

THE BENEFITS AND THE PERCEIVED SOCIAL SUPPORT TOWARDS EXERCISE PARTICIPATION AMONG PERSONS WITH DISABILITIES: A PRELIMINARY STUDY

Nagoor Meera Abdullah
Faculty of Sports Science and Recreation
Universiti Teknologi Mara (UiTM), Shah Alam Campus, 42300, Shah Alam, Malaysia
Email: nagoor@uitm.edu.my

Siti Aisyah Zakaria
Faculty of Sports Science and Recreation
Universiti Teknologi Mara (UiTM), Shah Alam Campus, 42300, Shah Alam, Malaysia
Email: aisayahzakaria88@gmail.com

Wahidah Tumijan
Faculty of Sports Science and Recreation
Universiti Teknologi Mara (UiTM), Negeri Sembilan Branch, Seremban Campus, Negeri Sembilan
Email: wahidah06@uitm.edu.my

Noor Azhana Mohamad Hamdan
Academy of Language Studies
Universiti Teknologi Mara (UiTM), Shah Alam Campus, Shah Alam, Malaysia
Email: noorazhana@uitm.edu.my

Mohamad Nizam Mohamed Shapie
Faculty of Sports Science and Recreation
Universiti Teknologi Mara (UiTM), Shah Alam Campus, Shah Alam, Malaysia
Email: nizam7907@uitm.edu.my

Mohd Rahizam Abdul Rahim
Faculty of Sports Science and Recreation
Universiti Teknologi Mara (UiTM), Shah Alam Campus, Shah Alam, Malaysia
Email: mrahizam@uitm.edu.my

Zarizi bin Ab Rahman
Faculty of Education
Universiti Teknologi Mara (UiTM), Puncak Alam Campus, Kuala Selangor, Malaysia
Email: zarizi@uitm.edu.my

ABSTRACT

This study investigates the importance of benefits and the perceived social supports towards exercise participation among persons with disabilities. A total of 100 (N=100, men = 59, women = 41) persons with disabilities aged between 10 to 40 years old participated in the study. All respondents need to involve with sports at least once. The research instrument used for this study is a The Benefit of Exercise towards Persons with Disabilities questionnaire developed by Rauzon which includes demographic factors and the combination of five most chosen agreeing statements for men and women on benefit of exercise which gauge their agreement on whether regular exercise can; improve the blood pressure, improve cholesterol levels, help to prevent disease, give them more energy, help to relieve tension and help them to have a more positive outlook on life, and social support for exercise. There is no significant difference between gender on the benefits, family support, and friends' support towards physical activity participation ($p>0.05$). There are many benefits and social supports towards physical activity participation and the need to spread the knowledge about it for persons with disabilities and non-disabled persons. It will help the non-disabled persons become good caregivers or parents to encourage and support persons with disabilities in participating in physical activity. Further research with more variables is recommended.

Keywords: exercise, congenital, benefit of exercise, social support, psychological well-being

INTRODUCTION

Physical fitness illustrates a physiological state of well-being that allows individuals to meet the demands of both health-related and skill-related fitness (Abdullah et al., 2015). Disabilities can be congenital (before, during, and immediately after birth) or acquired because of injuries during an industrial accident or other related health conditions that occurred later in life, including diseases, aging, and others (Jeong & Yu, 2018). People with disabilities always face physical and psychosocial health problems (Okoro, Hollis, Cyrus, & Griffin-Blake, 2018). The problems which disabled people face are not necessarily due to their mental and physical disability, but due to the traditional attitudes of the society (Akbarian, 2007). Lack of attention to their physical and psychosocial characteristics may also affect mental health and their participation in various aspects of social and personal life

(Heidarzadeh, Hagigat & Yoosefi, 2009). Their problems depend on the strength and efficacy of coping methods, especially social support (Motl, McAuley, Snook & Gliottoni, 2009). Lack of attention and support towards disabled people may affect the quality of life and increase the problems face by this vulnerable group (Forouzan, Mahmoodi, Shushtari, Salimi, Sajjadi & Mahmoodi, 2013). One strategy that is useful to increase physical and psychosocial functions, both for the general population and people with disabilities, is exercise (Pahor et al., 2014; Szabo, Griffiths, & Demetrovics, 2019). However, the participation rate in exercise is below the satisfactory level in people with disabilities (Carroll et al., 2014), especially within public fitness centers (Anderson, Grant, & Hurley, 2017; Richardson et al., 2017a, 2017b, 2017c).

Although adolescents with disabilities tend to participate in similar leisure activities as adolescents without disabilities (e.g., watching TV, listening to music, and talking on the phone), researchers have found that even adolescents with physical disabilities tend to participate in more passive and solitary activities. According to Pitchford, Siebert, Hamm, and Yun (2016), physical activity promotion is of need even for youth with developmental disabilities. Children and adolescents with disabilities with low physical activity tend to become obese and are at greater risk for additional secondary health conditions. In order to effectively plan interventions and community programs to address this health disparity, it is critical to understand the unique correlates of physical activity for youth with disabilities, particularly those related to parental perceptions of exercise benefits, informal or spontaneous activities, slower tempo activities, and for more extended periods than those without disabilities (Ortiz-Castillo, 2011). A physically active lifestyle is accompanied by several fitness and health benefits. Individuals with a disability can particularly benefit from an active lifestyle: not only does it reduce the risk for secondary health problems, but all levels of functioning can be influenced positively (Van der Ploeg, van der Beek, van der Woude & van Mechelen, 2004).

PROBLEM STATEMENT

Persons with disabilities are at higher risk of co-morbid health conditions, including CVD, obesity, diabetes, fatigue, and injuries (Matcham, Ali, Irving, Hotopf, & Chalder, 2016; Molton et al., 2014). Individuals living with disabilities has limited social engagement opportunities and frequently report experiencing discriminating attitudes and rejection from other members of society (Villanueva-Flores, Valle, & Bornay-Barrachina, 2017). Psychologically, living with disabilities has been related to depression, anxiety, and poor self-concept (Mazur, 2008). These experiences influence and reduce social and psychological well-being (Tough, Siegrist, & Fekete, 2017). According to Pitchford and Anderson, parents, family, and friends are important surrounding factors to the life of persons with disabilities. The influence of parents and other familial caregivers of youth with disabilities is of particular importance as they may have more influence on their child's physical activity habits than that of typically developing children as developing youth are typically influenced by a combination of peer and parental factors. Even if motivated, people with intellectual disabilities are often unable to reverse trends in the cycle of sedentary lifestyle because they rely upon parents or caregivers for support (Anderson, 2011; Brundage, 2011; Pitchford et al., 2016). The social exclusion of persons with disabilities starts from their family; parents, sisters/brothers, close relatives, and within family facilities and restrictions. Even in Malaysian society where family institutions is still highly uphold, social exclusion of persons with disability exist. It is seen that due to parents' poverty and lack of knowledge, parents tend to overprotect their disabled children. They also foresee them as a burden. Due to their disability, they are also ignored by their siblings. Fear, ignorance, and devaluation of relatives to these disabled children also deprives them of a normal family relationship. As a result, disabled children received worse facilities, including all basic needs, than normal children. The physical, mental, and emotional development of disabled children is being greatly impaired and they are being raised in an unsupportive family environment. Isolation are experienced by disabled children even at the family level (Islam, 2015).

As what is happening in Malaysia, the term "welfare/charity" approach, which is the basis of some of the social policies such as the National Welfare Policy, has come under severe criticisms from the disabled people because it views persons with disabilities as "sick," "not normal" or "without abilities" and in need of charity and handouts. This approach tends to treat them as dependents, always needing "support," which society will give as and when it chooses (DNIS, 2013). We would argue that while this welfare/charity approach has contributed some improvements to the persons with disability well-being, it must now be replaced with the notion of equality and human rights to address the continuing violation of their fundamental rights. Nevertheless, most of the studies attempted to say that because of disability, disabled people become excluded from the development arenas. As a result, they are deprived of their needs and rights. Thus, this has become an interesting academic debate around social exclusion and disability. Howard and O'Grady et al. argue that of all the disadvantaged groups in society, the disabled are the most socially excluded... life opportunities remain severely restricted for many (Islam, 2015). So, the objective of the study is to investigate the importance of the benefits and the perceived social supports towards physical activity participation among persons with disabilities.

LITERATURE REVIEW

World Health Organization (WHO) defines *disability* as a complex interaction between the body and the society in which one lives. This means that WHO has extended its definition of disability beyond health. This concept is presented in more recent models of disability that consider the presented experience of impairment in addition to the socially constructed nature of the disability. The interactional model focuses on the relationship between internal factors within the individual, such as physiological impairment, and the broader context in which individuals live, such as the social, political, and cultural context (Perrier, 2013). Perrier stated that it is important to note that internal factors extended beyond the nature and the type of the individuals' impairment, and the internal factors include personal abilities, personalities, and attitudes towards the impairment.

In general, parents have significant impacts on their children's exercise behaviors in many ways. For example, parental attributes such as parental beliefs, attitudes, and values are important guidelines for their decision-making to enroll their children in an exercise program. Even though exercise is good for the health of persons with disabilities, some barriers prevent them from exercising. Several reports have suggested that barriers, real and perceived, deter individuals from participating in regular physical activities. Perceived barriers have been found to be important factors in predicting a wide range exercise behavior. Although disabled individuals will benefit from regular exercise, too often, options for exercise are limited by either personal or environmental barriers (Rauzon, 2002; Robinson, 2012). According to Robinson (2012), determinants of exercise are dynamic among most population, but among the disabled population, personal and environmental barriers play a significant role in exercise behavior. They were facing many more barriers in doing exercise compared to the non-disabled person.

Studies found an extensive relationship between exercise and the levels of individual qualities, exercise attitudes, and environmental elements. Being youths, lower-income level, advanced education, higher self-efficacy, lower cognitive-emotional barriers, and lower environmental barriers were factors that connected with more significant amounts of exercise activity in people with physical disability and mobility impairments. High self-efficacy and inspiration to exercise for the development of exercise as a daily routine is the main motivation to respondents who reported regular exercise regime. Interviews with respondents who reported low, or no exercise regime listed the need for transportation support, lack of accessible equipment for their communities, and instrumental support for exercise as barriers (John, 2006).

According to Knibbe (2015), youth with physical disabilities participate less in exercise and are more sedentary than their typically developing friends, who may have chronic negative health results and low quality of life. There is a significant need for health promotion to engage them in physical activities. This issue is crucial for youth, defined here as young people between the age of 10 and 19, as physical activity drastically declines during adolescence and the physical activity patterns that are developed during this time often continue into and throughout adulthood. Therefore, it is imperative to help young people form positive health behaviors in this stage of life. This is a particular problem with young people with physical disabilities because they already exhibit low exercise participation levels and high levels of sedentary behavior.

METHODOLOGY

Sample

This study comprises 100 respondents (n=100) of persons with disabilities. The respondents consist of 59 men and 41 women. Respondents have disabilities such as/as a result of blindness and visual impairment (12), deafness and hearing impairment (21), amputation (43), cerebral palsy (16), and spinal cord injury (6), and others (2). The range of age of the respondents is between 10 to 40 years old.

Types of sports and the respective number of respondents involved in each types are; swimming (10), wheelchair basketball (7), sitting volleyball (6), wheelchair tennis (5), para-cycling (16), soccer (8), archery (4), wheelchair fencing (1), lawn ball (3), bowling tenpin (2), para-badminton (11), table tennis (4), para-athletics (13), kayak (4) and goalball (6). The respondent must meet some conditions to be eligible as respondents to this study. The respondents need to be identified by doctors or ophthalmologists as persons with disabilities, and they must have disability cards released by the Department of Social Welfare.

Instrumentation

The questionnaire used is Benefit of Exercise towards Person with Disabilities and Social Support to Exercise for Person with Disabilities was developed by Rauzon (2002), to find out the importance of physical activity for disabled persons. The internal consistency of Cronbach's alpha for the Benefit of Exercise scale is 0.81, and the Social Support scale is 0.93. The questionnaire has two parts: Part A and Part B. Part A uses a demographic structure questionnaire, including gender, age, education level, sports involvement, and type of disabilities. Whereas Part B consists of 23 questions; ten questions on the benefits of physical activity, and the other 13 questions are about the social support received by the persons with disability which urge them to exercise. The question of the social support to exercise is divided into two categories, support from family and support from friends. The scales used to interpret responses to statements were given scores ranging from 5 (strongly agree) to 1 (strongly disagree). Lower scores indicated negative belief, while higher scores indicated positive belief.

Data collection procedure

Authorization to conduct the research was obtained from the authority of Pusat Latihan Perindustrian dan Pemulihan (PLPP) Orang Kurang Upaya Bangi and Kompleks Kecemerlangan Sukan Paralimpik at Kampung Pandan. The respondents were assembled in a hall, briefed about the questionnaire, and provided with needed information. After the briefing, the respondents were asked whether they understood the questionnaire and those who did not understand the first briefing, were given a second briefing. Then, questionnaires were distributed to the respondents.

Thorough explanation on the procedures was given to the respondents to help them understand the questionnaires, and assistants were also provided to help those having difficulties to answer the questionnaire. For respondents with blind and visual impairment, the assistant read the questions and helped them answer the questionnaire. The respondents were given about 30 to 45 minutes to complete the questionnaire. If the respondents were unable to complete the questionnaire in time, one-day extension was given to answer it, and the questionnaire would be collected the day after. The study has been granted ethical approval from the faculty's ethical committee (600-FSR (PT.5/1)).

Data analysis

The IBM SPSS version 25.0 was used to analyze the data. Descriptive statistics such as mean, standard deviation (SD), frequency, and percentage were used to assess the demographic profile, exercise benefits, and social support variables. The difference in benefit and social supports for physical exercise participation among people with impairments was measured using an independent T-test. The alpha value will be 0.05, and the statistically significant differences between conditions will be defined as $p < 0.05$.

RESULT

Table 1 below shows the descriptive results of demographic profile of the respondents. Majority of the respondents is men ($n=59$, 59.00%) compared to women ($n=41$, 41.00%). The respondents age range are mostly from 16-25 years old ($n=65$, 65.00%), following age range 26-35 years old ($n=21$, 21.00%), age less than 15 years old ($n=8$, 8.00%) and age more than 35 years old ($n=6$, 6.00%). Majority of the respondent's highest level of education is from SPM ($n=48$, 48.00%). While 22.00% UPSR ($n=22$), 16.00% diploma level ($n=16$), 13.00% degree till PhD level ($n=13$), and 1.00% others ($n=1$). Most of the respondents involved in cycling ($n=16$, 16.00%), track and field ($n=13$, 13.00%), badminton ($n=11$, 11.00%), and swimming ($n=10$, 10.00%). The respondents have different types of disabilities. Majority of them are amputation ($n=43$, 43.00%). Following deaf and hearing impairment ($n=21$, 21.00%), cerebral palsy ($n=16$, 16.00%), and blind and visual impairment ($n=12$, 12.00%).

Table 1: Descriptive results of Demographic Profile (n=100)

Variables		Frequency (n)	Percentage (%)
Gender	Men	59	59.00
	Women	41	41.00
Age in years	<15	8	8.00
	16-25	65	65.00
	26-35	21	21.00
	>35	6	6.00
Highest Level of Education	UPSR	22	22.00
	SPM	48	48.00
	Diploma	16	16.00
	Degree/Master/PhD	13	13.00
	Others	1	1.00
Types of Sports	Swimming	10	10.00
	Wheelchair Basketball	7	7.00
	Volleyball (Sit/Stand)	6	6.00
	Wheelchair Tennis	5	5.00
	Cycling	16	16.00
	Football	8	8.00
	Archery	4	4.00
	Fencing	1	1.00
	Lawn ball	3	3.00
	Bowling Tenpin	2	2.00
	Badminton	11	11.00
	Ping pong	4	4.00
	Track And Field	13	13.00
	Kayak	4	4.00
	Goal ball	6	6.00
Types of Disabilities	Blind and visual impairment	12	12.00
	Deaf and hearing impairment	21	21.00
	Cerebral palsy	16	16.00

Amputation	43	43.00
Spinal cord	6	6.00
Others	2	2.00

Based on Table 2, there are seven benefits of exercise among respondents. Men agree that exercise helps them to avoid getting disease (2.76 ± 1.07), gives more energy (2.71 ± 1.18), improves cholesterol level (2.69 ± 1.29), and relieves tension (2.63 ± 1.40). Other than that, the respondents also agree that exercise improves blood pressure (2.49 ± 1.33), helps to perform routine physical tasks more efficiently (2.42 ± 1.26), and helps to have a more positive outlook on life (2.41 ± 1.31). In comparison, women agree that the benefits of regular exercise include helping to relieve tension (2.80 ± 1.35), improving blood pressure (2.76 ± 1.02), improving cholesterol level (2.71 ± 1.14), having a more positive outlook on life (2.63 ± 1.24), performing routine physical tasks more efficiently (2.59 ± 1.13), avoiding from getting sick (2.44 ± 1.07), and giving more energy (2.44 ± 1.11).

Table 2: The Mean and the SD of Benefit to Exercise Participation among the Respondents

Regular exercise can....	N	Gender	Mean	SD
1 Improve my blood pressure.	59	Men	2.49	1.33
	41	Women	2.76	1.02
2 Improve my cholesterol levels	59	Men	2.69	1.29
	41	Women	2.71	1.14
3 Help me avoid disease.	59	Men	2.76	1.07
	41	Women	2.44	1.07
4 Give me more energy.	59	Men	2.71	1.18
	41	Women	2.44	1.11
5 Help me relieve tension.	59	Men	2.63	1.40
	41	Women	2.80	1.35
6 Help me to relieve back pain	59	Men	2.47	1.33
	41	Women	2.57	1.14
7 Help me to increase my level of confidence	59	Men	2.45	1.31
	41	Women	2.54	1.20
8 I feel good when I do exercise	59	Men	2.43	1.23
	41	Women	2.50	1.21
9 Help me have a more positive outlook on life	59	Men	2.41	1.31
	41	Women	2.63	1.24
10 Help me perform routine physical tasks more easily.	59	Men	2.42	1.26
	41	Women	2.59	1.13

Table 3 shows the social support towards exercise participation among people with disabilities between men and women. The results reported that men agree the social supports factors that contribute to the exercise participation are giving a reward for exercising (3.99 ± 1.66), offering to exercise with them (3.42 ± 1.05), giving helpful reminders to exercise (3.36 ± 1.03), and providing encouragement to stick to an exercise program (3.32 ± 1.25). Women reported the social supports factors that contribute to the exercise participation are helping to plan activities around exercise (3.80 ± 1.07), giving encouragement to stick with an exercise program (3.67 ± 1.04), giving rewards for exercising (3.66 ± 1.58), and giving a helpful reminder to exercise (3.61 ± 0.84). The findings show that the social support for men and women is different because of the difference in the attention they get from people surrounding them. They agree that being criticized and being made fun of hinder motivation to do physical activity. Both men and women get encouragement from their family and friends which made them stick with the exercise program and give them rewards for exercising.

Table 3: The Mean and the SD of Social Supports among the Respondents

SOCIAL SUPPORT	Gender	N	Mean	SD
1. Offer to exercise with me	Men	59	3.42	1.05
	Women	41	3.57	1.02
2. Give me helpful reminders to exercise	Men	59	3.36	1.03
	Women	41	3.61	0.84
3. Give me encouragement to stick with my exercise program.	Men	59	3.32	1.25
	Women	41	3.67	1.04
4. Complain about the time I spend exercising.	Men	59	2.71	1.58
	Women	41	2.27	1.23
5. Criticize me or made fun of me for exercising.	Men	59	2.00	1.86
	Women	41	1.90	1.59
6. Give me rewards for exercising.	Men	59	3.99	1.66
	Women	41	3.66	1.58
7. Help me plan activities around my exercise.	Men	59	3.09	1.21
	Women	41	3.80	1.07
8. Exercise with me	Men	59	3.00	1.24
	Women	41	3.50	1.49
9. Change their schedule so that they can exercise with me	Men	59	2.96	1.54
	Women	41	3.48	1.10
10. Discuss about exercise with me	Men	59	2.94	1.51
	Women	41	3.45	1.34
11. Plan an exercise program when they have free time	Men	59	2.90	1.48
	Women	41	3.45	1.34
12. Ask me the ideas on how can do exercise together	Men	59	2.86	1.43
	Women	41	3.33	1.24
13. Like to discuss with me on how much they can do exercise	Men	59	2.81	1.36
	Women	41	3.29	1.28

Table 4 shows that the benefit of exercise participation for men (2.64 ± 0.93) is lower than women (2.7 ± 1.02). However, there is no significant difference on the benefit for exercise participation between gender reported ($p > 0.05$).

Table 4: Benefit of Exercise Participation

	Gender	N	Mean	SD	p value*
Benefit	Men	59	2.64	0.93	.746
	Women	41	2.70	1.02	

* $p < 0.05$

Based on Table 5 below, two types of social support have been identified: family and friends support. The family support reported higher for women (3.29 ± 0.83) compared to men (3.04 ± 0.90) in exercise participation. But there is no significant difference reported ($p > 0.05$).

The results also show that friends support women more (3.42 ± 0.64) compared to men (3.20 ± 0.86) in exercise participation. But there is no significant difference reported ($p > 0.05$).

Table 5: Social Support to Exercise Participation between Genders

Type of support	Gender	N	Mean	Std. Deviation	<i>p</i> value*
Family support	Men	59	3.04	.90	.104
	Women	41	3.29	.83	
Friends support	Men	59	3.20	.86	.123
	Women	41	3.42	.64	

* *p* <0.05

DISCUSSION

The Importance of Exercise Participation towards Person with Disabilities

There are many benefits gained by people with disabilities when they participate in physical activities. Caldwell and Gilbert (1990) suggest that participation in any physical activity for individuals with disabilities would depend upon social friendships and relationships with others. As noted earlier, while the need for increased physical activity among persons with disabilities is well established, not much is known about the determinants of physically active lifestyles among persons with disabilities (Wilhite, Martin, & Shank, 2016). According to a past study by Harrison et al. (2010), disabled individuals lost more physical activity capabilities as they got older. However, this has differed between females and males. In the findings, there was a lack of knowledge on the experiences of disabled older female individuals in terms of exercise participation, healthy lifestyle, and health developing activities (Harrison et al., 2010). The current study shows that regardless of age group, whether the persons with disability are 10 or 40 years old, they gain advantages when participating in exercise activities.

They also lack knowledge about the importance of doing physical activities together with persons with disabilities or the people surrounding them. They need to be given more information about the benefits of physical activity participation in their daily life. Other than that, past studies revealed that attitudes and beliefs that impede exercise participation in persons with disabilities included factors of low sensitivity and openness. Unrealistic expectations of fitness professionals were linked to their frustration and low motivation to exercise (Poltawski et al., 2015). In regard to the physiological benefits of exercise, it is possible that increased levels of gamma-aminobutyric acid and dopamine, increased β-endorphins, increased physical activity, less muscle tension, and positive distraction from worries following physical activities are the potential reasons as to why physical activities can improve anxiety (Chan et al., 2012). Some past studies also reveal the benefits of doing physical activities, such as the study carried out by Jin, Yun, and Agiovlasitis in 2017. They investigated whether school-based physical activity programs were beneficial for healing the health of disabled students when being performed regularly. It was hypothesized that school-based and entertaining physical activities positively affected students' physical health when more participation was provided, and this has changed between age groups of disabled children (Jin, Yun & Agiovlasitis 2017).

According to a past study by Calzonetti (1988), in terms of gender, disabled women also scored lower on the social scale than female secondary school students in Kenyon's study. Differences in body esteem and factor of differential contribution to involvement in physical activity in males and females should also be considered. Women might be more affected than men in regard of their physical being. It means there is a slight difference between the men's and women's opinions on physical activity. Current study yields similar findings. The combination of five agreeing statements for men and women on the benefit of exercise which gauge their agreement on whether regular exercise can; improve the blood pressure, improve the cholesterol levels, help to avoid disease, give them more energy, help to relieve tension and help them to have a more positive outlook on life are chosen from the current study. A past study by Güven et al. (2019) stated, women with disabilities faced more significant barriers than men in their participation in sports/exercise. This result is also similar to the result of the current study.

According to a study by Sungur and Guven (2021), individuals with disabilities lost their physical activity capabilities more as they got older. However, this differed between females and males. A previous study indicates, lack of knowledge on the experiences of disabled old female individuals in terms of taking part in exercise, healthy life, and health developing activities are more prevalent for females. (Harrison et al., 2010). Female disabled individual's lack of knowledge can lead to differences with males in terms of exercise perceptions. Mansfield (2016) showed that participation in physical activity effectively reduced barriers to exercise as it increased their low self-efficacy and willpower towards doing physical activity while improving their ability to participate in physical activity post-stroke by enhancing their gait, flexibility, and strength.

This study further corroborated previous findings that have proven social activity can affect happiness levels among persons with disabilities (Logan, Jacobs, Gast, Murray, Daino, & Skala, 1998). Pagan (2015) suggested that partaking in shared leisure activities, such as attending cultural events, can promote the social involvement of people with disabilities, which then can contribute to increasing their life satisfaction levels.

Social Support Factors Contribute to Physical Activity Participations for Person with Disabilities

Social support has been highlighted in many studies that concentrate on persons with disabilities. Social support constructs were operationalized heterogeneously, including type (emotional, instrumental, affective, or tangible) or source (e.g., family, friends, significant other) of social support, overall measures of perceived or received social support, satisfaction with support, negative social support, or unavailability of support. Some studies also highlighted social support, defined as an actual exchange of support (Zhang, Zhou, Zhang & Xu, 2010), type of social support (Van Leeuwen, Post, van Asbeck, Bongers-Janssen, van der Woude, de Groot & Lindeman, 2012), support (Coty & Kenneth, 2010), and several studies on the source of social support (friend, family, significant other) (Jensen, Smith, Bombardier, Yorkston, Miró & Molton, 2014). Children's dependence on adults is amplified when they have disabilities (Martin, 2013). Parent's may also be restricted in the degree to which they provide PA opportunities because of financial difficulties or fear for their child's physical and emotional safety (Scholl, McAvoy, Rynders & Smith, 2003).

There are significant values of social support towards physical activity participation as viewed in the study. Social support plays a significant role in motivating people with disabilities participate in physical activity. Lack of social support was identified as a critical barrier to exercise participation among persons with disabilities. Specifically, lack of informational support, companionship support (i.e., not having a partner to exercise with), emotional support, and instrumental support (i.e., receiving a practical aid to exercise) were perceived to impede exercise participation in persons with disabilities (Poltawski et al.) The physical activity levels of the parents/caregivers of the children/adults with disabilities was lower than nationally recommended physical activity guidelines (Brundage, 2011). The current findings suggested that physical disability is not a restricted factor for marriage and relationship with spouse as an essential factor that can influence social support, well-being, and quality of life. They may have a close relationship with their spouse or spouse's family and receive their support and attention. This finding is consistent with the result of other studies (Allen, Ciambone & Welch, 2000; Mehrotra, 2004). The aspect of social support is particularly dominant in disability research. Social support is considered a vital resource for hindering the negative consequences of various stressors in disability (the 'buffering hypothesis' of social support (Cohen & Wills, 1985)), including the chronic stress of physical disability itself. However, the number of studies that found insignificant or weak associations of social support with depression indicates limited support for this hypothesis (Tough, Siegrist & Fekete, 2017).

This hypothesis was proven false when it revealed that adults should accumulate 30 minutes of physical activity a day or 150 minutes a week. It also shows that social support is important in supporting the person with disabilities to participate in physical activities, and they should spare some time to exercise with the people surrounding them. This study shows that the five most selected statements for social support for both men and women are; offering to exercise with, giving helpful reminders to exercise, encouraging to stick with an exercise program, complaining about the time they spend for exercise, being criticized, or made fun of for exercising, giving them rewards for exercise, and helping to plan activities around their exercise. One thing that needs to be addressed is that there was no consistency in the literature that relates to this result. Nevertheless, the current result supports the results of previous studies; this inconsistency may be due to the differences in sampling and tools used in some studies. For example, the previous study by Forouzan, Mahmoodi, Shushtari, Salimi, Sajjadi & Mahmoodi (2013) was conducted on physically disabled people of both sexes (males and females) and regardless of the type of disability. While Fyrand, Moum, Finset, Glennas (2002) conducted a study only on women with disabilities of rheumatoid arthritis where their findings showed only a significant correlation between the variables of social companionship and severity of the disability. Another study by Brien et al. (1993) study population consisted of patients with multiple sclerosis, which was different from the participants in the current study, and this may be a reason for the differences between the two studies.

The Relationship between Social Support Factors and the Importance of Physical Activity Participation towards Persons with Disabilities

There is a significant relationship between social support and the importance of physical activity participation towards persons with disabilities. Over half of physically disabled females said they felt encouraged to participate in physical activity when watching other individuals with disabilities participate. They felt discouraged by the motion of participation solely for rehabilitative reasons (Calzonetti, 1988). People with disabilities feel encouraged when they look at people in their surroundings doing physical activity and motivated to join them. This finding is concurrent with the past study that relates the relationships between leisure activities, social support, and happiness experienced by persons with disability through participation in social activities which also showed positive associations of happiness in both young and older adults. For example, Lu and Hu (2005) found that extrovert college students, who engage in social and physical activities reported higher happiness levels. Even youths who have physical disabilities and whose life are heavily dependent on family for assistance with everyday tasks, has been reported by Wilson, Washington, Engel, Ciol & Jensen (2006) to experience higher level of happiness when participating in physical activities.

CONCLUSION

The study proved that physical activity participation gives many benefits and had importance to persons with disabilities. Besides that, a significant factor that influences persons with disabilities to participate in physical activity is a social factor from family and friends. Knowledge about the importance of physical activity is most needed for either able or disabled persons. Besides that, there are more factors that contribute to physical activity participation in either positive or negative factors. The limitation in the current study is that the level of quality and quantity of social support received by the persons with disability cannot be measured. Future study can be related to creating a physical activity model relating exercise and persons with disabilities. Currently, there is no models were found relating physical activity behaviour, its determinants and functioning in people with a

disability. Consequently, a new model, the Physical Activity for people with a Disability (PAD) model, was constructed based on existing models of disability and models of determinants of physical activity behaviour. The starting point was the new WHO Model of Functioning and Disability, part of the International Classification of Functioning, Disability and Health (ICF), which describes the multidimensional aspects of functioning and disability. Physical activity behaviour and its determinants were integrated into the ICF model. The factors determining physical activity were based mainly on those used in the Attitude, Social influence and self-Efficacy (ASE) model. The proposed model can be used as a theoretical framework for future interventions and research on physical activity promotion in the population of people with a disability.

ACKNOWLEDGEMENT

An appreciation goes to the Dean, Faculty of Sports Science and Recreation and the Faculty's Human Resource Committee to provide funding for the conference and the paper publication.

REFERENCES

- Abdullah, N.M., Tumijan, W., Parnabas, V., Shapie, M.N.M., Mohamed, M., Hamid, N.A & Ahmad, A. (2015) in S.I. Ismail et al. (eds.), *Proceedings of the 2nd International Colloquium on Sports Science, Exercise, Engineering and Technology 2015 (ICoSSEET 2015)*, DOI 10.1007/978-981-287-691-1_22.
- Akbarian, M.S. (2007). Disability with approach of social welfare. *J Student Mohaghegh*; 1(2):47-55.
- Allen, S.M., Ciambone, D., Welch, L.C. (2000). Stage of life course and social support as a mediator of mood state among persons with disability. *J Aging Health*; 12(3):318-41
- Anderson, K. K. (2011). *Participation and children with physical disabilities: A program evaluation of a physical activity Curriculum for children with physical disabilities in the fargo moorhead area.* (3479503 Ph.D.), North Dakota State University, Ann Arbor. Retrieved from <http://search.proquest.com.ezaccess.library.uitm.edu.my/docview/897114218?accountid=42518> ProQuest Dissertations & Theses Global database.
- Anderson, C., Grant, R. L., & Hurley, M. V. (2017). Exercise facilities for neurologically disabled populations—perceptions from the fitness industry. *Disability and Health Journal*, 10(1), 157–162.
- Brundage, V. M. (2011). *The influence of parent/caregiver physical activity levels on the physical activity levels of children/adults with disabilities.* (1498497 M.S.), Indiana University of Pennsylvania, Ann Arbor. Retrieved from <http://search.proquest.com.ezaccess.library.uitm.edu.my/docview/894086300?accountid=42518> ProQuest Dissertations & Theses Global database.
- Chan, W., Immink, M. A., & Hillier, S. (n.d.-a). *Yoga and Exercise for Symptoms of Depression and Anxiety in People With Poststroke Disability: A Randomized, Controlled Pilot Trial.* 11.
- Calzonetti, K. A. (1988). *Participation in physical activity by disabled females in Canada.* (ML45620 M.Sc.), University of Alberta (Canada), Ann Arbor. Retrieved from <http://search.proquest.com.ezaccess.library.uitm.edu.my/docview/303589537?accountid=42518> ProQuest Dissertations & Theses Global database.
- Carroll, D. D., Courtney-Long, E. A., Stevens, A. C., Sloan, M. L., Lullo, C., Visser, S. N., & Dorn, J. M. (2014). *Vital signs: Disability and physical activity — United States, 2009–2012.* Morbidity and Mortality Weekly Report, 63(18), 407–413.
- Coty, M-B.W., Kenneth, A. (2010). Problematic social support, family functioning, and subjective well-being in women with rheumatoid arthritis. *Women Health*; 50(1):53–70.
- DNIS. (2013). the needs of disabled persons in Malaysia are still seen largely as a welfare function. [Online]. Available: http://www.dnis.org/print_interview.php?interview_id=150.
- Forouzan, A.S., Mahmoodi, A., Shushtari, Z.J., Salimi, Y., Sajjadi, H., & Mahmoodi, Z. (2013). Perceived Social Support among People with Physical Disability, *Iranian Red Crescent Medical Journal.* August; 15(8): 663-7.
- Fyrand, L, Moum, T., Fin, A., Glennas, A. (2002). The impact of disability and disease duration on social support of women with rheumatoid arthritis. *J Behav Med.*; 25(3):251-68.
- Güven B., Kara F.M., Özdedeöglu B. (2019). The socialization process for women with disabilities in sports: A double barrier?. *Pamukkale Journal of Sport Sciences*, 10(3):7-17. <https://dergipark.org.tr/tr/download/article-file/904355>.
- Harrison, T. C., Umberson, D., Lin, L.-C., & Cheng, H.-R. (2010). Timing of Impairment and Health-Promoting Lifestyles in Women with Disabilities. *Qualitative Health Research*, 20(6), 816–829. <https://doi.org/10.1177/1049732310362987>.
- Heidarzadeh, M.G.A, Hagigat, A., Yoosefi, E. (2009). Relationship between Quality of Life and Social Support in Stroke Patients. *IJN*; 22(59):23-32.
- Howard, M. (1999). "Social exclusion zone," *The Guardian*, July 28.
- Islam, M., R. (2015). Rights of the People with Disabilities and Social Exclusion in Malaysia. *International Journal of Social Science and Humanity*, Vol. 5, No. 2, February 2015.
- Jensen, M.P., Smith, A.E., Bombardier, C.H., Yorkston, K.M., Miró, J., Molton, I.R. (2014). Social support, depression, and physical disability: age and diagnostic group effects. *Disabil Health J.*; 7(2):164–72.

- Jin, J., Yun, J., & Agiovlaitis, S. (2017). Impact of enjoyment on physical activity and health among children with disabilities in schools. *Disability and Health Journal*. <https://doi.org/10.1016/j.dhjo.2017.04.004>.
- Jeong, J., & Yu, J. (2018). Prevalence and influencing factors of metabolic syndrome among persons with physical disabilities. *Asian Nursing Research*, 12(1), 50–
- John, D. (2006). *Relationship of personal, attitudinal, and environmental factors to exercise in persons with disability*. (3233209 Ph.D.), University of Illinois at Chicago, Health Sciences Center, Ann Arbor. Retrieved from <http://search.proquest.com.ezaccess.library.uitm.edu.my/docview/304934666?accountid=42518> ProQuest Dissertations & Theses Global database.
- Logan, K.R., Jacobs, H.A., Gast, D.L., Murray, A.S., Daino, K, Skala, C. (1998).The impact of typical peers on the perceived happiness of students with profound multiple disabilities. *J Assoc Pers Severe Handicaps*; 23:309e318.
- Lu, L., Hu, C.-H. (2005). Personality, leisure experiences and happiness. *J Happiness Stud*. 6(3):325e342.
- Matcham, F., Ali, S., Irving, K., Hotopf, M., & Chalder, T. (2016). Are depression and anxiety associated with disease activity in rheumatoid arthritis? A prospective study. *BMC Musculoskeletal Disorders*, 17(1), 155.
- Mansfield, A., Knorr, S., Poon, V., Inness, E. L., Middleton, L., Biasin, L., Brunton, K., Howe, J.-A., & Brooks, D. (2016). Promoting Optimal Physical Exercise for Life: An Exercise and Self-Management Program to Encourage Participation in Physical Activity after Discharge from Stroke Rehabilitation—A Feasibility Study. *Stroke Research and Treatment*, 2016, 1–10. <https://doi.org/10.1155/2016/9476541>
- Jeffrey J. Martin (2013). Benefits and barriers to physical activity for individuals with disabilities: a social-relational model of disability perspective *Disabil Rehabil*, Early Online: 1–8; <http://informahealthcare.com/dreISSN 0963-8288 print/ISSN 1464-5165 online>.
- Mazur, E. (2008). Negative and positive disability-related events and adjustment of Parents with acquired physical disabilities and of their adolescent children. *Journal of Child and Family Studies*, 17(4), 517–537.
- Mehrotra, N. (2004). Women, Disability and Social Support in Rural Haryana. *Econ Politic Week*; 39(52):5640-4.
- Molton, I. R., Terrill, A. L., Smith, A. E., Yorkston, K. M., Alschuler, K. N., Ehde, D. M., & Jensen, M. P. (2014). Modeling secondary health conditions in adults aging with physical disability. *Journal of Aging and Health*, 26(3), 335–359.
- Motl, R.W., McAuley, E., Snook, E.M., & Gliottoni, R.C. (2009). Physical activity and quality of life in multiple sclerosis: intermediary roles of disability, fatigue, mood, pain, self-efficacy and social support. *Psychol Health Med*; 14(1):111-24.
- O'Brien, M.T. (1993). Multiple sclerosis: the role of social support and disability. *Clin Nurs Res*; 2(1):67-85.
- Okoro, C. A., Hollis, N. D., Cyrus, A. C., & Griffin-Blake, S. (2018). *Prevalence of disabilities and health care access by disability status and type among adults—United States, 2016*. Morbidity and Mortality Weekly Report, 67(32), 882.
- Ortiz-Castillo, E. M. (2011). *Physical activity patterns and factors influencing physical activity participation among adolescents with physical disabilities in urban communities*. (3493243 Ph.D.), the Ohio State University, Ann Arbor. Retrieved from <http://search.proquest.com.ezaccess.library.uitm.edu.my/docview/919556867?accountid=42518> ProQuest Dissertations & Theses Global database.
- Perrier, M.-J. (2013). *getting the ball rolling: Sport and leisure time physical activity promotion among individuals with acquired physical disabilities*. (NS27844 Ph.D.), Queen's University (Canada), Ann Arbor. Retrieved from <http://search.proquest.com.ezaccess.library.uitm.edu.my/docview/1510626568?accountid=42518> ProQuest Dissertations & Theses Global database.
- Pagan, R (2015).How do leisure activities impact on life satisfaction? Evidence for German people with disabilities. *Applied Research in Quality of Life*. 2015; 10(4): 557e572.
- Pahor, M., Guralnik, J. M., Ambrosius, W. T., Blair, S., Bonds, D. E., Church, T. S., & King, A. C. (2014). *Effect of structured physical activity on prevention of major mobility disability in older adults: the LIFE study randomized clinical trial*. JAMA, 311(23), 2387–2396.
- Pitchford, E. A., Siebert, E., Hamm, J., & Yun, J. (2016). Parental perceptions of physical activity benefits for youth with developmental disabilities. *American Journal on Intellectual and Developmental Disabilities*, 121(1), 25-32, 74, 76. Doi:<https://doi.org/10.1352/1944-7558-121.1.25>
- Poltawski, L., Boddy, K., Forster, A., Goodwin, V. A., Pavey, A. C., & Dean, S. (2015). Motivators for uptake and maintenance of exercise: Perceptions of long-term stroke survivors and implications for design of exercise programmes. *Disability and Rehabilitation*, 37(9), 795–801.
- Sungur, M., Güven, B. (2021). Investigating the Perceptions of Individuals with Disabilities Related to Participating into Exercise. *Pamukkale Journal of Sport Sciences*, Online First © 2021.
- Tough, H., Siegrist, J., & Fekete, C. (2017). Social relationships, mental health and Wellbeing in physical disability: A systematic review. *BMC Public Health*, 17(1), 414.
- Rauzon, T. A. (2002). *Barriers to participation in physical activity/exercise for women with physical disabilities*. (3045014 Ph.D.), The University of Utah, Ann Arbor. Retrieved from <http://search.proquest.com.ezaccess.library.uitm.edu.my/docview/305481998?accountid=42518> ProQuest Dissertations & Theses Global database.
- Richardson, E. V., Smith, B., & Papatomas, A. (2017a). Crossing boundaries: The perceived impact of disabled fitness instructors in the gym. *Psychology of Sport and Exercise*, 29, 84–92.
- Richardson, E. V., Smith, B., & Papatomas, A. (2017b). Disability and the gym: Experiences, barriers and facilitators of gym use for individuals with physical disabilities. *Disability and Rehabilitation*, 39(19), 1950–1957.
- Richardson, E. V., Smith, B., & Papatomas, A. (2017c). Collective stories of exercise: Making sense of gym experiences with disabled peers. *Adapted Physical Activity Quarterly*, 34(3), 276–294.

- Szabo, A., Griffiths, M. D., & Demetrovics, Z. (2019). *Psychology and exercise. In Nutrition and enhanced sports performance.* pp. 63–72. Academic Press.
- Scholl, K., McAvoy, L., Rynders, J., & Smith, J. (2003). The influence of an inclusive outdoor recreation experience on families that have a child with a disability. *Am J Recreat Ther*; 37:38–57.
- van Leeuwen, C.M., Post, M.W., van Asbeck, F.W., Bongers-Janssen, H.M., van der Woude, L.H., de Groot, S., Lindeman, E. (2012). Life satisfaction in people with spinal cord injury during the first five years after discharge from inpatient rehabilitation. *Disabil Rehabil*; 34(1):76–83.
- van der Ploeg, H.P., van der Beek, A.J., van der Woude, L.H.V., & van Mechelen, W. (2004). Physical activity for people with a disability: a conceptual model. *Sports Med*;34(10):639-49. doi: 10.2165/00007256-200434100-00002.
- Villanueva-Flores, M., Valle, R., & Bornay-Barrachina, M. (2017). Perceptions of discrimination and distributive injustice among people with physical disabilities: In jobs, compensation and career development. *Personnel Review*, 46(3), 680–698.
- Wilson, S., Washington, L.A., Engel, J.M., Ciol, M.A., & Jensen, M.P. (2006). Perceived Social Support, Psychological Adjustment, and Functional Ability in Youths With Physical Disabilities; *Rehabilitation Psychology*; Vol. 51, No. 4, 322–330.
- Wilhite, B., Martin, D., & Shank, J. (2016). Facilitating physical activity among adults with disabilities. *Therapeutic Recreation Journal*, 50(1), 33-54. doi: <http://dx.doi.org/10.18666/TRJ-2016-V50-I1-6790>
- Zhang H, Zhou T, Zhang Y, Xu Y. (2011). Correlation between social support and depression in elderly stroke patients in the sequelae stage from five communities of shanghai. *China Neural Regener Res*; 6(19):1493–7.