

Accessibility of Fitness Facilities and Physical Activity Participation: A Comparison of Disabled Athletes and Disabled People

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Received Date: 2 November 2021

Accepted Date: 7 January 2022

Published Date: 31 January 2022

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ABSTRACT

*Accessibility is one of the most important aspects of the open environment, as it provides a sense of freedom, competence, and autonomy for active involvement and use. However, there is still a question about the accessibility given at sports and fitness facilities, particularly for disabled individuals, which has a negative impact on their involvement in physical activity. The purpose of this study was to investigate an association between the accessibility of fitness facilities and the engagement of impaired people and athletes in physical exercise. The participants in this study were divided into two groups: disabled persons (N=50) and disabled athletes (N=50), totalling 100 people with disabilities. The Accessibility Instrument Measuring Fitness and Recreation Environments (AIMFREE) and the Physical Activity Scale for Individuals with Physical Disabilities (PASID) were used to evaluate accessibility and physical participation (PASIPD). The Independent Sample t-test was used to examine the outcome. The findings revealed a significant relationship between fitness facility accessibility and physical activity involvement ($p < 0.01$, $r = 0.356^{**}$) and a significant difference in physical activity participation between disabled persons and disabled athletes ($p < 0.05$). The findings demonstrated that the accessibility of fitness facilities has an impact on the amount of physical activity engagement and that disabled athletes are more attached to physical activity than disabled persons. The research might be broadened to learn more about the factors that influence disparities in physical activity engagement among impaired athletes and disabled persons*

Keywords: Accessibility, Fitness Facility, Physical Activity, Disabled People, Disabled Athlete

INTRODUCTION

Disabilities had become an issue that had always been discussed world widely. Due to disabilities or impairment, some individuals are not able to move freely nor independently perform any physical

movement or activities. Allan, Smith, Côté, Ginis and Latimer-Cheung (2018) mentioned that people with physical disabilities or impairments are more likely to forgo opportunities to be physically fit and active compared to those without disabilities. Due to this, people with disabilities also have a greater possibility of suffering from chronic and persistent health conditions compared to the general population. Kohon (2018) stated that social inclusion and community participation are vital in making an individual feel belonging in the community life. They are also the essential signs of health and well-being for a person (Boyle, Fox, Havercamp & Zubler, 2020). Fitness facilities should be a good representation of people with disabilities in conjunction with the attractiveness of engaging in physical activity. However, despite the number of facilities available, studies conducted cited their limitation of accessibility which led to becoming the biggest constraint for people with disabilities or impairment (Tao, Goh, Huang & Moyle, 2019). In 1990, the Americans with Disabilities Act (ADA) had been legalized prohibiting any discrimination against individuals with disabilities and impairment (Agaronnik, Pendo, Campbell, Ressalam & Iezzoni, 2019). The act also mentioned that all public accommodations, opportunities in employment, state, local government services, and telecommunications should be equally provided (Agaronnik et.al, 2019).

However, in a study conducted by An, Niu, Turpcu, Rajput and Cheetham (2018) most of the facilities examined were not in full compliance with the ADA guidelines. Participation or inclusion in sports or physical activities can be related to the benefits for physical health, psychological wellbeing, cognitive expansion, and environmental understanding. It helps in developing confidence, self-awareness and it is also linked to a sense of belonging (Burland, 2021). However, if a person or an individual does not take part in any social inclusion or is actively involved in any physical activity, one can be led to loneliness, depression and contribute to mental health issues (LaMonica, Davenport, Roberts & Hickie, 2021). Due to this, each individual, with or without disabilities or impairment should be actively involved in any type of physical or recreational activities. By doing so, one could avoid being isolated and feeling abandoned by society. Nowadays, the availability of fitness facilities, recreational parks, and sports area was evolved, and most places were provided with such facilities. These facilities served it best in providing a healthy environment and a healthy society. However, beyond the built facilities, the barriers and inaccessibility of each of the facilities had deteriorated the number of participants, especially among disabled people. Tow, Gober and Nelson (2020) stated that fitness facilities and other facilities provided such as community parks, playgrounds, and ball fields used for competitive games and sports are often lacking in accessibility for people with disabilities or impairments.

The barriers might come from the uneven terrain, grass, or even gravel surfaces, this had become a major restriction for disabled people to participate in any physical or recreational activities. Besides, the number of fitness facilities and health clubs developed had also evolved and this should be a great prospect for disabled people to get actively involved, however, there are many fitness facilities and health clubs that are not being accessible for disabled people. For instance, some of the staff or employees of the fitness facilities are lack knowledge in handling and adapting to disabilities and impairments (Jaarsma, Haslett & Smith, 2019). Also, the membership program fees, transportation area, and the spaces for performing activities are the common barriers faced by disabled people and this had a serious impact on physical activity engagement and participation (Bantham, Ross, Sebastiao & Hall, 2021). Due to this, this study was conducted in identifying the association between fitness facilities accessibility and physical activity participation. This study also comparing on the physical activity participation between disabled people and disabled athletes.

METHODOLOGY

The study was conducted between May – July 2020. Focusing on the fitness facilities at the Department of Sports and Youth Terengganu. This study had applied a cluster random sampling method. A total number of 103 respondents were approached. However only 100 participated in the study, 50 disabled people were members of Persatuan Orang Kurang Upaya Terengganu and another 50 were the PARA

athletes at the Kuala Terengganu Department of Sports and Youth. The Accessibility Instrument Measuring Fitness and Recreation Environments (AIMFREE) and Physical Activity Scale for Individuals with Physical Disabilities (PASIPD) were used in assessing the fitness facilities' accessibilities and physical activity participation. The instruments were adapted and adopted from AIMFREE (Calder, Sole & Mulligan, 2018) and ADA Accessibility Guidelines Checklist for Building (Rimmer, Padalabalanarayanan, Malone & Mehta, 2017). A pilot test was conducted (N=40), Cronbach's Alpha presented the reliability value for the accessibility of fitness facilities as 0.891, and Cronbach's Alpha presented the reliability value for physical activity participation as 0.634 which makes the instrument is reliable to be used. The instrument consists of 3 sections section A is referring to the demographic profile (5-items), section B rendering to the accessibility of fitness facilities (13-items) and section is focusing on physical activity participation (13-items). This study had already obtained ethics approval with the approval code (REC/02/2020/UG/MR/62).

RESULTS

The result shows a significant association between fitness facilities accessibility and physical activity participation among disabled people and disabled athletes in Terengganu. The association are summarized in Table 1.

Table 1: The relationship between the accessibility of fitness facilities and physical activities participation among disabled people (N=140)

	Physical Activity Participation	
	Pearson Correlation	Sig. (2-tailed)
Accessibility of Fitness Facility	.356**	.000

According to the Guildford Rule of Thumb, r (.2-.4) is considered a low relationship. Hence, the results show a significant positive low relationship between the accessibility of fitness facilities and physical activity participation with r (.356**) and ($p < 0.05$).

Table 2: Group Statistics for accessibility of fitness facility between disabled people at Persatuan Pembangunan Orang Kurang Upaya Anggota Terengganu (POKUAT) and disabled athlete at Department of Sports and Youth in Terengganu (N=140)

	Category	N	Mean	Standard Deviation
Accessibility to a fitness facility	Disabled people	50	2.7092	.61131
	Disabled athlete	50	3.1646	.31121

Table 3: Independent Samples t-Test for accessibility of fitness facility between disabled people at Persatuan Pembangunan Orang Kurang Upaya Anggota Terengganu (POKUAT) and disabled athlete at Department of Sports and Youth in Terengganu (N=140)

		Levene's Test for Equality of Variances			T-Test for Equality of Means	
		F	Sig.	t	df	Sig. (2-tailed)
Accessibility to a fitness facility	Equal variances assumed	4.906	.029	-4.694	98	.000
	Equal variances not assumed			-4.694	72.800	.000

Tables 2 and 3 indicated a significant difference between the accessibility of the fitness facility and the physical activity participation. The results show that the disabled athlete most likely participated well in physical activity compared to the disabled people with ($M=3.16$) and ($M=2.70$) respectively with ($p<0.05$).

DISCUSSION

This study examined the association between fitness facilities accessibility and physical activity participation which focusing on a broad framework that includes services, policy, equipment, and the built environment. In general, it shows that the fitness facilities accessibility gives a significant effect on physical activity participation. However, the strength of the relationship can be considered as low. However, the significant association from this study is in line with a study conducted by Anderson (2020), which stated that disabled people are keen to involve in any physical or recreational activity when the facilities provided are more inclusive for them. Besides, accessibility will affect the involvement of physical activity engagement and the life satisfaction of a disabled person, and it has been proven that disabled person who is actively involved in physical activity or adapted sport are more likely to have better life satisfaction compared to those who are not participated (Diaz, Miller, Kraus & Fredericson, 2019).

This study shows that accessibility is essential in helping disabled people to engage in physical activity and improve their life satisfaction. Allan et.al, (2018) had also mentioned that engagement in physical activity at health clubs and fitness facilities are useful not only for obtaining physical health benefits but also for creating and developing social relationships that promote healthy behaviour for disabled people however the limitation inaccessibility might forbid the disabled people to do so. This study shows a relevant statement based on the result gained, a fitness facility or a health club should be able to provide good accessibility for the disabled to enhance their engagement in physical activity and to live healthily. Brittain, Biscaia and Gérard (2020) indicated that due to social (attitudinal) and environmental barriers very few people with disabilities are involved in physical activity in fitness centres. Nevertheless, some people with disabilities showed very low physical activity levels. This is also significant with the findings, which conclude that even though there is a significant association between fitness facilities accessibility, however, the relationship strength is low. From the result as well, the researcher found a significant difference in physical activity participation between disabled people and disabled athletes.

The findings can be associated with a study conducted by Dickson (2018) which mentioned that disabled person that engaged in sports or any physical activity is primarily affected by their environmental factors which include financial resources, independence physical safety, accessibility, quality of health, social care and the demographic characteristic. Not only that, the engagement in sports or physical activity is relatively connected to the life satisfaction goal, despite being labelled as disabled people, they are eager to show their life worth. Supports from friends and family members are also the key factors for disabled people to keep on participating in physical activity without focusing on the impairment that they suffer (Koutsogeorgou, Chiesi & Leonardi, 2020).

CONCLUSION

In conclusion, it can be suggested that the fitness facilities accessibility is important in influencing physical activity participation, however, it can be suggested that a future study can be conducted with broader numbers of respondents and as well as in another region in Malaysia. The limitation of this study is that it was only focusing on the disabled people in Terengganu, it could be better to conduct an extended study in other states to see the result. Accessibility factors need to be seriously discussed and a new act or law should be legalized to provide an equal opportunity for disabled people to live a healthy

lifestyle. Accessibility of fitness facilities plays an important role in the physical activity of the general population especially of people with disabilities the availability of the facilities itself is not enough to attract engagement from disabled people. The facilities provider should be ready and show that they are ready to include disabled people in the community. Barriers and constraints for disabled people to join in any activity show that the community and society are not ready for them, and this might lead to another problem. Not only the facilities provided, but the staff or the employee of each facility should be able to handle and adapt to each type of disability to encourage disabled people to join and participate in any programs or activities organized.

ACKNOWLEDGEMENTS

The authors would like to thank the Faculty of Sports Science and Recreation, UiTM Perlis Branch who gave us support and courage to do this wonderful project on the topic.

REFERENCES

- Agaronnik, N. D., Pendo, E., Campbell, E. G., Ressalam, J., & Iezzoni, L. I. (2019). Knowledge of practicing physicians about their legal obligations when caring for patients with disability. *Health affairs*, 38(4), 545-553.
- Allan, V., Smith, B., Côté, J., Ginis, K. A. M., & Latimer-Cheung, A. E. (2018). Narratives of participation among individuals with physical disabilities: A life-course analysis of athletes' experiences and development in parasport. *Psychology of Sport and Exercise*, 37, 170-178.
- An, J., Niu, F., Turpcu, A., Rajput, Y., & Cheetham, T. C. (2018). Adherence to the American Diabetes Association retinal screening guidelines for population with diabetes in the United States. *Ophthalmic epidemiology*, 25(3), 257-265.
- Anderson, L. S. (2020). Leisure education from an ecological perspective: inclusion and advocacy in community leisure. *Leisure/Loisir*, 44(3), 353-373.
- Bantham, A., Ross, S. E. T., Sebastiao, E., & Hall, G. (2021). Overcoming barriers to physical activity in underserved populations. *Progress in Cardiovascular Diseases*, 64, 64-71.
- Boyle, C. A., Fox, M. H., Havercamp, S. M., & Zubler, J. (2020). The public health response to the COVID-19 pandemic for people with disabilities. *Disability and Health Journal*, 13(3), 100943.
- Brittain, I., Biscaia, R., & Gérard, S. (2020). Ableism as a regulator of social practice and disabled peoples' self-determination to participate in sport and physical activity. *Leisure Studies*, 39(2), 209-224.
- Burland, K. (2021). Ensemble participation and personal development. *Together in Music: Coordination, Expression, Participation*, 218.
- Calder, A. M., Sole, G., & Mulligan, H. F. (2018). The accessibility of fitness centers for people with disabilities: A systematic review. *Disability and Health Journal* 11, (2018), 525-536
- Diaz, R., Miller, E. K., Kraus, E., & Fredericson, M. (2019). Impact of adaptive sports participation on quality of life. *Sports medicine and arthroscopy review*, 27(2), 73-82.
- Dickson, C. P. (2018). Physical activity participation in Pacific adolescent girls with a physical disability. *Pacific Health*, 1.
- Jaarsma, E. A., Haslett, D., & Smith, B. (2019). Improving communication of information about physical activity opportunities for people with disabilities. *Adapted Physical Activity Quarterly*, 36(2), 185-201.
- Kohon, J. (2018). Social inclusion in the sustainable neighborhood? Idealism of urban social sustainability theory complicated by realities of community planning practice. *City, Culture and Society*, 15, 14-22.
- Koutsogeorgou, E., Chiesi, A. M., & Leonardi, M. (2020). Social capital components and social support of persons with multiple sclerosis: a systematic review of the literature from 2000 to 2018. *Disability and rehabilitation*, 42(24), 3437-3449.

- LaMonica, H. M., Davenport, T. A., Roberts, A. E., & Hickie, I. B. (2021). Understanding technology preferences and requirements for health information technologies designed to improve and maintain the mental health and well-being of older adults: Participatory design study. *JMIR aging*, 4(1), e21461.
- Rimmer, J. H., Padalabalanarayanan, S., Malone, L. A., & Mehta, T. (2017). Fitness facilities still lack accessibility for people with disabilities. *Disability and Health Journal* 10, (2017), 214-221.
- Tao, B. C., Goh, E., Huang, S., & Moyle, B. (2019). Travel constraint perceptions of people with mobility disability: a study of Sichuan earthquake survivors. *Tourism Recreation Research*, 44(2), 203-216.
- Tow, S., Gober, J., & Nelson, M. R. (2020). Adaptive sports, arts, recreation, and community engagement. *Physical Medicine and Rehabilitation Clinics*, 31(1), 143-158.