

# Sports for The Disabled: Preferences and Perceived Barriers

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**Abstract**— A greater proportion of adults with disabilities have no engagement in physical activity compared to those without disabilities (Healthy People, 2010). Often there are multiple barriers that can make it difficult for people with disabilities to function. So the aims of this study are to identify the preferences in sport activities and barriers faced in physical activity involvement among people with disabilities (PWDs). A total of 28 adults with learning and physical disabilities were chosen as respondents from a specialized organization that provides support for adults with disabilities in Malaysia. A set of questionnaires was used in identifying their preferences in physical activity participation and interviews were conducted in examining the barriers faced. Results in general showed that respondents seemed to be more interested in individual sports such as swimming, bowling and dancing. It was also found out that the common barriers that obstruct from physical activity participation include facilities, time, accessibility, personal reason and cost for people with Physical Disabilities, whereas time, costs and facilities were faced by Learning Disabilities adults. Seeking sponsorships for sporting equipment and wheelchair modification may help them in terms of cost.

**Keywords**— *People with Disabilities, Perceived Barriers, Physical Activity*

## I. INTRODUCTION

Establishing health objectives for a population is an important component of programs aimed at improving and protecting public health in many parts of the world. At whatever level it is used, a community or country level for instance, a support system is needed to develop and attain health objectives tailored to specific needs and circumstances, for example, for people with disabilities. People with disabilities are referred to as individuals who lack ability in performing any activities within the range that considered as normal for human being. People with disabilities are among the most marginalized groups in the world. They usually have poorer health outcomes, lower education achievements, less economic participation and higher rates of poverty than people without disabilities according to World Health Organization, 2017. However, disability is now a human rights issue, they have all the possible rights to get access to facilities and participate in any programs in sports, leisure and recreation despite barriers that still exist. These barriers can be overcome,

if governments, non-governmental organizations, professionals and people with disabilities and their families work together.

One important aspect to ensure wholesome wellness and active lifestyles are participation in physical activities and sports. Thus, understanding their needs and preferences and identifying the barriers faced in sports participation can help people with disabilities to be more independent in choosing their activities. This research aims to investigate the preferences of sports activities among people with disabilities (PWD) and examine the barriers faced towards participation. This study hopes to give significant contributions to various organizations supporting PWDs in terms of ideas in promoting types of sports and physical activities preferred and accessibility suitable for them.

Physical activity is necessary for everyone including children, students, teenagers, adults as well as for people with disabilities (PWDs) for healthy living and prevention for illness. World Health Organization (2011) reported that only 12-20% represents the population of people with disabilities that are actively involve. This could be due to several reasons that prevent them from participation. For example, low self-esteem, lack of facilities and not given full access are some of the reasons. Moreover, many sport centers do not provide special facilities and accessibility to people with disabilities to enter the place, when active life-styles will enhance overall well-being, promotes inclusion and maximizes physical functioning [12]. It also helps to reduce the risk of chronic diseases, improve high blood pressure and low strength, quality of life and functional status [3][9].

Research also found that individuals with physical disabilities that have low levels of physical activity tend to involve more on sedentary lifestyle and inactive activities [21]. They tend to participate in physical activity in more relaxes and spontaneous activities that are usually in slow tempo and they take longer periods of time as compared to people without disabilities [4]. The lack of Physical Activity (PA) involvement is further reduced by barriers faced such as social support, physical environment factors and cost [3], that are not only faced by PWDs but also people without disabilities.

Theory of planned behavior (TPB) is used to explain the framework of physical activity participation. It can be described as a theoretical model that used to predict the barriers

that obstruct people with disabilities from participating in sport activity. Studies on human behavior have resulted in a multitude of theories and assumptions in which not all people react in the same way, or behave in the same manner, even under the exact same circumstances. What more if one individual has a different ability with one another. It is a reason why people would react in different scenarios. This theory also predicts the way to perform certain behavior that includes three measurable constructive parts which are attitude towards behavior, subjective norms and perceived behavioral control.

The Theory of Planned Behaviors (TPB) is an extension of the Theory of Reasoned Action (TRA) [7][1]. Both models are based on the premise that individuals make logical, reasoned decisions to engage in specific behaviours by evaluating the information available to them. This social cognitive theory shows the relationship between attitudes and behaviors.

The TPB is applicable in the study of PA, as PA is a behavior that potentially has many obstacles and only to some extent is under personal control [2]. The TPB therefore has been widely used for predicting and explaining PA motivation and behavior in older adults [5][11][24][10]. So, according to the TPB, individuals are likely to engage in a PA if they believe that the behavior will lead to particular outcomes which they value, and if they feel that they have the necessary resources and opportunities to perform the behavior.

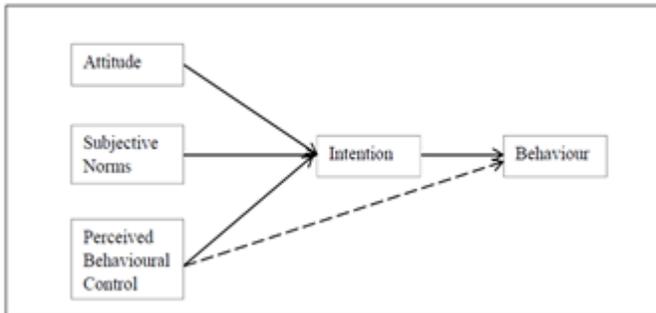


FIG. 1. Theory of Planned Behavior (TPB)

In most countries, people with disabilities are more likely to choose lower rate in sport and active recreation in participation rather than other population [8][12].

Previous research has shown that male youth preferred chess, darts, basketball and swimming [23]. In addition, people that have physical disabilities are more likely to participate in chess and darts as the games require minimal physical effort and do not involve many people [23]. Besides, basketball and swimming represent traditional sport activities that are commonly involved by male and attract physically disabled people as well.

For example, basketball is famous among young Chinese in Hong Kong [20]. As contrast from all of the games above, physically disabled especially men are really not interest in rhythmic activities such as gymnastics, combative sports such as wrestling and fencing also balance challenging sport which is canoeing. As for female, they are likely tend to get involve in swimming, table tennis and also chess [22]. Other study also

showed that women with physical disabilities were more likely to participate in physical activity as compared to women with intellectual disability [13].

According to [3], the most important barriers to the physical activity faced by PWDs are costs, physical environment factor and social support. Other barriers that require special considerations include the need for moral support, knowledge of opportunities, affordability and also transportation for those who have intellectual disabilities. Other social barriers faced may involve parental actions and lack of friends or unsupportive peers that prevent them from physical activity participation [19]. Other study indicated that some PWDs have supportive families that encourage participation in physical activity so they experience the benefits of physical activity. However, some parents do not believe their children’s abilities in physical activities [18]. Other studies have indicated a relation between outdoor built environment barriers among older adults with mobility disabilities which identified curbs ramps, parking, lighting, ramps, crosswalks, walking trails and safety as barriers faced by PWDs. This is supported by other researches on the physical barriers that limit PA participations [16][15].

II. MATERIALS AND METHODS

A set of questionnaire and interviews were conducted to identify preferences and barriers faced in sports/Physical Activity participations. The samples are Persons with Disabilities (PWDs) at a specialized organization under Social Welfare Department that provides support for adults with disabilities in Malaysia. A simple random sampling technique from two categories of disabilities was chosen to obtain the results.

TABLE I. TYPES OF DISABILITIES AND GENDER

Types of Disabilities	Total
Physical Disabilities	7 (5 male and 2 female)
Learning Disabilities	21 (13 male and 8 female)

A total of 28 respondents were chosen to answer the questionnaires and interviews conducted. 7 respondents were physically challenged with 4 on wheelchairs and 21 respondents with learning disabilities which include slow learners, Dyslexic and ADHD. They are adults with age range from 18-53 years old.

TABLE II. CATEGIROES OF SPORTS AND BARRIERS

	Preferences	Barriers
	Based on categories of sports :	Based on seven dimension (Barriers) :
i.	Team sports (e.g. basketball, futsal, handball, netball, etc.)	i. Awareness
ii.	Racquet sports (e.g. badminton, squash, table tennis, etc.)	ii. Accessibility
iii.	Athletics & Fitness sports (e.g. 100m running, long jump, high jump, body building, gymnastic, etc.)	iii. Personal Reason
iv.	Flexibility exercise (e.g. yoga, tai chi, etc.)	iv. Costs
v.	Other sports (e.g. snooker, bowling, cycling, dancing, motor sports, swimming, etc.)	v. Time commitment
		vi. Facilities
		vii. Others

Five categories of sports were chosen with responses using 5 Likert Scale from Not Preferred to Highly Preferred. The examples of types of sports were given and explained to the respondents. The items for barriers were adopted from [14] on barriers on physical activity faced by PWDs. Respondents need to rank the levels of difficulties faced and describe other possible barriers that they may encounter.

**III. RESULTS AND DISCUSSION**

Preferences in Physical Activities and sports from two different disabilities are shown in Table III below

**TABLE III. PREFERENCES IN TYPES OF SPORTS BETWEEN DISABILITIES**

	Condition	N	Mean	Std. Deviation
Team Sports	Physical Disabilities (PD)	7	3.00	1.528
	Learning Disabilities (LD)	21	3.29	1.231
Racquet Sports	Physical Disabilities	7	3.43	1.618
	Learning Disabilities	21	3.52	1.078
Athletics & Fitness Sports	Physical Disabilities	7	2.71	1.890
	Learning Disabilities	21	2.57	1.434
Flexibility Exercise	Physical Disabilities	7	2.43	1.618
	Learning Disabilities	21	2.57	1.469
Other Sports	Physical Disabilities	7	3.71	1.890
	Learning Disabilities	21	3.95	.865

Table III shows the preferences of activities and sports by two different types of disabilities. The highest mean score M=3.95 for LD followed by M =3.71 for PD indicated that “Other Sports” is most preferred. The listings they provided for other sports were swimming, bowling and dancing. This indicates the choice of sports that are more fun, flexible in terms of motion and intensity and can be done individually or in a team.

**TABLE IV. SUMMARIES OF BARRIERS FACED BY PEOPLE WITH PHYSICAL DISABILITIES**

BARRIERS	SUMMARY OF FINDINGS
1. Facilities	Not enough and not suitable
2. Personal Reason	Health condition, age
3. Accessibility	Limited accessibility
4. Costs	Not enough money
5. Time Commitment	Less time because of working
6. Awareness	Lack of knowledge of physical activity
7. Others	Love to involve in sports

Table IV shows the rank of barriers decided by respondents who have physical disabilities. Most of them agreed that lack of facilities prevented them from engaging in sports. Even there were some, but not suitable for wheelchair users. For example, according to PD3, “This Workshop Center provides facilities that are not suitable with our conditions”. This is very much related to the accessibility towards facilities for physical activities. Personal reasons include matters like “I cannot be independent” by PD1 and “I have Asthmatic, and I am tired to participate,” by PD6 were some examples given which basically related to intrinsic barriers.

**TABLE V. SUMMARIES OF BARRIERS AMONG PEOPLE WITH LEARNING DISABILITIES**

BARRIERS	SUMMARY FROM FINDINGS
1. Time Commitment	Lack of time.
2. Costs	Do not have enough money (small salary)
3. Facilities	Lack of facilities and insufficient equipment.
4. Awareness	Have knowledge about physical activity but need support from others.
5. Accessibility	No transport Difficult to access to facilities provided.
6. Personal Reason	Low self-confidence.
7. Others	Need friends to participate in physical activity No family or relatives

Table V shows the analysis for barriers which were divided into seven dimensions which are awareness, accessibility, personal reason, costs, time commitment, facilities and others. A total of 21 respondents from learning disabilities who have dyslexia, ADHD, Down Syndrome and slow learners have participated. The highest barrier faced by them was insufficient time for playing. The center prepares the disabled with some work experience in specific field and their working hours are from 8:30-5:00pm, thus it is not enough time to play sports, especially team sports. In many occasions they need to travel far to play certain sports due to lack of appropriate facilities and equipment.

The issue is related to cost. Cost is another barrier because with low salary received, the money is used for other necessities. Most of them considered sports as expensive. Money is needed to buy proper shoes, equipment and attire. For example, PD5 explained “*I’d like to play bowling but I need more money to go to a place that has bowling alleys*”. Lack of family involvement, facilities, programs and accessibility can be factors or barriers towards participating in sport activity [12][15].

**IV. CONCLUSION**

The findings imply that promoting PWDs in engaging in more sporting activities may be a way to improve health and reduce sedentary behaviour. Health promotion, organized leisure activities and the practice of a healthy diet are the basic

components of encouraging PWDs towards healthy life styles and active involvement in sports.

Talent identification programs in all institutions for disabled should be widely incorporated so consistent physical activity involvement is practiced widely. Sports practice can be carried out on daily basis under the guidance of skilled coaches. Activities involving both the disabled and non-disabled will encourage inclusion in organized physical activities in order to increase sports participations.

Institutions, organizations and workshops serving for PWDs should be barrier free for easy access to facilities and play areas to increase the rate of participation of the disabled in sports. Facilities for disabled people should be characterized as easy access to the recreation areas to encourage physical activities. Sports equipment should vary to suit different age groups and disabilities, and according to the preferences of members.

Since there are many designs and different levels of technology from simple to more computerized technology, equipment and wheelchairs can be expensive. Thus, seeking sponsorships for sporting equipment and wheel-chair modification may help them in terms of cost and encourage more involvement in sports.

Finally, more opportunities for competitions and game innovations, also flexible time should be given to give freedom of choice in time for involvement.

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