

Fatt & Rasid, 2017

Volume 3 Issue 3, pp. 836-853

Date of Publication: 21st December, 2017

DOI-<https://dx.doi.org/10.20319/pijss.2017.33.836853>

This paper can be cited as: Fatt, O., & Rasid, A. (2017). Influence of Exposure on Public Acceptance towards Physical Activity Involvement of People with Disabilities (PWD): Exploring the Mediating Role of Attitude Using SEM Approach. PEOPLE: International Journal of Social Sciences, 3(3), 836-853.

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INFLUENCE OF EXPOSURE ON PUBLIC ACCEPTANCE TOWARDS PHYSICAL ACTIVITY INVOLVEMENT OF PEOPLE WITH DISABILITIES (PWD): EXPLORING THE MEDIATING ROLE OF ATTITUDE USING SEM APPROACH

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Abstract

Societal acceptance towards disability can have a distressing impact upon the self-confidence and self-image of people with disabilities (PWD), which can discourage the involvement of person with disabilities in physical activity. This study aims to examine the causal relationships of exposure and attitude components on public acceptance towards PWD involvement in physical activity. A convenience sampling technique was utilized to collect data from the public (n=444), at four urban Public Recreation Park in Klang Valley, Malaysia. Structural equation modeling analysis was utilized to assess the hypothesized conceptual model, and examines the relationship among the constructs. Attitude ($\beta=.473$, $p<.01$) displays stronger influence on public acceptance compared to exposure ($\beta=.204$, $p<.01$). The findings revealed the partial

mediating role of attitude in the relationship between exposure and public acceptance towards PWD involvement in physical activity. The findings suggest the need for public to have more exposure (experience, knowledge, contact) with the disabled community, which will cultivate positive attitude and hence improve the acceptance towards PWD involvement in physical activity. Future study can include meaningful assessment of other different factors, including their moderating effects. Implications of the result for future practice and directions of research were discussed.

Keywords

Exposure, Attitude, Public Acceptance, People with Disabilities

1. Introduction

People who participate in sports activity enjoy psychological benefits such as better self-esteem, confidence and belief in their skills and abilities. It has been well documented that physical activity participation offers various physical benefits for person with disabilities (PWD), which include improving blood circulation, building stronger muscles, enhancing better balance and co-ordination. Besides, it also provides a platform for PWD in acquiring life skills.

In Malaysia, the Persons with Disabilities Act 2008 has stated that disabled people shall have the right to participate in recreational, leisure and sport activities on an equal basis with person without disabilities. This brings to the existence of the Malaysian Standard (MS) in the Uniform Building (Amendment) By-Laws (UBBL) 1991 to fulfill the requirement of providing equal accessibility for PWD (Haryati et al., 2016). This form of Act has encouraged PWD to seek variety of physical activity opportunities and to request inclusion in community life. Though many countries have taken serious initiatives in promoting physical activity participation among PWD, somehow, the society itself still reveal lack of support for this population (Bult, Verschuren, Jongmans, Lindemen, & Ketelaar, 2011). A growing body of evidence revealed that the attitudes of others has been a major barrier to access public services, education, transportations, leisure activities, accessibility outside the home and social contact for PWD (Lijuan & Lin, 2015). Many of the obstacles encountered by PWD involvement in physical activity are caused by societal attitudes (Ozer et al., 2012). Specifically, Malik and Abdul Manaf (2015) also highlighted that there is lack in the awareness about the importance of social

adjustment towards physically handicapped children in the society. Consequently, negative societal perceptions towards disability can have a disturbing effect on self-confidence and self-image of PWD, which subsequently deter their involvement in physical activity.

Desire to be accepted by other people is one of the basic human needs. Social acceptance by normal people towards physical activity participation for the disabled play a vital role in motivating them to get more involved in physical activity. Past researches often approach these issues from two perspectives, which focus on the external and internal factors. The external factors are related to exposure which concerns with previous experience, knowledge and contacts (Ferrara, Burns, & Mills, 2015; Helene, Philip, Hilary, & Elizabeth, 2010). On the other hand, attitude was identified as the main internal factor (Bebetsos, Derri, Zafeiriadis, & Kyrgiridis, 2013). In order to further understand public acceptance towards people with disabilities participation in physical activity, the present study attempts to examine the issue from the socio-psychological aspect involving external factor such as exposure, and the internal factor which concerns attitude. The relationships among the variables were explored utilizing structural equation modeling technique. Thus, the objectives of the present study were:

- To identify the relationship between exposure and public acceptance towards people with disabilities involvement in physical activity.
- To determine the relationship between attitude and public attitude towards people with disabilities involvement in physical activity.
- To assess the mediation effect of attitude in the relationship between exposure and public acceptance towards people with disabilities involvement in physical activity.

2. Literature Review

2.1 Public Acceptance

Public acceptance is defined as the willingness of public to recognize, live near, or be related to a certain group of individual (Helene et al., 2010). Cummins & Lau (2003) noted that negative public acceptance is the outcome of stigmatization and discrimination of the society towards individuals with disabilities, which caused reduced self-esteem and feelings of isolation among PWD. To identify the predictors of the intention (acceptance) of public towards

involvement of PWD in physical activity, this study explore the influence of exposure and public attitude towards disabled people.

2.2 Public Attitude

Attitude consist of three components which are, affective (feelings/emotions), cognitive (beliefs/knowledge) and behavioral. The affective component represents the emotional reactions formed through appraisal of a certain object, concept, or behavior (Ajzen & Fishbein, 1980). Cognitive refers to idea, thoughts and perceptions towards the target object. The behavioral component consists of the willingness to involve in actual behaviors based on the thoughts and emotions (Batsio, Bebetos, Panteli, & Antoniou, 2006). Fundamentally, personal attitude may be describes as a belief or opinion held by an individual about referent object. Public/societal attitude, on the other hand, refers to prevailing beliefs influenced and advocated by any cultural orientation, historical background, governments or other dominant conditions (Daruwalla & Darcy, 2005). Societal attitudes tend to be a more critical part to change compared to individual attitudes. The values of the attitude components, as well as their relative weight in predicting public acceptance vary from person to person depending on a variety of cultural, individual and social factors.

2.3 Exposure

According to 'contact' hypothesis by Allport (1954), properly managed contact between groups could reduce issues of prejudice, stereotyping, and discrimination. In other words, greater exposure of the public to the disadvantaged group would possibly result in a positive shift in attitudes of publics towards the stigmatized disabled group. In relation to this, Ferrara et al. (2015) have found that with more structured contacts, it will be helpful in increasing positive attitudes. Block & Obrusnikova (2007) has mentioned that previous exposure to disability, such as with friends or family members can positively affect the attitudes of children without disabilities towards their peers with disabilities. Studies have also consistently shown that being more knowledgeable in a subject area has the ability to change attitudes. Krahe and Altwasser (2006) revealed that exposure to PWD plays an important role in improving the attitudes of non-disabled people. This idea of exposure and the contact hypothesis are the major concepts behind inclusion.

3. Research Framework and Hypotheses

The framework of the present study comprises three constructs i.e. exposure, public attitude and public acceptance. Based on Ferrara et al. (2015) study, it was found that there is a direct relationship between exposure and public acceptance. Other studies based on Ajzen's (1985) Theory of Reasoned Action also proposed the existence of a direct relationship between attitude and public acceptance, in which intention to accept (public acceptance) is influenced by people's attitude.

Based on Werner and Grayzman (2011) study, it was found that public who have positive attitudes and greater exposure towards people with disabilities were found to have a higher intention to accept them in community. Hence, the current study hypothesized that public attitude possesses a mediation influence in the relationships of exposure and public acceptance.

Based on the research model (Figure 1), three hypotheses were formulated as follows:

H1: Exposure has significant influence on public acceptance

H2: Attitude has a significant influence on public acceptance.

H3: The influence of exposure on public acceptance is mediated by public attitudes.

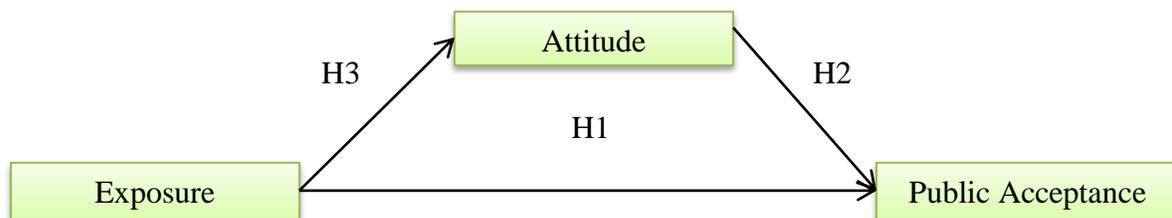


Figure 1: Conceptual Framework and Hypotheses of the Study

4. Research Methodology

4.1 Study Sites and Selections of Respondents

Collection of data was carried out at four urban public recreational parks in Klang Valley Malaysia. The urban Public Recreation Parks involved were, Taman Tasik Titiwangsa Kuala Lumpur, Wetland Putrajaya, Taman Tasik Shah Alam and Taman Subang Ria, Subang Jaya. The four parks were chosen based on their facilities, transportation and activities that were provided at these parks. A total of 500 self-administrated questionnaires were distributed to the public, during their resting time after performing physical activity at the urban Public Recreation Parks.

A total of 444 usable questionnaires were acquired, which represented 88.8% response rate. This high response rate may be due to the on-site presence of the researcher in facilitating the completion of questionnaires.

4.2 Questionnaire Design

This is a quantitative research utilizing structured closed ended questionnaires for data collection. The survey questionnaire was adopted and adapted based on a review of past research, to form a suitable questionnaire for the study. Section A contained items about demographic profiles of respondents regarding gender, marital status, race, age, occupation and education level. The second section comprises 23 items, with 17 items on attitude and 6 items on exposure. Three attitude dimensions which consists of cognitive, affective and behavior components, was developed with reference to Findler, Vilchinsky, and Werner (2007). The items were measured using a 7-point Likert scale. For the exposure measure, six items were used to measure how frequently they are exposed to PWD in daily life. These items were adapted from Toran, Muhammad, Yasin, Tahar, and Hamzah (2010) study. Section C consists of six items on intention to accept PWD’s involvement in physical activity, which were adapted from Bebetos et al. (2013).and were measured utilizing 7-point Likert scale.

5. Data Analysis and Results

Statistical Package of Social Science (SPSS) program version 20.0 and Analysis of Moment Structure (AMOS) were employed to analyze the collected data. The demographic profile of respondents was presented in Table 1, whereas Table 2 depicted the result of Exploratory Factor Analysis (EFA) for public attitude.

Table 1: *Profile of Respondents*

Demographic characteristic	Frequency (N=444)	Percentage
Gender		
Male	198	44.6
Female	246	55.4
Marital Status		
Married	163	36.7
Single	278	62.6
Others	3	0.7
Age (years)		

20-29	292	65.8
30-39	76	17.1
40-49	38	8.6
50-59	20	4.5
>60	18	4.1
Race		
Malay	227	51.1
Chinese	159	35.8
Indian	58	13.1
Education Level		
Primary	10	2.3
Secondary	122	27.5
Diploma	172	38.7
Degree	115	25.9
Postgraduate	25	5.6
Occupation		
Government	94	21.2
Retiree	16	3.6
Social Worker	34	7.7
Business	87	19.6
Housewife	14	3.2
Private	78	17.6
Student	93	20.9
Others	28	6.3

In terms of demographic profile, female (55.4%) respondents were slightly more than the males (44.6%). Respondents who were single comprises two-third (62.6%) of the total number of respondents. Young adult aged between 20 and 29 years old (65.8%), forms the majority of the respondents. In terms of race, most respondent were Malays (51.1%) followed by Chinese (35.8%) and Indians (13.1%). Majority of the respondents (70.2%) attained academy qualification of diploma or higher. Many respondents were government servants (21.2%) and students (20.9%).

EFA was conducted on the 17 items representing Attitude (ATT) in a pilot study. With the condition of retaining only factors with Eigen value greater than 1.0, three factors were obtained which explained 56.28% of the variances, as shown in Table 2.

The three components of attitude (affective, cognitive, behavioral) identified from the questionnaire, showed medium to high reliability result. The Cronbach's alpha values were ranging from 0.71 to 0.84. As suggested by Pallant (2000), reliability values of 0.60 to 0.70 are

considered as acceptable, and value above .80 is preferable. The reliability for the attitude construct was, $\alpha=.704$, confirming that the measurement tool has attained an acceptable level of reliability ($\alpha > 0.70$).

Table 2: The Results of EFA on Public Attitude

Attitude (ATT)	Factor 1	Factor 2	Factor 3
<u>Affective (AFF)</u>			
AFF1 - serene	.579		
AFF2 - shy*	.620		
AFF3 - relaxed	.720		
AFF4 - stressed out*	.762		
AFF5 - alert*	.674		
<u>Cognitive (COG)</u>			
COG1 - seems to be an interesting person		.556	
COG2 - are like a normal person		.548	
COG3 - may get along really well		.516	
COG4 - friendly		.419	
<u>Behavior (BHV)</u>			
BHV1 - move away*			.793
BHV2 - get up and leave*			.813
BHV3 - continue what I am doing*			.592
BHV4 - initiate a conversation, if they do not make the first move.			.846
BHV5 - try to communicate with them			.818
BHV6 - introduce myself to them first			.688
BHV7 - acknowledge their presence			.559
BHV8 - continue to read the newspaper or talk on a cell phone*.			.612
Number of items	5	4	8
Eigenvalue	5.71	2.30	1.53
% of variance explained	33.61	13.53	9.14
Cronbach's alpha (α) ($\alpha = 0.704$)	0.783	0.714	0.846

*reverse coded

5.1 Measurement Model

The measurement model which consists of attitude, exposure and public acceptance constructs was tested using confirmatory factor analysis (CFA) and SEM. The three constructs were assessed employing multiple fit criteria that comprises the Chi-square statistics (χ^2), p-value of the statistics, degree of freedom (df), relative Chi-square (χ^2/df), standardized root mean square residual (SRMR), comparative fit index (CFI), and the root mean square error of

approximation (RMSEA). The recommended threshold for each fit indices were: $\chi^2/df < 5.0$ (Wheaton et al, 1977); $p \text{ value} < .05$; $CFI > .90$ (Hu and Bentler, 1999); $RMSEA < .08$ (MacCallum et al, 1996) and $SRMR < .08$ (Hu and Bentler, 1999). The analysis of each construct is depicted in Table 3.

Seventeen items of attitude construct from EFA were used in the CFA. Seven items were discarded due to low factor loading. Thus, only ten items were retained to characterize the attitude construct. For the exposure construct, 5 items were retained. As for the public acceptance construct, all 6 items were used.

Table 3: Fit Indices for Individual Constructs

Constructs	χ^2	df	<i>p value</i>	(χ^2/df)	CFI	RMSEA	SRMR
Attitude	103.136	32	.000	3.22	.936	.071	.058
Exposure	16.216	5	.006	3.24	.975	.071	.031
Public Acceptance	36.385	9	.000	4.05	.975	.070	.029
Fit indices Threshold	--	--	< .05	< 5.0	> .90	<.08	<.08

The full measurement model, involving three constructs of exposure, attitude and public acceptance was tested for construct validity and reliability. The convergent validity for the measurement scale of the three constructs were assessed using the squared multiple correlation coefficients (SMC). The SMC's for the three constructs were found to range from 0.39 to 0.77, demonstrating acceptable level of convergent validity for the measurement model (value closer to 1 represents a better indicator) .

To determine the discriminant validity of the measurement model, the average variance extracted (AVE) values for the constructs were compared to the squared correlations between the corresponding constructs (Fornell & Larker, 1981). The result showed that all the squared correlations values did not exceed the AVE, indicating the appropriateness of the discriminant validity for the measurement model. Subsequently, the composite reliability (CR) and the AVE of the three constructs were examined. The construct reliability for each of the construct was attitude (0.73), exposure (0.75) and public acceptance (0.95), surpassing the recommended level

of 0.70. The AVE for the constructs also satisfies the threshold value of 0.50: exposure (0.51), attitude (0.50) and public acceptance (0.60). Hence, the psychometric properties of the three constructs have achieved the acceptable level for the current study.

Table 4: Mean and Standard Deviation for each Constructs

Constructs	Mean	SD	α
Attitude Dimensions	5.22	.798	.762
Affective (AFF)	5.13	1.389	.572
Cognitive (COG)	4.96	1.388	.726
Behaviour (BHV)	5.49	1.381	.751
Exposure	3.15	.907	.748
Public Acceptance	5.21	1.199	.907

Table 4 depicted the mean and standard deviation of the constructs in the present study. Among the dimensions, ‘behavior’ (M=5.49±1.381) possesses the highest mean, followed by ‘affective’ (M=5.13±1.643) and ‘cognitive’ (M=4.96±1.388). Exposure revealed moderate mean score of 3.15 which reflected that most respondents only have reasonable exposure to PWD. As for public acceptance, the mean score (M=5.21±1.19) was considered high, indicating that respondents have a strong willingness to accept PWD together to get involve in physical activity.

5.2 Structural Model

To test the hypothesized relationship between the independent constructs and dependent construct, a structural equation model was estimated.

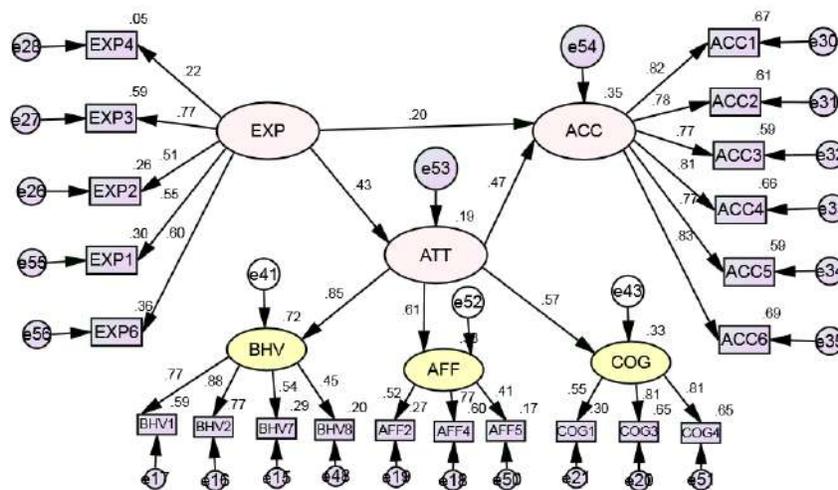


Figure 2: The Structural Model

Figure 2 illustrated the analysis and path diagram of the structural model as proposed in the present study. Acceptance was hypothesized to be functions of exposure and attitude. Meanwhile, a direct path from exposure to attitude was also estimated to the mediation hypotheses. As shown in Table 5, the proposed model is considered to have reasonably good fit as all the fit indices are able to satisfies the threshold values as recommended earlier.

Table 5: Fit Indices for Structural Model

Constructs	χ^2	df	P < .05	(χ^2/df)	CFI	RMSEA	SRMR
Structural Model	550.06	186	.000	2.96	.90	.066	.081

5.3 Relationships among the Constructs

As shown in Table 6, both exposure and attitude were found to have significant positive effects on public acceptance ($\beta=.204$, S.E=.111, CR=3.76, $p<.01$; $\beta=.473$, S.E=.150, CR=3.006, $p<.01$) respectively. Thus, H1 and H2 were supported. The indirect and mediating effect of attitude in the relationship between exposure and public acceptance was determined using Sobel Test (<http://www.danielsoper.com>). Referring to Table 6, there were significant direct effects from exposure to attitude ($\beta=.431$, $p<.01$) and attitude to acceptance ($\beta=.473$, $p<.01$).

Table 6: Coefficient Value, Standard Error and Sobel Test for Mediation Effects of Attitude

Observed relationship	Direct path (β)	S.E	C.R	P	Indirect path (β)	Sobel Test statistics	Probability (one-tailed)
EXP → ACC	.204	.111	3.768	**			
ATT → ACC	.473	.150	3.006	**			
EXP → ATT	.431	.061	3.385	**			
EXP→ATT→ ACC					.120	2.501	.012*

* $p<.05$, ** $p<.01$

Based on Sobel test analysis, the indirect effect of EXP → ATT → ACC, was found to be significant ($p<.05$). The indirect coefficient value was .120, with Sobel statistic value of 2.501.

The result revealed that attitude has a significant mediating influence on the relationship between exposure and public acceptance. Hence, H3 is supported. Since exposure has a significant relationship with public acceptance ($\beta=.204$; S.E=.111; CR=3.768; $p<.01$), public attitude plays the role as a partial mediator in the relationship between exposure and public acceptance.

6. Discussion and Conclusion

The results of the current study revealed that exposure has a fairly strong positive influence (coefficient value of .204) on public acceptance. This means that, as publics' exposure towards disabled people increases, the more positive would be the publics' acceptance towards their involvement in physical activity. The present finding is in line the result of numerous previous physical activity studies, in which level of publics' exposure has a direct influence on public acceptance (Chunxiao & Lifang, 2012; Ferrara et al., 2015). Barbara and Colette (2006) found that public with personal contacts and previous experience with the disabled tends to be more acceptance toward them. In other environment such as at workplace (Daruwalla & Darcy, 2005; Michele, Adele, & Jamie, 2015) and school setting (Brown et al., 2009), previous contact experience was found to be a significant predictor of public acceptance towards people with disabilities. Hence, this explained the significant influence of exposure on public acceptance toward PWD involvement in physical activity.

In order to promote public acceptance towards PWD involvement in physical activity, inclusion educational activities, especially school curriculum subjects such as physical education play a vital role to escalate the level of acceptance towards peer with disabilities. Through this integration, both abled and disabled people would have more direct contact opportunity. This indirectly would create a more friendly and comfortable environment for both groups to feel more at ease during their interaction in daily living.

The results also revealed that attitude has a significant and strong positive relationship (coefficient values of .473) with public acceptance. The current study confirmed that the existence of the three broad dimensions of attitude traits i.e. cognitive (individual's idea, thoughts, beliefs, opinions), affective (emotional, feeling) and behavior (individual's willingness or intent to behave) can influence public acceptance. The present finding is consistent with previous study by Vignes, Coley, Grandjean, Godeau, and Arnaud (2010), in which respondents showed more favorable attitudes towards peer with disabilities on measure of behavioral

intention compared to cognitive measure. Perry et al., (2008) explained that when individual attaches the willingness to behave or act in a certain way based on the positive emotions he has attached to the positive opinion, he/she will react in positive response towards person, objects or situations.

The results also indicated that exposure has a strong positive relationship (coefficient values of .431) with public attitude. This means that as more public are exposed to disabled people involvement in physical activity, the more positive is their attitude toward them. Previous study by Moyle, Lacono, and Liddell (2010) found that subjective knowledge and prior acquaintance were strongly associated with positive attitude to increase the intention to involve in physical activity together with PWD. This notion was further supported by Lua and Neni (2011) study which indicated that providing more information, knowledge, experiences with disabled people would increase positive attitude of public toward them.

The results of the current study presented reasonable indication that the proposed SEM designed to use exposure and attitude to explain public acceptance towards people with disabilities is logical. The study has confirmed the important roles of the selected social-psychological constructs (exposure and attitude) in influencing public acceptance. The present research model can be utilized as a study framework for future research in physical activity toward inclusion between PWD and public without disabilities.

Recognizing the important of the public attitude in influencing public acceptance toward PWD, it is important for the recreation industry to emphasize various approaches of promoting physical activity among PWD. McManus, Feyes, & Saucier (2011) have supported and highlighted that attitudes can be influenced positively if more information concerning PWD and more positive contacts with disabled people are given.

Social media can be used as a tool to transform society as it could be said to make social movement and cause social changes (Sinaga, 2015). Numerous evidences have showed that the effect of social media on attitudes towards groups in society can be more powerful than direct contact (Walker & Scior, 2013). Recent study by Coles and Scior, (2012) revealed that individual's knowledge and attitudes toward an object or issue is most influenced by media representations (Coles & Scior, 2012). Thus, live telecast of para sports events through different types of media could bring more awareness and cultivate positive attitude influencing public

acceptance level towards PWD. Ibrahim and Her (1982) emphasized that as information about people with disabilities increased, negative stereotyping will be reduced. Subsequently, more favorable attitude and increased acceptance is expressed towards PWD participation in physical activity.

To gain a wider and more representative view of the public's acceptance towards people with disabilities, the scope of future study needs to be expanded to include the rural community. In addition, it is recommended that more meaningful factors or variables should be considered for future research in order to provide further understanding on the factors that influence public acceptance on PWD involvement in physical activity.

As a summary, the present study has successfully examined the causal relationship between exposure and attitude of the public in relation to their acceptance toward PWD involvement in physical activity, employing structural equation modeling. The strong influence of both attitude and exposure on public acceptance emphasizes the important role of public to be more receptive and accept PWD participation in physical activity or in daily life. The findings in the present study is supported by Xafopoulos et al., (2009) study which found that providing exposure such as introduction of 'Paralympic School Day' programs, do have a positive effect on children's attitudes towards integration. Positive attitudes can greatly influence a positive approach towards sharing the space and activities of public without disabilities and people with disabilities. On the other hand, negative attitudes towards PWD would lead them to experience restricted educational and vocational opportunities, a decreased in overall quality of life and a decline in community participation. Mutual contacts and promoting positive attitude of the public are promising approaches to improving public acceptance towards participation of the PWD in physical activity. Emphasizing the related factors can help to reduce the public stigma, which is one of the main obstacles to providing healthy lifestyles for the disabled.

It is recommended that both relevant government organizations and non-governmental organizations should work hand in hand to organize inclusive programs or events for the community to involve in activities together with PWD, for example hosting Sports and Recreation Day for Disabled. This would provide the community to have more opportunities to get together with PWD and understand what disabled people need in their life. Consequently, this would fabricate closer social relationship between PWD and normal people, which would

develop self-esteem among PWD. Consequently, the community will be aware of the importance of public acceptance towards the quality of life for the disabled.

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