Malaysian Journal of Sport Science and Recreation
Vol. 20 . No. 2. 1-11, 2024.
DOI: https://doi.org/10.24191/mjssr.v20i2.3177

Perceived Barriers to Participation in Physical Activity among Public Sector Employees at Jabatan Kerja Raya in Kuala Lumpur

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Submission date: 30 July, 2024 Accepted date: 13 August, 2024 Published date: 15 September, 2024

ABSTRACT

Physical activity is crucial for maintaining health and preventing chronic diseases. However, many people encounter perceived barriers that prevent them from participating in physical activity, resulting in low participation. This study aimed to investigate the perceived barriers to participation in physical activity among Jabatan Kerja Raya (JKR) employees in Kuala Lumpur. For the study, a questionnaire was used to collect data, which was then analysed using descriptive statistics and a non-parametric test, the Mann-Whitney U test. A total of 312 participants from the JKR head office in Kuala Lumpur were selected for this study. The participants were divided into two groups based on Gender: male (n=127) and female (n=185). Demographic data and information on external and internal barriers to physical activity were collected. The analysis revealed no significant differences between genders regarding perceived barriers to participation in physical activity ($p > 0.05$). Respondents of both genders reported comparable internal and external barriers to physical activity. To better promote health and well-being in the public sector and beyond, it may be helpful to understand both the internal and external factors that can improve participation in physical activity.

Keywords: *physical activity, perceived barriers, public sector employees*

INTRODUCTION

In the face of a global health crisis, the importance of physical activity (PA) has never been clearer. Many technological advances and conveniences have made our lives easier and less active in recent years; however, a variety of personal factors, including physiological, behavioural, and psychological factors, can still influence our desire to be more physically active (Physiopedia, 2013). According to He (2020), regular exercise is an effective way to maintain overall health, strengthen the immune system, and reduce the risk of chronic disease. Numerous physiological systems have been shown to benefit from regular physical activity and exercise, which also improves the quality of life in adults. According to research by Justine et al. (2013), Choi et al. (2017), and Tringali (2020), it can be stated that to maintain health and prevent the development of chronic diseases, adults should engage in at least 150 minutes (2 hours and 30 minutes) to 300 minutes (5 hours) of moderate-intensity aerobic physical activity or 75 minutes (1 hour and 15 minutes) to 150

minutes (2 hours and 30 minutes) of vigorous-intensity aerobic physical activity or an equivalent combination of moderate and vigorous-intensity aerobic activity. Physical activity is critical to maintaining good health and preventing chronic disease. However, many people encounter perceived barriers that prevent them from participating in physical activity, resulting in low participation. According to Fernandes et al. (2021), Hamdan (2020), and Leurer (2011), a perceived barrier can be defined as an individual subjective perception of factors that prevent or discourage them from engaging in a particular behaviour or activity, such as physical activity or health service utilisation. Aside from that, in the words of Bowles et al. (2002), perceived barriers to physical activity are characteristics that an individual considers to be challenges while participating in physical activity. They can be classified into internal and external barriers. In the article by Herazo-Beltrán et al. (2017), internal barriers are associated with human characteristics such as attitudes and preferences, while external barriers are associated with the environment and include things like infrastructure. There is a possibility that perceived barriers to physical activity might affect both physical activity and sedentary behavior. According to Salmon et al. (2003), respondents who listed cost, fatigue, and job commitment as challenges were more likely to be physically inactive. Several studies have been conducted in different countries to investigate adolescents' perceived barriers to physical activity (Oja & Piksoot, 2022; Jodkowska et al., 2015). However, there is no specific study that examines the views of Malaysian public sector employees on physical activity barriers. Thus, this research aims to determine the barriers that public sector employees in Kuala Lumpur view as challenges to their engagement in physical exercise. Various reasons have recently led to a decline in physical activity, negatively impacting individual health and society.

Previous studies have shown that the barriers to women's participation in sports are multiple and complicated. According to WHO (2022), 32% of women and 23% of men aged 18 and above were inactive enough in 2016. They did not meet the global recommendations of at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity physical activity per week. It shows that women participate less in physical activities than men. Apart from that, many people, especially women, find it challenging to engage in physical activities because they are ashamed of it. VicHealth (2019) showed that 41% of women in Victoria are too embarrassed to be physically active in public compared to 26% of men. Women may face particular social norms and pressures around their appearance and body image, which can make them feel insecure and uncomfortable about physical activity. The decline in physical activity can have a significant impact on public health and lead to an increase in several chronic diseases such as obesity, cardiovascular disease, and mental health problems. According to Mandili et al. (2022), physical inactivity is the fourth most crucial risk factor for mortality and is responsible for 6% of deaths worldwide. Therefore, this study aims to determine the perceived barriers JKR employees face when participating in physical activity, which can negatively impact overall health and well-being. The objectives of this study are i) to investigate perceived barriers to participation in physical activity among JKR employees in Kuala Lumpur ii) to compare gender differences in perceived barriers to participation in physical activity among JKR employees in Kuala Lumpur

Perceived barrier

Perceived barriers are a person's subjective view of things that prevent or discourage them from engaging in a particular routine or activity, such as physical activity or seeking health care services (Hamdan, 2020). These barriers can be either psychosocial or structural. Perceived barriers are personal and can vary from person to person. The Health Belief Model suggests that when perceived barriers are greater than benefits, people are less likely to engage in healthy lifestyles (Becker et al., 1977). Furthermore, these barriers may influence a person's decision-making process and lead them to participate in or avoid physical activities (Mohammed Qaydhi Alshammari et al., 2023). In addition, according to Russell (2008), perceived barriers play an important role in assessing the degree of challenge a person faces in achieving their desired goals or behaviours. These barriers can encompass various aspects of a person's life, including social, personal, environmental, and

economic factors, and can be experienced by individuals, communities, or organisations. According to Allison et al. (1999), perceived barriers can sometimes act as obstacles that prevent individuals from participating in behaviours that could potentially help prevent disease and improve overall health. The issue of perceived barriers, which are both personal and social, can be further explained through the perspective of social cognitive theory, according to Herazo-Beltrán et al. (2017). This theoretical framework suggests that various factors influence individuals' health-related practises by affecting their perceptions of personal and social facilitators and barriers that hinder or facilitate the adoption of healthy behaviours. In addition, several researchers have shown that the perceived barriers to participation in physical activity may be classified into two categories: external and internal barriers (Hussin et al., 2021). From the perspective of Korkiakangas et al. (2009), external barriers refer to circumstances that are outside the control of the individual, while internal barriers are elements that impact the choice that the individual eventually makes.

Internal Barriers

Internal barriers, often called personal or intrinsic, are hurdles that a person must overcome on their own, preventing them from making progress, achieving their goals, or managing their resources effectively. Rajappan et al. (2015) say that lack of motivation is another primary reason people engage in less physical activity. Apart from this, internal barriers are also related to personal motivations and the elements that are influenced by one's choices (Herazo-Beltrán et al., 2017; Justine et al., 2013). Rosli Saadan et al. (2015) found that teenage girls not believing in themselves and not working hard enough are the main reasons for not engaging in more physical activity. Furthermore, a study by Saleem et al. (2018) showed that students participated in various activities at their respective schools, with 199 (41.5%) of respondents citing feeling tired and fatigued as the main reason for physical inactivity. Due to a busy schedule, they become exhausted and want to rest instead of being active. Belanger et al. (2015) also said that there are many reasons why people don't feel like doing anything. One reason could be a lack of encouragement or self-esteem. Another could be laziness.

External Barriers

External barriers refer to obstacles beyond our control, including human and environmental factors (Link et al., 2018). Most external barriers were caused by not being able to pay for physical activity, not having the proper facilities, support, or access, not having the right equipment for inaccessible terrain, not having a personal coach or trained trainer, not having a way to get there, and not having a programme for people with special needs. According to Ibrahim et al. (2013), the lack of time is the main potential barrier influencing physical activity. According to Lisinskiene and Juskeliene (2019), the most significant difficulty is the lack of social support to participate in physical activity. University students' lack of physical activity can be attributed to their hectic lifestyles that dominate their lives and studies (Fagaras et al., 2015).

Physical Activity

Increasing physical activity should be a priority for adolescents and adults to support their growth and development. Friedrich (2020) defines physical activity as any exercise that uses skeletal muscle and results in calorie expenditure. Physical activity includes housework, climbing stairs, general labour, walking, gardening, and other activities requiring daily movement. According to McIntosh et al. (2016), "physical activity" refers to any body movement requiring energy expenditure. As physical activity appears to promote the loss of body fat over lean mass, it is widely believed that incorporating physical activity into a weight management plan may aid in maintaining weight loss. In a study by Piggin (2020), a conceptual analysis suggests that physical activity encompasses individuals moving, acting, and performing in culturally specific environments and circumstances influenced by various interests, emotions, ideas, instructions, and relationships. According to several studies by Warburton, Nicol, & Bredin (2006) and Haapanen, Miilunpalo, Vuori, Oja, & Pasanen (1996), people who engage in regular physical activity have

a lower risk of developing cardiovascular disease, hypertension, diabetes, obesity, and certain types of cancer. Therefore, it is safe to say that physical activity is crucial for a healthy lifestyle.

Employees with Physical Activities

A healthy lifestyle should always include some form of physical activity, as it has numerous positive effects on overall health and well-being. There is a paradigm shift in the modern workplace that recognises that employee well-being is not just a personal matter but also an important factor influencing the organization's or company's success. White et al. (2016) found that short and simple exercise or fitness programmes successfully improved the well-being of on-site employees and those initially away from the workplace. The study conducted by To et al. (2013) found that treatments that included social and environmental activities were more likely to improve employees' physical activity levels. In addition, other studies emphasise the importance of the physical environment as a critical determinant of employee activity, affecting productivity, efficiency, satisfaction, and absenteeism (Sapiah Abdul Hamed et al., 2023). According to Abdel Hadi et al. (2020), Sven van As et al. (2022), and Hausser and Mojzisch (2017), employees with high quantitative work tasks, such as high time pressure and a lot of work to be done, are less likely to be physically active in their free time. These findings are worrying as high work expectations increase the risk of mental and physical health problems (van As et al., 2021). They also suggest that workers, especially those who could benefit from physical activity, struggle to find the time to do it in their free time. When people have a lot to do, they become tired, which makes them less motivated to engage in physical activity (van der Linden 2011). Fatigued workers are more likely to choose a tactic with less effort for physical activity (Hockey 2011), e.g., a less strenuous or shorter exercise. For this reason, tired workers are likely to be less active in their leisure time, either by engaging in less physical activity or less intense or shorter exercise.

Barriers to Participation in Physical Activity between Gender

Being active is an important part of a healthy life and has many physical and mental health benefits. However, some studies consistently show that participation rates vary significantly between men and women. A systematic review of research on gender differences in physical activity participation by Huang et al. (2023) found that gender norms and stereotypes can influence how people think about exercise, making it more difficult for women to choose physical activity and sport. It is difficult for young adult women to be active for several reasons. It can be challenging to find time to exercise when you have to work or take care of family responsibilities. Women are often expected to take on more childcare responsibilities, which could affect their ability to lead an active life. As a result, women may be less motivated to be more active than men as they may feel pressured to prioritise their appearance over their health. Espada et al. (2023) found that female students were less committed to physical activity than male peers. The study conducted by Asghar et al. (2023) in Pakistan found that more than half of the young women did not participate in any organised physical activity. It was due to a few factors, including the lack of gender-specific facilities and difficulties with transportation. In addition, Whipple et al. (2022) found that the most common barriers to physical activity were lack of time for males and social support for females.

METHODOLOGY

Research Design

The study design was a survey and quantitative analysis methods were used for cross-sectional data. The survey approach was chosen to obtain an accurate explanation of individual characteristics in a group directly or indirectly involved in sporting activities. The data was collected using a questionnaire. According to Babbie (2001), using a questionnaire was more suitable for collecting the desired data as it was easy and inexpensive to administer. In addition, data and information could be obtained more quickly

from many respondents. The questionnaire is distributed via Google Forms. For the first objective, descriptive statistics were conducted to investigate the perceived barriers (internal and external) to participation in physical activity among public sector employees in Kuala Lumpur. For the first objective, the result was presented using descriptive statistics such as mean, standard deviation and frequency distribution. In the second objective, an independent t-test was conducted to compare the gender differences in perceived barriers to participation in physical activity among JKR employees in Kuala Lumpur.

Population and Sampling Technique

The target population for this study comprises the employees of JKR HQ Kuala Lumpur, which has a total population of 1,000 employees. A sample size of 312 respondents was determined using Krejcie and Morgan's table (Krejcie & Morgan, 1970). A non-probability, convenience sampling method was employed. This study was reviewed and approved by the UiTM Research Ethics Committee.

Instrumentation

The questionnaire consists of sections A and B. Section A contains a demographic profile analysing the demographic background of the respondents. Section B is Barriers to Physical Activity and Exercise, developed by Justine et al. (2013). This questionnaire was used to identify the external and internal barriers to participation in physical activity among JKR employees. All items in section B were rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). SPSS version 28.0 was used to analyse the data in this study.

RESULTS AND DISCUSSION

Table 4.1: Reliability Test

No.	Factors	No. of item	Cronbach Alpha Value
1	Internal Barriers	10	0.856
2	External Barriers	11	0.887
Total	Perceived Barriers	21	0.914

The results of the reliability test are shown in Table 4.1. The Cronbach's alpha values for the perceived barriers to participation in physical activity among JKR employees in Kuala Lumpur, with a total of 21 items, were 0.914, indicating a high internal consistency of the scale used. In terms of value, it is preferable. The alpha was calculated using SPSS for each dimension, with internal barriers (.856) and external barriers (.887).

Table 4.2: Normality Test

	Kolmogorov-Smirnov		
	Statistic	Df	Sig.
Internal Barriers	0.063	312	0.004
External Barriers	0.078	312	< 0.001

The results of the normality test for perceived barriers to participation in physical activity among public sector employees are shown in Table 4.2. In terms of significance, the value is less than 0.05. The term means that the distribution is not normal. Since the data is non-parametric, the researcher applies the Mann-

Whitney test. When comparing two populations or groups, the Mann-Whitney U test is an effective non-parametric test (Martin & Bridgmon, 2012)

Table 4.3: Gender of Respondents

Gender	Frequency (n)	Percent (%)
Female	185	59.3
Male	127	40.7
Total	312	100.0

Table 4.3 shows the Gender of the respondents. The largest proportion, 59.3% (n=185), consisted of female respondents. On the other hand, 40.7% of the respondents were male (n=127). Consequently, the number of responses from female employees at JKR is higher than that of male employees.

Table 4.4. Descriptive Statistic of Overall Perceived Barriers to Physical Activity Participation

	Mean	Standard Deviation (SD)
Internal Barriers		
Female	2.75	0.726
Male	2.66	0.782
External Barriers		
Male	2.72	0.775
Female	2.66	0.727
Overall		
Internal	2.71	0.749
External	2.69	0.746

The mean values for the gender differences in the perceived barriers to participation in physical activity are shown in Table 4.4. The results show a mean score for each category for both the male and female groups. The female group had the highest score for internal barriers, with a mean of 2.75 (SD=0.726), compared to the male group, which had a mean of 2.66 (SD=0.782). For the external barrier, the highest mean score for the male group was 2.72 (SD=0.775), while the female group scored 2.66 (SD=0.727). However, both factors show a neutral result with mean values between 2.61 and 3.40 (Pimentel, 2010). The mean score for internal barriers is 2.71 (SD=0.749), while the mean score for external barriers is 2.69 (SD=0.746). The overall results of perceived barriers to participation in physical activity show that both genders are neutral, meaning they are not determined to participate in physical activity and, therefore, remain undecided.

Table 4.5. Gender Differences on the Perceived Barriers to Participation in Physical Activity

	Male		Female				
Variable	Mean Rank	n	Mean Rank	n	U	Z	*p*
Perceived Barriers	160.69	127	153.63	185	11216	-0.679	0.497

** $p<0.05$ (2 tailed)

The two-tailed Mann-Whitney U-test, conducted at an alpha level of 0.05, revealed a statistically non-significant difference (U = 11216, Z = -0.679, p = 0.497). This result shows that there is no statistically significant difference between males and females in terms of perceived barriers to participation in physical

activity. This result indicates that neither factor had a statistically significant effect on employees' participation in physical activity.

This study investigated JKR employees' perceived barriers to participation in physical activity among employees at JKR headquarters in Kuala Lumpur. The results show a mean score for each category for both the male and female groups. The female group had the highest score for internal barriers, with a mean of 2.75 (SD=0.726), compared to the male group with a mean of 2.66 (SD=0.782). The male group scored highest for external barriers, with a mean of 2.72 (SD=0.775), while the female group scored 2.66 (SD=0.727). However, both factors show a neutral result with mean values between 2.61 and 3.40 (Pimentel, 2010). The mean score for internal barriers is 2.71 (SD=0.749), while the mean score for external barriers is 2.69 (SD=0.746). The overall results of perceived barriers to participating in physical activity show that both genders are neutral, meaning they are not determined to participate in physical activity and, therefore remain undecided. The two-tailed Mann-Whitney U-test, conducted at an alpha level 0.05, revealed a statistically non-significant difference ($U = 11216$, $Z = -0.679$, $p = 0.497$). This result shows no statistically significant difference between men and women in terms of perceived barriers to participation in physical activity. This finding is supported by Koh et al. (2022) who found that there is no statistically significant difference between genders in terms of the amount of physical activity they engage in.

The results of this study contrast with the findings of an earlier study by Zelenović et al. (2021), which found that external barriers were the most common reasons for men not participating in physical activity. On the other hand, the study found that women were more likely to experience internal barriers than external barriers. Furthermore, this study contradicts the findings of Allison et al. (2005) and Gyurcsik et al. (2004), in which both types of barriers, i.e. internal and external, appear to be equally important among the reasons given by adolescents. For this study, the result indicates that employees at the JKR headquarters in Kuala Lumpur are not influenced by either internal or external perceived barriers to participation in physical activities.

CONCLUSION

Organizations in Malaysian government agencies can use these findings to promote social support among their employees through future group activities such as fitness classes or team sports. These activities have the potential to create a sense of motivation and connectedness among employees and increase their participation in physical activities. Therefore, the results of this research provide companies with better guidance when encouraging their employees to be more physically active. If companies do not take measures to encourage participation in physical activity, this could have a negative impact, and the number of those who exercise regularly would decrease.

ACKNOWLEDGEMENTS

I would like to express my deep appreciation to my team members for their valuable and constructive suggestions for completing this manuscript. I have greatly appreciated their willingness to give so generously of their time.

AUTHORS' CONTRIBUTION

Azlina Zid led the project and presented the initial idea. She coordinated the efforts and contributed to drafting the manuscript. Ahmad Lutfi Mohd Sam supervised the project, wrote the manuscript, and provided overall direction. Hasyyati Husna Dzoolkarnain and Nur Adliana Rozaidi were responsible for data collection. Siti Aishah Abdul Rahim proofread the manuscript to ensure proper sequence and alignment. All authors reviewed and approved the final manuscript.

CONFLICT OF INTEREST

No agency or organization has a conflict of interest with this study, which might be interpreted as influencing the findings or interpretation of this study. No financial resources were available to support this project.

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