Malaysian Journal of Social Sciences and Humanities (MJSSH) (e-ISSN : 2504-8562)
2024, Volume 9, Issue 5, e002719
DOI: https://doi.org/10.47405/mjssh.v9i5.2719

RESEARCH ARTICLE

Investigating the Physical Activity Demographic Profile of Student-Teachers at an Open Distance Learning Institution, Kuala Lumpur

Rosinah Mahmood[1*], Roshafiza Hassan[2], Fung Lan Loo[3]
Md Rosli Ismail[4]

[1]Faculty of Education, Open University Malaysia, Kelana Centre Point, Jalan SS 7/19, Ss 7, 47301 Petaling Jaya, Selangor, Malaysia.
Email: rosinah_mahmood@oum.edu.my
[2]Faculty of Educational Studies, Universiti Putra Malaysia, 43400 Seri Kembangan, Selangor, Malaysia.
Email: roshafiza@upm.edu.my
[3]Faculty of Education, Open University Malaysia, Kelana Centre Point, Jalan SS 7/19, Ss 7, 47301 Petaling Jaya, Selangor, Malaysia.
Email: loofunglan@oum.edu.my
[4]Faculty of Education, Open University Malaysia, Kelana Centre Point, Jalan SS 7/19, Ss 7, 47301 Petaling Jaya, Selangor, Malaysia.
Email: mdrosli@oum.edu.my

CORRESPONDING AUTHOR (*):
Rosinah Mahmood
(rosinah_mahmood@oum.edu.my)

KEYWORDS:
Physical activity
Demographic profile
Student-teachers
Open distance learning
Institution

CITATION:
Rosinah Mahmood et al. (2024). Investigating the Physical Activity Demographic Profile of Student-Teachers at an Open Distance Learning Institution, Kuala Lumpur. *Malaysian Journal of Social Sciences and Humanities (MJSSH), 9*(5), e002917.
https://doi.org/10.47405/mjssh.v9i5.2719

ABSTRACT

Physical activity (PA) is crucial for maintaining a healthy lifestyle, yet it is often overlooked, and many individuals do not engage in regular exercise. In recent years, the rise of Open Distance Learning (ODL) institutions has transformed the educational landscape, enabling students to learn from various locations, including the convenience of their homes. However, this shift to distance learning may contribute to a sedentary lifestyle, particularly for student-teachers who spend extended hours in front of computer screens. This study investigates the health demographic profile of student-teachers within an Open Distance Learning (ODL) institution, emphasizing the impact of distance learning on physical activity levels. With 206 participants, a self-developed questionnaire was used for data collection. Findings revealed a generally low level of physical activity among student-teachers, highlighting the need for increased time, motivation, and suitable facilities. The study underscores the potential long-term consequences of poor health status and limited engagement in physical activities. Recommendations include encouraging student-teachers to incorporate even low-intensity movements into their daily routines. The implications and recommendations are discussed to address the sedentary lifestyle, emphasizing the importance of promoting physical activity for overall well-being.

Contribution/Originality: This study contributes to the existing literature by investigating the physical activity levels of student-teachers at an Open Distance Learning institution, a demographic often overlooked. The paper's primary contribution is finding that distance learning significantly contributes to a sedentary

lifestyle, underscoring the need for strategies to promote physical activity among student-teachers.

1. Introduction

In today's world, the importance of physical activity (PA) cannot be overstated, especially given the sedentary lifestyle of many people. Physical activity is central to improving overall health, reducing the risk of chronic diseases and promoting mental well-being. For student-teachers on the cusp of shaping the future of education, maintaining optimal levels of physical activity is crucial for their health and setting a positive example for their future students. Open Distance Learning (ODL) higher institutions offer unique challenges and opportunities regarding physical activity. The flexibility of ODL often means that students have unconventional schedules, which can impact their physical activity behaviour. Kuala Lumpur is a vibrant metropolis that offers a range of challenges with its fast-paced lifestyle, urban infrastructure and cultural norms.

This study aims to investigate the physical activity profile of student teachers enrolled in an open-distance higher institution in Kuala Lumpur. By understanding their activity patterns, this study hopes to provide insights that can help develop strategies and interventions to promote healthier lifestyles among this critical group of future teachers.

2. Literature Review

Physical activity is an essential part of leading a healthy lifestyle. It pertains to any body movement produced by skeletal muscles that requires energy usage. The activity includes any daily movement such as walking to class, climbing the stairs, mowing the lawn, and doing household chores in leisure time or as part of work (WHO, 2022). Physical activity does not involve remaining sedentary, such as sitting still or lying down (Mama et al., 2023; Powell et al., 2019). While exercise is a form of physical activity, not all physical activity is exercise. Exercise constitutes a planned, structured, and repetitive activity to improve or maintain physical fitness. Physical activity can be categorized into different intensities, including light, moderate, and vigorous (National Heart, Lung, and Blood Institute [NHLBI], 2022). Light-intensity activity involves any physical movement that is more strenuous than sleeping and less strenuous than brisk walking. It is usually defined as less than three metabolic equivalents (METS), signifying it requires less energy than activities of moderate intensity. Light-intensity activities include sweeping the floor, cleaning windows, shooting basketballs, and gardening.

Meanwhile, moderate-intensity activities elevate both heart and breathing rates yet still can carry on a conversation simultaneously while doing it (Dempsey et al., 2022). These activities are typically classified within the range of 3 to 6 metabolic equivalents (METS), indicating an energy demand of 3 to 6 times more than at rest. Examples of moderate intensity include brisk walking, water aerobics, cycling, dancing, playing doubles tennis, pushing a lawnmower, hiking, and rollerblading. On the other hand, engaging in vigorous-intensity activity leads to heavy and fast breathing (Dempsey et al., 2022; Panza et al., 2019), limiting the ability to speak more than a few words without pausing to breathe. Typically, the activity requires more than six metabolic equivalents (METS), indicating a higher energy usage than moderate-intensity activity. Vigorous activities include running, swimming, cycling at high speed or on hills, brisk walking uphill,

participating in sports such as football or basketball, and aerobic dance. It is important to note that any light, moderate, and vigorous-intensity physical activity is good for health and contributes to meeting the recommended physical activity guidelines for adults.

Numerous studies have shown the importance of engaging in physical activity and associated it with health benefits (Dempsey et al., 2022; Powell, 2019; Calestine et al., 2017). Regular physical activity helps improve overall well-being and physical fitness and reduces susceptibility to many chronic diseases. This practice helps prevent hypertension, maintain desirable and healthy body weight, and improve mental health, quality of life, and general well-being. The World Health Organization (WHO) (2020) has emphasized numerous health benefits associated with regular physical activity, including preventing and controlling non-communicable diseases such as heart disease, stroke, diabetes, and forms of cancers (Shoemaker et al., 2021). In addition, physical activity is vital in enhancing and improving mental and physical health, cognitive function and capabilities, concentration, productivity, stress management, social engagement, establishment of lifelong habits, and better sleep quality. In a broader context, physical activity is crucial in combatting obesity in society, which is associated with severe health conditions (Tassitano, 2023; Werneck et al., 2023), as mentioned. Thus, regular engagement in physical activity emerges as a critical factor in maintaining a healthy weight, as individuals with a sedentary lifestyle tend to gain more weight over time compared to those who consistently engage in regular daily movements.

The World Health Organization (WHO) (2022) recommends frequent physical activity for optimal health. Unfortunately, most people do not engage in the required levels of physical activity, with one in four adults and four out of five adolescents not meeting the recommended levels (WHO, 2020). This worrying scenario was connected to the daily lifestyle that is currently practiced in society. This scenario is due to the changes in technology developments and trends. In education, rapid technological advancement requires changes in traditional teaching and learning methods. Chu and Li (2022) stated that although technology offers many advantages to students, allowing them to further their studies remotely, anywhere, and anytime without interrupting their core duty at work and daily routines, it also harms students' health since it discourages physical movement. In Malaysia, the open distance learning (ODL) education system is preferred by adult learners, especially those employed, as they can learn without worrying about their core duties at the workplace and daily activities.

Online Distance Learning allows learners to learn remotely and at their own pace and spend more time at the computer to manage their studies and work without regular face-to-face contact with instructors or peers in a traditional classroom setting. This situation can lead to a sedentary lifestyle with extended periods of sitting (Werneck et al., 2023) and studying, resulting in less movement among students, and they prefer to spend long hours in front of the computer (Mama et al., 2023; Powell et al., 2019). This lifestyle is contrary to the recommendations of the Malaysian Ministry of Health (MoH) that Malaysians lead active lives and practice healthy lifestyles. Therefore, it is crucial to conduct a study on the physical activity of distance learners to understand the nature of their daily physical routines. This study was conducted among student-teachers of ODL Institutions in Kuala Lumpur. The aim is to determine their health status and weekly physical activity frequency.

In today's educational landscape, open distance learning (ODL) institutions have become a central form of instruction, offering flexibility and convenience to students (Mittal et al., 2021). While ODL higher institutions in Kuala Lumpur have seen a surge in student enrolment, especially among student teachers, there is growing concern about their physical activity behaviour (PA) (Ibrahim, 2022). Understanding the demographic PA profile of these student teachers, particularly in the context of Demographic Transition Theory, is critical (Zaidi & Morgan, (2017). It remains unclear how the demographic factors of student teachers at ODL institutions in Kuala Lumpur influence their PA behaviours and patterns (Tan et al., 2022). While the Health Belief Model (HBM) suggests that perceptions about health and beliefs about outcomes influence health behaviours (Saghafi-Asl et al., 2020), there is limited empirical evidence on how PA student teachers' levels differ across demographic groups such as gender, age and socioeconomic status (Pedersen et al., 2021). This gap in knowledge raises questions about the effectiveness of current health promotion strategies tailored to this particular group (Farley & Chamberlain, 2021). Therefore, this study aims to identify the demographic physical activity profile of student-teachers enrolled in an ODL higher institution in Kuala Lumpur.

3. Methods

This quantitative study was conducted to identify the level of engagement in physical activity among student-teachers at an Online Distance Learning (ODL) institution. The instrument used to investigate the aim of this study was collected via the self-developed questionnaire which has gone through EFA procedure to discover the factor structure of a measure and to examine its internal reliability. A number of 206 respondents are student-teachers of the Post Graduate Diploma of Teaching (PGDT) programme of an ODL higher institution in Kuala Lumpur. Data was obtained using a simple random sampling method. Therefore, each member of the population has an equal chance of being chosen (Creswell & Creswell, 2022). The researchers constructed a Google form survey consisting of 23 types of activities to measure the frequencies of student-teachers physical activity involvement during the past seven days. Respondents filled in their demographic information, including gender and general health conditions. All respondents were emailed, asking them to complete the survey within two weeks of receiving the invitations.

4. Results

This section demonstrates the distribution of the number of respondents based on gender, their general health conditions, and the frequency and percentage distribution of physical activities they engaged in the past seven days. A total of 206 respondents, who are student-teachers, were involved in this study. Table 1 presents respondents' background based on gender. The result found that 19.9% (n=41) of respondents who are student-teachers were males, while 80.1% (n=165) were females.

Table 1: Respondent's Background Based on Gender

Category	Frequency (n)	Percentage (%)
Male	41	19.9
Female	165	80.1

Table 2 provides information about student-teachers' general health conditions. The distribution indicates that many respondents rated their health conditions as 'Poor' or 'Fair.' Specifically, 46.6% (n=96) respondents identified their health as 'Poor,' 50.0% (n=103) considered it 'Fair.' Notably, a smaller proportion of respondents, 2.9% (n=6) reported 'Good' health status, indicating that only a minority feel their health is satisfactory. Furthermore, an even smaller percentage, merely 0.5% (n=1), believed his/her health to be 'Excellent.' These findings highlight a potentially alarming trend wherein many student-teachers perceive their health as less than optimal.

Table 2: Respondents' Background Based General Health Conditions

Category	Frequency (n)	Percentage (%)
Poor	96	46.6
Fair	103	50.0
Good	6	2.9
Excellent	1	0.5

The results of the survey reveal the frequency of engagement of student-teachers in physical activity. Table 3 provides information on the number of respondents who engaged in each physical activity with different frequencies, ranging from "None" to "7 times or more."

Table 3: Respondents' engagement in physical activity over the last seven days

Category	Frequency (n)	Percentage (%)
None	170	82.6
1 – 2 times	24	11.7
3 -4 times	7	3.3
5 – 6 times	3	1.4
7 times or more	2	1.0

Table 3 presents the frequency and percentage of the physical activity of 206 respondents in an ODL higher institution in Kuala Lumpur over the last seven days. Of 206 respondents, 82.6% (n=170) reported no participating in their routine physical activity. Furthermore, the data shows that 11.7% (n=24) of respondents engaged in physical activity on a limited scale, specifically 1 to 2 times. A smaller percentage which is 3.3% (n=7), reported that they engaged in physical activity 3-4 times. An even more modest proportion, 1.4% (n=3), claimed to participate in physical activity 5-6 times. Interestingly, an extraordinary 1% (n=2) reported a remarkably active lifestyle with engagement in physical activity seven times or more in a week. This group of respondents, albeit small, presents a unique finding within the data.

Subsequently, Table 4 reports respondents' engagement in 23 types of physical activities over the last seven days. The data is presented in a tabular format, with rows representing different physical activities, and the columns describe the frequency of participants in each category.

Table 4 shows that 69.9% (n=144) respondents reported no participation in skipping, while 23.8% (n=49) engaged in skipping 1-2 times, 4.8% (n=10) did it 3-4 times, and only 1.5% (n=3) respondents did it 5-6 times. No one reported skipping seven times or more. This pattern suggests that skipping is not very popular among student-teachers, with only a few participating occasionally. On the other hand, the canoeing activity

showed 93.2% (n=192) of respondents did not engage in canoeing, while 6.8% (n=14) of them reported doing it 1-2 times. None of the respondents reported canoeing three times or more. This finding indicates that canoeing is not a commonly practised activity among student-teachers. Like canoeing, skateboarding is rare among student-teachers in this study. A remarkable 96.6% (n=199) of respondents indicated that they did not engage in skateboarding, while only 2.9% (n=6) reported doing it 1-2 times, and only 0.5% (n=1) of respondents did it 3-4 times.

Table 4: Frequencies of Physical Activity of 206 Student-Teachers in ODL institutions

No	Activity	None	1 – 2 times	3 – 4 times	5 – 6 times	≥ 7 times	Total
1.	Skipping	144	49	10	3	0	206
2.	Canoeing	192	14	0	0	0	206
3.	Skateboarding	199	6	1	0	0	206
4.	Handball	183	19	3	1	0	206
5.	Brisk Walking	20	72	46	40	28	206
6.	Cycling	153	37	11	3	2	206
7.	Jogging	83	85	26	8	4	206
8.	Aerobic	145	48	11	2	0	206
9.	Swimming	190	15	1	0	0	206
10.	Baseball	198	6	1	1	0	206
11.	Dancing	161	32	7	3	3	206
12.	Football	192	7	4	1	2	206
13.	Badminton	140	43	13	3	7	206
14.	Takraw	201	2	2	1	0	206
15.	Mountain climbing	200	22	2	2	0	206
16.	Hockey	202	4	0	0	0	206
17.	Volleyball	197	8	1	0	0	206
18.	Pingpong	195	8	1	1	1	206
19.	Basketball	196	7	3	0	0	206
20.	Futsal	194	7	5	0	0	206
21.	Tennis	200	5	1	0	0	206
22.	Martial Arts	190	11	3	2	0	206
23.	Others	143	51	9	2	1	206
	Cumulative Percentage (%)	82.6	11.7	3.3	1.4	1	100

The survey showed that most respondents (88.8%; n=183) did not engage in handball. 9.2% (n=19) of them did it 1-2 times; 1.5% (n=3) of respondents did it 3-4 times, and only 0.5% (n=1) of respondents enjoyed the hobby 5-6 times. Handball is a relatively

less common activity among respondents but has a small group of regular participants. In contrast, brisk walking became a popular movement mode among the respondents. Of 206 respondents, 9.7% (n=20) reported not engaging in it, while more than quarter (35.0%; n=72) of respondents engaged in brisk walking 1-2 times. Notably, 2.2% (n=46) of respondents did brisk walking 3-4 times, 19.4% (n=40) did it 5-6 times, and 13.6% (n=28) engaged in brisk walking seven times or more. These findings suggest that brisk walking holds the highest ranking in the physical activity preferences of respondents. Another notable activity that garnered attention among respondents was cycling. The survey revealed that 74.3% (n= 153) of respondents refrained from engaging in cycling. In contrast, 17.9% (n=37) did it 1-2 times, 5.3% (n=11) did it 3-4 times, and 1.5% (n=3) did it 5-6 times. Interestingly, 1.0% (n=2) respondents reported cycling at least seven times a week.

Meanwhile, among the diverse range of physical activities, jogging is a popular preference for student-teachers in this study. The data highlights that 40.3% (n=83) of respondents did not jog. However, it is intriguing that 41.3% (n=85) of them did it 1-2 times, indicating substantial interest in this activity. Furthermore, 12.8% (n=26) increased their engagement by jogging 3-4 times, while a smaller group (3.9%, n=8) of respondents did it 5-6 times. Impressively, 1.9% (n=4) of respondents jogged seven times or more in a week. In parallel to the popularity of jogging, aerobic activity has become among the favoured activity among the respondents. The data in Table 3 illustrates that 70.4% (n=145) of respondents abstained from aerobics. Conversely, 23.3% (n=48) of respondents did it 1-2 times. 5.3% (n=11) of respondents showed more outstanding commitment by doing aerobics 3-4 times. Only 1% (n=2) of respondents engaged in aerobic exercises 5-6 times, and no one engaged for seven times and more. Although swimming offers many health benefits, the data show that most respondents (190) did not participate in this aquatic activity. Nonetheless, 15 respondents did it 1-2 times, and only 1 did it 3-4 times. None reported swimming five times or more.

The spectrum of physical activities, such as baseball, dance, football, badminton, and takraw, show a similar pattern, with a small number of student-teachers engaging in them occasionally. However, most of the respondents did not participate in these activities. However, there is still a prevailing trend that most respondents did not actively participate in these activities. Meanwhile, mountain climbing is not very popular among respondents, with only 10.7% (n=22) of them engaged 1-2 times and only 1% (n=2) did it 3-4 times.

Most respondents should have more widely embraced physical activities such as hockey, volleyball, ping pong, basketball, futsal, tennis, and martial arts. Instead, only a limited number of respondents partook in these activities occasionally. Other categories include various activities not individually listed. A notable survey is that 69.4% (n=143) of respondents reported abstaining from these 'other' activities. Conversely, 24.8% (n=51) engaged 1-2 times, 4.4% (n=9) engaged 3-4 times, and only 1% (n=2) respondents did it 5-6 times.

The results suggest that some physical activities, such as brisk walking, cycling, jogging, and aerobic exercises, are more prevalent among respondents. On the other hand, activities like canoeing, skateboarding, and mountain climbing are less common. Various factors, such as accessibility, personal preferences, cultural factors, and the availability of facilities and equipment, may influence the popularity of each activity. Less Popular Activities such as canoeing, swimming, football, hockey, volleyball, ping pong, basketball,

futsal, tennis, and martial arts have relatively fewer respondents who participated in them compared to the more popular activities. Physical inactivity such as skipping, handball, cycling, aerobics, and others have a substantial number of respondents who reported not engaging in them in the last seven days.

In summary, the results shed light on the engagement in physical activity and the health conditions of student-teachers in an ODL higher institution. The abundance of participants who rarely participate in physical activity gives the impression that a significant part of the population is in a "fair" level of health. Lack of regular exercise can worsen this health condition. In addition, it is worth considering the long-term consequences of such physical inactivity. A sedentary lifestyle is often associated with adverse health effects (WHO, 2022; Powell et al., 2019), such as increased risk of chronic diseases and decreased general well-being. If these patterns continue, the cumulative effect can be detrimental to the health and overall quality of life of student-teachers.

5. Discussion

Recent trends such as increased physical inactivity during leisure time and decreased work activity have created a sedentary lifestyle (Mama et al., 2023). This situation also occurs among student-teachers because they spend considerable time sitting in front of computers attending lectures, and completing assignments. The high immobility or physical inactivity among student-teachers in an ODL higher institution in Kuala Lumpur is due to several factors. One is that student-teachers may have their own preferences for certain activities, resulting in different levels of participation in various physical activities. In addition, the likelihood of engagement may be influenced by the availability of facilities and resources for a particular activity (Werneck et al., 2023). Activities such as brisk walking, jogging, and dancing are easily accessible and can be performed without special equipment or devices, which may explain their higher participation rates. Another reason for these things to happen is due to time constraints. The demands of work responsibilities and study commitments can limit the amount of time spent on physical activity, resulting in some student-teachers being less active.

On the other hand, cultural norms and social influences can affect the participation in physical activities among student-teachers. Certain activities may be more common in specific cultural groups or social circles. Besides, respondents' engagement can also be influenced by awareness, cultivation, promotion, and initiatives (NHLBI, 2022; Panza et al., 2019) within the ODL Institutions. Ng (2021) in his point of view, stated that some student-teachers cannot perform certain physical activities due to health conditions or personal reasons. Several factors may influence health status distribution among student-teachers in ODL institutions. The nature of distance learning can be a contributing factor. The demands of distance learning, which often require extended screen time and sitting, could adversely affect physical and mental well-being. In addition, the pressures of juggling academic commitments and personal responsibilities might lead to neglecting health-related practices.

In summary, incorporating physical activity into the lives of ODL learners is vital to promoting their overall health, mental well-being, and academic success. Encouraging regular exercise and movement should be a priority for ODL institutions so that learners maintain a healthy balance between their academic pursuits and physical well-being.

6. Implications

The importance of physical activity in human life cannot be overestimated. In addition to health effects, physical activity has far-reaching effects that extend into various areas of life. The data's implications extend beyond health and touch upon student-teachers educational experiences. A compromised health status could hinder their ability to engage in their studies fully, participate actively in discussions, and contribute to collaborative projects. Poor health may lead to reduced concentration, increased stress, and diminished academic performance (WHO, 2022; Ng, 2021; Panza et al., 2019). Moreover, an unfavorable health status might also influence their mood and motivation, impacting their overall well-being and enthusiasm for the learning process.

The implications of poor health due to physical inactivity are not limited to well-being. ODL students with poor health may encounter barriers that hinder their educational experience. Physical limitations can hinder the ability to fully participate in learning, actively participate in discussions, and collaborate on projects. Reduced concentration and increased stress due to poor health can lead to lower academic performance, which hinders learning (Chu & Li, 2022). The impact of inactive physical activity on Open Distance Learning (ODL) learners can be significant and detrimental to their overall well-being and academic performance. Several negative consequences can arise when ODL learners lead a sedentary lifestyle with little or no physical activity. Inactive ODL learners are at a higher risk of developing various health issues, such as obesity, cardiovascular diseases, diabetes, and musculoskeletal problems. Lack of physical activity can lead to weight gain and reduced overall fitness levels, compromising their physical health.

Inactive movements are also related to decreasing mental well-being due to higher levels of stress, anxiety, and depression. ODL learners who do not engage in regular physical activity may experience more significant mental health challenges, affecting their ability to cope with academic demands and leading to a decline in overall mental well-being (Chu & Li, 2022; Calestine et al., 2017). The implications of this study would also lead to low or reduced cognitive function. As mentioned, physical activity is known to enhance cognitive function, including memory, attention, and problem-solving skills. Inactive ODL learners may experience difficulties in focusing, retaining information, and effectively processing complex academic concepts. Besides, this situation also will result in lower energy levels and feelings of fatigue. Inactive ODL learners may struggle to stay alert and motivated during their study sessions, impacting their productivity and academic progress. Subsequently, low cognitive function would also directly impact poor academic performance, lack of focus, and lower energy levels which can lead to decreased productivity and efficiency in completing coursework and assignments.

Physical inactivity has many implications, including an increased risk of burnout. ODL learners are more susceptible to burnout due to academic stress, workloads, and physical inactivity. Burnout can result in a loss of interest in studies, reduced engagement with coursework, and a decline in the overall quality of learning. Other implications may be social isolation which inactive ODL learners may miss out on opportunities for social interactions and engagement with peers, especially if physical activities involve group settings. Social isolation can contribute to feelings of loneliness and negatively impact mental health. Besides, a lack of physical activities can disrupt sleep patterns, leading to difficulties falling asleep or experiencing restful sleep (Tassitano, 2023; Jones et al., 2019). Poor sleep quality can further exacerbate academic

challenges and emotional well-being. Inactivity during the ODL phase can establish unhealthy habits beyond their academic journey. Failing to adopt an active lifestyle during this period may lead to long-term negative health consequences. These patterns may decrease overall well-being, encompassing physical, mental, and emotional aspects of health.

7. Recommendations

Several recommendations can be considered to address the concerns arising from the distribution of health statuses among student-teachers. First, ODL institutions should prioritize promoting health and well-being as integral components of their educational approach. These ideas include incorporating wellness programs, encouraging regular physical activity, and providing resources for stress management and mental health support (Tassitano, 2023; Calestine et al., 2017). Institutions and learners should prioritize incorporating regular physical activity into their daily routines to mitigate the impact of inactive physical activity and significantly prolonged sitting on ODL learners. Encouraging breaks for movement during tutorials, offering resources for at-home workouts, and promoting physical activities through virtual group classes or challenges can all contribute to fostering a healthier and more balanced ODL experience for learners. Student-teachers can include taking active breaks during study sessions, setting a schedule for physical activity, using active learning strategies, utilizing online resources, joining virtual fitness classes, and making physical activity a family affair.

There are several ways to incorporate more physical activity into a sedentary lifestyle (Mama et al., 2023). Fostering a sense of community and belongingness among student-teachers could help alleviate feelings of isolation often associated with distance learning. Peer support groups, virtual social events, and opportunities for interactive learning could contribute to a more positive and health-supportive environment. Instead of sitting for long periods, try standing whenever possible. Stand while watching TV, attending meetings, working at a desk, or even during phone calls. Besides that, take short breaks throughout the day to stretch, walk around, or do light exercises. Even a few minutes of movement every hour can make a difference. Another way is to incorporate movement into daily tasks and look for opportunities to add more movement to the daily routine (Shoemaker et al., 2021). For example, take the stairs instead of the elevator, park farther away from the destination to get some extra steps, or do household chores actively. Find and enjoy activities such as dancing, swimming, cycling, hiking, or joining a sports team.

Besides, utilize fitness apps or wearable devices that track physical activity levels and provide reminders to move (Jones et al., 2019; McCallum et al., 2018). These tools help to stay motivated and accountable. Incorporate exercise into the daily routine; for example, aim for at least 30 minutes of moderate-intensity aerobic, such as brisk walking, cycling, or dancing, on most days of the week, and break it down into smaller segments throughout the day if needed. Make it a social activity with friends or family members. Doing it together can make it more enjoyable and provide additional motivation. This study was conducted through a survey to gather information about the respondents' health levels and the frequency of their participation in physical activities. Future studies should consider qualitative methods to understand further student-teachers challenges in engaging in physical activities.

8. Conclusion

This study aims to measure the degree of physical activity participation among student-teachers in an Online Distance Learning (ODL) institution in Kuala Lumpur. Overall, their poor health status and minimal involvement in physical activities provide early indications of unfavourable effects, especially in the long term. A busy lifestyle with various daily responsibilities constraints student-teachers from engaging in physical activities. This study suggests that student-teachers should participate in physical activities, even if they involve low-intensity movements throughout their daily routines. The crucial aspect is to keep moving and avoid prolonged periods of being sedentary. The implications of the research findings and several recommendations are proposed for student-teachers and ODL institutions to alleviate this situation. Starting with small steps and gradually increasing physical activity is essential. Consistency is vital, and even small changes can positively impact the long run.

Ethics Approval and Consent to Participate

The researchers used the research ethics provided by the Research Ethics Committee of Open University Malaysia. All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional research committee. Informed consent was obtained from all participants.

Acknowledgement

We are grateful to student-teachers for their participation and insights. We appreciate the support and feedback from our colleagues and collaborators and the resources provided Centre for Research and Innovation and Faculty of Education, Open University Malaysia. Finally, heartfelt thanks to our families and friends for their unwavering support and patience throughout this study. To everyone who contributed, directly or indirectly, thank you for your invaluable support.

Funding

This study received the OUM Internal Research Fund under Grant No. OUM-IRF-2023-006.

Conflict of Interest

The authors reported no conflicts of interest for this work and declare that there is no potential conflict of interest regarding the research, authorship, or publication of this article.

References

Calestine, J., Bopp M., Bopp, C. M., & Papalia, Z. (2017). College student work habits are related to physical activity and fitness. *International Journal of Exercise Science*, *10*(7), 1009-1017.

Chu, Y. H., & Li, Y. C. (2022). The impact of online learning on physical and mental health in university students during the COVID-19 pandemic. *International Journal of*

Environmental Research and Public Health, *19*(5), 2966. https://doi.org/10.3390/ijerph19052966

Creswell, J. W. & Creswell, J. D. (2022). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). Sage Publications.

Dempsey, P. C., Rowlands, A. V., Strain, T., Zaccardi, F., Dawkins, N., Razieh, C., ... & Yates, T. (2022). Physical activity volume, intensity, and incident cardiovascular disease. *European Heart Journal*, *43*(46), 4789-4800.

Farley, A. N., & Chamberlain, L. M. (2021). The Teachers are Not Alright: A Call for Research and Policy on Teacher Stress and Well-Being. *The New Educator*, *17*(3), 305–323. https://doi.org/10.1080/1547688X.2021.1939918

Ibrahim, M. F., Wan Ismail, W. S., Nik Jaafar, N. R., Mohd Mokhtaruddin, U. K., Ong, H. Y., Abu Bakar, N. H., & Mohd Salleh Sahimi, H. (2022). Depression and its association with self-esteem and lifestyle factors among school-going adolescents in Kuala Lumpur, Malaysia. *Frontiers in Psychiatry*, *13*, 913067.

Jones, M., Bright, P., Hansen, L., Ihnatsenka, O., & Carek, P. J. (2019). Promoting physical activity in a primary care practice: Overcoming the barriers. *American Journal of Lifestyle Medicine*, *15*(2),158-164. https://doi.org/10.1177/1559827619867693

Mama, S. K., Soltero, E. G., & Joseph, R. P. (2023). Reducing sedentary behaviour and increasing physical activity among low active, underserved adults: A staircase approach. *Journal of Physical Activity and Health*, *20*(8), 677-679. https://doi.org/10.1123/jpah.2023-0171

McCallum, C., Rooksby, J., Gray, C. M. (2018). Evaluating the impact of physical activity apps and wearables: Interdisciplinary review. *JMIR Mhealth Uhealth*, *6*(3):e58. https://doi.org/10.2196/mhealth.9054

Mittal, A., Mantri, A., Tandon, U., & Dwivedi, Y. K. (2022). A unified perspective on the adoption of online teaching in higher education during the COVID-19 pandemic. *Information Discovery and Delivery*, *50*(2), 117-132.

National Heart, Lung, and Blood Institute (NHLBI) (2022, March 24). *Physical activity and your heart.* Retrieved from https://www.nhlbi.nih.gov/health/heart/physical-activity/types

Ng, C. F. (2021). The physical learning environment of online distance learners in Higher Education: A conceptual model. *Frontiers in Psychology*, 12, 635117. https://doi.org/10.3389/fpsyg.2021.635117

Panza, G. A., Taylor, B. A., Thompson, P. D., White, C. M., & Pescatello, L. S (2019). Physical activity intensity and subjective well-being in healthy adults. *Journal of Health Psychology*, *24*(9),1257-1267. https://doi.org/10.1177/1359105317691589

Pedersen, M. R. L., Hansen, A. F., & Elmose-Østerlund, K. (2021). Motives and barriers related to physical activity and sport across social backgrounds: implications for health promotion. *International journal of environmental research and public health*, *18*(11), 5810. https://doi.org/10.3390/ijerph18115810

Powell, K. E., King, A. C., Buchner, D. M., Campbell, W. W., DiPietro, L., Erickson, K. I., ... & Whitt-Glover, M. C. (2018). The scientific foundation for the physical activity guidelines for Americans. *Journal of Physical Activity and Health*, *16*(1), 1-11. Retrieved from https://doi.org/10.1123/jpah.2018-0618

Saghafi-Asl, M., Aliasgharzadeh, S., & Asghari-Jafarabadi, M. (2020). Factors influencing weight management behavior among college students: An application of the Health Belief Model. *PloS one*, *15*(2), e0228058

Shoemaker, M. J., Mattern, M., Scholten, H., Zeitler, J., & Gore, S. (2021). Subjective daily physical activity measures in heart disease: A systematic review. *Journal of Physical Activity and Health*, *18*(4), 450-460. https://doi.org/10.1123/jpah.2020-0661

Tan, P. P. S., Sandhu, R. S., Zain, S. M., Hall, D., Tan, N. C., Lim, H. M., ... & Pung, Y. F. (2022). Health motivations and perceived barriers are determinants of self-care behaviour for the prevention of hypertension in a Malaysian community. *Plos one*, *17*(12), e0278761.

Tassitano, R. (2023). More than ever, It is time to ensure regular opportunities for physical activity among children and adolescents: The potential of structured settings. *Journal of Physical Activity and Health*, *20*(5), 361-363. https://doi.org/10.1123/jpah.2023-0036

Werneck, A. O., Araujo, R. H., Anza-Ramírez, C., Brazo-Sayavera, J., García-Witulski, C., Aguilar-Farias, N., ... & Silva, D. R. (2023). Physical activity and sitting time patterns and sociodemographic correlates among 155,790 South American adults. *Journal of Physical Activity and Health*, *20*(8), 716-726. https://doi.org/10.1123/jpah.2022-0305

World Health Organization (2022, October 5). *Physical activity*. Retrieved December 2023 from https://www.who.int/news-room/fact-sheets/detail/physical-activity

World Health Organization (2020, November 25). *Guidelines on Physical Activity and Sedentary Behaviour*. Retrieved December 2023 from https://www.who.int/publications/i/item/9789240015128

Zaidi, B., & Morgan, S. P. (2017). The second demographic transition theory: A review and appraisal. *Annual review of sociology*, *43*, 473-492.