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Examining Public Acceptance towards Physical Activity Involvement of People with Disabilities (PWD) – A SEM Approach

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ABSTRACT

Social acceptance by people without disabilities has been identified as one of the prominent obstacles faced by people with disabilities (PWD) in their involvement in physical activity. To further apprehend this issue, the present study aims to examine the factors that influence public acceptance towards PWD involvement in physical activity. An exploratory model of public acceptance was developed using key antecedents identified from previous literature. Using convenience sampling technique, a total of 444 responses were collected from the public (without disabilities), who were exercising at four urban public recreation parks located in Klang Valley. Structural Equation Modeling (SEM) approach was used to analyze the data collected. The findings revealed the importance of five prominent antecedents that were personality, attitudes, exposure, ethnicity and subjective norms in explaining public acceptance towards physical activity participation of the disabled. Subjective norms were identified as the most important factor in influencing public acceptance. Additionally, public attitude also depicted a mediating role in the relationship between exposure and public acceptance. A pertinent contribution of the study was the introduction of the extended model of public acceptance developed from integrated framework of theory of reasoned action (TRA), social learning theory, and big five model (BFM), which

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contributed better understanding of public acceptance towards disabled people. Further understanding of these factors towards PWD involvement in physical activity is essential to promote social inclusion in building a better community for the PWD. Implications of the result for future practices and directions of research are discussed.

Keywords: Attitude, people with disabilities, public acceptance

INTRODUCTION

It is well documented that regular involvement in physical activity offers physical and psychological benefits, encourage personal development, promotes social interaction and quality of life among people with disabilities (Manus et al., 2008). However, these benefits cannot be realized if the involvement/participation of people with disabilities in physical and recreation activities are low. Individuals with disabilities are reported to face with various types of barriers, such as stigma perception, family support, social environment condition and physical condition that influence their involvement in physical and recreation activities (Rimmer et al., 2004). As observed by Human Rights Commission of Malaysia, inequalities in different aspects of life faced by people with disabilities (PWD) in Malaysia have negatively affected their access to education, employment and health, resulting in their being marginalized from social participation in the community (Babulal, 2017). This may have been the result of negative attitude, stigma, social alienation that forms a barrier to PWD's active participation in the community, which includes participation in physical activity. As emphasized in Maslow's hierarchy of needs, to be accepted by other people in the community (belongingness) is one of the basic human needs. Thus, social acceptances by the community towards physical activity participation of PWD play a vital role in motivating them to increase their involvement in sport and recreational activities.

Literature Review

Based on theory of reasoned action (TRA), people's intention or motivation is the main determinant of their behaviour. Intention is influenced by two factors: personal attitudes, which are the individuals' beliefs about outcome of the target behaviour and subjective norms, which are the individuals' beliefs about the outcome of the target behaviour based on other's (i.e. parent, families, friends, spouse) perception or opinion (Fen & Sabaruddin, 2008). In the TRA assumption, public will involve in physical activity together (behaviour) with PWD when they can accept them positively (attitude) and people around them support their decision to engage in it (subjective norms) (Downs & Hausenblas, 2005).

Acceptance

Public acceptance is defined as a willingness to recognize, live near, or be associated with a certain group of individuals (Helene et al., 2010). Acceptance, in the form of behavior, is largely influenced by attitude. Verdugo

et al. (2012) noted that positive attitude could herald greater acceptance of inclusion and might have a direct impact on the quality of life for PWD. Whereas, negative attitudes that linked to behaviours such as non-acceptance (social rejection) could results in higher levels of social distance toward PWD (White et al., 2006). Nowicki (2006) had highlighted that, the full rightful acceptance of people with disabilities was unlikely to be fulfilled, as long as negative attitudes persisted. Thus, positive attitudes and sufficient knowledge about the special needs of PWD among public can have a significant impact on the social acceptance of PWD in the community.

Attitude

Personal attitude may be describes as a belief and opinions held by an individual about referent object. Attitudes consist of three components which are, affective (feelings/ emotions), cognitive (beliefs/knowledge) and behavior, all being generated by the attitudes object (Perry et al., 2008). 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. Behaviour is related to attitudes in complex ways. Numerous studies have found that differences in the extent to which attitudes guide behaviour are the consequences of difference factors such as habit or past behaviour (Triandis, 1977), volitional control of behaviour (Davidson & Jaccard, 1979), and the degree of direct experience with the attitude object (Zimbardo,1985). Understanding these differences has important theoretical and implications for our understanding of the social influence process. It is well documented that negative public attitudes foster low expectations, discriminatory behaviors, and marginalization of PWD, whereas positive attitudes lead to acceptance of PWD and promote integration into society (World Health Organization, 2011). Hutzler (2003) added that attitudes toward participation of individuals with disability could possibly be a mediating variable constructing the behavior of public such as the professionals managing, teaching, and coaching the activities; and family members, peers without a disability; and important others within a physical activity context.

Subjective Norms

Subjective norms refer to the individual's perception of social pressure in performing or not performing a given behaviour, or actions and it is determined by normative beliefs which assess the social pressure on the individual about a particular behaviour (Yap & Noor, 2008). Walker and Scior (2013) studied the association of social support between PWD and people without disabilities and reported that low level of social supports from family, or friends, for individual without disabilities would decrease their involvement together with PWD in the future relationship. Saaty et al. (2015) supported the notion that strong social supports from parents, family members, friends, spouse or society played an important role in increasing acceptance

of PWD in the community. Thus, subjective norms may have a bearing on individual's behavioral intention to accept PWD's involvement in physical activity.

Exposure

The 'contact' hypothesis (Allport, 1955) suggests that greater exposure to stigmatized group will bring about changes in attitudes - both positive and negative (Ferrara et al., 2015). Findings from a number of studies supported the association between contact and attitudes, and found that contact in various forms (e.g. voluntary, intimate, direct, and indirect) can help to improve prejudiced attitudes (Corrigan et al., 2001). 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 (Block & Obrusnikova, 2007). Krahe and Altwasser (2006), emphasized that exposure to PWD was an important actor that helped to improve the attitudes of non-disabled people This idea of exposure and the contact hypothesis are the major concepts behind inclusion. However, studies have also shown that exposure alone will not change attitudes in a positive direction (Siperstein et al., 2007). To successfully change attitudes, quality well-planned and structured contact is critical. A shift to a more positive attitude has been shown to herald greater acceptance of inclusion and hence may have a direct impact on the quality of life for PWD (Verdugo et al., 2012).

Ethnicity

Ethnicity is considered one of the important elements of cultural phenomenon which influences on person's attitude (Kamaruddin, 2007). People who stay together as a community in the same place or area basically share the same culture. According to the culture values theory by Schwartz (1999), cultural values represent the implicitly and explicitly shared abstracts ideas about what is desirable, good, need and right in the community (such as religion, custom, social relationship, foods and language). Several studies (Goreczny et al., 2011; Sheng & Gao, 2012), had indicated that, significant correlation between ethnicity and level of acceptance towards PWD exists among publics, though some researchers found otherwise (Lua & Neni, 2011). Hence, there is a discrepancy regarding the relationship between ethnicity and public's acceptance, which need to be elucidated.

Personality

Personality is defined as an individual's characteristics patterns of behaviour, thought and emotion, together with the psychological mechanisms hidden or not behind those patterns (Funder, 1997). This definition describes the motivational control that influences a person's behaviour (Barrick et al., 2013). Several studies supported that, there are five primary factors of personality (i.e. extraversion, conscientiousness, neuroticism, intellect and agreeableness), known as the Big Five Model (BFM) (Goldberg, 1990). Evidence from psychology literature showed that

personality positively influenced public behaviour towards PWD in various physical activity studies (Hausenblas & Giacobbi, 2004; Tolea et al., 2012). However, literature in examining the relationship between personality traits and acceptance among public towards PWD's involvement in physical activity is almost non-existence with the exception of Wilson and Dishman (2015) and Page and Islam (2015). It was found that higher levels of the personality dimensions in openness and agreeableness had a significant but relatively weak association with positive attitudes towards Person with Intellectual Disability. With the purpose to ascertain its role in influencing level of public's acceptance towards PWD, personality traits had been considered as one of the antecedents in influencing behavioural intention of public in this study (Page and Islam, 2015).

Problem Statement

Previous studies in Malaysia concerning PWD have been mainly focusing on the physical environmental factors i.e. inaccessibility issue of built environment such as transportation, and variety of public building (Rahim & Samad, 2010; Soltani et al., 2012). Apparently, there is a lack of research to examine the issue of physical activity participation among PWD from the socio-psychological perspective, which involved attitude and social acceptance factor. A review of literature showed that past studies on PWD involvement in physical activity had been emphasizing on factors such as previous experience, knowledge, cultural background, subjective norms and attitude (Blue, 1995; Rimmer et al., 2004). Researchers have stressed that more future studies should focused on other prominent factors that have strong association with involvement or non-involvement in physical activity among PWD (Perry et al., 2008; Rimmer et al., 2004; Werner & Grayzman, 2011). Identifying the gap in the body of knowledge, the current study extended the scope of research by addressing two new factors: the Big Five Model (BFM) of personality traits and ethnicity in explaining the phenomenon. Thus, this exploratory investigation aims to examine the internal factors (attitude, personality) and external factors (exposure, ethnicity, subjective norm) that influence public acceptance towards PWD involvement in physical activity. The study also aims to identify the mediating role of attitude in the relationship between external factors (exposure and ethnicity) and public acceptance towards PWD involvement in physical activity. The conceptual framework of the present study is as shown in Figure 1.

MATERIAL AND METHODS

Participants

Four urban public recreation parks were randomly chosen (using fishbowl method) from nine parks that were located in Klang Valley. The parks should fulfill the criteria that their location and facilities are easily accessible, and user friendly to PWD. The

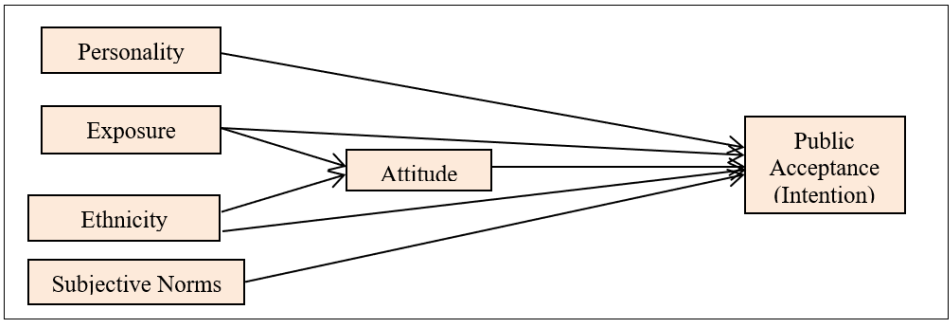

Figure 1. The research framework

selected public recreation parks were Taman Tasik Titiwangsa Kuala Lumpur, Wetland Putrajaya, Taman Tasik Shah Alam and Taman Subang Ria, Subang Jaya.

Based on the sample size determination table by Krejcie and Morgan (1970), a sample size of 384 respondents was deemed to be adequate for the population of 3,350,000 adults in Klang Valley. Taking into consideration of possible missing data, additional 20% (76) of sample were considered. Thus, a total of 460 questionnaires were distributed, with 444 being collected. Convenience sampling technique was utilized in the data collection process, whereby self-administered questionnaires were distributed to the public during their resting time after performing physical activity at the Recreation Parks.

Instrumentation

The survey instrument was a structured close-ended questionnaire consisting of three sections. The first section comprised 6 items about demographic profiles (gender, marital status, age, race, education level and occupation). The second section consisted of 52 items concerning five independent variables namely, personality (20 items), exposure (6 items), ethnicity (5 items) subjective norms (4 items), and attitude (17 items). The third section comprised 6 items measuring intention to accept people with disabilities involvement in physical activity.

The instrument measuring personality was adopted from the Mini-International Personality Item Pool (IPIP) Scale of the Big Five Model (BFM), which measured the five dimensions of Extraversion, Agreeableness, Conscientiousness, Neuroticism and Intellect (Donellan et al., 2006). The Acculturation Scale for Vietnamese Adolescents (Nguyen & Von Eye, 2002) was used to measure the culture variables of ethnicity. Measure for subjective norm was adapted from the Theory of Planned Behaviour questionnaire by Werner and Grayzman (2011). Attitude was measured using questionnaire adapted from the Multidimensional Attitute Scale towards Person with Disabilities by Findler et al. (2007). All the above variables were measured using 7-point Likert scale. Questionnaire on exposure was adapted from study by Toran (2010). The instrument measuring public acceptance was adapted from the Children's Attitude towards

Inclusion in Physical Education Revised Questionnaire (CAIPE-R) by Bebetsos et al. (2013).

A pilot study involving 46 respondents was conducted to examine the reliability and validity of the questionnaire, through Cronbach's alpha values and item-to-total correlation. According to Pallant (2000), reliability value (Cronbach's alpha) of 0.60 to 0.70 are considered as acceptable, and value above 0.80 is preferable The Cronbach's alpha reliability values for the variables were: exposure ($\alpha = 0.75$), ethnicity ($\alpha = 0.76$), subjective norms ($\alpha = 0.82$), influencing individuals ($\alpha = 0.77$), personality ($\alpha = 0.71$) and public acceptance ($\alpha = 0.91$). Basically, all the measures for the variables have achieved an adequate level of reliability.

Statistical Package of Social Science (SPSS) program version 20.0 and Analysis of Moment Structure (AMOS) were employed to analyze the data in this study. Exploratory factor analysis (EFA) was performed on the multi-dimensional construct of attitude, based on 17 items in the pilot study. EFA analysis revealed the presence of three components (affective, cognitive, and behavioral) with eigenvalues exceeding 1.0, explaining 56.28% of the variance respectively. The reliability for the attitude construct was, $\alpha=0.704$, confirming that the measurement tool has attained an acceptable level of reliability.

All final collected data were checked to ascertain whether the multivariate assumptions were fulfilled before analysis. The existence of normality, outlier, linearity, homoscedasticity and multi-collinearity were further examined. Confirmatory factor analysis (CFA) was applied to ensure that measurement model of the constructs was valid in the current study. SEM was used to test the conceptual model that examined the antecedents of public acceptance.

RESULTS

In terms of demographic profile of respondents, there were slightly more female (55.4%) respondents than the males (44.6%). About two-third (62.6%) of the respondents were single. Majority of the respondents were young adults, aged between 20 and 29 years old (65.8%). In relation to ethnic groups, most respondent were Malays (51.1%), followed by Chinese (35.8%) and Indians (13.1%). Respondents with academic qualification of diploma or higher form the majority of the respondents (70.2%). Most respondents were government servants (21.2%), students (20.9%) and individuals from business sectors (19.6%).

A confirmatory factor analysis (CFA) of the measurement model was tested, with all constructs allowed to be inter-correlated freely. According to Anderson and Gerbing (1988), confirmatory measurement models should be evaluated and re-specified before proceeding to the examination of the structural equation model. The proposed model was assessed employing multiple fit criteria that comprised the Chi-square statistics ($\chi 2$), p-value of the statistics, degree of freedom (df), relative Chi-square ($\chi 2/df$), comparative fit index (CFI), the root mean square error of approximation

(RMSEA) and the Tucker-Lewis Index (TLI). As $\chi 2$ statistic is very sensitive to larger sample size (exceeds 200), it is no longer relied upon as a basis for acceptance or rejection of model (Schermelleh-Engel et al., 2003; Vandenberg, 2006). Hence, the use of multiple fit indexes (such as RMSEA, CFI, TLI) had been included to provide a more holistic view of the goodness of fit (GOF). The recommended threshold for each fit indices were: $\chi 2/df < 5.0$ (Wheaton et al., 1977); p value < 0.05; CFI > 0.95 (Hu & Bentler, 1999); RMSEA <0.08 (MacCallum et al., 1996) and TLI >0.95 (Hu & Bentler, 1999).

Fit indices for the measurement model are shown in Table 1. Since the chi-square p-value is significant, the bootstrap method is employed as this is a non-parametric resampling test that can be applied when the assumptions of large sample size and multivariate normality may not hold (Preacher & Hayes, 2004). Bootstrap procedure has the ability to generate accurate estimates of the standard error of correlation coefficients and allows researchers to assess the stability of parameter estimates (Switzer et al., 1992). The value $\chi 2/df$ in the proposed model was 1.78, which falls below the suggested value, indicating it has achieved a good fit model. The CFI value of 0.97 and TLI value of 0.96 also supported a good fit to the model. The RMSEA value for the proposed model was 0.045, which means only 4.5% of the variances were left unexplained. The multiple fit indices for the proposed model were $\chi 2=727.79$, df=411, $\chi 2/df=1.78$, CFI=0.97, RMSEA=0.045 and TLI=0.96. Apparently, this was a good fit model for the sample data, with all fit statistics well established, satisfying the threshold values.

Structural Model

To test the hypothesized relations between the independent constructs and dependent constructs, a structural equation model was estimated. Acceptance was hypothesized to be functions of personality, exposure, ethnicity, attitude and subjective norm. Meanwhile, a direct path from exposure and ethnicity to attitude was also estimated to the mediation hypotheses. Figure 2 showed the path diagram of structural model that was proposed for the current study based on the SEM analysis. Since all the fit indices meet the cut-off values, it can be concluded that the fit of the proposed model was reasonably good (Table 2).

Table 1

Fit indices for measurement model

Constructs	$\chi 2$	df	P < 0.05	($\chi 2$/df)	CFI	RMSEA	TLI
Measurement Model	727.79	411	0.000	1.78	0.97	0.045	0.96

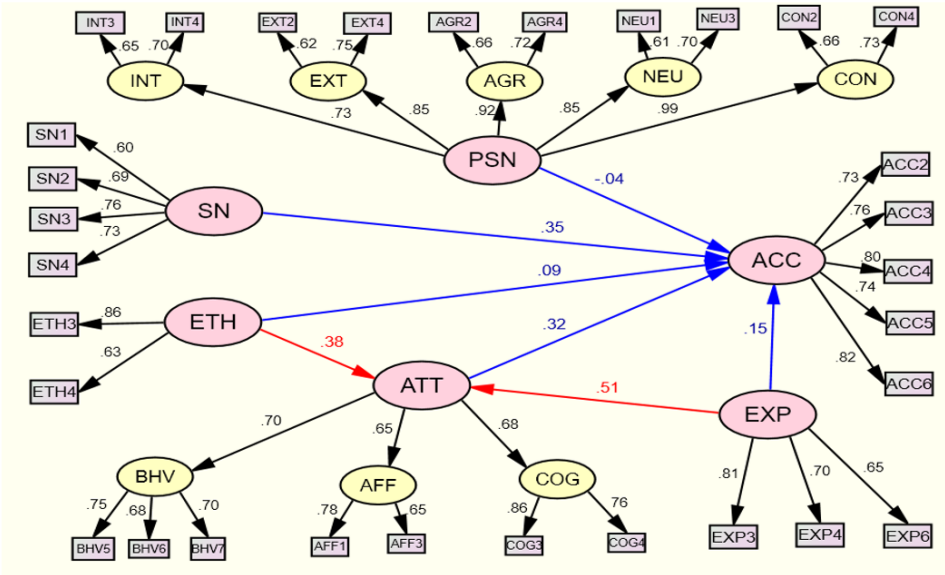

Figure 2. Structural model

Table 2

Fit indices for structural model

Constructs	χ2	df	P < 0.05	(χ2/df)	CFI	RMSEA	TLI
Structural Model	765.75	413	0.000	1.85	0.96	0.047	0.95

The correlations among the variables are shown in the path analysis result in Table 3. Based on the results of the correlation coefficient value, subjective norm (β=0.35, p<0.01), attitude (β=0.32, p<0.01) and exposure (β=0.15, p<0.05) were found to have direct significant relationship with public acceptance, but not personality (β=-0.04, p=0.56 >0.05) and ethnicity (β=0.09, p=0.28>0.05). However, the path analysis indicated that both ethnicity (β=-0.38, p<0.01) and exposure (β=-0.51, p<0.01) had significant relationship with the attitude construct. The Sobel test was applied to examine whether a mediator variable (attitude) significantly carried the influence of independent variables (ethnicity and exposure) towards dependent variable (public acceptance). The result indicated that attitude acted as a partial mediator in the relationship between exposure and public acceptance. Using Sobel test, the magnitude of indirect coefficient value was 0.16. The indirect effect of EXP –› ATT –› ACC, was found to be significant (p<0.01) with Sobel statistic value 2.68. In the case of ETH –› ATT –› ACC, the mediation effect of attitude could not be established, as the relationship between ethnicity and public acceptance is not significant.

Table 3

Coefficient value, Standard Error and mediation effects of attitude

Observed relationship	Direct path (β)	S.E	C.R	P	Indirect path (β)	Sobel Test statistics	Probability (two-tailed)
PSN –› ACC	-0.04	0.23	0.59	0.56			
EXP –› ACC	0.15	0.14	2.0	*			
ETH –› ACC	0.09	0.08	1.1	0.28			
ATT –› ACC	0.32	0.16	3.1	**			
SN –› ACC	0.35	0.07	5.5	**			
ETH –› ATT	0.38	0.05	4.6	**			
EXP –› ATT	0.51	0.08	5.2	**			
EXP–› ATT –› ACC					0.16	2.68	**
ETH –› ATT–›ACC					0.03	2.60	**

*p<0.05, **p<0.010

DISCUSSION

Among the three independent variables (subjective norm, attitude and exposure), subjective norm was found to has the strongest direct significant relationship with public acceptance, This finding is consistent with the study of Dan et al. (2011), in which social influence and support from family and peers were associated with greater involvement in physical activity and increased the level of acceptance towards PWD. Clemente (2017) too agreed that family social support was the stronger predictor to influence someone decision to accept people with disabilities either in physical activity or in their socialization life. The significant correlation between attitude and public acceptance in the current study supports many previous findings in the physical activity domain (Blanchard et al., 2008; Perry et al., 2008) in which attitudes will guide behavior. Positive attitude will be appearing when we feel and have belief towards person, objects or situation in a good way. When a person attaches the desire to behave or act in a certain way based on the positive emotions, he develops positive opinion and reacts in positive response towards the situation, person or object (Perry et al., 2008). The results supported the predictions made by the theory of reasoned action, whereby public acceptance behavior is influence by subjective norms and attitude towards disability. The significant relationship of the findings in the present study provide noteworthy evidence that the theory of reasoned action(TRA) is a robust theory, and could provide a good theoretical foundation to form effective model in examining public acceptance of PWD involvement in physical activity.

As for exposure and public acceptance, the result is consistent with several findings in physical activity studies, whereby the level of exposure directly influence public acceptance (Ferrara et al., 2015; Li & Wu, 2012). This is to say that having more previous experience with PWD, results in more acceptance toward them, even though in different environment such as at workplace (Daruwalla & Darcy, 2005; McDonnall et al., 2015) and at school (Brown et al., 2009). Therefore, what this result suggests would be that the more intensive and regular contact that the public have with people with disabilities, the more positively they may feel about PWD , and this will subsequently enhance public acceptance.

The direct correlations between two variables (personality and ethnicity) and public acceptance were weak and not significant. The current study revealed that, as a general construct, personality did not influence on public acceptance towards PWD involvement in physical activity. However, three of the sub-dimensions of individual personality traits i.e. agreeableness, intellect and conscientiousness, were identified as dominant characteristic of the public which could influence their acceptance level towards PWD involvement in physical activity. As there was no previous study to explore the relationship of personality and public acceptance in the context of public acceptance towards PWD involvement in physical activity, the present study presented distinct contribution in the area of physical activity studies.

The direct influence of ethnicity on public acceptance was found not significant. This finding is consistent with the study by Kaur et al. (2015), whereby there is no difference in public acceptance among the three ethnic groups in Malaysia as perceived by respondents who are PWDs. Although Malaysia is a multicultural country that consist of diversity ethnic backgrounds that practices different languages, the citizens uphold the same cultural values that is to be kind, sympathy, tolerance and helpful in their daily life practices. Due to the process of acculturation, whereby people have been living together in one place for a long time (country/state) as a community and has experienced assimilation. This practice has enable them to live together in a harmony community. Hence, this explains the non-significant direct influence of ethnicity on public acceptance towards PWD involvement among Malaysians.

The current study revealed that attitude acted as partial mediator in the relationship between exposure and public acceptance. The finding is consistent with study by Michele et al. (2015), which found that public that had greater knowledge, frequently exposed to and having contacts with PWD tended to have positive attitude towards them. Hence, it increases their acceptance towards this special population (PWD) in society. The finding revealed that exposure in the form of intervention programmes, training, inclusion activities or media coverage, would act as an attitude-shaping mechanism, which could assist in the development of public acceptance

towards disabled participation in physical activity.

Recommendation and Direction for Future Research

It is recommended that future study should be extended to other geographical areas such as rural public parks, so as to obtain better generalized result. For future study, detailed research using triangulation method, involving other qualitative techniques, may be used to get a better understanding on the public acceptance issue. Future study can include assessment of different variables/factors and their moderation/ mediation effects, which was not examined in the present study. This would help to accomplish a comprehensive assessment of public acceptance towards PWD, as well as provide future directions for other researcher.

CONCLUSION

This study demonstrated the existence of causal relationship between personality, exposure, ethnicity, attitude and subjective norms with public acceptance towards PWD involvement in physical activity using SEM. The strong influence of both subjective norms and attitude on public acceptance highlighted the critical roles of public in influencing PWD's physical activity participation in their daily life. Thus, it is imperative for the related governmental or non-governmental agencies (e.g. Social and Welfare Department of Malaysia and Malaysia Paralympic Council) to introduce different approaches of promoting inclusive physical activity program (such as Sports for disabled Week) that creates awareness and exposure for the public to be mindful of the needs of the PWD. Efforts in disseminating more information concerning PWD's physical activity participation would be enhanced using electronic mass communication media including social media. Live telecast/broadcasting of para sports events through different types of media could bring more awareness and cultivate positive attitude influencing public acceptance level towards PWD. It is also essential for recreational park authorities to provide more accessible and disabled-friendly environment that stimulate contacts between PWD and the community/public.

Success in molding the acceptance of public towards PWD requires a collective effort of various stakeholders which include public without disabilities, government agencies, policy makers, responsible organization and recreational practitioners. In conclusion, the results of present study offered support to consider the suggested variables of subjective norms, attitude, exposure, personality, and ethnicity as antecedents that affect public acceptance towards PWD involvement in physical activity.

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