their families during activities. It is essential for family members to be present during these activities and to provide their support." (R1)

"Every individual with special needs has a sport that they can pursue. We need to guide them accordingly. Families sometimes say it is difficult to take their children to activities, but they must make the effort." (R2)

### 3.32. Qualified Expert Trainers and Coaches

"Imagine someone who has never interacted with an individual diagnosed with ASD suddenly working in special education after graduation. Schools should offer dedicated training for this. Both theoretical and practical education

must be provided to ensure that coaches do not feel inadequate." (R2)

"Specialized sports instructors must be trained specifically for this field." (P1)

### 3.33. Diversification

"I believe there needs to be greater diversification in sports and physical activity options." (A2)

"To summarize briefly, children should receive early intervention through special education, sensory integration therapy, speech therapy (as recommendations for different practices), and most importantly, sports training." (P1)

### 3.34. Sustainability

"We faced a problem when the project ended — my child wanted to continue participating in sports. He wanted to jump, move, and be active because he had gotten used to it. Continuity is essential." (P2)

### 3.35. Accessibility

"I just wish sports activities were more accessible." (P2)

"I propose that our parks should be transformed into spaces where individuals diagnosed with ASD — as well as all individuals with special needs and the general public — can comfortably engage in sports activities. Local administrators should compete to create such inclusive environments." (R2)

### 3.36. Government Support

"I want the government to establish centers where children can engage in sports activities." (P1)

"Families face significant challenges in accessing transportation. There should be far more sports centers, and accessibility to these centers must be improved." (A2)

### 3.37. Inclusion

"One of the fundamental principles of special education is to integrate individuals with special needs into educational processes alongside their typically developing peers whenever possible. Keeping this principle in mind, I believe individuals diagnosed with ASD should participate in physical education and sports activities with typically developing peers to maximize opportunities for social interaction and communication." (A1)

## 4. Discussion

In this study, the aim was to examine the views of parents, rehabilitation center administrators, coaches, and academicians regarding the participation of individuals diagnosed with ASD in PES activities.

Based on the participants' views and the findings obtained within the scope of the research, four main themes were identified: "Motivation for Participation in PES Activities and Influencing Factors," "Challenges in Participation in PES Activities," "Contributions of PES Activities to the Development of Individuals with ASD," and "Opinions and Suggestions."

Within the theme "Motivation for Participation in PES Activities and Influencing Factors," a common emphasis across different participant groups (parents, rehabilitation center administrators, coaches, and academicians) was placed on the concept of "gradual acclimatization." For instance, participant E2 stated: "Initially, he was not willing, but over time, he became enthusiastic," while A2 noted: "When they first began participating in a new sport or exercise, they approached it with anxiety and hesitation, but over time, I observed that they managed to overcome these feelings."

These statements suggest that patience, a gradual approach, and allowing time for adjustment are critical strategies for enhancing the participation and motivation of individuals with ASD in PES activities.

Further findings indicated that family support, the trust placed in the environment and the coach, positive communication and interaction skills, the role and supportive approach of the coach, participants' willingness to engage, their experience of happiness during activities, and the adoption of inclusive practices tailored to individual needs were additional factors influencing participation and motivation.

In this regard, E2, referring to family support and trust, stated: "I realized there could be people who genuinely cared for my child. During one activity, my child fell, and one of the instructors picked him up and hugged him. I thought to myself, yes, this is exactly what matters."

Similarly, Ö2 emphasized the importance of happiness in participation: "The happiness of the children is the biggest motivator for their participation," while A1 highlighted the significance of inclusive adaptations: "Despite challenges and limitations, a well-prepared and adapted PES environment can significantly contribute to the participation of individuals with ASD."

Based on these codes and participant views, it can be concluded that psychosocial support plays a critical role in the participation of individuals with ASD in PES activities.

The literature supports this finding by emphasizing the role of family involvement, individualized education programs, and the use of adaptive instructional equipment in facilitating the participation of individuals with ASD in physical education and sports (Süngü et al., 2023).

Furthermore, another study indicated that intrinsic motivation is the strongest facilitator of participation for individuals with ASD, and that supporting their psychological needs is the most effective factor in promoting participation in adapted physical activities (Wong et al., 2024). These findings are consistent with the results of the present study.

Within the theme "Challenges in Participation in PES Activities," participant views revealed several key barriers. Primarily, factors such as the families' socioeconomic status, the level of family awareness, and the pressure exerted on coaches by families were emphasized. Additionally, insufficient government support, difficulties in creating suitable PES environments and programs for individuals with ASD, inadequacies among coaches, fluctuating health conditions of individuals with ASD, and challenges related to communication and expression were also identified as significant obstacles to participation. For instance, participant Ö1 stated: "I believe that families should be provided with financial support," highlighting the need for economic assistance. R1 pointed out issues related to family awareness: "It is difficult to reach families. They are often unaware and sometimes unwilling to engage." Similarly, E1 emphasized the impact of fluctuating health conditions, noting: "If there are no physiological issues on a given day, he starts sports activities very happily." In the literature, barriers to participation in PES activities among individuals with ASD are similarly attributed to financial difficulties and the inadequacy of sports facilities (İnce, 2017). Moreover, some studies have indicated that due to communication difficulties, certain individuals with ASD are unable to actively participate in play activities (Karakılçık et al., 2023), which aligns closely with the findings of the present research. Within the theme "Contributions of PES Activities to the Development of Individuals with ASD," four sub-themes were identified based on participants' views: emotional, social, physical, and cognitive development.

Participants indicated that PES activities contributed positively to the emotional development of individuals with ASD by enhancing self-confidence, reducing obsessive behaviors, promoting self-efficacy, and improving impulse control. For instance, R1 stated: "Participation in physical activities creates a sense of relaxation and helps them distance themselves from some of their obsessive behaviors," while Ö2 emphasized: "We observe that children with special needs gain self-confidence through sports and even become professional athletes." Regarding social development, participants highlighted improvements in communication skills, the establishment of eye contact, and social participation in play activities among individuals with ASD. In this regard, Ö1 noted: "Participation in sports activities supports the development of children's eye contact," and A2 remarked: "We observe a significant improvement in children's communication skills, especially after participation." In terms of physical development, participants reported positive contributions to motor skill development, improvements in self-care skills (in terms of physical independence), and enhancements in postural alignment among individuals with ASD. An example is provided by A1: "Individuals diagnosed with ASD who participate in adapted physical education and sports activities show positive improvements in postural alignment." Finally, within the sub-theme of cognitive development, participants observed that PES activities contributed positively to mental development, the execution of planned and sequential cognitive processes related to self-care, and the ability to learn to engage in play cognitively. It was particularly noted that while "self-care" and "learning to play" were related to cognitive development, participants described these as indirect contributions rather than direct cognitive processes. Therefore, these codes were categorized separately from general mental development within the findings.

In this context, R2 shared an important observation regarding cognitive development:

"We have an athlete named X. Previously, he could not even leave his home, but now he independently travels to the training ground. He performs very well in athletics training and, during a championship attended by the president of the athletics federation and a former minister, he demonstrated the shot-put technique. He is able to retain what he has learned in his memory. The federation president even commented that he teaches better than some of our coaches."

Based on these findings, it can be concluded that PES activities contribute positively to the emotional, social, physical, and cognitive development of individuals with ASD. Supporting the results of the present study, [Karakılıç et al. \(2023\)](#) emphasized that participation in sports activities facilitates the improvement of skills associated with overcoming various developmental challenges and encouraged participation in similar programs. Additionally, numerous studies have demonstrated the positive effects of sports on the physical, cognitive, and social development of individuals with ASD ([Bumin et al., 2003](#); [Lee, 2004](#); [Todd & Reids, 2006](#); [Memari et al., 2015](#); [Khadera & Pehlivan, 2016](#)). Another study highlighted the positive impact of a yoga-based physical activity program on the physical, cognitive, and psychosocial development of individuals with ASD ([Uzunçayır et al., 2023](#)).

The final theme of the study, "Opinions and Suggestions," revealed several key points emphasized across different participant groups. Participants stressed that the participation of individuals diagnosed with ASD in PES activities should not merely be perceived as engagement in physical activity but should also be valued as an essential component of sports education and athlete development, particularly starting from an early age. Family support was again underscored under this theme, with recommendations that parents should actively participate alongside their children in these activities. Furthermore, participants highlighted the importance of qualified and specialized coaches and trainers in the field, the need for diversification — not only in the content of activities but also in terms of including individuals with ASD in a variety of activity groups — the implementation of sustainable policies, ensuring accessibility, and strengthening government support (e.g., facilities, transportation). Lastly, participants emphasized the necessity of including individuals with ASD in integrated activities alongside their typically developing peers. In this context, several key quotations were noted:

R1, on family support, stated: "Children must definitely be accompanied by their families during activities."

E1, on the need for qualified trainers, remarked: "There should be specially trained sports instructors for this purpose."

Regarding government support, E1 added: "I would like to see the government establish centers where children can engage in sports activities."

E2, regarding accessibility, expressed: "I wish sports were more accessible."

Finally, A1, regarding inclusion, emphasized: "A fundamental principle of special education is to integrate individuals with special needs into educational processes alongside their typically developing peers. Considering this, I believe individuals diagnosed with ASD should participate in PES activities with their typically developing peers to foster rich opportunities for social interaction and communication."

These findings are supported by previous research that highlights the critical importance of early-age physical activity interventions ([Görgün & Melekoğlu, 2016](#)). Similarly, early inclusion-based special education services have been described as promising for this population ([Güleç Aslan, 2020](#)). Moreover, the need for qualified expert trainers identified in the present study is consistent with findings suggesting that coaches and physical education specialists should enhance their knowledge and adopt approaches tailored to the needs and competencies of individuals with ASD ([Salar et al., 2024](#)). In addition, the literature recommends the implementation of intervention programs, strategies, and policies to support the participation of individuals with ASD in physical activities ([Süngü et al., 2023](#)). This study represents one of the first comprehensive investigations incorporating the perspectives of parents, rehabilitation center administrators, coaches, and academicians regarding the participation of individuals with ASD in PES activities. Given that participation rates of individuals with ASD in PES activities are considerably lower compared to their typically developing peers, it is anticipated that the findings will contribute valuable insights for professionals and policymakers aiming to enhance participation and eliminate existing barriers. Furthermore, future research could yield even more comprehensive results by expanding both the scope and number of participants, offering further guidance to researchers interested in this field.

## 5. Conclusions

In conclusion, the uncertainty and sense of professional insecurity students face during their career planning process are also significant factors contributing to future anxiety. These results also highlight the need to develop students' psychological resilience and support their stress-coping skills.

## Implications for Future Research

At the same time, panels featuring field experts, professionals, and graduate students can contribute to student awareness by providing them with real-life experiences. Such platforms will enable students to take more informed career steps, reduce anxiety, and increase motivation.

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