

# Quality of Life Gains for Special Athletes in the Turkish Athletics Championship: A Study on Parent Perspectives (2023)

Hacı Karadağ<sup>1\*</sup>, Özgür Karataş<sup>2</sup>, Yahya Doğar<sup>3</sup>, Mehmet Ilkim<sup>4</sup>, Cumaali Yavuz<sup>5</sup>, Talip Çelik<sup>6</sup>, Emine Öztürk Karataş<sup>7</sup>, Rafet Ünver<sup>8</sup>, Döndü Uğurlu<sup>9</sup>, Fatma Özoğlu<sup>10</sup>, Mehmet Taşçı<sup>11</sup>, Kerim Rüzgar<sup>12</sup>, Ahmet Aydemir<sup>13</sup>, Veli Ozan ÇAKIR<sup>14</sup>

## Abstract

This study examines the effects of sports involvement on the well-being of individuals with Down Syndrome who participated in the 2022 Turkish Athletics Championship, as reported by their parents. The championship was organised by the Turkish Special Athletes Sports Federation. Using a qualitative case study design, we thoroughly explore individual experiences, perceptions, and the current situation. Criterion sampling, a method of purposeful sampling, was employed to select participants. The participants were selected using purposive criterion sampling. Information on life changes for the athletes was gathered through semi-structured interviews, which were later transcribed and analysed using content analysis. Five main themes were identified: Physical Development, Social Development, Emotional Development, Psycho-Social Health, and Family Life Satisfaction. The focus was on highlighting the enhancements in family dynamics, shared experiences, and the overall well-being of the family. The study demonstrates that engagement in the championship had a significant impact on the athletes' overall well-being and family satisfaction, underscoring the importance of sports in their lives.

**Keywords:** Sport, Special Athletes, Down Syndrome, Quality of Life.

## Introduction

Sport is a complex and diverse phenomenon that encompasses various aspects such as education, biology, and society. It provides a powerful means of improving individual well-being (Yildiran, 1992). In addition to promoting mental and physical health, sport also plays a crucial role in fostering social integration

and enabling individuals to surpass their physical limitations. The advantages of this extend to people of all abilities, with a special emphasis on those facing disabilities. For these individuals, sports play a crucial role in overcoming obstacles and promoting social integration. It is commonly used as a tool in the education and rehabilitation of individuals with disabilities.

<sup>1</sup> PhD Student, İnönü University Institute of Health Sciences,

ORCID iD: <https://orcid.org/0000-0003-2027-7480>, Email: [hmkaradag23@hotmail.com](mailto:hmkaradag23@hotmail.com)

<sup>2</sup> Assoc. Dr. İnönü University Faculty of Sports Sciences,

ORCID iD: <https://orcid.org/0000-0002-7863-2898>, Email: [ozgur.karatas@inonu.edu.tr](mailto:ozgur.karatas@inonu.edu.tr)

<sup>3</sup> Assoc. Dr. İnönü University Faculty of Sports Sciences,

ORCID iD: <https://orcid.org/0000-0002-1068-2266>, Email: [yahya.dogar@inonu.edu.tr](mailto:yahya.dogar@inonu.edu.tr)

<sup>4</sup> Assoc. Dr. İnönü University Faculty of Sports Sciences,

ORCID iD: <https://orcid.org/0000-0003-0033-8899>, Email: [mehmet.ilkim@inonu.edu.tr](mailto:mehmet.ilkim@inonu.edu.tr)

<sup>5</sup> Assoc. Dr. Firat University Faculty of Sports Sciences, ORCID iD: <https://orcid.org/0000-0002-5183-2371>, Email: [cyavuz@firat.edu.tr](mailto:cyavuz@firat.edu.tr)

<sup>6</sup> Lecturer. İnönü University, Malatya Vocational School,

ORCID iD: <https://orcid.org/0000-0003-3197-4732>, Email: [talip.celik@inonu.edu.tr](mailto:talip.celik@inonu.edu.tr)

<sup>7</sup> Assoc. Dr. Malatya Turgut Özal University Faculty of Health Sciences,

ORCID iD: <https://orcid.org/0000-0002-4142-5369>, Email: [emine.karatas@ozal.edu.tr](mailto:emine.karatas@ozal.edu.tr)

<sup>8</sup> Doctor Faculty Member, Kırıkkale University, Faculty of Sports Sciences,

ORCID iD: <https://orcid.org/0000-0002-3380-3358>, Email: [rafetunver@kku.edu.tr](mailto:rafetunver@kku.edu.tr)

<sup>9</sup> Lecturer, Kırıkkale University, Faculty of Sports Sciences,

ORCID iD: <https://orcid.org/0000-0002-9153-8900>, Email: [dondusimsek@kku.edu.tr](mailto:dondusimsek@kku.edu.tr)

<sup>10</sup> Research Assistant, İnönü University Faculty of Sports Sciences,

ORCID iD: <https://orcid.org/0000-0002-7000-8396>, Email: [fatma.ozoglu@inonu.edu.tr](mailto:fatma.ozoglu@inonu.edu.tr)

<sup>11</sup> PhD Student, İnönü University Institute of Health Sciences,

ORCID iD: <https://orcid.org/0000-0002-0672-9500>, Email: [m.tascii44@gmail.com](mailto:m.tascii44@gmail.com)

<sup>12</sup> PhD Student, İnönü University Institute of Health Sciences,

ORCID iD: <https://orcid.org/0000-0002-8482-8176>, Email: [kerimruzgar0@gmail.com](mailto:kerimruzgar0@gmail.com)

<sup>13</sup> PhD Student, Kocaeli University Institute of Health Sciences,

ORCID iD: <https://orcid.org/0000-0002-6778-4175>, Email: [ahmetaydemir1904@gmail.com](mailto:ahmetaydemir1904@gmail.com)

\*Corresponding Author's Email: [hmkaradag23@hotmail.com](mailto:hmkaradag23@hotmail.com)

<sup>14</sup> Assoc. Prof. Gazi University, Faculty Of Sports Sciences, Ankara Turkey, ORCID:0000 0001-7996-2138, [veliozancakir@gmail.com](mailto:veliozancakir@gmail.com)

The idea of inclusion for individuals with disabilities is becoming more prominent, highlighting the importance of unity and solidarity rather than marginalisation. The growing recognition of disability studies in the field of sport reflects a shifting societal perspective, traditionally defined as “a collection of movements that improve or maintain physical health”.

Sport holds great importance for individuals with special needs, as it plays a crucial role in their overall well-being and fulfilment. In addition to the well-documented advantages of enhanced physical and mental well-being, engaging in sports enables individuals to face and conquer obstacles associated with disabilities. This experience provides them with new outlooks and a feeling of empowerment (Yaman, 2005).

According to the World Health Organisation, disability is defined as the inability to perform expected tasks due to functional impairments compared to others (Dunn et al., 1995). People with disabilities are classified into various categories, one of which is intellectual disability. This concept refers to the restrictions in cognitive functioning and daily living skills that become apparent before the age of 18 (Arcangeli et al., 2020). An example that stands out is Down syndrome, a genetic chromosomal disorder known for causing intellectual impairments.

Down syndrome, also known as Trisomy 21, occurs when there is a non-disjunction of the 21st chromosome pair during meiosis. This leads to an individual having 47 chromosomes instead of the usual 46 (Basil, Sara, & Andrew, 2007). This genetic anomaly has a wide-reaching impact, affecting individuals from all walks of life, regardless of their age, race, or socioeconomic background. It is considered to be the most prevalent chromosomal disorder worldwide. In addition to the presence of an extra chromosome on the 21st pair, there are different classifications based on the arrangement of the chromosomes. In most cases, regular trisomy occurs when there are three copies of chromosome 21 present. Translocation and mosaic trisomy account for approximately 4-6% and 3-4% of cases, respectively. These conditions involve chromosomal rearrangements or a combination of cell lines with varying chromosomal configurations (Wiedeman & Kunze, 1997).

Individuals with Down syndrome often have lower muscle strength and endurance compared to those without the condition. Thus, participating in sports activities becomes essential for individuals to enhance energy expenditure in their daily lives and uphold an active lifestyle (Berg et al., 2012).

Studies indicate that consistent and structured physical activities have a notable positive impact on the overall well-being of individuals with disabilities. In a study conducted

by Gür (2001), it was found that engaging in these activities can result in a heightened sense of happiness, stronger emotional connections to life, and increased self-assurance, all while promoting better overall health. This is in line with the dual objective of integrating sports into rehabilitation programmes: 1) ensuring compliance with essential exercises and 2) enhancing motivation by avoiding monotony in repetitive treatment procedures (Çevrim, 2009). Research consistently shows that participating in sports activities has a significant positive effect on individuals' physical, social, and emotional well-being, leading to increased levels of happiness. The increasing awareness of this matter has led to a recent upswing in academic investigations into the well-being of individuals with disabilities and their families.

The concept of quality of life (QoL) involves how individuals perceive and feel satisfied with different aspects of their lives, which indicates their overall mental and physical well-being as well as their social integration (Çivi, Kutlu, & Çelik, 2011). Studies have shown that families of children with special needs often encounter additional difficulties in coping with both physical and mental strain, resulting in a decrease in their overall quality of life (Şipoş et al., 2012).

Research has shown that engaging in sports can have a positive effect on the physical and mental development of individuals with special needs, ultimately leading to an enhanced quality of life (Kumcağiz & Çayır, 2018). To improve their quality of life, it is essential to embrace a person-centered approach that recognises their individual viewpoints and works towards reducing social obstacles (Çoban, 2008; Öztapak, 2017). Sports provide a wide range of opportunities for parents to get involved, offering a mix of recreational and professional activities that promote relaxation and rejuvenation in various aspects of life, including social, physical, mental, and psychological well-being. This involvement goes beyond just a recreational pastime, developing into a way of life that enhances the overall well-being, promoting family joy and tranquility. However, it is important to consider that individual well-being within a family unit is not the only aspect to be considered. According to Wakimizu et al. (2016), improving the overall quality of life for families requires taking a comprehensive approach that recognises the interconnectedness of family members.

When considering the relevant field studies, it becomes evident that the Turkish Special Athletes Sports Federation plays a crucial role as an umbrella organisation. It actively promotes the involvement of individuals with intellectual disabilities in sports, both nationally and internationally. Within the Ministry of Youth and Sports, the Federation works under the General Directorate of Sports to support individuals with disabilities,

including those with Down syndrome, autism, and intellectual disabilities, in participating in organised sports. The structure consists of a President, an Administration Board, and specialised committees for Audit, Discipline, Education, and Health. With a wide-reaching network of provincial representative offices in all 81 provinces, the Federation efficiently caters to special athletes in 14 diverse sports branches, including swimming, table tennis, and skiing. In addition to its domestic activities, the Federation also has responsibilities in the international arena. Our organisation focuses on hosting regional and national championships in Turkey, as well as training and preparing exceptional athletes for international competitions such as the European, World, and Inas Championships.

People with disabilities face various limitations in their social lives, often experiencing challenges that can cause significant and complex trauma. The impact of this extends beyond the individual, affecting their family and close circle, potentially causing significant emotional distress. Through an investigation into the impact of participation in sporting organisations on the quality of life for individuals with Down syndrome, this research aims to provide valuable insights for enhancing the lives of special athletes. It also aims to identify and develop customised training programmes to help them reach their full potential, while also assessing the influence of sporting achievements on family life satisfaction. The research findings could greatly impact the Federation's policies and programmes, leading to a more inclusive and empowering environment for individuals with Down syndrome and other intellectual disabilities in the sports world.

## Method

### Research Design

This study is based on a case study design, which is a qualitative approach that allows for the collection of detailed and comprehensive data on a specific subject (Patton, 2014). This approach provides a concise and scholarly way to gain insights into different viewpoints and achieve a comprehensive grasp of the present circumstances. Case studies typically centre around a specific modern occurrence or happening, and in this case, we're examining the involvement of individuals with Down syndrome in sports organisations. This concise investigation seeks to provide insight into the intricacies and subtleties of this encounter (Bassey, 1999; Ekiz, 2009; Yin, 1994).

### Study Group

To delve into the wider implications of sports participation for individuals with Down syndrome, we conducted

interviews with the parents of 12 young athletes who took part in the 2022 Turkish Athletics Championships. These parents, as unwavering advocates, offered a distinct viewpoint on the transformations and obstacles their children encountered in the realm of athletic training and competition.

### Data Collection Tools

This study utilised semi-structured interviews, a qualitative technique aimed at capturing experiences, attitudes, and emotions (Bogdan & Biklen, 2007; Patton, 2014). This method enables participants to openly share their thoughts and opinions on relevant subjects (Bogdan & Biklen, 2003). Although the research questions were initially established, there was room for adjustments to accommodate any new insights that arose during the interviews (Ekiz, 2009; Özgüven, 2004). The decision to utilise qualitative research techniques was driven by the desire to uncover the intricate thoughts, experiences, expectations, and suggestions of parents of individuals with Down syndrome regarding their children's involvement in sports organisations and how it affects their overall quality of life. This method enables thorough investigation by engaging in personal interactions with participants, facilitating a comprehensive comprehension that surpasses what quantitative methods can provide.

Following a review of the literature, three knowledgeable academics in the fields of physical education and sports for people with disabilities helped to improve the draft questions so they better matched the objectives of the study. After gaining the participants' informed agreement, one-on-one interviews were held in the sports field at their convenience. Parents were advised of their ability to interrupt or end the interview at any time, and they were given information about the study prior to each interview. Using a voice recorder, the typical interview lasted between two and five minutes. Every respondent received the identical set of questions in the same format and sequence. This method was used to get more thorough and in-depth information from the participants.

The following questions were asked to the parents to collect the research data:

1. Have your child's sports activities impacted your family's overall happiness and well-being?
2. Can you describe the specific benefits your child gained from being involved in sports? (Consider areas like social skills, physical development, emotional well-being, psycho-social health, and family life satisfaction.)

### Data Analysis

This study employed a two-pronged approach to analyze the interview data: descriptive and content analysis.

*Descriptive Analysis:* In this approach, the data is categorised based on the themes identified in the research

questions or the categories derived from the interview questions. In addition, the study included direct quotes from participants to offer valuable insights into their experiences (Yıldırım & Şimşek, 2011).

*Content Analysis:* This approach entails a systematic process of defining, coding, and categorising the data. The researcher carefully examined and thoroughly analysed the interview transcripts, identifying and categorising important themes and concepts found within the responses (Patton, 2014; Punch, 2005). For the sake of confidentiality, participants were given letter codes (e.g., P1, P2) during the coding process.

*Theme Formation and Interpretation:* The codes that were identified have been organised and classified according to their common characteristics, resulting in thematic categories. The categories were carefully examined, interpreted, and served as the foundation for the study's findings (Maykut & Morehouse, 1994). The findings were based on theoretical explanations and supported by relevant literature. Participant quotes were included to strengthen the validity of the results.

*Validity and Reliability:* In qualitative research, it is critical to prioritise the credibility and trustworthiness of the study. We accomplished this by implementing a range of strategies, such as extensively analysing the data, conducting iterative data reviews, and seeking feedback from both participants and experts on our data, analyses, and interpretations (Ekiz, 2009). In order to maintain the integrity of the data, thorough reporting practices were implemented, providing a comprehensive explanation of the research methods and steps undertaken to obtain the final results (Yıldırım & Şimşek, 2011).

*Reliability Coefficient:* In order to evaluate the credibility of our findings, we employed Miles and Huberman's (1994) formula ( $\text{Reliability} = \frac{\text{Agreement}}{\text{Agreement} + \text{Disagreement}} \times 100$ ) to quantify expert consensus. Our calculation resulted in a 93% consensus among experts, which reinforces the reliability and credibility of our findings.

**Table 3.2**

*Findings Related to Social Development Theme*

Main category	Subcategories	Codes that emerged after the interview	Participants
Social Development	Communication	Initiating communication	P9, P10
		Conversation	
		Greeting	
	Behavior	Becoming acquainted	P2, P7, P11
		Self-confidence	
	Making new friends	Feeling self-sufficient	P1, P4, P5, P12
		Number of friends	
Independence	Environment	P3, P6, P8	
	Autonomous activity		
		Freedom	

## Results

From the viewpoint of parents, several key findings emerged that highlight the effects of involvement in sports organisations on the overall well-being of individuals with Down Syndrome who took part in the 2022 Turkish Athletics Championships: *Physical Development* (improvements in strength, endurance, and flexibility, along with a reduced risk of chronic diseases), *Social Development* (increased communication skills, teamwork, and leadership abilities, as well as new friendships and stronger social networks), *Emotional Development* (enhanced confidence, self-esteem, and a greater sense of purpose and belonging), *Psycho-Social Health* (independence, decision-making abilities, and overall responsibility and accountability), and *Family Life Satisfaction* (improvements in family dynamics, shared experiences, and overall family well-being).

**Table 3.1**

*Audio Recording Information of Participants*

Participants	Duration of interview audio recording
P1	1.19 minutes
P2	1.33 minutes
P3	1.45 minutes
P4	2.04 minutes
P5	1.27 minutes
P6	3.24 minutes
P7	3.59 minutes
P8	3.14 minutes
P9	2.11 minutes
P10	2.18 minutes
P11	2.09 minutes
P12	3.19 minutes

The coding categories that arose from the data collected from parents' perspectives on Social Development are displayed in Table 3.2.

Participating in sports organisations and competitions has proven to be highly beneficial for the social development of families with Down syndrome children. Here are some key advantages that have been observed:

**Expanded Social Circles:** Interacting with fellow athletes, coaches, and volunteers expands their social circle and cultivates new relationships. **Increased Confidence:** Conquering obstacles and achieving triumphs on the pitch enhances their self-assurance and ability to engage with others. **Enhanced Communication Skills:** Consistent engagement and collaboration enhance their aptitude for effective communication and clear self-expression.

**Greater Independence:** Engaging in independent competitions, both at home and abroad, cultivates a strong sense of independence and self-sufficiency. In general, engaging in sports has been shown to help children with Down syndrome become more outgoing, involved, and at ease in social situations.

It has been observed that families from countries such as Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan have noticed that special athletes in Turkey seem to have better opportunities for social development. It has been noted that Turkish athletes exhibit greater sociability and social awareness in comparison to athletes from their respective home countries. This observation highlights the positive impact of Turkey's nurturing sporting environment on promoting social development in children with Down syndrome. Parent comments regarding this theme are as follows:

**P1:** *My child's involvement in sports has blossomed their social circle. Not only did they change cities and travel abroad, but they forged new friendships along the way.*

**P2:** *Witnessing their achievements and receiving medals, my child experienced a surge of self-confidence, leading to a positive shift in their overall attitude.*

**P3:** *Previously homebound, my child has embraced newfound independence thanks to sports. They participate in competitions with their team and coach, venturing out without relying solely on family.*

**P4:** *The federation's activities provide my child with a constant influx of new friends and daily opportunities for learning and growth.*

**P5:** *Engaging in organized sports has significantly expanded my child's social network and communication skills within their peer group.*

**P6:** *Prior to sports, my child's life revolved around school and limited family outings. Sports have not only introduced them to public transportation and independent travel, but also broadened their horizons with international trips. They have transformed from a timid individual to a confident*

*young person, able to communicate effectively and connect with new people.*

**P7:** *Sports have undeniably been a catalyst for my daughter's social development, boosting her self-confidence to extraordinary heights. Through sports, she has gained access to incredible opportunities, even visiting the Presidential Mansion three times. I wholeheartedly advocate for sports as a transformative force for all children.*

**P8:** *On behalf of Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan, I can confidently say that sports participation for our special needs children is virtually non-existent. Although official federations exist, they fail to include and engage these children, leaving them without competition opportunities. Witnessing the joyous and socially engaged children here in Turkey, far ahead of our own countries' progress, has been deeply impactful. The positive changes brought about by sports are undeniable, inspiring us to actively pursue similar initiatives back home. While Azerbaijan may be leading the way amongst our nations in sports development, reaching Turkey's current level will require unwavering dedication and concerted effort. The benefits of sports are irrefutable, and this goal will be actively pursued.*

**P9:** *The mere mention of sports fills my child with excitement. "I'll win a prize! I'll get a medal!" they exclaim, radiating pure joy. Their love for sports is evident, and it has facilitated clearer communication.*

**P10:** *Sports have had a profound impact on my child's communication skills, both with their peers and the broader community. The experience has nurtured their ability to share and interact in a meaningful way.*

**P11:** *Participating in sports has heightened my daughter's awareness of her surroundings and instilled in her a newfound confidence and courage. In essence, these children have triumphed over their challenges through sports. My daughter, for instance, began training to manage her anger and channel her hyperactive energy – and she has succeeded.*

**P12:** *My son, once an introverted child hesitant to leave the house, displayed the typical weight gain tendencies associated with Down syndrome. Joining sports organizations has transformed him. He has built friendships, overcome his initial shyness, and now eagerly participates in events. As a message to families, especially those with disabled children, I urge you to embrace your child's abilities. Acceptance serves as a springboard for life. Every child has the potential to find their own sport, so please take them out, explore their options, and give them the gift of participation.*

The coding that was generated based on the data derived from parents' views on the theme of Family Life Satisfaction is explained in [Table 3.3](#).

Table 3.3

## Contribution to Family Life Satisfaction

Main Category	Subcategories	Codes That Emerged After the Interview	Participants
Family Life Satisfaction	Environmental Impact	Appreciation Recognition Social Compliance	P1, P3, P6
	Impact of Sporting Success on the Family	Pride Benefit Happiness	P2, P4, P7, P9, P10, P12
	Intra-Family Interaction	Compliance with rules Effective Communication Solidarity	P5, P8, P11

Parents' viewpoints on their children's involvement in sports and sports organisations indicate a notable rise in overall satisfaction with family life. This phenomenon is a result of various crucial factors. Firstly, families receive increased social recognition and appreciation because of their children's athletic achievements. This sense of pride nurtures a stronger commitment to familial values, encourages greater accountability among children, and enhances the family's reputation within their social circles. Participation in sports organisations opens up opportunities to access valuable resources and services offered by state entities and federations. This enhanced support system directly enhances the well-being and overall happiness of families. Parents from Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan highlighted the positive impact of sports participation on their children's happiness and communication skills. The research highlights the significant influence of sports on family dynamics, especially for families with athletes who have special needs.

Parent comments regarding this theme are as follows:

**P1:** *The whole community celebrates our kids' victories.*

**P2:** *When my child keeps up with training, it's like I get a bonus hour for myself.*

**P3:** *He made friends in Trabzon five years ago when he went there for a competition. We ran into them again at the Turkish Championships, and it was amazing how they remembered each other! I even met his family, and we talked all about how proud we are of our kids.*

**P4:** *Being a parent of a special needs child means learning something new every day. Sports have been an incredible learning experience for both of us – there's truly no age limit for growth!*

**P5:** *Sports have helped him overcome some of those little quirks he used to have. Remember how he'd freak out if bedtime wasn't exactly at nine? Or those 20-minute tantrums just because he was a bit late? Those are*

*practically gone now. He's so much calmer and relaxed, and even follows the family rules better.*

**P6:** *He's spending more time on his phone and social media. He's made friends from all over the world! He's got foreign friends in so many different countries now, thanks to social media. It's truly incredible.*

**P7:** *Seeing Münevver succeed has been a huge motivator for our whole family. It's like her achievements inspire us all. Plus, being her parents comes with its own perks – people recognize us, call me 'Münevver's mom,' and we get to share in her glory!*

**P8:** *I am speaking on behalf of Azerbaijan, Kyrgyzstan, Kazakhstan and Uzbekistan. The children are happy, their communication is good, and they experience the joy of medals together with their families.*

**P9:** *Honestly, even if you gave him everything in the world, it wouldn't compare to the way his face lights up when he gets a medal. That pure joy radiates through the whole family.*

**P10:** *We've become a real sports family now. We spend so much time together at his training sessions – all seven days a week! It's amazing to be in that supportive environment, working alongside him, and being both parent and cheerleader.*

**P11:** *I feel incredibly lucky that my child gets to take part in these activities. It's not just about her, though – it takes effort, teamwork, and a lot of support. But honestly, it's been a huge weight off our shoulders. Sports have made her more aware of things.*

**P12:** *Thanks to sports, we've stayed in places we never dreamed possible – five-star hotels, no less! Our federation goes above and beyond for these kids, and it's shown. They've brought us all this far, and we're living experiences we never thought we'd have.*

The coding generated in accordance with the data obtained from parental comments on the theme of *Physical Development* are explained in [Table 3.4](#).

**Table 3.4**

*Findings on the Theme of Physical Development*

Main Category	Subcategories	Codes That Emerged After the Interview	Participants
Physical Development	Weight Balance	Obesity	P3, P9, P12
		Physical appearance	
	Exercise Duration	Nutrition	P1, P6, P11
		Mobility	
		Stamina	
		Time	
	Fighting Chronic Diseases	Heart disease	P2, P8
		Kidney problems	
		Diabetes	
	Physical Fitness	Stamina	P4, P5, P7, P10
Body proportion			
Walking upright			
Flexibility			
		Cardiovascular improvement	

Parents of individuals with Down syndrome observed significant enhancements in their children's physical development because of their involvement in sports and participation in sports organisations. These improvements involve a shift from inactive lifestyles to consistent participation in physical activity, reduced occurrence of weight-related problems like obesity, improved ability to handle chronic conditions such as cardiovascular diseases, and overall healthier and stronger body development. In addition, there is a clear increase in physical fitness levels. It is clear that being involved in sports organisations greatly benefits the physical health of special athletes. The following are the views on this theme:

**P1:** *Prior to engaging in sports, Rıdvan's physical activity levels were limited. Participating in sports has led to a significant increase in his active time.*

**P2:** *We have observed a positive impact on his cardiovascular health. While kidney issues were previously a concern, his regular training and commitment to sports have contributed to overall health improvements.*

**P3:** *Sports participation has been particularly beneficial for his health awareness. He has developed a keen interest in his diet and hydration, often stating, "I am an athlete," which reflects a growing understanding of healthy habits.*

**P4:** *Since taking up sports, his physical development has shown noticeable progress.*

**P5:** *We are actively exploring additional training methods to further support his development. We are confident that these efforts will lead to even stronger physical health and overall well-being in the future.*

**P6:** *Previously, his activity level was primarily limited to family-oriented activities and opportunities. He could be*

*characterized as inactive. Following his introduction to sports, his engagement in physical activity has significantly increased.*

**P7:** *Sports have had a profound impact on both his physical and mental well-being.*

**P8:** *Representing Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan, I can share that compared to our countries, where children with Down syndrome often experience social isolation and sedentary lifestyles, children here appear happier, more active, and seemingly less prone to health challenges.*

**P9:** *My child's athletic journey began with gymnastics. Now, after nine years of consistent sports participation, he maintains a healthy weight balance, which we actively monitor and support.*

**P10:** *We have observed a positive change in his body composition.*

**P11:** *Her initial athletic experience was with taekwondo. Interestingly, as the duration of his sports activities increased, her energy levels initially decreased.*

**P12:** *As my child displayed classic characteristics of Down syndrome, including weight gain, we actively sought solutions. Swimming was recommended, and later, we were introduced to athletics. We were among the first to start this initiative in Ankara, which has grown from a small group of 2-3 individuals to a thriving community of 300-400 participants. This increased engagement in athletics has been instrumental in maintaining his healthy weight balance.*

The coding generated from the data derived from the parents' views on the theme of *Emotional Development* are presented in [Table 3.5](#).

Table 3.5

## Findings on Emotional Development Theme

Main Category	Subcategories	Codes That Emerged After the Interview	Participants
Emotional Development	Well-being	Happiness	P7, P8, P9
		Enjoyment	
		Joy	
	Time Management	Sleep Pattern	P3, P4, P5, P11
		Obsession	
		Planning - Schedule	
	Motivation	Positive thinking	P1, P6, P10
		Desire-interest	
		Positive attitude	
	Responsibility	Self-expression	P2, P12
Mission			
		Cooperation	

Parents have observed notable enhancements in their children's emotional development because of engaging in sports. The observed benefits encompass improved self-expression, heightened sense of responsibility, regulated sleep patterns, refined time management skills, and a general sense of joy and engagement with sports. It is worth mentioning that families from Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan perceive Turkish children as being noticeably more sociable and happier. They believe that this can be attributed to the positive emotional influence of participating in sports. Thus, involvement in sports organisations seems to have a positive impact on the emotional growth of athletes with special needs. The following are the views on this theme:

**P1:** Sports have helped him build diverse friendships and communicate effectively with peers. He's now comfortable expressing himself with ease.

**P2:** His entire demeanor has shifted. He's become responsible and takes initiative.

**P3:** Our child's schedule revolves around sports now. It's become a central part of our lives.

**P4:** Planning our lives has shifted focus. We now consider the wider environment and his needs, not just our own.

**P5:** We overcame his obsession with sleeping at nine o'clock thanks to sports. He's become more adaptable.

**P6:** He can confidently communicate and express himself even with strangers, if needed.

**P7:** These children lack medical treatments. Sports are crucial for their happiness and well-being.

**P8:** Speaking for Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan, we see a stark difference. Turkish children are more social, happier, and mindful. Sports are making a clear impact.

**P9:** My wife and I are his biggest supporters. He thrives in organized environments like events and sports. We prioritize them wholeheartedly.

**P10:** Sports have significantly improved his communication with people, friends, and taught him valuable sharing skills.

**P11:** Training in specific positions helped him channel his anger and hyperactivity. Sleep problems decreased significantly.

**P12:** This is my third daughter, and having my older daughters around has been a blessing. She learned manners and routines from them. We simply facilitate their interactions. After retirement, I dedicated myself fully to supporting them. She now understands her responsibilities.

In Table 3.6, the codes derived from the data gathered through parental opinions on the Psycho-Social Health theme are presented. Each code encapsulates specific aspects and patterns identified within the realm of psycho-social health.

Table 3.6

## Findings on Psycho-Social Health theme

Main Category	Subcategories	Codes That Emerged After the Interview	Participants
Psycho-Social Health	Psychological Effects	Fear	P1, P2, P5, P8, P9, P12
		Jealousy	
		Reserved	
	Social Impacts	Well-being	P3, P4, P6, P7, P10, P11
		Level	



Participating in sports and being part of sports organisations have shown significant improvements in the psychosocial well-being of children. Observations indicate a decrease in jealousy, a higher level of psychosocial well-being in individuals with Down syndrome who are involved in sports, and a reduction in fears among the children who participate. Representatives from Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan highlighted that children in their countries often display a more introverted nature, prefer fewer active lifestyles, and sometimes have unfounded concerns about physical activities such as jumping and running. It can be inferred that the active involvement of special athletes in sports organisations has a positive impact on the development of their psycho-social well-being. The articulated viewpoints on this matter are presented below:

**P1:** *Thanks to sports and group activities, my child has learned to share, and I've noticed a significant drop in jealousy.*

**P2:** *Our journey into sports began unexpectedly when we bumped into a national team at the bus station. Despite initial fears, we conquered them through sports.*

**P3:** *Interacting with individuals here who share similar traits as my child allowed us to compare their well-being and family dynamics. I hope all kids get the chance to reach their full potential.*

**P4:** *Traveling across the 81 provinces of Turkey, I've met numerous children with unique situations, each with distinct life stories despite their similarities.*

**P5:** *Overcoming initial fears of jumping and running, my child now enthusiastically participates in sports—a remarkable positive change.*

**P6:** *Our child's incredible journey includes becoming the European champion in Italy and later securing the World Champion title in the Czech Republic, breaking records and achieving unparalleled success in the 100m and long jump categories in the Turkish world.*

**P7:** *Despite early doubts about our child's sports talent, persistent efforts led to recognition of their adaptability and talent, placing them in a better situation than many peers.*

**P8:** *Speaking for Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan, I note that children in our countries are less active, often timid, and fearful. However, the positive experiences here demonstrate their potential to achieve greatness.*

**P9:** *Starting with gymnastics, my daughter's jealousy has faded, and now she proudly shares medals, celebrates success, and finds joy with her sister.*

**P10:** *The federation plays a crucial role in guiding many children, especially those in smaller provinces with limited awareness, significantly impacting their lives.*

**P11:** *Participating in these events makes me feel fortunate for my child. While acknowledging that not all children have the same opportunities, I believe in reaching, encouraging, and elevating every child to a similar level.*

**P12:** *My daughter's transformation, inspired by her sisters, involved considerable support. Previously seeking love and attention, she has overcome jealousy and displays improved behavior.*

## Discussion

The perspectives shared by families who witnessed their children with Down syndrome compete in the 2022 Turkish Athletics Championship provide valuable and thought-provoking insights. The championship, organised by the Turkish Special Athletes Sports Federation, provided a platform to highlight the significant influence of sports on the lives of special individuals, in addition to showcasing their athletic abilities. This research explores the positive impacts of sports participation on children by conducting in-depth interviews with their families. We delve into how a structured training regime and the excitement of competition shape their lives, ultimately enhancing their overall quality of life in a more meaningful and satisfying way. Through the utilisation of descriptive and content analysis methods on the collected data, we reveal the profound impact of sports on individuals with Down syndrome. This study provides significant insights into their unique experiences and perspectives.

Parents of children with Down syndrome widely recognise the positive impact of sports participation on their children's social development. Participating in sports organisations and competitions helps individuals broaden their social circles, enhancing their self-confidence and communication skills. Children develop new social connections, becoming more confident and self-reliant outside of their family circle. Parents from Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan also notice that Turkish special athletes are significantly more sociable and proactive than their own children. There appears to be a significant correlation between engaging in competitions and experiencing positive social growth.

These observations are consistent with previous research findings. The programme developed by İlhan (2008) in the field of physical education and sports clearly exhibited a positive impact on the enhancement of socialisation skills in children with intellectual disabilities. In a study conducted by Yılmaz (2018), the findings indicated that parental expectations regarding children's participation in extracurricular sports primarily revolved around achievements that contribute to social development. Parents emphasised the importance of cultivating a strong sense of belonging and effective self-

expression within society, which may help reduce the likelihood of developing social phobia and anxiety. One participant described their child developing an "entrepreneurial structure" through sports, implying proactive engagement. One participant emphasised the influence of self-confidence gained through sports, which allowed their child to effectively engage with different people, participate in preferred settings, and establish meaningful relationships with peers. This can be viewed as essential for the societal acceptance of the "special athlete" as an individual. In addition, the study conducted by Aksoy (2020) found that engaging in physical activity has a positive impact on self-control and fundamental social skills in children with autism. This further supports the notion that sports can be an effective tool for promoting social development. In a study conducted by Sukan (2013), the author emphasised the positive impact of physical activities on individuals with mental disabilities. The research found that engaging in physical activities not only enhances communication skills, but also boosts self-confidence and promotes social acceptance.

In addition to the athletic accomplishments, parents of children with Down syndrome who engage in sports organisations have reported a significant increase in overall satisfaction with their family life. They mention the rise in community acknowledgement, satisfaction with their children's achievements, and enhanced family interactions. Children gain a deeper understanding and recognition, cultivating a strong sense of inclusion. In addition, families originating from Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan emphasise the importance of improved communication with their children and the resulting increase in overall happiness. There is evidence to suggest that engaging in sports can have a positive impact on overall family life satisfaction. This study is in line with the current body of research, which emphasises the beneficial impact of sports on families with children who have disabilities. Research conducted by Biddle and Goudas (1996), Menear (2007), and Mahy et al. (2010) has shown that when parents actively participate in sports, they serve as positive role models for their children, thereby fostering greater involvement in sports activities. A study conducted by İlhan, Kirimoğlu and Cokluk (2013) has revealed that consistent engagement in physical education and sports activities has a positive impact on the overall well-being of children with intellectual disabilities. It is evident that carefully organised physical education and sports activities have the potential to improve the overall well-being of these children and serve as a valuable tool in mitigating potential drawbacks. However, it is important to recognise the possible difficulties encountered by mothers of children with disabilities. Frequently assuming the primary responsibility for caregiving, individuals in this

role may make sacrifices in terms of their professional pursuits, social interactions, and personal welfare. Mothers who are unable to allocate time for themselves and must delay their material and emotional needs may occasionally find themselves becoming socially isolated. A child with a disability necessitates meticulous attention, ongoing medical monitoring, specialised education, and rehabilitation starting from birth. If adequate assistance and support are not provided to the family throughout this extensive process, it could lead to a decrease in life satisfaction among family members. Consequently, their quality of life may decline, and their overall happiness levels may be negatively impacted. Research conducted by Yavaş, Söhmen and Söhmen (1994) and Last and Grootenhuis (1998) cautions about the detrimental effects this can have on individuals' quality of life. These studies emphasise the importance of implementing support systems to effectively address these challenges. The results of our study are consistent with and build upon previous research in the field.

Sports participation appears to be a game-changer for the physical well-being of children with Down syndrome. Besides breaking free from the confines of sedentary lifestyles, regular sports engagement translates to longer periods of activity, reduced obesity risks, and a stronger defense against chronic diseases like cardiovascular issues. This translates to better overall body development, improved health, and a significant boost in physical fitness levels.

Previous studies in the academic literature support these observations. According to Montignac (1997), engaging in sports has a positive impact on health and fitness. On the other hand, Wee et al. (2010) emphasised the negative effects of weight gain on quality of life. Significantly, a study conducted by Karakoç (2015) showcased the favourable impact of physical activity programmes on body composition and musculoskeletal function for individuals with intellectual disabilities and their families. Considering the importance of physical activity for individuals with intellectual disabilities, incorporating sports into their daily routine is essential to help prevent weight gain later in life. Studies support the beneficial effects of consistent physical activity on individuals with intellectual disabilities. In a twelve-week exercise programme for individuals with mild intellectual disabilities, Şenlik and Atılgan (2019) found notable enhancements in motor skills, physical fitness, and physical activity levels. In a study conducted by Atan et al. (2016), it was found that children with educable-level intellectual disabilities showed improved performance after twelve weeks of basketball training. The improvements included enhanced running time, vertical

jump, flexibility, reaction time, grip strength, and balance. These findings are consistent with a larger body of research that emphasises the positive impact of exercise on enhancing motor and physical development in individuals with intellectual disabilities.

The research clearly demonstrates the significant positive impact that sports organisations have on the emotional well-being of children with Down syndrome. Research findings indicate that children can overcome shyness and develop strong communication skills, which in turn leads to improved connections and increased confidence. They have a strong commitment to structure and organisation, taking responsibility for their choices and showing increasing maturity. Engaging in regular exercise can have a positive impact on your sleep patterns, which in turn can improve your overall health and well-being. Engaging in sports offers a delightful experience, allowing individuals to acquire new skills, find joy, and achieve personal goals. In addition, the international perspective brings a valuable dimension to our understanding. Parents from Azerbaijan, Kyrgyzstan, Kazakhstan, and Uzbekistan noticed a significant contrast in the social and emotional well-being of Turkish children with Down syndrome. They credited this to the significant focus on sports in Turkey, underscoring its beneficial influence on their children's emotional growth. This supports previous research, highlighting the various advantages of physical activity for individuals with Down syndrome. Research conducted by [Calfas and Taylor \(1994\)](#), [Eichsteadt and Lavay \(1995\)](#), and [Rippe et al. \(1988\)](#) highlights the beneficial impact of sports on various aspects of development, including physical, mental, social, and emotional well-being. These findings highlight the important role that sports organisations play in promoting the overall well-being of children with Down syndrome. The study conducted by [Kumcağiz and Çayır \(2018\)](#) found that the attitudes of individuals with physical disabilities towards sports were significantly improved. In line with our research findings, [Ersan, Baci and Tatar \(2020\)](#) discovered that physically disabled individuals who engaged in sports reported higher levels of life satisfaction compared to those who did not participate in sports.

Participation in sports and involvement in sports organisations greatly contribute to enhancing the psychosocial well-being of children with Down syndrome. Our research indicates a strong correlation between engagement and numerous significant advantages. Children develop a decreased tendency for jealousy and experience reduced levels of anxiety and fear, resulting in a more serene and emotionally stable state. The positive impact is further emphasised by the experiences of families from Azerbaijan, Kyrgyzstan, Kazakhstan, and

Uzbekistan. They note that children in their countries often exhibit more reserved behaviour, leading to less active lifestyles and unwarranted fears of physical activities, in contrast to children from Turkey. Backing up these observations are findings from previous research. A study conducted by [Çevik and Kabasakal \(2013\)](#) revealed that participating in sports has a positive impact on social relationships. Additionally, [Altun \(2010\)](#) observed that individuals with special needs who engage in sports experience a decrease in anxiety levels and an increase in happiness. In a study conducted by [Koç \(2012\)](#), it was found that basketball training had a positive impact on the technical and tactical skills of athletes with learning disabilities. In a study conducted by [Ataman-Yancı \(2011\)](#), it was discovered that individuals with learning disabilities who engaged in regular sports activities experienced a decrease in neurotic and general behavioural problems. More specifically, there were reductions in behaviours such as hyperactivity, impulsivity, aggression, and challenges in socialising with peers. These findings, in line with our study results, highlight the positive impact of sports on the physical and behavioural development of individuals with learning disabilities.

## Conclusion

The 2022 Turkish Athletics Championship, organized by the Turkish Special Athletes Sports Federation, served as a vibrant stage for more than just athletic feats. It revealed, through the voices of parents and the performance of young athletes, the power of sports in enriching the lives of children with Down syndrome. This research painted a compelling picture of the positive impact of sports participation on their quality of life, encompassing physical, emotional, and social well-being. For these individuals, who are part of the intellectual disability group, sports provide a special opportunity for improved physical development, better emotional well-being, stronger social connections, and increased satisfaction for families, which in turn strengthens the family unit. The undeniable truth is that sports have a transformative impact on special athletes, moulding them into healthier, happier, and more integrated individuals.

## Recommendations

This study on the intellectual disability group establishes a solid foundation. Further research could explore the effects of sports involvement on different populations with disabilities, which may contribute to the development of more inclusive programme designs.

- To enhance the findings of this qualitative study, future research could consider integrating quantitative methods in addition to qualitative data collection. This would enable the study to produce reliable and applicable results to a wider range of people. Expanding the sample size would further improve the study's ability to be applied to a wider population and increase its overall dependability.
- To optimize quality of life for special athletes, increasing the role of sports trainers within special training centers is crucial, including dedicated training programs, collaboration with specialists, and advocating for increased resources.
- It is crucial to empower parents in making well-informed decisions regarding suitable sports for their special needs children. This can be achieved by organising educational workshops with coaches and specialists, and encouraging personalised sports selection that considers the child's interests, abilities, and limitations.
- It is of utmost importance to address the obstacles that prevent special athletes from fully participating at the professional level.
- This study emphasises the significant level of awareness among the families involved regarding the benefits of sports. To address this issue, it is crucial to implement focused awareness campaigns that aim to educate families about the numerous benefits of sports involvement for their children with disabilities. Collaborating with community organisations, schools, and healthcare providers can greatly enhance the impact of these campaigns.

## References

- Aksoy, Y. (2020). Effects of Physical Activities as Recreational Activities on Social Communication in Children With Autism. *Gaziantep University Journal of Sports Sciences*, 5(1), 1-9. <https://doi.org/10.31680/gaunjss.689747>
- Altun, F. B. (2010). *Evaluation of the Effect of Physically Disabled People's Participation in Sports Activities on Quality of Life* [Master's Thesis, Hacettepe University, Institute of Health Sciences, Ankara]. <https://acikbilim.yok.gov.tr/handle/20.500.12812/493540>
- Arcangeli, L., Bacherini, A., Gaggioli, C., Sannipoli, M., & Balboni, G. (2020). Attitudes of Mainstream and Special-education Teachers Toward Intellectual Disability in Italy: the Relevance of Being Teachers. *International Journal of Environmental Research and Public Health*, 17(19), 7325. <https://doi.org/10.3390/ijerph17197325>
- Ataman-Yancı, H. B. (2011). The Importance of Sportive Recreation in the Spiritual and Social Harmony of Children With Teachable Mental Disability. *International Refereed Academic Social Sciences Journal*, 1(1), 224-235. <https://platform.almanhal.com/Details/Thesis/2000337819>
- Atan, T., Eliöz, M., Çebi, M., Ünver, Ş., & Atan, A. (2016). Examining the Effect of Basketball Training on the Motoric Characteristics of Educable Mentally Disabled Children. *Journal of Sports and Performance Research*, 7(1), 29-35. <https://doi.org/10.17155/spd.78754>
- Basil, J. Z., Sara, M., & Andrew, J. N. (2007). *Atlas of Pediatric Physical Diagnosis*. China, Elsevier. <https://shop.elsevier.com/books/zitelli-and-davis-atlas-of-pediatric-physical-diagnosis/mcintire/978-0-323-77788-9>
- Bassey, M. (1999). *Case Study Research in Educational Settings*. Philadelphia: Open University Press.
- Berg, P., Becker, T., Martian, A., Danielle, P. K., & Wingen, J. (2012). Motor Control Outcomes Following Nintendo Wii Use by a Child With Down Syndrome. *Pediatric Physical Therapy*, 24(1), 78-84. <https://doi.org/10.1097/PEP.0b013e31823e05e6>
- Biddle, S., & Goudas, M. (1996). Analysis of Children's Physical Activity and Its Association With Adult Encouragement and Social Cognitive Variables. *Journal of School Health*, 66(2), 75-78. <https://doi.org/10.1111/j.1746-1561.1996.tb07914.x>
- Bogdan, R. C., & Biklen, S. K. (2003). *Qualitative Research for Education: An Introduction to Theories and Methods* (4th ed.). New York: Pearson Education.
- Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative Research for Education: An Introduction to Theories and Methods*. Boston: Pearson Education, Inc.
- Calfas, K. J., & Taylor, W. C. (1994). Effects of Physical Activity on Psychological Variables in Adolescents. *Pediatric Exercise Science*, 6(4), 406-423. <https://doi.org/10.1123/pes.6.4.406>
- Çevik, O., & Kabasakal, K. (2013). Examining the Effects of Sports Activities on the Social Adaptation of Disabled Individuals and Their Socialization through Sports. *International Journal of Social and Economic Sciences*, 3(2), 74-83. <https://ijses.org/index.php/ijses/article/view/105>
- Çevrim, H. (2009). *The Place and Importance of Physical Education and Sports Course for the Disabled in the Programme* [Master's Thesis, Firat University, Elazığ]. <https://acikbilim.yok.gov.tr/handle/20.500.12812/404887>

- Çivi, S., Kutlu, R., & Çelik, H. H. (2011). Factors Affecting Depression and Quality of Life in Relatives of Cancer Patients. *Gulhane Medical Journal*, 53(4), 248-253. [https://cms.galenos.com.tr/Uploads/Article\\_33445/GMJ-53-248-En.pdf](https://cms.galenos.com.tr/Uploads/Article_33445/GMJ-53-248-En.pdf)
- Çoban, A. I. ç. (2008). The Importance of the Quality of Life Approach in the Provision of Services for the Disabled. *Beyond the Horizon Science Magazine*, (1), 47-58. <https://dergipark.org.tr/en/pub/uobild/issue/47076/591996>
- Dunn, R., Griggs, S. A., Olson, J., Beasley, M., & Gorman, B. S. (1995). A Meta-Analytic Validation of the Dunn and Dunn Model of Learning-Style Preferences. *The Journal of Educational Research*, 88(6), 353-362. <https://doi.org/10.1080/00220671.1995.9941181>
- Eichstadt, C. B., & Lavay, B. W. (1995). *Physical Activity for Individuals with Mental Retardation Campaign*. Illinois.
- Ekiz, D. (2009). *Scientific Study Methods*. Ankara: Anı Yayıncılık.
- Ersan, K., Baci, G. B., & Tatar, S. T. (2020). Comparison of Life Satisfaction Levels of Physically Disabled Sedentary Individuals and Physically Disabled Individuals Doing Active Sports. *Gaziantep University Journal of Sports Sciences*, 5(2), 154-165. <https://doi.org/10.31680/gaunjss.643966>
- Gür, A. (2001). *The Role of Sporting Activities in the Adaptation Process of Disabled People to Social Life*. Ankara.
- İlhan, E. L., Kırmoğlu, H., & Cokluk, G. F. (2013). The Effect of Special Physical Education and Sports Program on the Quality of Life of the Children With Mental Retardation. *Journal of Physical Education and Sports Sciences*, 7(1), 1-8. <https://dergipark.org.tr/en/pub/bsd/issue/53538/713018>
- İlhan, L. (2008). The Effect of Physical Education and Sports on Socialization Levels in Educable Mentally Disabled Children. *Kastamonu Education Magazine*, 16(1), 315-324. <https://dergipark.org.tr/en/pub/kefdergi/issue/49101/626554>
- Karakoç, B. (2015). *Effects of a Twelve-Week Physical Activity Program on Educable Mentally Disabled People and Their Families* [Doctoral Thesis, Dumlupınar University Institute of Health Sciences, Kütahya]. <https://acikbilim.yok.gov.tr/handle/20.500.12812/611891>
- Koç, B. (2012). *Investigation of the Effects of Basketball Training on the Technical, Physical and Biomotor Development of Trainable Mentally Disabled Individuals* [Master's thesis, Health Sciences Institute]. <https://acikbilim.yok.gov.tr/handle/20.500.12812/270378>
- Kumcağiz, H., & Çayır, G. A. (2018). Opinions on the Impact of Sports on the Quality of Life of Physically Disabled Individuals. *Inönü University Faculty of Education Journal*, 19(3), 654-669. <https://doi.org/10.17679/inuefd.422597>
- Last, B. F., & Grootenhuis, M. A. (1998). Emotions, Coping and the Need for Support in Families of Children With Cancer: A Model for Psychosocial Care. *Patient Education and Counseling*, 33(2), 169-179. [https://doi.org/10.1016/S0738-3991\(97\)00077-3](https://doi.org/10.1016/S0738-3991(97)00077-3)
- Mahy, J., Shields, N., Taylor, N. F., & Dodd, K. J. (2010). Identifying Facilitators and Barriers to Physical Activity for Adults with Down Syndrome. *Journal of Intellectual Disability Research*, 54(9), 795-805. <https://doi.org/10.1111/j.1365-2788.2010.01308.x>
- Maykut, P., & Morehouse, R. (1994). *Beginning Qualitative Research: A Philosophic and Practical Guide*. London: The Falmer Press.
- Meneer, K. (2007). Parents' Perceptions of Health and Physical Activity Needs of Children With Down Syndrome. *Down Syndrome Research and Practice*, 12(1), 60-68. <https://doi.org/10.3104/reports.1996>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis* (2nd ed.). United Kingdom: Sage Publication.
- Montignac, M. (1997). *Special for Women. (Trans. Guimbretre)* (1st ed.). İstanbul: Güncel Yayıncılık.
- Özgüven, İ. E. (2004). *Principles and Techniques of Interview*. Ankara: Pegem Yayınları.
- Öztabak, M. Ü. (2017). Examining the Life Expectations of Disabled Individuals. *FSM Scientific Research Journal of Humanities and Social Sciences*, (9), 355-375. <https://doi.org/10.16947/fsmia.323388>
- Patton, M. Q. (2014). *Qualitative Research and Evaluation Methods. (M. Tüm & S. B. Demir, Trans.)*. Pegem Akademi: Ankara.
- Punch, K. F. (2005). *Introduction To Social Research: Quantitative and Qualitative Approaches*. London: Sage.
- Rippe, J. M., Ward, A., Porcari, J. P., & Freedson, P. S. (1988). Walking for Health and Fitness. *Jama*, 259(18), 2720-2724. <https://doi.org/10.1001/jama.1988.03720180046031>
- Şenlik, M. K., & Atılğan, E. (2019). The Effect of Regular Exercise Program on Motor Skills in Mildly Mentally Retarded Adolescents. *Journal of Exercise Therapy and Rehabilitation*, 6(3), 140-148. <https://dergipark.org.tr/en/pub/jetr/issue/51781/435983>
- Şipoş, R., Predescu, E., Mureşan, G., & Iftene, F. (2012). The Evaluation of Family Quality of Life of Children With Autism Spectrum Disorder and Attention Deficit Hyperactive Disorder. *Applied Medical Informatics*, 30(1), 1-8. <https://ami.info.umfcluj.ro/index.php/ami/article/view/365>

- Sukan, H. D. (2013). *The Effect of Physical Activity on the Socialization of Mentally Disabled Children* [Master's thesis, Muğla Sıtkı Koçman University Health Sciences Institute, Muğla]. <https://acikbilim.yok.gov.tr/handle/20.500.12812/222745>
- Wakimizu, R., Yamaguchi, K., Fujioka, H., Numaguchi, C., Nishigaki, K., Sato, N., Kishino, M., Ozawa, H., & Iwasaki, N. (2016). Assessment of Quality of Life, Family Function and Family Empowerment for Families Who Provide Home Care for a Child With Severe Motor and Intellectual Disabilities in Japan. *Health*, 8(4), 304-317. <https://doi.org/10.4236/health.2016.84032>
- Wee, H. L., Wu, Y., Thumboo, J., Lee, J., & Tai, E. S. (2010). Association of Body Mass Index With Short-Form 36 Physical and Mental Component Summary Scores in a Multiethnic Asian Population. *International Journal of Obesity*, 34(6), 1034-1043. <https://doi.org/10.1038/ijo.2010.24>
- Wiedeman, H. R., & Kunze, J. (1997). *Clinical Syndromes* (3rd ed.). London: Mirror International Publisher Limited.
- Yaman, Ç. (2005). *Sports for the Disabled: Lecture Notes*. Sakarya University School of Physical Education and Sports Publications, Sakarya.
- Yavaş, İ., Söhmen, G., & Söhmen, T. (1994). Evaluation of the Mental Status of Parents of Children With Chronic and Terminal Illnesses. *Journal of Child and Youth Mental Health*, 1(2), 96-103. <https://psikiyatridizini.net/viewarticle.aspx?articleid=507>
- Yildiran, I. b. m. (1992). Historical Dimensions of the Concept of Fair Play in Sports. In *Hacettepe University Sports Sciences 2nd National Congress Proceedings, Publication No: 3*.
- Yıldırım, A., & Şimşek, H. (2011). *Qualitative Methods in Social Sciences* (8th ed.). Ankara: Seçkin Yayınları.
- Yılmaz, A. (2018). Parent Expectations Towards Participation to Extracurricular Sport Activity of High School Students. *Pedagogics, Psychology, Medical-Biological Problems of Physical Training and Sports*, (4), 216-225. <https://doi.org/10.15561/18189172.2018.0408>
- Yin, R. K. (1994). *Case Study Research: Design and Methods* (2nd ed.). Thousand Oaks, CA: Sage.