



RESEARCH ARTICLE

The Effects of Physical Activity in Individuals with Autism Spectrum Disorder: A Qualitative Study

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Abstract

This qualitative study aimed to investigate the effects of physical activity habits on the developmental progress and family dynamics of children with Autism Spectrum Disorder (ASD), as reported by family members. Through semi-structured interviews, the study explored the influence of physical activity on social skills, overall behaviours, and family functioning. The participants comprised 20 parents (11 females and 9 males) of children diagnosed with ASD, aged between 8 and 12 years, residing in Istanbul. The study revealed seven themes: "The Role of Physical Activities in Everyday Existence," "Regular Participation in Physical Activities," "The Frequency and Intensity of Physical Activities," "The Reaction of Children with ASD to Physical Activities," "The Effect of Physical Activities on General Behavior and Social Skills," "The Impact of Physical Activities on Family's Daily Life," and "The Effect of Physical Activities on Family Quality of Life." The findings emphasize the significance of physical activities for children with ASD, illustrating their potential to enhance social skills, emotional well-being, and overall quality of life. Additionally, these activities reduce family stress levels and enhance overall family functionality. In conclusion, based on these findings, physical activities play a vital role in the lives of children with ASD, potentially improving their social skills, emotional well-being, and overall quality of life. Moreover, engaging in such activities can alleviate family stress and enhance family functioning. These results underscore the importance of incorporating physical activities into the lives of children with ASD and provide valuable insights for designing effective intervention strategies to support their development and well-being.

Keywords

Physical Activity Habits, Developmental Progress, Family Dynamics, Social Skills

INTRODUCTION

Autism Spectrum Disorder (ASD) is recognized as a complex neurodevelopmental disorder that is typically distinguished by difficulties in social interaction, communication, restricted interests, and recurring behaviours, as outlined by the American Psychiatric Association in 2013. Manifesting predominantly in childhood, ASD is a lifelong condition with significant implications for affected individuals. In recent times, there has been a discernable increase in ASD prevalence, thereby escalating its importance

as a health issue affecting individuals and families alike (Baio et al., 2018).

Participation in physical activities can confer many health advantages for individuals with ASD, akin to benefits observed within the broader population (Sowa & Meulenbroek, 2012). Engagement in such activities can foster the growth of various physiological systems and enhance motor abilities while lowering obesity risks. Additionally, physical activity can alleviate anxiety and depressive symptoms often prevalent among individuals with ASD, strengthening their self-efficacy (Pan et al., 2010). Consequently, it is

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conjectured that physical activity can improve the quality of life for individuals diagnosed with ASD. Research, such as the study by [Jones et al. \(2017\)](#), suggests that children with ASD typically demonstrate decreased physical activity levels. This lack of participation can deleteriously affect their physical and psychosocial well-being. For instance, reduced physical activity levels may exacerbate obesity risks, impede motor skill development, and compromise these children's overall quality of life ([Jones et al., 2017](#)). Hence, understanding the physical activity habits of children with ASD and assessing the impacts of these habits on their development and familial life becomes of paramount significance.

The objective of the present study is to conduct a comprehensive investigation of the physical activity habits of children with ASD and assess the effects of these habits on their developmental progression and family life through the lens of the families. The experiences and observations of family members can aid in our understanding of the factors influencing the participation of children with ASD in physical activities and the impact of such participation on familial dynamics. The findings of this study could provide crucial insights for developing strategies to foster the participation of children with ASD in physical activity, which could potentially enhance their health and overall quality of life. Moreover, this study intends to identify resources and methodologies that can be harnessed to support and guide families.

MATERIALS AND METHODS

Research Model

The study was conducted within the framework of a qualitative methodology, utilizing a semi-structured interview approach. The selection of this approach was necessitated by the desire to structure the interview process so that families could articulate their meanings and experiences, thereby allowing for data collection and a deepening understanding of their personal experiences ([Braun & Clarke, 2013](#)).

In the interviews, subjects such as the daily physical activity habits of the children (for example, sports they participate in, physical games and exercises), as well as the duration and intensity outside these groups and individuals was taken into account. "In this study, additional precautions

of these activities, were discussed. Concurrently, the families' observations and thoughts concerning the impact of physical activity on their children's overall behaviours and social skills were also gathered. The intent here was to test the hypothesis that physical activity could aid in developing social skills in individuals with autism, as previously suggested in the literature ([Bremer et al., 2015](#)).

Furthermore, the families' views on how physical activities influence their children and, in turn, how these activities affect their daily lives and familial dynamics were collected. This was an effort to comprehend the possible effects of physical activity on family functionality and the quality of family life ([Anderson et al., 2012](#)).

Each interview took place in an environment where the participant felt comfortable and lasted approximately 60 minutes. With the consent of the participants, the interviews were recorded and subsequently transcribed.

Demographic Characteristics of the Study Group

The study group comprises parents of 20 children diagnosed with Autism Spectrum Disorder (ASD), ranging from 8 to 12 years of age. These participants resided in Istanbul and were selected via a convenience sampling method. All the children in the study group have received an ASD diagnosis, which is the primary focus of this investigation. The mean age of the participants is 10 years, with an overall age distribution between 8 and 12 years. This demographic information delineates the scope of the study and characterizes the participant group. Most children examined within the study group have confronted one or more additional developmental issues co-occurring with ASD symptoms. These challenges may encompass language and speech delays, learning difficulties, Attention Deficit Hyperactivity Disorder (ADHD), and anxiety disorders.

This article's necessary ethics committee permissions were obtained with Istanbul Aydın University Social Sciences Ethics Committee Commission Date: 31.05.2023 Issue/Decision No: 2023/05. Regarding vulnerable groups, the authors took into account the needs and priorities of the groups/individuals in which the study was conducted, in accordance by Articles 19 and 20 of the WMA Declaration of Helsinki, and the situation that the study could not be carried out were taken by the researcher(s) to protect the volunteers."

Table 1. Demographic characteristics of children with ASD diagnosis participating in physical activities

No.	Gender	Age	Participated Activity	Additional Developmental Challenges
1	Male	9	Football	Language and Speech Difficulties
2	Female	10	Swimming	Sensory Auditory Sensitivity
3	Male	8	Cycling	Motor Skills Difficulties
4	Female	11	Dance	Social Interaction Issues
5	Male	12	Football	Anger Management Difficulties
6	Male	10	Running	Attention Deficit Hyperactivity Disorder
7	Female	9	Swimming	Emotional Regulation Problems
8	Male	11	Basketball	Language and Speech Difficulties
9	Female	8	Cycling	Motor Skills Difficulties
10	Male	9	Running	Attention Deficit Hyperactivity Disorder
11	Male	12	Football	Social Interaction Issues
12	Female	10	Dance	Sensory Auditory Sensitivity
13	Male	8	Basketball	Language and Speech Difficulties
14	Female	11	Dance	Interaction Issues
15	Male	9	Running	Motor Skills Difficulties
16	Female	12	Swimming	Emotional Regulation Problems Social
17	Male	10	Football	Attention Deficit Hyperactivity Disorder
18	Male	9	Cycling	Behavioural Issues
19	Female	11	Swimming	Language and Speech Difficulties
20	Female	10	Dance	Motor Skills Difficulties

Table 1 displays the demographic information, the participated activities, and the additional developmental challenges (if any) of the 20 participants.

Table 2. Demographic characteristics of participating families

No.	Level of Education	Age	Gender
1	Bachelor's degree	42	Male
2	High school	35	Female
3	Bachelor's degree	38	Female
4	Associate degree	30	Male
5	Bachelor's degree	41	Male
6	High school	37	Female
7	Bachelor's degree	43	Female
8	Master's degree	48	Male
9	Associate degree	33	Male
10	Bachelor's degree	39	Female
11	High school	36	Male
12	Bachelor's degree	40	Female
13	Associate degree	31	Female
14	Master's degree	46	Male
15	Bachelor's degree	44	Female
16	Bachelor's degree	37	Male
17	High school	34	Female
18	Master's degree	49	Male
19	High school	35	Female
20	Elementary school	53	Female

Table 2 showcases the demographic characteristics of the families participating in this study. These include the level of education, age, and gender of the participants. From a total of 20 participants, it can be observed that the majority have obtained a bachelor's degree, followed by a high school education. The level of education extends from elementary school to master's degree

level, indicating a broad range of educational backgrounds. Age distribution among the participants spans from the early 30s to the early 50s, with a somewhat equal representation of both male and female participants.

In order to conduct this research, necessary permissions and consents were obtained from the Social Sciences Ethics Committee of Istanbul.

This decision was dated 31.05.2023 and numbered 2023/05. Furthermore, detailed information about the research content was provided to all participating volunteers.

Semi-structured interviews allow for a comprehensive environment wherein participants can convey their experiences and viewpoints. The interview protocol utilized in this study, which is semi-structured, is delineated in Table 3 below.

Table 3: Semi-structured interview guide

Interview Questions	
1	Can you briefly introduce yourself and your family?
2	What is the role of physical activities in your child's daily life?
3	What physical activities does your child participate in regularly (e.g., sports, physical games, exercises)?
4	Could you provide information about the frequency and intensity of these activities?
5	How does your child respond to these activities? Do you think your child enjoys these activities?
6	Have you noticed any impact of physical activities on your child's general behaviours? If so, could you describe this impact?
7	Do you believe physical activities affect your child's social skills? What are your observations or thoughts on this matter?
8	How do you evaluate the impact of physical activities on your child's general behaviours and social skills?
9	How have physical activities impacted your family's daily life and dynamics? Is this impact positive or negative?
10	How do you assess the possible effects of physical activities on family functionality and quality of family life?
11	Finally, is there anything else you want to add regarding your child's physical activities?

This semi-structured interview protocol is designed to elicit in-depth insights from respondents concerning their children's physical activity practices and the implications of these behaviours on familial dynamics and the development of their children's social competencies. It facilitates an open environment where participants can candidly share their experiences and perspectives. While quoting the participants' views, a coding system ("P1, P2, P3", etc.) which expressed that they were participants was preferred

RESULTS

In this section, we present the insights derived from interviews conducted with parents regarding their children's involvement in physical activities. These perspectives shed light on the perceived outcomes of such engagements, as observed by the participating families. The study identified seven overarching themes: "The Role of Physical Activities in Everyday Existence," "Regular Participation in Physical Activities," "The Frequency and Intensity of Physical Activities," "The Reaction of Children with ASD to Physical Activities," "The Effect of Physical Activities on General Behavior and Social Skills," "The Impact of Physical Activities on Family's Daily Life," and "The Effect of Physical Activities on Family Quality of Life."

The Role of Physical Activities in Everyday Existence

P3: "Physical activities are indispensable to our child's daily life. He not only enjoys being active, but it is also crucial for his developmental progress."

P14: "Physical activities play a pivotal role in our child's life. They serve as a conduit for channelling our child's energy positively and healthily, concurrently fostering his healthy development."

The remarks above underscore the significance of physical activities in children's daily lives as perceived by their families. Parents recognize and affirm their children's fondness for physical activities and emphasize the crucial role these activities play in their offspring's development.

The comments also highlight the need for children with ASD to participate in physical activities, suggesting that these activities help direct their energy and facilitate healthy growth. The assumption is that being physically active bolsters children's physical, mental, and emotional well-being, enhancing their quality of life. Furthermore, these statements accentuate the idea that the needs of children with ASD for physical activities are not disparate from those of other children, positing that they, too, can equally benefit from such undertakings. The condition of being

ASD is stated not to alter the importance or impact of physical activities.

Regular Participation in Physical Activities

P5: "Our child demonstrates a strong preference for regularly playing football. Additionally, there is a weekly gymnastics class in which they participate with considerable enthusiasm."

P16: "Our daughter exhibits a marked affinity for swimming lessons. She greatly enjoys the tranquil cadence of the waves and the unrestricted movement of her body in water. Swimming offers her an avenue for self-expression, fosters body control, and physically strengthens her. Concurrently, she harbours a distinct passion for cycling. The joyful expression on her face while cycling underscores her growing independence in navigating the world from her perspective, enhancing her self-efficacy and self-confidence. Indeed, our daughter is diagnosed with ASD, but this in no way inhibits her enjoyment of life, her capacity for learning, and her development. Autism is merely a facet of her existence and one component contributing to her individuality and uniqueness. Like any child, she is discovering her paths, exploring her abilities, and viewing the world through her unique lens. Having a child with ASD serves as a reminder that everyone is unique and requires a different rhythm and timeline to find their distinctive path. As a family, we derive great satisfaction from standing by her side, growing alongside her, and learning new things from her every day."

The statements above depict the assessments and impacts of regular physical activities for children with ASD, as interpreted by their families. These statements underscore that participation in physical activities by individuals on the spectrum facilitates their self-expression, body control, and empowerment. Family narratives illustrate that children derive joy from engaging in their favoured activities and that these activities bolster their self-confidence. For instance, participating in activities like football and gymnastics can enhance a child's motor skills and aid in self-expression, while swimming and cycling augment body control and induce a sense of freedom.

Furthermore, families underscore that the ASD diagnosis does not hinder their child's development. They assert that while autism is part of their child's life, it is one element that makes their child special and unique. Families convey that

everyone finds their path, discovers their abilities, and perceives the world from their unique perspective.

The Frequency and intensity of physical activities

P17: "My son attends football training three times a week. He adores football, and it is almost impossible to dissuade him from attending the training. He also goes to gymnastics lessons once a week. His activeness and mobility have improved significantly with football and gymnastics.

Understanding his intensity is complex, however. He is a child on the OSB, which affects how he perceives the world and reacts to his surroundings. Routine and order are vital to him. That is why having a set schedule for his training and lessons is paramount."

P19: "Our daughter participates in swimming lessons twice a week, and she engages in cycling whenever she wishes to. The frequency of these activities depends on her interest and availability."

The views presented above provide valuable insights into the frequency and intensity of children's participation in physical activities. Firstly, they indicate that being on the autism spectrum influences a child's perception of the world and their reaction to events around them. When considering the intense schedules of their children, families acknowledge that some may interpret this as imposing an excessive burden on the child. However, they underscore how these activities assist their children, observing benefits such as developing social skills, enhancing physical health, and improving emotional regulation and focus.

Additionally, families assert the importance of achieving an appropriate balance to meet the child's needs and provide the healthiest and most satisfying life. While noting the necessity for personal time for rest and focusing on their interests, they emphasize that activities are tailored to the children's needs and abilities. This may require flexibility to support the child's comfort and development.

The Reaction of Children with ASD to Physical Activities

P1: "Our son truly loves football. Seeing the joy on his face when he plays is simply priceless. Watching him eagerly attend every training and his excitement each time he learns something new brings us immense happiness. Likewise, he finds a way to express himself during gymnastics lessons.

We are delighted to see how much pleasure he derives from these classes.

Despite specific challenges, football and gymnastics help enhance his social skills and physical coordination. These activities give him significant confidence in discovering his abilities and interacting with others."

P2: *"My daughter adores her swimming lessons, which bring her great happiness. Riding a bicycle is therapeutic for her; it calms and soothes her. The fact that she can enjoy different activities helps her cope with her situation. We are overjoyed with this outcome."*

The provided statements elucidate how children with ASD respond to specific physical activities, as relayed by their families. The experiences underscore the affection and enjoyment the children display towards these activities. Families have reported their children exhibiting happiness and motivation when engaging in football and gymnastics activities. They suggest that these pursuits assist in the children's social skill development, physical coordination enhancement, and self-discovery of their abilities. This indicates that despite the inherent challenges of ASD, children can express themselves through these activities. Moreover, these engagements bolster the children's self-confidence and ability to interact with others.

Families express great satisfaction in observing their children's joy and passion related to these activities. This situation demonstrates that families focus on supporting their children's interests and establishing effective communication. Concurrently, these activities provide enlightening experiences for the families and assist them in better understanding their children.

The statements illustrate the positive effects of physical activities on children with ASD and show that these activities can provide valuable experiences for children and their families. Furthermore, it emphasizes that focusing on the interests and passions of children by their families facilitates the children's self-expression, supports their development, and strengthens familial bonds.

The Effect of Physical Activities on General Behavior and Social Skills

P15: *"When we discovered our son was on the autism spectrum, many things in our life changed. However, we decided to embark on this new journey with him and have tried to support him every step with immense love and patience.*

Mainly when we directed him towards physical activities, we noticed noticeable positive changes in our son. Previously prone to intense emotional and energetic outbursts, he became calmer and more focused after regular physical activities. Actions such as running, jumping, and playing games help him express the energy building up inside him. Also, we observe that these activities enhance his motor skills and increase his body awareness.

The most exciting thing is how physical activities impact our son's social skills. Team sports and group activities have enabled him to communicate more comfortably with other children and expand his social circle. While living with a child with ASD has its challenges, seeing him achieve these small victories brings us great joy and hope.

Every child has a unique way of learning and developing. Our son needs to move, play games, and be physically active. This helps him better understand the world, express himself better, and, most importantly, enjoy life. Physical activities act like therapy for him. I would recommend this to every family, especially those with children with ASD."

K20: *"My daughter's participation in physical activities has contributed immensely to her overall behaviour and social skills. As a regular part of activities, my daughter developed a self-confidence that we could not have imagined before, and her social skills improved noticeably. Physical activities positively influenced my daughter's overall behaviour by supporting her ability to focus, physical coordination, and cognitive abilities. It helped her overcome previous difficulties and provided an opportunity to improve her daily life skills.*

Regarding social skills, the impact of physical activities is undeniable. My daughter, who previously had difficulty interacting with people, now possesses improved communication skills. This has helped her interact more comfortably with others, enhance her emotional expression ability, and even make new friendships."

These case studies underscore the potential benefits of physical activities in positively influencing the overall behaviours and social skills of children with ASD. First, decreased emotional outbursts, enhanced tranquillity, and improved focus have been noted due to a child's consistent participation in regular physical activities.

Moreover, these activities reportedly contributed to the advancement of motor skills and augmentation in body awareness. In addition, participation in team sports and group activities was purported to assist in developing social skills, fostering more accessible communication with other children.

In the second case, a girl's involvement in physical activities reportedly boosted her self-confidence, refined her social abilities, and ameliorated her communication skills. These activities also supported enhancing focus, physical coordination, and cognitive abilities, improving her daily life skills. Furthermore, the activities augmented the girl's ability to interact with others and form new friendships.

These narratives demonstrate that physical activities could serve as an essential instrument for improving the general behaviour, self-confidence, and social skills of children with ASD. Physical activities can assist in channelling the children's energy, facilitating their self-expression, strengthening motor skills, and enhancing social interactions.

The effect of physical activities on general behaviour:

P11: *“Yes, our son engaging in soccer and gymnastics helps him channel his energy. These sports play a significant role in overcoming some of his challenges. On active days, he can remain calm and even focus, despite the noise and chaos around him. Even though his ASD sometimes distances him from social interactions, he learns to communicate with other children and enhance his social skills through sports. These activities not only assist him in understanding the world from his unique perspective but also offer us the opportunity to communicate better with him and understand him more deeply.”*

K12: *“Living with my daughter's ASD diagnosis has turned every day into a new learning experience. We are trying to understand how she views the world from a different perspective. Although autism affects her social interactions and communication abilities differently, we have discovered some strategies that help us manage the situation. Physical activities, in particular, play a significant role.*

When my daughter is engaged in an activity where she can use her energy, she appears more balanced and peaceful. Most of the time we spend together, we prefer to try different physical activities with her - sometimes bike riding,

sometimes a walk or dance. These activities balance her energetic nature and help her focus better.”

These statements suggest that children with ASD can be positively supported in multiple aspects through physical activities, leading to favourable outcomes. Primarily, parents have indicated that engagement with physical activities helps channel their children's energy and aids in overcoming specific challenges associated with ASD. On days when the children are active, they are reported to remain calm and focused despite the surrounding noise and chaos. This suggests that physical activities play a significant role in regulating their behaviour and maintaining emotional balance. Moreover, it is noted that these children learn to communicate and develop social skills through sports.

Families shared their experiences of their daughter living with ASD, emphasizing the profound importance of physical activities. When she is engaged in an activity where she can expend her energy, they have noticed that she appears more balanced and peaceful. These activities, apart from balancing her energy, also assist in focusing. The families preferred experimenting with different physical activities, enhancing their child's focus. These narratives illustrate that physical activities could be crucial in managing behaviours, achieving emotional balance, and improving focus for children with ASD.

The impact of physical activities on social skills:

P5: *“My son is honing his teamwork and communication skills through playing football. The enhanced ability to communicate more effectively and interact better with his peers brings us great joy. This represents a significant advancement in his social interactions and self-expression capabilities. Observing this evolution in our child indicates that children on the autism spectrum, too, can develop their social and emotional skills, albeit at their own pace and through their methods. Football has transcended being merely a sport for our son and has served as a bridge between his world and ours.”*

P11: *“The interaction my daughter has with other children during her swimming lessons is bolstering her social skills, understanding, and communication abilities. In the world of a child on the autism spectrum, such interactions hold immense value. This process plays a crucial role in*

making sense of her autism symptoms and enhancing social conformity.

Swimming lessons not only improve her physical skills but also boost her self-confidence. With each successful lesson, the pride and joy reflected on her face validate all our efforts and patience. Opportunities like these are essential to overcome the lack of self-confidence commonly observed in these children. Perhaps most importantly, such social activities do not make her feel 'different'. She discovers her abilities and skills in an environment where she is on equal footing with other children. She finds the chance to express herself and her abilities positively.

As a parent of a child with ASD, these are just a few of the advancements we hope to see in her growth and development. Every new accomplishment is a day won, every step is a significant gain, and every smile is a priceless gift."

These remarks underscore the enhancement of children's social skills by participating in specific sports activities. For instance, one family cites their football child's improved team collaboration and communication skills, enabling him to communicate more effectively with his peers. This signals significant progress in the child's social interactions and self-expression capabilities. This case serves as an example demonstrating that children with ASD can develop their social and emotional skills at their own pace and through their methods.

Similarly, the mother of a child enrolled in swimming classes indicates that her child's engagement with his peers has significantly cultivated his social proficiency, cognitive understanding, and communicative competencies. This process aids in the child's understanding of his ASD symptoms and boosts his social adaptation. Additionally, she notes that swimming lessons enhance her child's self-esteem and give him a sense of normalcy. It is underscored that such social activities allow the child to explore himself and his abilities and facilitate positive self-expression.

These statements indicate that physical activities significantly influence the social skills, communication abilities, and self-confidence of children with ASD. Parents express satisfaction in observing these positive progressions in their children's growth and development. This implies the potential of physical activities to enhance the

overall quality of life and social integration of children with ASD.

The Impact of Physical Activities on Family's Daily Life

P17: *"Physical activities bring great vitality and energy to our child's daily life and family. Having us participate in sports together enhances our child's social skills, coordination, and focus. Simultaneously, these activities help our child release pent-up energy, resulting in a generally calmer and happier demeanour. I find these effects that physical activities bring to our family quite positive. I believe such experiences improve our child's life and our family's overall quality of life."*

P19: *"Physical activities serve as both an entertaining and unifying activity for our family. For our children on the autism spectrum, these sorts of activities contribute to their social and emotional development. This, in turn, increases the quality time they spend with our family and strengthens their relationships within the family. As they discover their rhythm and space, being with them and witnessing this process is a precious and positive experience for all of us."*

The statements above articulate the impact of physical activities on the daily lives of families, highlighting the positive effects facilitated by a child's participation on the autism spectrum. Academically, these declarations underscore the awareness and understanding of families, emphasizing the role of physical activities in enhancing the child's social skills, coordination, and focus. Simultaneously, the expending of energy to foster a calmer demeanour contributes to a more harmonious familial atmosphere.

These assertions also underscore the significance of quality family time. They purport that physical activities fortify familial relationships, augment the bond among family members, and offer opportunities for quality engagement. Consequently, they are perceived as enjoyable and unifying family activities.

This discourse presents a perspective emphasizing the importance of physical activities as an essential factor spotlighting the benefits and reinforcing familial bonds. Additionally, it emphasizes how, in the context of living with autism spectrum, physical activities can augment the child's quality of life, offering a positive experience for the family.

The Effect of Physical Activities on Family Quality of Life

P9: *“Physical activities enhance our togetherness as a family and increase our functionality. Such activities allow us to spend time together and tangibly convey support to one another. Particularly, engaging in these types of activities with our children on the autism spectrum aids in developing their social skills and enables us to establish a deeper connection with them. This positively impacts our overall family life quality.”*

P20: *“Physical activities play a substantial role in our family adopting a healthy lifestyle. This not only contributes to the development of our child on the autism spectrum but also positively impacts the general life quality of our entire family. We each adopt a healthy lifestyle by spending time together, having fun, and learning to understand each other better strengthens our family's unity and commitment.”*

The statements above reflect families' experiences emphasizing the positive effects of physical activities on family quality of life. These remarks indicate that the presence of a child on the autism spectrum enhances family cohesion and improves family functionality through physical activities. Physical activities foster togetherness among family members and create a supportive environment. The opportunity for interaction, communal time expenditure, and the provision of substantial assistance among family members positively influence the quality of familial life. Activities encompassing the involvement of children on the autism spectrum possess the potential to intensify familial bonds and concurrently facilitate the enhancement of the child's social competencies.

Moreover, the positive influences of physical activities on family health and lifestyle are underscored. Adopting a healthy lifestyle and spending time together contributes not only to the development of a child on the autism spectrum but also improves the general quality of life for all family members. Mutual enjoyment, understanding, and getting to know each other better augment the family's strength and unity. These statements demonstrate families' recognition of the beneficial effects of physical activities on family unity, child development, overall quality of life, and their valuation of these activities.

DISCUSSION

It is essential to highlight the positive impact of physical activities on children diagnosed with ASD. Among the repertoire of strategies to improve social skills in children with ASD, sports and physical activities emerge prominently (Pan et al., 2010). Numerous studies demonstrate that such activities help channel children's energies positively and assist in better self-expression (Oriel et al. et al., 2011). Moreover, these activities have been found to enhance the emotional states of children with ASD and reduce overall stress levels, positively affecting family dynamics and functionality (Sowa et al., 2012).

Parental reports generally corroborate these findings from the literature. For instance, most families of children with ASD perceive physical activities as predominantly positive experiences for their children and observe improvements in their social skills and overall behaviour (Must, A. et al., 2015). Consequently, physical activities are crucial for enhancing social skills and emotional states in children with ASD. In addition, these activities can reduce parental stress levels and elevate overall family functionality. Children with ASD often face challenges in social interactions and may exhibit specific behaviour patterns. However, physical activities can help these children enhance their social skills and self-expression and positively channel their energy.

These findings suggest potential benefits that can improve multiple facets of life for children with ASD. Therefore, these children should be encouraged to participate in regular physical activities. Educating families on this subject and guiding them on how to facilitate appropriate physical activities for their children could improve the overall quality of life for the children and their families. Research conducted by Pan (2010) and Sowa & Meulenbroek (2012) has demonstrated that regular physical activity can enhance motor skills, social skills, and overall quality of life for children with Autism Spectrum Disorder (ASD). It is also noted that these activities may reduce stress levels and improve sleep quality in these children (Lang et al., 2010). This emphasizes the importance of family involvement in physical activity programs tailored to the individual needs and abilities of the child.

In addition, a study by Todd et al. (2010) revealed that participation in physical activities by

children with ASD enhances the overall quality of family life, reducing stress levels and improving family dynamics. Therefore, not only does the involvement of children with ASD in regular physical activities foster social, motor, and emotional skills, but it also enhances the overall quality of family life.

Several studies show that regular physical activity can improve social skills, motor coordination, and overall emotional well-being in children with ASD. For instance, research by [Pan \(2010\)](#) found a significant improvement in the social skills and emotional well-being of children with ASD who participated in regular physical activities. Furthermore, a study by [Lang et al. \(2010\)](#) suggested that regular physical activity can enhance the motor skills of children with ASD. Research by [Bremer et al. \(2015\)](#) and [Pan et al. \(2019\)](#) further supported the notion that regular physical activity can positively affect individual behaviours and overall family dynamics, enhancing social skills, emotional health, and the overall quality of life for children with ASD. In addition, research by [Must et al. \(2014\)](#) found that physical activity increases the energy levels, attention spans, and social skills of children with ASD, leading to fewer problematic behaviours and improved sleep.

These findings underscore the importance of physical activity participation for children with ASD. Physical activity can aid in developing social skills, supporting emotional health, and improving overall quality of life while positively influencing family dynamics. The existing literature suggests that children with ASD and their families can substantially benefit from regular, structured physical activities. These activities can guide children in positively channelling their energy, expressing themselves better, and developing social skills while enhancing family dynamics.

A wealth of research underscores the potential benefits of physical activity for improving social skills, self-confidence, and overall quality of life in children with ASD. Studies have found that sports and physical activities can significantly enhance social skills and self-confidence in these children ([Bremer et al., 2019](#)), contributing to their teamwork and communication abilities while encouraging self-expression, friendship formation, and improved interactions with their environment.

Beyond fostering social skills, physical activities contribute to emotional regulation in children with ASD. According to studies conducted by [Pan \(2010\)](#) and [Lang et al. \(2010\)](#), engaging in regular physical activity can serve as a therapeutic tool in managing prevalent conditions, such as anxiety and hyperactivity, frequently encountered by children on the autism spectrum. [Pan \(2008\)](#) also highlighted that physical activity can bolster self-confidence and independence in children with ASD. Physical activities can reduce behavioural problems in children with ASD, diminishing hyperactivity, attention deficit, and aggression ([Pan et al., 2011](#)). A meta-analysis by [Bremer et al. \(2015\)](#) further substantiates the role of physical activities in enhancing social skills. The study found that sports and exercise activities can improve social interaction skills, teamwork abilities, and empathy in children with ASD.

Research by [Lang et al. \(2010\)](#) indicates that regular physical activity can improve emotional state and reduce stress levels in children with ASD. [Sowa and Meulenbroek \(2012\)](#) also suggest that regular physical activity can enhance the emotional state, social skills, and cognitive functions of children with ASD while alleviating family stress levels.

In conclusion, both anecdotal and scientific evidence supports the positive impact of physical activity on children with ASD and their families. However, considering each child and family's distinct needs and experiences, it is crucial to acknowledge that the benefits of physical activity may only sometimes apply in some situations. Additional research and improved strategies are needed to fully harness the potential benefits of physical activity for these children and their families.

Findings suggest that physical activities can improve social skills, emotional well-being, and overall quality of life in children with ASD. These activities also reduce stress levels and enhance family functionality. Regular physical activity is shown to potentially improve motor and social skills and emotional health in children with ASD. Such activities can help channel their energy positively, aid self-expression, and enhance social interaction skills. Furthermore, physical activities have been found to decrease stress levels, improve sleep quality, and enhance overall life quality. The perspectives of families also reinforce the literature findings. Parents often perceive their children's

involvement in physical activities as a generally positive experience, noting improvements in their social skills and behaviours.

Based on these findings, we can conclude that physical activities are vital for children with ASD, potentially improving their social skills, emotional state, and overall quality of life. Moreover, these activities decrease families' stress levels and enhance family functionality. Therefore, participation in regular physical activities should be encouraged in children with ASD, and families should be made aware of and guided in this regard. However, given the unique needs of each child and family, physical activity programs should be tailored to individual needs and abilities.

Conflict of Interest:

There is no personal or financial conflict of interest within the scope of the study.

Information on Ethics Committee Permission

Board Name: Istanbul Aydın University
Social Sciences Ethics Committee Commission

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Researchers' Contribution Statement:

Research Design- BEO; Statistical analysis- BEO, AK; Preparation of the article, BEO, AK, ASÖ; Data Collection- Performed by BEO, AK, ASÖ.

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