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SIGNIFICANCE OF SPORT ACTIVITIES FOR PERSONS WITH DISABILITIES

Abstract

Although there are numerous categorizations and large differences in the specific characteristics between individual categories of disabilities, they all have something in common - barriers that people with disabilities deal with. Social, physical and mental limitations can be reduced or removed through sport, which can significantly improve the quality of life of people with disabilities, as we will try to document in this paper by research findings. Unfortunately, even today, the usual societal attitude about the quality of life of people with disabilities is not focusing on specific social and cultural context affecting disability. Instead, we are still focusing on individual coping strategies and behaviors in response to difficulties arising from biological limitations. Psychology is one of the sciences whose contribution to this topic can be important, especially in providing a framework for evidence-based practice. Simultaneously, promoting this topic can, hopefully, contribute to improving relevant policy.

Keywords: sport, disabilities, quality of life

Significance of sport activities for persons with disabilities

Disability is a multidimensional concept. This specificity is probably one of the main reasons for such numerous definitions and categorizations of disability (Altman, 2001), and probably one of the aggravating factors for disability research. Generally, in most European countries, people with disabilities usually include the

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following subgroups: 1) people with specific learning disabilities, 2) persons with visual impairments, 3) persons with hearing impairments, 4) people with slower cognitive functioning, 5) autistic people, 6) people with neurological and other diseases, 7) people with complex cognitive, emotional and social difficulties, 8) people with multiple difficulties, and 9) people with speech and language disorders (Bjekić et al., 2014; Obradović & Vučetić, 2014). In a similar way, the ways of supporting these people in European countries are defined differently, which is due to differences in legislation and financial resources, but not a fundamentally different view of disability (Obradović et al., 2010). Nowadays, the consideration of disability is mainly related to the social concept and model of research (Smart, 2006). In this sense, the view observation of disability is mainly related to socio-political barriers that prevent persons with disabilities from actively participating in the life of the community. Consequently, the responsibility for the disability barriers lies with society rather than with the individual.

So, there is something what all forms of disability have in common – they have to deal with different types of barriers (physical, psychological and social). This view of disability, for the purpose of this paper, allows us to transcend all those topics on which there is no consensus (such as different definitions and classifications of disability, different characteristics of individual disabilities, different economical-disability issues etc.) and to focus to an effort for removal of barriers of all kinds, with the goal of improving the quality of life of persons with disabilities. We strongly believe that sport can be a significant tool in this attempt. Popularization of the topic through an increasing number of research and discussions on sport and disability can help realize the rights and opportunities related to persons with disabilities, through the process of empowerment and change of social attitude towards disability (DePauw & Gavron, 2005). Also, the promotion of this topic can, hopefully, contribute to improvement of relevant policy.

In this paper we were focused on exploring the following research questions with the aim of providing a framework for future research and evidence-based practice in this field: 1) what is the potential of sporting activities in social participation of people with disability and their quality of life, 2) what are the benefits of sports and exercise for people with disabilities in their physical, psychological and social state, 3) what are the most common barriers to sport participation for people with disabilities and 4) what is a potential role of psychology and its contribution in this field.

Quality of life and sport as a way of social participation of people with disability

The World Health Organization defined quality of life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a wide ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship with

salient features of their environment (World Health Organization, 1997). Sport is a way of social participation, and a social participation is extremely important for the quality of life of every person, with or without a disability (Zikmund, 2003). The term participation has several dimensions: taking part, inclusion, involvement in various life areas, and access to the necessary resources (Moller & Danermark, 2007). The chance for sport participation can help a person to acquire life skills and change attitudes and behavior towards the relevant activity (Nikodelis et al., 2014). But social participation of the people with disabilities is not an easy matter: according to Shattuck et al. (2011) evidence shows that adolescent with disability were significantly more likely never to see friends out of school (43.3%), never to get called by friends (54.4%), and never to be invited to social activities (50.4%) when compared with adolescents from all the other groups. Furthermore, the limited social participation correlates with low family income and having impairments in conversational ability, social communication, and functional cognitive skills. Sport is an activity that can reduce the social isolation of people with disabilities, and simultaneously encourage and help the development of their cognitive and social abilities and competencies. Consequently, the inclusion and the participation of people with disabilities in sports can be crucial for their quality of life.

In this paper, we adopt the view of the UNESCO of sport as “all forms of physical activity that contribute to physical fitness, mental well-being and social interaction, such as play, recreation, organized or competitive sport, and indigenous sports and games” (UN Inter-Agency Task Force on Sport for Development and Peace, 2003, p. 2). Moreover, UNESCO (McLennan & Thompson, 2015) describes *Quality physical education* as not only the entry point for lifelong physical activity, but also as improving health awareness, enhancing civic engagement and contributing to social inclusion.

According the World Health Organization’s (2020) guidelines on physical activity and sedentary behaviour people with disabilities have the same activity requirements as all the people without disability. All adults should undertake 150–300 min of moderate-intensity, or 75–150 min of vigorous-intensity physical activity, or some equivalent combination of moderate-intensity and vigorous-intensity aerobic physical activity, per week. Among children and adolescents, an average of 60 min/day of moderate-to-vigorous intensity aerobic physical activity across the week provides health benefits. The guidelines recommend regular muscle-strengthening activity for all age groups. Additionally, reducing sedentary behaviours is recommended across all age groups and abilities.

The results of research conducted by Yazicioglu et al. (2012) showed that people with physical disabilities who participated in adapted sports had significantly higher scores on the World Health Organization Quality-of-Life Scale (WHOQoL-BREF; Division of Mental Health and Prevention of Substance Abuse, World Health Organization, 1997) and the Satisfaction With Life Scale (SWLS; Diener et al., 1985) compared to people with physical disabilities not involved in any adapted sports. Similar results are reported by the Ingrassia et al. (2020), suggesting that practicing sports is strongly associated with improvements in perceptions of well-

being and Quality-of-Life, especially for persons with disabilities. They also used WHOQOL-BREF scores for Quality-of-Life, and they defined the general self-efficacy, life satisfaction, positive well-being, and psychological distress related to physical exercise as measures of well-being.

Sporting activities and exercising are significant factors for a person's development and integration in the society. In this point of view, sport is social phenomenon. The positive effects of sport can significantly improve the quality of life of an individual (Theodorakis et al., 2019). Participation in sports enhances the psychological well-being of children with disabilities through the provision of opportunities to form friendships, express creativity, develop a self-identity, and foster meaning and purpose in life (Dykens et al., 1998). Unfortunately, experience shows that people with disability are not involved in sports in the same way or the same degree like their peers without disability. People with disabilities have less favorable experiences in sport than their non-disabled peers and competitors (Stevenson, 2009).

The quality of life is affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship with salient features of their environment. In the following sections we examined how participation in sports affects all these aspects of life of people with disabilities.

Sport participation and its effect on physical state of people with disabilities

For the quality of life the individual's physical health is of extreme importance. In general, we can see the positive physiological outcomes from the participation of both people with and without disabilities in exercise and sports and that all the above-mentioned improvements have a great impact on the quality of life. Research has shown that regular physical activity can be vital in preventing and treating heart disease, stroke, diabetes, cancer and weight management, and can help relieve depression and contribute to a positive sense of well-being (Mammen & Faulkner 2013; Winzer et al., 2018; Wu et al., 2010). It was found that after a 6-month intervention exercise program, participants with disabilities had statistically significant weight reduction (Wu et al., 2010). Studies tend to agree with such results but with smaller improvements regarding body composition (Kim et al., 2020). These authors (Kim et al., 2020) suggest that in order for an intervention program to be efficient on people with disabilities there is a need for longer intervention exercise protocols. Exercise, which is defined as any bodily activity that enhances or maintains physical fitness and overall health and wellness (Kylasov & Gavrov, 2011) also positively contributes on the physiological state and health of people with disabilities.

Exercise can be achieved through adapted physical activity and participation in sports. Adapted physical activity (abbr. APA) has more than one definition in the literature in an effort to be more inclusive. APA is defined as a cross-disciplinary body of knowledge directed toward the identification and solution of individual differences in physical activity.

It is a service delivery profession and an academic field of study that supports an attitude of acceptance of individual differences, advocates access to active lifestyles and sport, and promotes innovation and cooperative service delivery programs and empowerment systems. Adapted physical activity includes, but is not limited to, physical education, sport, recreation, dance and creative arts, nutrition, medicine, and rehabilitation (International Federation of Adapted Physical Activity [IFAPA], 2004, art. 5).

The various physical difficulties that people with disabilities have are conditioned by the type of disability, but what they have in common is that sport certainly improves their physical condition. Individuals with Multiple Sclerosis (abbr. MS) usually develop different physiological characteristics than healthy people (Halabchi et al., 2017). In a research conducted by White et al., (2004) it was reported that strength exercise has positive impact on leg strength, moving ability and self-reported fatigue and disability. On another study with MS group, results suggest that an 8-week aquatic exercise program can effectively improve fatigue in MS patients (Kargarfard et al., 2012).

Concerning lower extremity disabilities in a research on a more “well known” adapted sport, the effects of a short duration explosive strength training program in wheelchair basketball athletes, resulted in significant improvements in sprint and agility performance (Ozmenet al., 2014).

Participation in sports can provide opportunities for people with disabilities to gain new skills and enhance on different components of physical activity and health. They can achieve important improvements in muscle strength, flexibility, aerobic - anaerobic fitness, balance etc. (Halabchi et al., 2017), as well as noteworthy achievements in the competitive field. It is important to point out that almost any sport can be altered if needed, to give people with disabilities the means to participate and effectively improve on all the above mentioned, resulting in a healthier life.

Regarding Intellectual Disability (abbr. ID), there is a wider field of research and participation in sports. In 2019, Lizondo et al., analyzed and compared bone quality parameters of different ID groups and people without ID. Based on the results, authors suggested that physical activity improves bone mass in ID individuals, therefore it should be recommended for preventive care (Lizondo et al., 2019). In a different sport, on a periodized swimming training program in individuals with Down’s syndrome, improvements were found on swimming speed and performance times in sprint distances. Although results showed no to little changes in jump performance or body composition, it remains possible that upper body strength and power were improved, thus the improvement in performance times (González-Ravé et al., 2020). A recent study in athletes with ID measured the effect of dynamic stretching and plyometric warm ups. Findings showed that there was improvement in their dynamic balance after certain exercises and a specific time range which can greatly contribute on the safety of the ID athletes as a preventative way on reducing the risk of falls and sport injuries (Jouira et al., 2020).

Hypertension is also a health condition that is prevalent to these groups as they tend to follow a sedentary lifestyle. It is clearly stated by the literature that physical activity is necessary regarding the risk for hypertension both in children

and adults. Wyszynska, et al., (2017) found that low level of physical activity and longer screen times were significantly associated with higher hypertension risk in population with ID. With similar results comes a more recent study, where a large number of individuals with ID had their brachial blood pressure and BMI assessed in relation to their reported physical activity. Results suggest that those with higher participation in physical activity have lower odds regarding the risk of hypertension (Schroeder et al., 2020).

Sport participation and its effect on psychological and social state of people with disabilities

Another scoping review (Gitimoghaddam et al., 2021) aimed to undertake an extensive exploration of the extent, range, and nature of research activities regarding the effect and emerging evidence in the field of physical activity interventions on cognitive development among children and youth (0–17.99 years) with neurodevelopmental disorders (abbr. NDD), revealed many positive key cognitive outcomes related to physical activity including, but not limited to focus, attention, self-control, cognitive process, and alertness. No studies reported a negative association between physical activity and cognitive outcomes. Based on the findings from this scoping review, physical activity appears to have a favorable impact on the cognitive outcomes of children and youth with NDD. As an indication, here is a briefly review some of the disability groups that have greatly benefited from sports and exercise.

Participation in sports and recreational activities provides opportunities for children with disabilities that promote inclusion, minimize deconditioning, optimize physical functioning, and enhance overall well-being (Murphy & Carbone, 2008). Unfortunately, it seems that opportunities for people with disabilities to participate in fitness and activity programs, whether for leisure, recreation, or competition, are limited (Murphy & Carbone, 2008; Rimmer et al., 2004). Limited participation can impact students' with disabilities self-esteem, and as a result of participating in recreation activities, students' with disabilities social communication and self-esteem can increase (Allsop et al., 2013; Devine & Dawson, 2010). Participation in sports and recreational activities provide opportunities for children with disabilities that promote inclusion. Carter et al., (2010) found that participation in leisure and recreation activities provided many opportunities for students with disabilities, such as growing as learners and individuals by learning new skills, refining previously taught concepts, and meeting new people. They stated that participation in leisure and recreation activities allowed students to practice their social skills, generalize skills, explore interests, and apply everyday life skills.

Other study (Tough et al., 2017) indicates that social relationships play an important role in mental health and wellbeing in persons with disabilities. They also found that integrating persons with disabilities into social networks seems not sufficient and that rehabilitation professionals together with affected persons and their peers should ensure that high quality relationships and tailored support are available.

Within the social environment of athletes with disabilities, coaches play a very special and really important role. There are only few papers in which the methodology of organizing training with people with disability in sports clubs-associations is discussed in detail (Begenišić et al., 2011). The role of a sports coach and disability sports coach seems to be of great importance and value throughout the literature. It is emphasized that coaches provide positive impact on the quality and experience of an athlete's efforts in injury recovery (Bianco, 2001; Podlog & Eklund, 2007). Their role goes beyond just coaching for a specific sport, as they teach and instill life skills and values both on and off the court (Vallée & Bloom, 2005). Nonetheless, disability sports coaches usually need to have deeper subject knowledge on biomechanical adaptations and other aspects of the life of the people with disabilities.

In a brief review of the literature on coaching groups with disabilities, one thing stands out: although there is prevalent evidence that coaches seem to not discriminate against people with disabilities and that in most of the cases, they are supportive of including them in interscholastic sports – school-based sporting opportunities, they do not feel sufficiently prepared to coach them (Dorogi et al., 2008; Kozub & Porretta, 1998). This phenomenon could be justified due to potential lack of their training-coaching curricula on the adapted sports and in the multiple roles that disability sports coaches face, that of coaching the sport, that of coaching the individual as an athlete and that of coaching the individual as a person outside of their sport (Vargas et al., 2012).

Reports from the research in athletes with disabilities also highlight the importance of the coaches in their lives. It was found that disability sport athletes who felt that their coaches supported their autonomy, expressed positive outcomes in their general involvement in their sport and on their relationship with their teammates (Banack et al., 2011). Results from another study emphasize the impact of the role that a coach has on his athletes: it was found that negative coaching behavior was one of the most anxiety inducing sport stressors the athletes have encountered (Campbell & Jones, 2002).

Barriers to sport participation for people with disability

Empirical evidence shows us low levels of participation in sport for people with disability. According to Thomas, (2003), reports for Europe in 1987 shows us that while 30 percent of non-disabled adults participated in sport; only 3 % of disabled people did so, other studies in the UK found that 2.5 % of disabled people participated in sport compared to 38.4 % for non-disabled men and 24.2 % for non-disabled women. Also, the report from Ireland in 2005 highlights the lack of sport participation of people with disabilities in Ireland, England, the European Union, Canada and the USA (Hannon, 2005.) Why is this happening? Because of barriers. As for barriers for people with disabilities, there is no consensus or unified approach. Generally, we can say that there are some internal and some external factors which are interconnected and combined, that hinder individuals with disabilities from accessing recreational activities. For example, individuals' with disabilities deficits in social communication and cognitive skills were cited as internal

factors that contributed to the lack of participation (Shattuck et al., 2011). Typical barriers for people with disabilities to participate in sport include lack of awareness on the part of people without disabilities as to how to involve them in teams adequately; lack of opportunities and programs for training and competition; too few accessible facilities due to physical barriers; and limited information on and access to resources (DePauw & Gavron, 2005). Other external factors for example included the lack of resources needed for participation (financial support, equipment, personal assistance, as well as activities offered) (Palisano et al., 2010). Results of another research (Rimmer et al., 2004) show us that the degree of participation in physical activity among people with disabilities is affected by a multifactorial set of barriers and facilitators that are unique to this population. In this research, the following factors were identified: (1) barriers and facilitators related to the built and natural environment; (2) economic issues; (3) emotional and psychological barriers; (4) equipment barriers; (5) barriers related to the use and interpretation of guidelines, codes, regulations, and laws; (6) information-related barriers; (7) professional knowledge, education, and training issues; (8) perceptions and attitudes of persons who are not disabled, including professionals; (9) policies and procedures both at the facility and community level; and (10) availability of resources.

Just a brief overview of all these different barriers shows how complex this issue is and how multiple factors influence if certain community will be able to offer these resources to its members with disabilities. Some general recommendations could be drawn from a synthesis of all these different barriers in thinking how to overcome them.

How can psychology be more proactive in sports and disability area?

When it comes to psychology research, the topic of sports and disability revolved mostly around some aspect of professional sports for persons with disabilities (Martin, 2005; Dieffenbach & Statler, 2012). In the recent years the significance of sports and recreational activities from a perspective of overall wellbeing of all groups of disability in everyday life emerges as a research interest. However, a systematic literature review is needed so that different findings could be properly summarized and evaluated and consequently put in use. Psychology is one of the sciences whose contribution to this topic can be important, especially in providing a framework for evidence-based practice. On a conceptual level, psychology can contribute in providing methodology framework for designing training procedures and follow-up instruments. Also, extrapolating from some fundamental learning theories, developmental theories and models of motivation could be a fruitful line of research in the context of creating programs of recreational activities for children and adults with different disabilities.

Another vital aspect in this field is a systemic approach, because very often people with disability have a member of the family or community who assists them, so without cooperation with parents, guardians, close family members or someone from

that support network, it is difficult to expect any significant progress. And building on that, fostering appropriate communication skills is much needed for those who intend to develop and/or implement any program of recreational and sportive activities tailored to specific requirements of different disability characteristics. Literature supports this claim - generally, few changes are needed in the content of psychological skills training programs when working with athletes with physical, intellectual, or sensory disabilities, but the main adaptations typically required when working within persons with disabilities sport relate to communication issues (Hanrahan, 2015).

It is vital to emphasize the importance of teamwork skills of coaches, different expert associates and other service providers, because just as in any sport, there is a little individual endeavor, mostly it requires a team effort. Teamwork in sports for people with disabilities is even more paramount.

Making all previously mentioned a research interest first and then exploring scientifically different aspects of psychological processes in recreational coaching of persons with disabilities would contribute greatly to development of evidence-based practice in this field.

Conclusion

Sport can become a bridge between people with and without disabilities. In many aspects of their lives people with disabilities usually are defined or distinguished on basis of their disability. Through sports, exercise and physical activity these people have the ability to transcend social barriers and be recognized more for their skills, physical competence and abilities they have. As mentioned earlier, quality of life is a concept related to a person's physical health, psychological state, personal beliefs and social relationships. The aforementioned research in this paper has shown that all these areas of quality of life for people with disabilities can be improved through participation in sports activities.

Furthermore, previous research shows that people with physical disabilities who participated in adapted sports were more satisfied with life in general compared to people with similar disabilities not involved in any adapted sports. (Yazicioglu et al., 2012). Also, it is shown that practicing sports is strongly associated with improvements in perceptions of well-being and quality of life of persons with disabilities (Ingrassia et al., 2020).

In addition to being able to significantly improve the quality of life of people with disabilities, sport can also make more positive attitudes about disability in the society. In this paper, we have tried to contribute to raising awareness of the importance of this issue, and in some way contribute to the overall popularization of this topic in the scientific field and to instigate a discussion on sports and disability.

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**ZNAČAJ SPORTSKIH AKTIVNOSTI ZA OSOBE
SA INVALIDITETOM**

Apstrakt

Iako postoje brojne kategorizacije i velike razlike u specifičnim karakteristikama između pojedinih kategorija invaliditeta, sve one imaju nešto zajedničko – barijere sa kojima se osobe sa invaliditetom suočavaju. Socijalna, fizička i mentalna ograničenja mogu se smanjiti ili ukloniti sportom, i to može značajno poboljšati kvalitet života osoba sa invaliditetom, što ćemo pokušati da dokumentujemo u ovom radu nalazima istraživanja. Na žalost, ni danas se uobičajeni društveni stav o kvalitetu života osoba sa invaliditetom ne fokusira na određeni socijalni i kulturni kontekst koji utiče na invalidnost. Umesto toga, i dalje se fokusiramo na pojedinačne strategije suočavanja i ponašanja kao odgovor na poteškoće koje proizlaze iz bioloških ograničenja. Psihologija je jedna od nauka čiji doprinos ovoj temi može biti važan, posebno u pružanju okvira za praksu zasnovanu na dokazima. Istovremeno, promocija ove teme može, nadamo se, doprineti poboljšanju relevantne politike.

Ključne reči: sport, invaliditet, kvalitet života

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