

# The Psychosocial Impact of Wheelchair Tennis on Participants from Developing Countries

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## Abstract

**Purpose:** Individuals with physical disabilities in developing countries can experience many instances of psychosocial hardship. Although scholars have suggested participation in sport can positively impact psychosocial well-being, few studies have explored this phenomenon within the disabled population of developing nations. **Methods:** Sixteen wheelchair tennis players were recruited across six developing countries and interviewed about their psychosocial well-being. Data was collected using semi-structured interviews, transcribed verbatim and subject to a thematic analysis. **Results:** Wheelchair tennis players perceived their participation in sport enhanced their psychosocial well-being. Three broad terms emerged from analysis of the interviews; 1) developed transferrable skills, 2) perceived personal growth and 3) benefits of an athletic identity. **Conclusions:** Sports participation, in this case wheelchair tennis, may be a viable means to promote psychosocial well-being in disabled populations within developing nations. Sport also holds the potential to challenge negative perceptions of disability at an individual and societal level within these cultures.

## **Introduction**

Individuals with physical disabilities can experience considerable psychological and social hardship. Psychologically, this includes trauma [1], increased feelings of depression and anxiety [2], increased occurrence of suicidal thoughts [3] and low self-esteem [4]. Socially, individuals have reported increased feelings of isolation and ostracism from society [5] and impaired relationships with friends and family [6].

Studies have shown that participating in wheelchair sport can alleviate or minimize these psychosocial concerns. Psychologically, this includes higher levels of self-esteem and life satisfaction [7], empowerment [8], confidence [9], positive mood [10], perceived mastery [11], perceived competence and self-identity [12] and lower levels of anxiety [13]. Socially, participating in wheelchair sports reduced isolation and increased number of friends [14], improved personal relationships with friends and family [15], and enhanced social skills and well-being [16].

Critically, these studies have focused on disabled participants within western cultures at the expense of participants from developing nations. Given the disability experience can be very different from culture to culture [17], it is necessary to study whether the benefits associated with participation in sport are applicable across divergent cultural groups.

## **Disability in Developing Countries**

The World Health Organization (WHO) estimates that the majority of the world's disabled populations reside in developing countries [18]. This increased disability prevalence can be attributed to a higher incidence of multi-dimensional poverty [19]. Further, it is argued that the psychosocial difficulties associated with physical disability are accentuated in developing nations [20]. Specifically, they postulate people with disabilities are more likely

to experience lower rates of education and employment, higher medical expenses, malnourishment, disease and poor living leading to a poorer quality of life compared to individuals who are not disabled.

This population may also face cultural difficulties. In some countries, the occurrence of a disability is explained as a punishment from a 'God' which can result in isolation, prejudice and lack of care [21]. Negative attitudes towards disability can also be attributed to the perception that able bodied is 'right'. Those who are disabled can be ostracized for not adhering to this cultural norm [22]. They are perceived to be unable to fulfil societal roles such as work, support a family and raise children, thereby being a burden on one's family and unable to contribute to society [23]. The reviewed literature illustrates this population is a unique one who experience specific psychosocial challenges. As individuals in western cultures have benefited from participating in sport, this may be a viable means to enhance psychosocial well-being in this population.

### **Psychosocial Impact of Wheelchair Sport in Developing Countries**

There are noticeably fewer studies investigating the impact of sport on individuals from developing countries. Studies that have investigated this have offered positive results. Kay, Dudfield and Kay [24] reported people with a disability who took part in sport had increased number of friends, greater feelings of empowerment, physical fitness, skill development and leadership skills as a result. Forber-Pratt, Scott and Driscoll [20] also concluded that disability sport can be a tool for social change through challenging such issues as isolation and inequality, especially in countries where disability is stigmatized. This is illustrated in Roux's [25] study which concluded participating in wheelchair sport enhanced social support and integration, empowerment and self-esteem. This highlights that wheelchair

sport has the potential to enhance psychosocial well-being and also challenge negative cultural perceptions of disability.

Critically, these studies have focused exclusively on elite level players. Those who participate at recreational or development level have been neglected. Moreover, little is known about the meanings behind participating in sport in the context of living with a disability. The purpose of this paper is to address these gaps in the literature by qualitatively investigating how and why sports participation impacts psychosocial well-being. Specifically, what psychosocial impact does participating in sport have on an individual level? What are the meanings behind participating in sport? And what impact might participating in sport have, if any, in challenging cultural perceptions of disability?

## **Methods**

### **Philosophical Underpinnings and Design**

The research design was underpinned by a relativist ontology and a constructionist epistemology, thereby located within an interpretivist paradigm. Our ontological and epistemological assumptions actively inform our choice of methodology [26]. For this study, semi structured interviews were used and analyzed through a thematic analysis. These methods were chosen as we endeavoured to investigate first hand, individual perspectives and the participant's experiences playing wheelchair tennis. This is an area under-researched in literature, thus interviews allowed participants freedom to discuss these individual experiences and also permitted unexpected phenomena to arise. Thematic analysis allowed us to determine common themes throughout the data, providing a comprehensive overview as to why wheelchair of tennis impacted participants' psychosocial well-being.

### **Participants**

A total of sixteen (fourteen male) participants were interviewed from three continents; Europe, Asia, and Africa. Six Turks, three Romanians, two Yemenis, two Iranians, two South Africans and one Moroccan made up the sample. Fourteen players had acquired their disability; six through an accident resulting in paralysis or amputation and eight through illness. The mean age of players was 29 years (age range 18-40) and mean years of sporting experience was five years (range 1-15).

Playing level ranged from elite to development. Eight players were at development level, five were at national level and three were elite. Development level was assigned as a player who had less than two years playing experience and/or had competed in few national tournaments. National players had experience competing in national tournaments but had a relatively low world ranking. Elite level players had competed at Paralympics or Grand Slam tournaments.

### **Data Collection**

Ethical approval was granted by the University Ethics Committee before data collection commenced. Informed consent was given by each participant in written form. All interviews were carried out by the first and second authors who conducted ten and six interviews respectively. The sixteen participants were interviewed at two development tournaments; one in a developing country and one in the UK.

A question guide for participants was designed before the interview process began. Interview lengths varied with a range of 20 minutes to 70 minutes. Semi-structured interviews allowed us to focus on areas of interest regarding participant's experiences of wheelchair tennis but also allowed them freedom to direct the conversation to areas they felt important. These questions included "Can tell me about your experiences playing tennis?" "What do other people think of you playing tennis?" How has playing tennis impacted your

life?” Elaboration and clarification probes were also used to elicit more information and ensure understanding. This method also gave participants and interviewers make meaning out of experiences as well as discuss unexpected phenomena which would not otherwise have been covered [26].

## **Data Analysis**

To ensure analysis was conducted rigorously, we followed the six-phase guide of Braun and Clarke [27]. First, the first author immersed herself in the data through the conducting and transcribing (verbatim) of interviews. Each participant was assigned a pseudonym to conceal their identity.

In phase two, we applied codes to the data highlighting potential areas of interest, generating a list of initial ideas for each participant. A code is a segment of data which appears interesting to the researcher and has the potential to generate a theme. It is highlighted through a worded description or a different colour to identify what is of interest and why. For example, “It’s friendship. If I owe anything, if I owe anything to this chair, it’s I thank my chair because it’s the friendship” was coded as ‘friendship increased through wheelchair tennis.’ The third phase was searching for themes. After codes were applied throughout all transcripts a list was generated for each participant. This list of codes was then sorted and collated into potential themes. Similar codes were placed in the same group and from this a theme name assigned. In the fourth stage, these themes were reviewed to determine if they were too diverse, not sufficiently supported, could combine with a similar group or divided into more specific themes. The fifth phase consisted of naming a theme in a way that explained its data content and also identified if subthemes exist within another theme. The final phase of this analysis was producing the report which will be presented in

the following section. Some participants spoke broken English, to ensure the data remains authentic, the players exact words are presented rather than changing to correct English.

## **Results**

Through thematic analysis three superordinate themes were identified; developed transferable skills, perceived personal growth and benefits of an athletic identity.

### **Developed Transferable Skills**

Participants noted that psychological and physical skills required to play wheelchair tennis were transferrable between the tennis court and daily life. In particular, emphasis was placed on self-confidence, resilience and physical function.

#### **Self-confidence**

Players noted how participation in wheelchair tennis gave them confidence which then transferred to everyday life:

Wheelchair tennis changed their life, only changed their life. But they going in the sports life, important in life but don't think everything in sports life because sports life is social life and their behaviours and they think "oh I can make wheelchair tennis, in sports why not the other ones?" In sports I know that I can do in life, I think is everything. (Salim, Turkish player).

Self-confidence relates to an individuals assurance of their personal judgment, ability and power [28]. Previous research in western cultures has reported participating in wheelchair sport increases individuals self-confidence [9]. This study has replicated this finding in populations from developing countries. Tellingly, enhanced self-confidence was perceived to be a positive impact by participants from all countries, illustrating that this



finding may be applied cross culturally. Moreover, participants discussed that this self-confidence could then be transferred to their everyday life. Participants in developing countries can experience social stigma and ostracism, negatively impacting their self-confidence [22, 23]. Through the transferability of this construct, it can be tentatively concluded that participants overall confidence was positively impacted.

### **Resilience**

Players also highlighted that participating in wheelchair tennis enhanced their resilience, which again transferred to life off the court:

No matter what the conditions, no matter what the what we have in our lives we're the same on the court and we can show we're equal on the court no matter what our differences are, the things that might be lacking in life, on the court everyone is equal... You gain the experience on the tennis court that you need to gain in life... if you can overcome the difficulties and the hardships that you experience in playing wheelchair tennis that transfers back to enable you to overcome and to cope with the difficulties and the hardships in life (Mansoor, Iranian player).

Resilience is an individual's ability to adapt to stress and adversity [29]. Literature has previously discussed the psychosocial hardships that many individuals experience such as isolation and ostracism [5], depression and anxiety [2] and social prejudice [21]. Participants therefore require a high level of resilience to overcome these hardships. Overcoming challenging experiences while playing tennis allowed participants to develop this resilience which they could then apply to their everyday lives.

### **Physical Function**

Players also highlighted how participating in wheelchair tennis improved their physical function:

I'm really strong and fit now...I can do everything myself. I don't need anyone. I can sit in this chair, get in my bed and go to my university...I don't need my mum to take me. I can do everything now (Jasmine, Turkish player).

Studies investigating the effect of sport in the Western Hemisphere found physical fitness and mobility skills were enhanced [15]. For this population, having potentially grown up with the cultural narrative of disability associated with weakness and invalidity [30], this is an important impact not only for physical well-being but psychological well-being as well. Jasmine's enhanced physical fitness was transferred to other life domains (e.g. education), and allowed her to be independent and autonomous in her own life. These transferrable impacts are an important finding in this study as they highlight the potential benefits of developing psychological and physical skills to enhance quality of life.

### **Personal Growth**

Personal growth includes activities that improve awareness and identity, develop talents and potential, build human capital and enhance quality of life [31]. Players discussed various examples of personal growth they had experienced through playing wheelchair tennis. Becoming more accustomed to disability, perception of enhanced abilities, life experiences and increased number of friends were all mentioned as important aspects of personal growth.

#### **Accustomed to Disability**

Players with acquired disabilities discussed how participating in wheelchair sport helped them accept and become more accustomed to their disability:

For a person who has become newly disabled, participating in sports I think helps them become accustomed to their condition of being disabled and also helps them to be more than just integrated in society better; sports has that effect... it really is more difficult for them to integrate into society because they went from somebody who is walking to somebody who is not walking and that's why sports is a necessity... For those who were born with disabilities, born with their disabilities they had to grow up their whole lives learning how to deal with their disability themselves but when somebody becomes disabled afterwards and they don't have that learning experience. Here they are dependent on other people to teach them how to adjust and that's really different. For the people who become disabled later it really, psychologically it's really different; many times their psychology is really messed up...that's why sport is so important (Raquel, Turkish player)

Acquiring a disability can cause psychological trauma [1], depression and anxiety [2] and feelings of being isolated from society [5]. Raquel describes both psychological and social benefits from participating in wheelchair tennis in regards to accepting and getting used to their new identity as someone with a disability well as being able to integrate in society. Previous studies in western cultures have also highlighted how sport has been used successful in enhancing psychosocial well-being of individuals with acquired disabilities [9]. By replicating this finding with participants from developing countries, we have illustrated that the positive psychosocial benefits associated with sport and rehabilitation may also be applied across different cultures. This is an important finding in regards to future practices of rehabilitation in developing countries.

### **Perception of Enhanced Abilities**

Players also discussed how they felt they could do more and be more than they had previously believed:

I start to travel a lot...I thought oh my God 2 years or 5 years ago I have stayed in hospital 7 months, how does this happen?...now I go airplanes alone and now I represent my country... I like to live my life very good and many, many, many times I forgot that I have one disability.” (Dimitri, Romanian player)

Moreover, players also discussed how playing wheelchair tennis allowed them not only to be ‘normal’ but also allow them to do something better than someone without a disability:

When I was a little boy of course you can see that I’m disabled, I was a disabled little boy and we would watch tennis on television...I always wanted to play tennis but I was a disabled little boy... I don’t know if I can express enough what it was like for me being a kid. Wheelchair tennis gave me strength, and here’s how it did. When I was a kid all the other kids were playing football, all the other kids were playing all the other sports and here was I with my hip and with my leg...I watched...and then when I played tennis I could play tennis better than they could. Wheelchair tennis made me strong, it gave me strength both ways. (Ahman, Iranian player).

The ability to perform a skill better than other people, especially people without a disability, was perceived to enhance self-esteem:

It (wheelchair tennis) makes self-esteem and it makes many great things though. With self-esteem, when they play they know they are able to do that, they know able body cannot do it better than them...The problem is the Yemeni disabled is the self-esteem so the Yemenis need help. They need this so bad, they need tennis to help them then

that will bring it up so that when they get back they can be different people.

(Mohammad, Yemini player)

Previously, studies have discussed how participating in wheelchair sports enhanced perceptions of competence [10, 25]. Contextually, individuals in developing countries may have the perception that they are limited in their abilities due to societal stigma and a lack of opportunity to demonstrate otherwise. Through wheelchair tennis, players were able to show skill and athletic strength to a degree that they had more ability than peers without disability. This not only has the potential to enhance an individual's psychosocial well-being but could also begin to challenge social perceptions of disability. Enhanced self-esteem is a conclusion which is well-established in the literature, both in regards to developed and developing countries [16, 25]. In this study we have replicated this conclusion and argue this may be a benefit experienced cross-culturally. Moreover, this study has provided new knowledge in regards to what enhanced abilities means to this population in the context of living with a disability e.g. being perceived as more 'able' than before.

### **Life Experiences**

Players also discussed how participating in wheelchair tennis gave them more life experiences, expanding opportunities to discover different cultures:

It was my first time on a plane. I was 18. It really was something new for me. The plane, the sky, looking at from higher place... I like to discover different cultures, how they live, how they see life, what is different between our food and their food, clothes, something like this... I see that I can travel. It's difficult in Morocco to travel.

(Youssuf, Moroccan player)

Through traveling and meeting people from different cultures, there were also opportunities to share knowledge about treatments and discuss experiences of disability:

Socialize with players, with different people. Talk about medical problems...without money, about government, who you need, who you deserve...This sport makes you to wish more. To wish more, to want to go in different tennis stages or tennis camps with disability people. To live together, to talk...I stayed 10 days here. I cannot talk all the time about tennis. We talk about food, medications, about war or about driving ...about how we live, about everything and it's very, very important. You've got so many information...one good advice...it's more important than any money in the world. (Dimitri, Romanian player)

Previous studies have not included the possibility of enhanced life experiences as impacting psychosocial well-being. Due to potential isolation and ostracism experienced by individuals with disabilities [21, 22] as well as the multi-dimensional poverty which is more prevalent in developing countries [19], travelling and experiencing new cultures is not always considered a possibility. Players inferred that the social aspect of wheelchair tennis is more important than playing as they can discuss different treatments, ways of life and relate to each other. The opportunity to do this not only has the potential to help individuals manage their own disability through becoming more aware of different medical procedures but also build relationships enhancing human capital and, potentially, quality of life.

### **Increased Friends**

Players also stated friendship was an important benefit that came with playing wheelchair tennis:

before the times I am not ok because I think that I didn't walk and that maybe nobody would talk to me...but after tennis we are a team and we improved our social life... you know all the tournament people come to the organization and then I know new people... all of my friends, maybe my best friends. (Kaan, Turkish player)

Previous literature has discussed how friendships are made through participating in wheelchair tennis [12]. This study supports this, adding that friendships developed through sport can be a cross-cultural phenomenon. Moreover, Kaan discusses how his self-perceptions changed through interaction with others and gaining new friendships. This shows how perceptions of disability can be challenged at an individual level through wheelchair sport. The above section has highlighted multiple instances of how participating in wheelchair sport can be used as a means to enhance an individual's psychosocial well-being, however it has also introduced the idea of challenging perceptions of disability. This has primarily been attributed to changing the identity of the individual from someone with a disability to someone who is an athlete.

### **Athletic Identity**

Players stated that through playing wheelchair tennis they were able to identify themselves as an athlete; "a sportsman, it makes you an athlete. People can call themselves athletes; that's a really good thing." (Mohammad, Yemeni player). Athletic identity impacted psychosocial well-being in four ways; challenging cultural attitudes of disability, minimising disability narrative, perceived acceptance in society and fulfilling societal roles.

### **Challenging Cultural Attitudes of Disability**

Players noted how participating in wheelchair tennis challenged long held cultural attitudes of disability:

I had the (negative) mentality of Romanians because I lived among them. But, as time goes I grow up and I realize that I don't have to be ashamed of myself. I am who I am. I have a brain. I can think. So I have a disability, a physical disability, but I can almost do anything everybody else can do (Dimitri, Romanian player).

Individuals with disabilities in developing countries can experience social stigma and negative social perspectives [21] which can result in negative self-perceptions. Participating in wheelchair tennis can challenge these perceptions through reasons mentioned before (e.g. perceived abilities, life experiences).

### **Minimising Disability Narrative**

Related to this, players also discussed how their disability was not solely focused upon when others learnt of their playing wheelchair tennis:

When people see me I walk and I have, it's clear that I have a disability or that I'm my back I'm wearing a tennis racquet, I have a tennis back pack and I have my racquets, so instead of even thinking I'm a wheelchair tennis player they look at me and think I'm an injured able bodied tennis player... They're always shocked. They go "What?! You look like a regular tennis player with and injury" and I go "No, I'm a disabled tennis player, a wheelchair tennis player... The people I work with and the ones from the outside of work, they treat me like Sharapova! (*laughs*). I'm kind of like, to them I'm kind of like a star, like Sharapova. (Raquel, Turkish player).

Previous literature has stated participating in wheelchair sport enhanced self-identity [10]. Here, it could be argued that an identity as an athlete overpowers a disability identity, illustrated through Raquel's peers assuming she was a tennis player first who was injured rather than someone with a disability who played tennis. She also discussed how colleagues



view her in a more favourable light treating her like ‘a star.’ This shows how a disabled narrative (associated with weakness and frailty) can be challenged through an athletic narrative (associated with skill and strength), positively impacting psychosocial well-being and societal perceptions of disability.

### **Perceived Acceptance in Society**

Players also discussed perceptions of feeling more accepted within their society:

When I go home everybody asks oh ‘Kaan wheelchair tennis very good. What did you do? How was your score? How are the other ones? Everybody are friendly of wheelchair tennis but before the times only hide. How are you? Fine, but now very confident. (Kaan, Turkish player)

Players may have experienced isolation, ostracism and social stigma, negatively impacting their psychosocial well-being. Relating to being seen as an athlete, not only can an athlete feel more confident but they may be perceived differently by others (e.g. neighbours), thereby countering negative experiences like isolation. In Kaan’s case, before being seen as a tennis player, he infers that he did not interact with others and perceived he was not accepted as people would “hide”. After, he perceived he was accepted and integrated in his society as people asked him about his wheelchair tennis experiences. This positively impacted his confidence and suggests participating in wheelchair tennis can enhance social integration and acceptance.

### **Fulfilling Societal Roles**

Players also discussed how being seen to play wheelchair tennis challenged perceptions they could not contribute to society:

Like a gift from God wheelchair tennis fell into my life...I got a car, I got a job, I was able to get married. This, my chair, is my life. My wheelchair for tennis is my life.

When my wife, now my wife, saw me play tennis and realized that I was a true athlete, she wanted to marry me ...and now I am a father. (Ahman, Iranian player).

Previous literature has highlighted how individuals with disabilities are perceived to be unable to fulfil their societal roles [23]. Through playing wheelchair tennis, Ahman was able to fulfil this role (being a father, husband and working to support his family). Rather than being perceived as someone with a disability, he was perceived as an athlete and thus able to work and provide for a family. Arguably, this shows how an athletic identity challenged cultural perceptions of disability.

### **Limitations**

This study is not without limitations. Firstly, language barrier was the main difficulty encountered. English was not the first language of participants and although many spoke it very well, some had limited vocabulary. They may felt they were unable to fully express their thoughts and opinions. Second, the interviews were conducted during tournaments, therefore some interviews had to be stopped to accommodate training and match times. Placing exclusion criteria of 16 years was also a limitation as researchers were unable to interview junior players. Although participants from six countries were interviewed, there is a noticeable disparity between the number of men and women interviewed. Culturally, women from these regions are not allowed to travel unaccompanied and must have a male member of their family with them. It is therefore very difficult to interview these women as they cannot travel independently to tournaments and are kept at home. The views and experiences of women with a disability in a developing country are therefore still under-researched.

### **Final Reflections**

It is well established in the literature that there are many psychosocial hardships that individuals may experience as a result of their disability [1-6]. For individuals in developing countries, these hardships may be more pronounced and unique due to cultural understandings and perceptions of disability [19-23]. Although studies involving individuals with disabilities from western cultures suggest participation in disability sport is a psychosocially positive experience, there has been little research regarding the potential benefits for this population in developing nations. This study adds to the literature by identifying important psychological and social benefits to wheelchair sport for a previously unconsidered population; disabled people in developing nations.

This study advances knowledge regarding the psychosocial impact of disability in several ways. First, we show that participating in wheelchair sport can be used as a tool to help people newly disabled integrate back into society and become more accustomed to their disability. Second, we have added to research investigating meanings behind sporting experiences in the context of living with a disability in developing countries. Third, we demonstrate that by identifying as an athlete, negative cultural narratives of disability can be challenged.

Individuals who have acquired their disability need extensive physical and psychological rehabilitation to enable them to live in society [31, 32]. Participants perceived wheelchair sport as a tool for physical and psychological rehabilitation after injury. The development of essential physical and psychological skills, and camaraderie experienced within this sporting context allowed participants to not only become more accustomed to their disability but socially integrate back into society. Rehabilitation practitioners might look into incorporating wheelchair sport into rehabilitation programmes as individuals develop skills (e.g. self-confidence, resilience) in a sporting context which can then be transferred to everyday life.

We have also added to research investigating the meanings behind experiences of sporting participation within the context of living with a disability in a developing country. Culturally, this population may be considered to be weak, a burden, and an invalid [33] or being punished for past sins [22]. This can lead to isolation and ostracism from society as well as poor self-concept if the individual embodies these beliefs. Players discussed the meanings behind multiple positive experiences of participating in sport. Primarily, participating in sport meant they could challenge and question their supposed limitations leading to enhanced psychosocial well-being and quality of life. For example, being able to travel and have new life experiences allowed participants to increase their knowledge of culture and treatments as well as meet other people. Travelling independently also meant individuals could have a higher quality of life and begin to challenge the culturally negative perception of disability they had grown up with. With better knowledge of the meanings behind participating in wheelchair sport within a society which may stigmatize disability, this information may help inform future practices. For example, a practitioner designing an intervention may draw upon the potential for travel and new life experiences to encourage individuals to participate. A different practitioner may use the potential development of transferable skills to encourage someone newly disabled in their rehabilitation. Finally, practitioners or researchers seeking to enhance psychosocial well-being in this population may incorporate sport in the hope of replicating positive psychosocial benefits e.g. self-confidence, self-esteem.

For players, the meanings and identity behind being an athlete were perceived to challenge cultural perceptions of disability. By exhibiting athletic traits such as strength, fitness and skill through wheelchair sport, participants did not adhere to cultural understandings of disability i.e. weak and invalid. By embodying an athletic identity, participants perceived this athletic narrative overpowered a disability narrative which allowed

them to be seen as athletes and gave them opportunities to fulfil societal roles. Practitioners may wish to consider sporting initiatives, drawing upon an athletic narrative, in their aim to enhance psychosocial well-being and also challenge negative cultural perceptions of disability. Furthermore, for anyone aiming to challenge cultural perceptions of disabilities, promoting wheelchair athletes through events, exhibitions and media may bring a positive impact to wider society which has been perceived to happen in a smaller scale in this study.

Although we have discussed many psychosocial benefits of participating in wheelchair sport, there are restrictions which must be acknowledged. Some sports, wheelchair tennis included, require considerable tangible support in regards to equipment, courts and specialised chairs. While the participants in this study have been funded, for some individuals with disabilities in developing countries, they cannot afford such equipment and thus cannot participate. Another limitation is gaining access to participants. As mentioned, this population may experience isolation and ostracism from society thus gaining access to these individuals is very difficult. While there are psychosocial benefits to playing wheelchair tennis, there are issue in regards to sustaining participation due to expense and lack of access. If participants are able to overcome these difficulties, the psychosocial benefits of this sport can be experienced by individuals across various cultures and begin to challenge negative cultural perceptions of disability.

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### References

1. Bishop M. Quality of life and psychosocial adaptation to chronic illness and disability preliminary analysis of a conceptual and theoretical synthesis. *Rehabilitation Counseling Bulletin* 2005;48:219-31.
2. Pollard C, Kennedy P. A longitudinal analysis of emotional impact, coping strategies and post-traumatic psychological growth following spinal cord injury: A 10 year review. *British Journal of Health Psychology* 2007;12:347-62.
3. Kewman DG, Tate DG. Suicide in SCI: A psychological autopsy. *Rehabilitation Psychology* 1998;43:143-51.
4. Manuel JC, Balkrishnan R, Camacho F, Smith BP, Koman LA. Factors associated with self-esteem in pre-adolescents and adolescents with cerebral palsy. *Journal of Adolescent Health* 2003;32:456-8.
5. Barkley JE, Salvery SJ, Roemmich JN. The effect of stimulated ostracism on physical activity behaviour in children. *Pediatrics* 2012;129:659-66.
6. Rintala DH, Young ME, Spencer JC, Bates PS. Family relationships and adaptation to spinal cord injury: A qualitative study. *Rehabilitation Nursing* 1996;21:67-74.
7. Valliant PM, Bezzubik I, Daley L, Marjatte E. Psychological impact of sport on a disabled athlete. *Psychological Reports* 1985;56:923-9.
8. Hutzler Y, Sherrill C. Disability, physical activity, psychological well-being, and empowerment: A life span perspective. In: Lidor R, Bar-Eli M editors. *Sport Psychology: Linking Theory and Practice*. Morgantown: Fitness Information Technology; 1999. P 281-300.

9. Sporer ML, Fitzgerald SG, Dicianno BE, Collins S, Teodoreski PF, Pasquina PF, Cooper RA. Psychosocial impact of participation in the National Veterans Wheelchair Games and Winter Sports Clinic. *Rehabilitation in Practice* 2009;31:410-8.
10. Greenwood CM, Dzewaltowski DA, French A. Self-efficacy and psychological well-being of wheelchair tennis participants and wheelchair non-tennis participants. *Adapted Physical Activity Quarterly* 1990;7:12-21.
11. Campbell E, Jones G. Psychological well-being in wheelchair sport participants and non-participants, *Adapted Physical Activity Quarterly* 1994;11:404-15.
12. Campbell E. Psychological well-being of participants in wheelchair sports: comparison of individuals with congenital and acquired disabilities. *Perceptual and Motor Skills* 1995; 81:563-8.
13. Anderson D. Adolescent girls' involvement in disability sport: Implications for identity development. *Journal of Sport and Social Issues* 2009;33:427-49.
14. Groff DG, Lundberg NR, Zabriskie, RB. Influence of adapted sport on quality of life: perceptions of athletes with cerebral palsy. *Disability and Rehabilitation* 2009;31:318-26.
15. Martin J, Smith K. Friendship quality in youth disability sport: perceptions of a best friend. *Adapted Physical Activity Quarterly* 2002;19:472-82.
16. Fiorilli G, Aquino G, Battaglia, C, Giombia, GC, di Cagno A. Mental health and social participation skills of wheelchair basketball players: A controlled study. *Research and Developmental Disabilities* 2013;34:3679-85.
17. Riddell S, Watson N. *Disability, Culture and Identity*. New York: Routledge. 2003.
18. World Health Organisation. 2011. World report on disability 2013.  
[http://www.who.int/disabilities/world\\_report/2011/report/en/](http://www.who.int/disabilities/world_report/2011/report/en/)

19. Mitra S, Posorac A, Vick B. Disability and poverty in developing countries: A multidimensional study. *World Development* 2013;41:1-18.
20. Forber-Pratt AJ, Scott JA, Driscoll J. An emerging grassroots model for grassroots Paralympic sport development: A comparative case study. *International Journal of Sport and Society* 2013;3:55-67.
21. Millington MJ. Culturally different issues and attitudes towards disability. In: Marini I, Glover-Graf MM, Millington MJ, editors. *Psychological aspects of disability: insider perspectives and counselling strategies*. 1<sup>st</sup> ed. New York: Springer 2011. p 61-69.
22. Livneh H. On the origins of negative attitudes toward people with disabilities. In: Marinelli RP, Dell Orto AE, editors. *The psychological and social impact of physical disability*. 5<sup>th</sup> edition. New York: Springer; 2012. p 181-96.
23. Gomez S. 2006. Guidelines for gender sensitive disaster management: Practical steps to ensure women's' needs are met and women's human rights are respected and protected. Asia Pacific Forum on Woman, Law and Development.  
[http://www.apwld.org/pdf/Gender\\_Sensitive.pdf](http://www.apwld.org/pdf/Gender_Sensitive.pdf). Accessed 2015 Feb 12
24. Kay T, Dudfield O, Kay C. *The Commonwealth guide to advancing development through sport*. London: Commonwealth Secretariat; 2010.
25. Roux CJ. Socialization of elite wheelchair tennis players in South Africa: social psychology of sport and physical activity. *African Journal for Physical Health Education, Recreation and Dance* 2012;18: 929-38.
26. Sparkes AC, Smith B. *Qualitative research methods in sport, exercise and health*. Oxford, UK: Routledge; 2013.
27. Brawn V, Clark V. Using thematic analysis in psychology. *Qualitative Research in Psychology* 2006;3:77-101.



28. Hewitt JP. Oxford Handbook of Positive Psychology. Oxford University Press; 2009. p. 217–24.
29. American Psychological Association [internet]. The Road to Resilience; 2002 Oct – [cited 2015 Feb 10]; Available from: <http://www.apa.org/helpcenter/road-resilience.aspx>.
30. Ingstad B, Whyte SR. Disability and Culture. London, UK: University of California Press; 1995.
31. Braddom RL. Physical Medicine and Rehabilitation. New York: Elsevier and Saunders; 2010.
32. Frank RG, Elliot TR. Handbook of Rehabilitation Psychology. Washington DC, US: American Psychological Association; 2000.
33. Singh P. Impact of the South Asian earthquake on disabled people in the state of Jammu and Kashmir. The Review of Disability Studies: An International Journal 2014;3:3.