



RESEARCH ARTICLE

Social and Psychological Effects of Tennis on Disabled Individuals

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Abstract

In a social perspective disability can be identified as a 'disadvantage or limitation of activity' caused by a contemporary social organization that takes little or no account of persons with physical disabilities and excludes them from participation in social activities. This study focuses on the effects of sports, specifically tennis, on disabled individuals. In this respect, the research purposes to examine the social and psychological impacts of tennis on disabled individuals. The phenomenology technique, one of the qualitative research methods, was used in the study. 17 wheelchair tennis players, 10 men and 7 women, who played in the International Wheelchair tennis tournaments held in Antalya between 16 November and 5 December 2023, participated in the research. The data obtained from the interviews were analyzed using the thematic analysis. The data obtained from the study were themed under the umbrella of life routine, social and psychological impact, with the coding made as a result of the interviews. Under the theme of life routine, it was seen that issues such as personal development, sense of accomplishment, getting life in order, holding on to life, accepting disability, and health literacy were emphasized. Socialization, social support, commitment, new friendships, and communication skills stand out as values coded under the social impact theme. Self-confidence, happiness, coping with pressure and stress, controlling emotions, focusing, and feeling valuable are the subheadings of the psychological impact theme. It can be said that sports, namely tennis in this study, positively affect individuals' life routines and social and psychological lives.

Keywords

Disability, Tennis, Social Effect, Psychological Effect

INTRODUCTION

Current definitions and theories of disability can be divided into two broad categories: medical and social. The medical model that dominated thinking about disability for much of the twentieth century, especially in Western societies, adopted definitions and perceptions that suggested that disability was an impairment or other "defect" that an individual had that resulted in loss. In this view, disability has traditionally been mainly conceptualized individually or medically (Barnes, 1997). The tendency to define disability primarily through medical means has helped to stigmatize disabled people as having 'undesirable differences' from non-disabled people and to create labels that portray disabled people as 'deviant' and 'abnormal'

(Goffman, 1963). Therefore, the assumption about the medical definition and explanation of disability and the policies and professional services it informs is that disabled people must be 'physically whole' or 'normal' to be able to adapt to a predominantly non-disabled environment. One of the most critical problems seen in these definitions is that they focus only on personal limitations, ignoring other personal and social needs of disabled people (Thomas & Smith, 2008). From a medical perspective, disability can be defined as the limitation or loss of physical abilities due to a physical or physiological disorder that occurs in the body from birth or later due to various injuries or diseases (Demir and Aysoy, 2002; Hanson and Hanline, 1990). In light of growing dissatisfaction with the medicalized explanation of disability that

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prevailed in the twentieth century, it began to be widely challenged by various political campaigns led by the disability movement in Europe and North America from the late 1960s onwards. These campaigns have shifted towards greater emphasis on the rights of disabled people to 'live independently'. As a result of these studies, a "social model" movement emerged that focuses on environmental and social barriers that exclude people perceived to be disabled from mainstream society. The social model rejects the view that disability 'results from the presence of a disability'; instead, he sees it as a 'disadvantage or limitation of activity' caused by a contemporary social organization that takes little or no account of persons with physical disabilities and excludes them from participation in social activities (Barnes, 1998). In order to better understand the subject, medical and social definitions of disability need to be examined. More generally, disability can be defined as conditions that can be experienced in a period of life as a part of human life, and that limit the physical, mental, emotional, and social abilities and roles of the individual temporarily or permanently (Emamvirdi et al., 2020). From a social and psychological perspective, it is seen that disabled individuals may be exposed to social discrimination, psychological barriers, and negative attitudes that prevent them from participating in many activities that non-disabled people take for granted and easily participate in (Damanik & Machdum, 2019). In order to get rid of these negative attitudes, there are many activities for disabled individuals to make their lives easier by realizing their potential and increasing their quality of life by enabling them to benefit society (Kumcağız & Avcı Çayır, 2018).

Thanks to sports, one of the most essential activities, disabled individuals become physiologically more robust and can easily integrate into society with sports' social and psychological effects. When it comes to disabled individuals, more emphasis should be placed on quality of life rather than just improving physiological variables. It has been widely proven that a physically active lifestyle is essential for everyone, especially people with disabilities, as it plays a vital role in an individual's health, perception of quality of life, and physical/mental well-being (Kamelska & Mazurek, 2015). It has been observed that adapted sports practices are successful in eliminating the barriers of disability, prejudice, age, gender, and

socioeconomic status because they integrate different types of disabilities and provide an enjoyable environment for social integration (Blauwet & Willick, 2012; Wilhite & Shank, 2009). Sports for disabled people are also included in rehabilitation programs to ensure societal adaptation and reveal a sense of self-sufficiency (Koparan, 2003; Valliant et al., 1985). Numerous health, social, and psychological benefits can be obtained from participation in sports (Ciampolini et al., 2017). Psychological benefits include psychosocial well-being, increased self-confidence, increased happiness, reduced feelings of isolation, and improved mental abilities. At the same time, integration into society, challenging negative perceptions of disability at the individual and social level, development of transferable skills, and perceived personal development can be considered social benefits (Leutar et al., 2017; Richardson et al., 2017; Vaillant et al., 1985). The literature on the psychological recovery of individuals with disabilities typically emphasizes improving the quality of life or satisfaction through social integration (Kreuter et al., 1998). Social integration through sports or physical activities is essential to increase the self-confidence of individuals with disabilities.

Additionally, participation in sports activities can help people overcome pain or sadness and positively affect their acceptance of their disability (Ahn et al., 2014). Acceptance of disability is largely subjective and is associated with positive psychological outcomes such as life satisfaction, self-esteem, and self-perception (Lindowski & Dunn, 1974). Disabled individuals can achieve social integration through different sports branches, and tennis is one of the sports that positively affects disabled individuals physically, socially, and psychologically.

Tennis is considered one of the best sports for overall health and recently published research supports this claim (Sinai, 2024). Wheelchair tennis was invented by Brad Parks in 1976, 102 years after the invention of court tennis in 1874, and took its place in the sports industry as a Paralympic event at the 1988 Seoul Games (Davis, 2011). Individuals with physical disabilities often experience stigma and discrimination, which can lead to impaired social interaction and a lack of self-confidence. However, participation in sports, especially wheelchair tennis, can increase social support and integration for individuals with physical disabilities

(Roux, 2012). Playing tennis can provide various physical benefits for people with disabilities, including balance, mobility, agility, strength, and endurance (Leutar et al., 2017). Additionally, participation in wheelchair tennis improves disabled individuals' self-perception of their physical competence (Hedrick, 1984). In addition to the physical benefits, wheelchair tennis has also been found to have positive social and psychological effects on physically disabled individuals. Wheelchair tennis positively affects the thoughts and feelings of disabled individuals about themselves and society about disabled individuals (Stanescu, 2014).

The idea that sports impact individuals' physical, social, and psychological development is one of the most critical factors in motivating researchers to work in this direction. This study focuses on the effects of sports, specifically tennis, on disabled individuals. In this context, the research aims to examine the social and psychological effects of tennis on disabled individuals. The research has two main hypotheses. These are;

- a) Tennis positively affects the social life of the disabled individual,
- b) Tennis positively affects the psychological life of the disabled individual.

In order to find answers to these hypotheses, participants were asked the following questions to obtain detailed information about their experiences:

Table 1. Demographic Information of participants

Participant Number	Nickname	Gender	Age	Nationality	Tennis Background (Years)
P1	Sandra	Female	22	Portugal	12
P2	Jose	Male	30	Spain	20
P3	Yusuf	Male	42	Turkiye	17
P4	Jurgen	Male	38	Germany	3
P5	Elif	Female	28	Turkiye	2
P6	Beyza	Female	18	Turkiye	3
P7	Houssam	Male	42	Iran	17
P8	Nick	Male	36	Great Britain	16
P9	Marta	Female	25	Chile	13
P10	Sina	Male	53	Iraq	18
P11	Frank	Male	19	South Africa	2
P12	Min Jae	Male	27	China	12
P13	Tomasz	Male	42	Poland	6
P14	Hai	Female	25	China	12
P15	Sarra	Female	24	Marocco	6
P16	John	Male	27	Australia	12
P17	Hadir	Female	28	Iraq	13

- a) How has tennis affected your life in general?
- b) If you were to list the effects of tennis on your life, what main topics would you mention?
- c) What impact has tennis had on these fundamental topics you mentioned?

MATERIALS AND METHODS

Model of the Research

The phenomenology technique, one of the qualitative research methods, was used in the study. Phenomenology explores how people make sense of experience and transform experience into consciousness, individually and as shared meaning. Phenomenological research focuses on what people experience and how they interpret the world (Patton, 2014).

Participants

17 wheelchair tennis players, 10 men and 7 women, who played in the international wheelchair tennis tournaments held in Antalya between 16 November and 5 December 2023, participated in the research. Participants were selected using the purposive sampling technique. By purposeful sampling, participants were required to be 18 or older, to have participated in at least 3 national/international tournaments in the last year, and to have been playing wheelchair tennis for at least 2 years. The demographic information of the participants is shown in Table 1.

Ethical Implications

This study followed ethical standards and received approval from the Burdur Mehmet Akif Ersoy University Non-invasive Clinical Research Ethics Committee, dated 05/07/2023 and numbered 2023/405. Participant provided informed consent, with the volunteer form covering research details, risks, benefits, confidentiality, and participant rights. The research strictly adhered to the ethical principles of the Declaration of Helsinki, prioritizing participant's rights and well-being in design, procedures, and confidentiality measures.

At the beginning of the interview, it was clearly stated to the participants that the interviews would be recorded. Each participant was guaranteed that personal data would be protected during the research process. It was clearly stated to the participants that they had the right not to answer any questions or to end the interview whenever they wanted. At the end of the interviews, all participants were asked if they had anything to add. After obtaining the consent of the participants, all interviews were recorded with a voice recorder.

Data Collection Tools

Data were obtained through semi-structured interviews. The interviews were held in a particular room set up for research at the tournament venue, and 25-30-minute sessions were held with the athletes. Pseudonyms were given to the players to protect personal information, but actual data on the players' nationalities were used to demonstrate the international diversity of the study. The interviews were conducted personally by the researcher. Before the research, the researcher explained the

purpose of the research to the participants, requested voluntary consent to participate in the research, and informed the participants about the anonymity and confidentiality of the information shared.

Statistical Analysis

The data obtained from the interviews were analyzed using the thematic analysis method defined by Smith (2016). Thematic analysis is a method used to identify, analyze, and report patterns (themes) in data. It allows for the organization of the data set at the smallest size and the description of it in depth. However, thematic analysis not only remains at this dimension but often goes one step further and makes sense of many dimensions of the research subject (Boyatzis, 1998). According to this method, the first step in processing the data is the organization of the empirical material by marking sentences and sentence parts that are important related to the above research questions, which is done to identify the so-called first-order codes. Then, the related terms are combined into categories, and each first-order code is associated with the second-order related term. The last step is to assign relevant terms to categories and then analyze them (Smith, 2016).

RESULTS

In this section of the study, the findings obtained from the interviews were analyzed using the thematic analysis method, and the themes were coded according to the participants' thoughts.

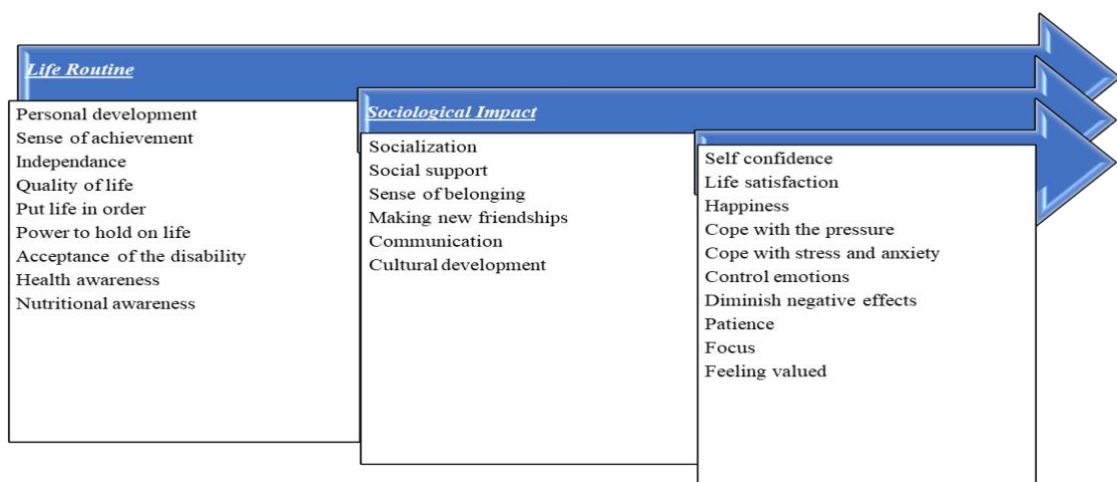


Figure 1. Thematic map

Life Routine**Table 2.** Distribution of life routine theme according to codes

		N	PD	SA	GLO	HL	AD	HL	I	QL	HA	NA
Gender	Female	7	5	6	7	7	5	5	6	7	6	6
	Male	10	7	7	10	10	6	5	9	10	8	9
	Total	17	12	13	17	17	11	10	15	17	14	15
Age	18-27 years	8	5	5	8	8	5	6	7	8	6	7
	28-37 years	4	3	4	4	4	3	1	4	4	4	3
	38 years and above	5	4	4	5	5	3	3	4	5	4	5
	Total	17	12	13	17	17	11	10	15	17	14	15
Tennis Background	1-6 years	6	4	6	6	6	4	3	6	6	5	5
	7-12 years	3	2	1	3	3	1	2	3	3	2	3
	13 years and above	8	6	6	8	8	6	5	6	8	7	7
	Total	17	12	13	17	17	11	10	15	17	14	15

PD: Personal development, SA: Sense of accomplishment, GLO: Getting life in order, HL: Holding on life, AD: Accepting disability, HL: Health Literacy, I: Independence, QL: Quality of life, HA: Health awareness, NA: Nutritional awareness

When the interviews were analyzed, under the theme of life routine, it was seen that issues such as getting life in order, holding on life and quality of life were emphasized. All the participants mentioned about these three codes at the interviews. One of the most attention-grabbing results here is that although 50% of male participants mentioned the issue of health literacy, this rate was 71% among female participants. Another important result is that individuals who have been playing tennis for a shorter period of time mention many of the codes mentioned under this theme.

Even though I was introduced to tennis very late, I believe that it brought a specific discipline and order to my life. I get much pleasure from playing tennis. I think tennis has a very important place in my life for personal development (Yusuf).

When you are a disabled person, it mostly means you depend on someone to live, but with tennis, I feel independent. Because of the physical strength I gained from tennis, I can do many tasks on my own; I can socialize with people much more easily, and I feel psychologically comfortable (Jose). When I started tennis 12 years ago, I was timid. I did not speak much with the other people. I did not feel well because I was in a wheelchair; I was the only girl in my town with a wheelchair. Tennis helped me to accept my disability and to grow my personality and my confidence (Sandra). I can say that my quality of life has improved. Tennis put my life in order. Times for breakfast, dinner, times for sleep, times for practice (Min Jae).

First, I started playing tennis to be more of a social person. My main goal in starting tennis was to socialize with the people around me. Tennis has become a part of my life as I have developed socially and achieved various successes (Nick). After I started playing tennis. Tennis has significantly increased my quality of life by making me physically stronger, giving me a more socially active personality, and improving my self-confidence (John).

Sociological Impact

Socialization, social support, sense of belonging, making new friendships, communication skills and cultural development stand out as values coded under the sociological impact theme. The most remarkable code under this theme is making new friendships, which all participants mentioned. The issue of communication, mentioned by 16 of the 17 participants, stands out as another striking topic.

I was not integrated into the school when I was in a wheelchair. Tennis helped me to socialize easily with other people because, in tennis, everyone is in a wheelchair, so in the beginning, I did not feel strange when I was talking to the other wheelchair players (Marta).

While traveling around, you get to know people, you feel friends, and you become a part of a team or a group. I think tennis is an excellent tool for socializing (Beyza).

It is very important to feel part of society. When I first became disabled due to an accident, I isolated myself from society, but with tennis, I

became able to establish relationships more easily with the people around me. Of course, it would not have been possible for me to achieve this without the support of the people around me, but thanks to

tennis, I think this support has become meaningful (Tomasz). Thanks to tennis, I enjoy being with people from different cultures and getting to know different people (Frank).

Table 3. Distribution of sociological impact theme according to codes

		N	S	SS	SB	MNF	C	CD
Gender	Female	7	7	5	6	7	7	4
	Male	10	8	7	8	10	9	6
	Total	17	15	12	14	17	16	10
Age	18-27 years	8	7	6	6	8	7	4
	28-37 years	4	4	2	4	4	4	3
	38 years and above	5	4	4	4	5	5	3
	Total	17	15	12	14	17	16	10
Tennis Background	1-6 years	6	5	5	3	6	6	5
	7-12 years	3	2	2	3	3	3	1
	13 years and above	8	8	5	8	8	7	4
	Total	17	15	12	14	17	16	10

S: Socialization, SS: Social support, SB: Sense of belonging, MNF: Making new friendship, C: Communication, CD: Cultural development

Psychological Impact

Table 3. Distribution of psychological impact theme according to codes

		N	SC	LS	H	CP	CSA	CE	DNE	P	F	FV
Gender	Female	7	7	6	7	6	6	7	6	7	7	7
	Male	10	10	9	10	8	8	10	8	8	10	10
	Total	17	17	15	17	14	14	17	14	15	17	17
Age	18-27 years	8	8	7	8	6	7	8	6	7	8	8
	28-37 years	4	4	4	4	4	3	4	4	4	4	4
	38 years and above	5	5	4	5	4	4	5	4	4	5	5
	Total	17	17	15	17	14	14	17	14	15	17	17
Tennis Background	1-6 years	6	6	5	6	5	5	6	4	6	6	6
	7-12 years	3	3	2	3	3	2	3	3	2	3	3
	13 years and above	8	8	8	8	6	7	8	7	7	8	8
	Total	17	17	15	17	14	14	17	14	15	17	17

SC: Self confidence, LS: Life satisfaction, H: Happiness, CP: Cope with pressure, CSA: Cope with stress and anxiety, CE: Control emotions, DNE: Diminish negative effects, P: Patience, F: Focus, FV: Feeling valued

When the theme of psychological impact is analyzed, it is seen that the titles self-confidence, happiness, control emotions, focus and feeling valued come to the fore. All athletes participating in the research mentioned the mentioned codes.

When I started tennis 12 years ago, I was very shy. I did not speak much with the other people. I did not feel well because I was in a wheelchair; I

was the only girl in my town with a wheelchair. Tennis helped me to accept my disability and to grow my personality and my confidence. Before tennis, it was impossible to make an interview like now. When I had presentations in class, I could not do it, but now I can speak with confidence. I feel like an average person, just like anyone else. I am not

thinking much about it now that I am in a wheelchair. (Sandra).

Playing tennis diminishes the adverse effects of stress; I have learned how to cope with stress. One of the most essential things about playing tennis is that I enjoy life a lot (Sina). One of the most important things I learned in tennis is patience. It is a versatile branch that increases focus and gives physical and mental strength. It is perfect for both my soul and my body. I feel happier when I play tennis (Sarrah). Tennis is, for me, the way where I am getting to know myself better. I can discover my strengths and weaknesses more efficiently, thanks to tennis. Tennis is the mirror of my life. Thanks to tennis, I can easily see what kind of person I am. How people see me, how they evaluate me, or, more clearly, whether they look at me with pity does not interest me anymore. Tennis made it clear to me, such as seeing my potential or making me feel valued, what people around me could not do before tennis (Houssam).

DISCUSSION

The data obtained from the study were themed under the umbrella of life routine, social and psychological impact, with the coding made as a result of the interviews.

The fact that those who have been playing tennis for a shorter period of time touched on most of the issues under the theme of life routine can be interpreted as tennis being effective in putting the lives of disabled individuals in order in the beginning years. Under the theme of life routine, 11 participants stated that their quality of life increased thanks to tennis and that tennis has a significant place in their lives. In parallel with this result of the research, (Ciampolini et al., 2017; Çokluk et al., 2011; Diaz et al., 2019) also stated that sports positively affects the quality of life of disabled individuals. Another important sub-theme under the theme of life routine is the acceptance of disability, mentioned by 10 participants. The finding that being able to accept disability and live with it has a positive relationship with a person's quality of life (Ahn et al., 2021) supports the research results. The feeling of being able to live without being dependent on others is one of the most emphasized sub-themes within the theme of life routine. In the literature, some studies show that disabled athletes improve their ability to live independently thanks to sports (Murphy & Carbona, 2008; O'Connell, 2000).

It is seen that concepts such as socialization, social support, a sense of belonging, and making new friendships, which are coded under the sociological impact theme, are frequently used in defining social capital (Lee et al., 2013; Lawson, 2005; Putnam, 1995; Coleman, 1994). The main goal of the concept is to know the individual in the light of social connections (Aydemir, 2011). When it comes to sociological impact, one of the first concepts that comes to mind is the concept of socialization. All 17 participants in the study stated that they met many different people thanks to tennis and socialized with people much more quickly than before. In studies examining the effects of sports on the socialization of individuals (disabled/non-disabled), it has been seen that sports have a very important place in minimizing the obstacles between individuals and helping them integrate (Salkim et al., 2023; Güven et al., 2019; Arsic et al., 2012; Ruddell & Shinew, 2006). One of the most essential codes under the social impact theme is the participants' discourses about their communication skills. The fact that 95% of the participants (16 out of 17) mentioned the positive effect of tennis on communication skills can be interpreted as this sport has a very important place in the integration of disabled individuals with society. The athletes participating in the study stated that thanks to sports (tennis), there was a visible improvement in their communication skills; they had difficulty communicating with the outside world, especially after becoming a disabled individual, but with tennis, they felt much more comfortable in terms of communicating first with disabled individuals like themselves and then with non-disabled individuals. When the literature was examined, it was seen that studies were showing that sports had a positive effect on the communication skills of disabled individuals (Mohamed Tohamy, 2018; Duman & Sukan, 2014; Çavdar, 2011; Şenel, 2009).

The results obtained from the analysis showed that tennis affects disabled individuals most in the psychological field. All participants mentioned 5 of the 10 items coded under the theme of psychological domain, which shows that tennis affects disabled individuals much more than other domains mentioned in the study. It was observed that self-confidence, coping with pressure, and coping with problems by controlling emotions came to the fore. The results of the study are parallel to the results of Kumcağız and Avcı Çayır (2018) that disabled individuals cope with their problems and

live life in a more meaningful way thanks to sports. Life satisfaction was observed as another subtheme of the psychological impact theme. The study findings of Kamelska and Mazurek (2015), who associate the meaningfulness of life and life satisfaction with moderate physical activity, are parallel to the study.

Conclusion

As a result, it can be said that sports, namely tennis in this study, positively affect individuals' life routines and social and psychological lives. According to the results of the study, it can be easily said tennis affects disabled individuals more psychologically domain than the other domains. Therefore, it should be taken into consideration that sports play an important role in reintegrating disabled individuals into life, integrating them into society and helping them live a happier life.

Conflict of Interest

No potential conflict of interest has been declared regarding this article.

Ethical Considerations

The study adhered to the guidelines outlined in the Helsinki Convention and conducted after receiving ethical approval from Burdur Mehmet Akif Ersoy University Non-invasive Clinical Research Ethics Committee, dated 05/07/2023 and numbered 2023/405.

Author Contributions

Study design, SS; Data Collection, SS; Statistical Analysis, SS; Manuscript preparation, SS; Literature review, SS. The author have read and agreed to the published version of the Manuscript.

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