







Physical Activity Barriers Among Adolescents in Jordan: A Cross-Sectional Study

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Abstract

Introduction: Physical activity is critical for health promotion and the prevention of noncommunicable illnesses, especially among teenagers. However, teenagers' active participation in physical exercise may be hampered by perceived impediments to physical activity.

Objective: This study aimed to identify the external and internal barriers to physical activities among adolescents, as well as any differences in these barriers between males and females.

Methods: A cross-sectional study was carried out among 600 adolescent students (aged 11–16) from a public school in Jordan. A self-administered questionnaire with 12 items assessed barriers to physical activity. Internal and external barriers were identified, and statistical analyses were performed using SPSS.

Results: Male adolescents reported more perceived hurdles to physical exercise than female adolescents, with lack of time and lack of self-confidence being the most significant impediments. External impediments were more prominent than internal barriers, particularly a lack of resources. The total score for external barriers was significantly higher than that for internal barriers. "Lack of resources" was the most important external barrier (mean = 3.49), and "lack of self-confidence" was the most significant internal barrier (mean = 3.47). Male and female teenagers differed in the obstacles of "lack of self-confidence" ($p = .045$) and "lack of time" ($p = .040$). The most significant perceived hurdles included a lack of awareness of the health benefits of exercise, concerns about appearance while exercising, limited access to fitness centers, lack of exercise equipment at home, and insufficient spare time due to a packed class schedule.

Conclusion: It is critical to implement interventions that address the identified barriers to physical activity, particularly among female adolescents, such as improving opportunities for physical activity and providing social support for participation.

Keywords

physical activity, adolescents, Jordan, barriers, gender differences

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Introduction

Adolescence is the period of life between childhood and adulthood, lasting from the ages of 10–19. It is a unique stage in human development critical for laying the groundwork for long-term health (World Health Organization (WHO), 2016). The health of future adults is influenced by factors such as body image perception and self-esteem during this period (Fernández et al., 2017).

According to Mazidi et al. (2018), programs are needed to monitor and prevent unhealthy weight gain in children and adolescents in Asia due to the high prevalence of overweight

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and obese children, their negative health effects, and the financial burden they impose on healthcare systems. The WHO reports that global obesity has reached pandemic proportions. In 2014, approximately 1.9 billion people aged 18 and older were overweight, with around 600 million of them being obese (Fernández et al., 2017).

Regular physical activity is essential for reducing obesity and maintaining a healthy lifestyle (Musich et al., 2017). Maintaining physical and emotional wellness is crucial, correlating with body mass index, physical activity levels, and percentage of body fat. Lack of physical exercise, coupled with a high body mass index and fat mass percentage, impedes physical fitness. Reduced physical activity and low participation in sports during adolescence are associated with higher rates of overweight and obesity. Individuals who engage in more physical exercise tend to have lower body fat percentages compared to those who do not (Dewi et al., 2021).

Regular physical activity is essential for maintaining a healthy lifestyle. It is associated with a lower risk of several ailments, including cancer, obesity, and heart disease. A significant number of adults and adolescents face barriers to becoming physically active (WHO, 2019). Adolescent physical activity barriers and facilitators are classified into six categories: three intrapersonal themes (perceived motivating and restricting factors, awareness of physical activity, and time constraints), two interpersonal/cultural themes (social support, gender and cultural norms), and one environmental theme (access to opportunities) (Abdelghaffar et al., 2019).

In a study spanning eight Arab countries, Al-Muftay et al. (2016) discovered that the prevalence of overweight and obesity among teenagers varied by country. The highest prevalence of overweight among male teenagers was observed in Kuwait (24.8%) and Saudi Arabia (23.2%). Female adolescents in Kuwait (22.1%) and Jordan (20.0%) had the highest rates of overweight. Furthermore, Al Hourani et al. (2022) revealed adverse effects on children and adolescents' body weight, eating patterns, and physical activity during the COVID-19 lockdown in Jordan. The lockdown period was associated with increased screen time, decreased physical activity, binge eating, and weight gain. These results highlight the alarming rise in overweight and obesity rates among adolescents in this region, as well as the negative impact of the COVID-19 lockdown on their health behaviors. To address this issue, Fernández et al. (2017) propose implementing measures aimed primarily at improving teenagers' health. These initiatives should focus on combating the increasing prevalence of overweight and obesity in this age group by addressing the decline in regular physical exercise and promoting healthy eating habits.

It is therefore crucial that healthcare practitioners in Jordan understand the challenges and issues pertinent to the adolescent population in order to develop appropriate initiatives aimed at increasing physical activity levels and promoting adolescent health in the long term.

Review of Literature

Physical inactivity is a major risk factor for noncommunicable illnesses, and it is one of the most important behaviors to avoid in order to achieve optimal cardiovascular health and lower cardiovascular risk (Rosselli et al., 2020). Langguth et al. (2015) conducted a study on the barriers to physical activity among adolescents in Palestine. They conducted two studies describing a variety of barriers to physical activity using a multidimensional approach. In the first study, 124 adolescents (age group = 12–24 years) reported their most important barriers to physical activity. In the second study, 598 adolescents (age group = 13–21 years) reported their most important barriers to physical activity. According to the study's findings, there are seven dimensions of physical activity barriers: recreational activities, lack of motivation, sedentary screen-based behavior, depressed mood, physical health, school workload, and preconditions. The study laid the foundation for developing individually tailored interventions to increase physical activity in adolescents.

Several studies have examined the barriers and facilitators of physical activity among Arab adolescents, focusing on the personal, social, and environmental factors that influence their activity levels (Abdelghaffar et al., 2019; Al-Hazaa, 2018; Musaiger et al., 2013; Sharara et al., 2018). These studies have highlighted barriers such as time constraints, cultural norms, lack of social support, and insufficient information about physical activity. They have also identified facilitators such as motivation, access to opportunities, and social support. Gender differences in physical activity levels have also been observed, with females often facing greater obstacles to participating in physical activity compared to males. The findings underscore the importance of addressing these barriers in intervention programs aimed at increasing physical activity and reducing the risk of noncommunicable diseases among Arab adolescents.

Numerous studies have been conducted in "Anonymized" to investigate the levels of physical activity among adolescents (ALBashtawy, 2015; Alkhalwaldeh et al., 2021, 2024; Batiha et al., 2022). However, there is insufficient evidence regarding the perceived barriers influencing physical activity among school students in Jordan. It is therefore critical for healthcare practitioners in Jordan to understand the challenges and issues that affect the teenage population in order to devise appropriate efforts aimed at increasing physical activity levels and promoting adolescent health over time. Consequently, the goal of this study was to identify the external and internal barriers to physical activity among adolescents, as well as any differences in these barriers between males and females.

Methods

Design

A descriptive cross-sectional design study was conducted among a public school's adolescents in Jordan.

Study Setting

Research was conducted at public schools in Jordan (Middle, North, and South). The use of public schools in Jordan as a research environment offers several benefits for studying barriers to physical exercise among teenagers. Public schools cater to a diverse group of children from various socioeconomic backgrounds, providing a representative sample for the study.

Population and Sampling

The study on physical activity barriers among adolescents in Jordan included a sample of 600 adolescents aged 11–16 from public schools in the middle, northern, and southern regions of the country. The schools were selected from various urban and socioeconomic backgrounds based on convenience. The distribution of the sample was determined according to the population distribution in Jordan, with 30% of participants from the middle region, 20% from the northern region, and 10% from the southern region. This approach ensured a diverse and representative sample of adolescents across different parts of Jordan.

Inclusion and Exclusion Criteria

All male and female adolescent students (aged 11–16 years) from the nominated schools were included, while students or their families who preferred not to participate in the study were excluded.

Instrumentation

The researchers utilized the international criteria for physical activity developed by Sallis and Patrick (1994) to assess the exercise habits of the study participants. A written questionnaire consisting of 12 items was used to evaluate the barriers to physical activity, with the content of the items being partly confidential. This questionnaire was based on prior research with young people, as referenced in Cheng et al. (2003) and Allison et al. (1999). The items in the questionnaire were scored on a 5-point Likert scale, ranging from “1 = strongly disagree” to “5 = strongly agree,” following the method described by Ware (1993).

The perceived barriers to physical activity were categorized into internal obstacles and external barriers. Internal impediments included a lack of energy, motivation, and self-efficacy, while external hurdles encompassed a lack of resources, social support, and time. The categorization of these barriers was based on existing literature titles as referenced in Sallis and Hovell (1990), Sallis et al. (1992), and Ziebland et al. (1998), with each category having two items. The scores for each category were calculated by summing up the ratings of the respective items, and the total internal and external barriers were determined by adding the category scores.

To ensure the validity and reliability of the questionnaire for Arabic-speaking adolescents, a pilot study was conducted where the questionnaire was initially written in English and then translated into Arabic. An experienced bilingual translator was involved in the translation process, and an expert committee consisting of bilingual specialists and field experts reviewed and edited the Arabic version of the questionnaire to ensure accuracy, clarity, and suitability. The pilot study aimed to assess the quality of the translated questionnaire and its ability to effectively measure the targeted dimensions. Expert reviewers provided feedback and recommendations, which were incorporated into the final version to enhance credibility. Internal consistency reliability was evaluated using Cronbach's alpha coefficient, with values greater than 0.70 considered adequate for research purposes. Cronbach's alpha coefficients were calculated for each construct examined by the translated questionnaire based on the pilot study data to assess internal consistency and reliability.

Data Collection

The data collection for this study took place in the second semester of 2023, from the first week of March to the fourth week of April, during which the questionnaire was distributed to adolescents in public schools across the middle, northern, and southern regions of the country. A multistage sampling method was adopted for selecting schools from each region. In the first stage, a governorate from each region was randomly selected, followed by the random selection of schools within each chosen governorate. Subsequently, adolescents within the selected schools were informed about the study's aims and significance.

Ethical Considerations

The institutional research committee at the Faculty of Nursing, Al al-Bayt University, approved the study on January 11, 2023 (approval number 4.1.2023). Before the study was conducted, parents provided consent on behalf of their children after receiving a clear and full explanation of the study information materials. The informed consent form described the study's goals, the voluntary nature of participation, participants' rights, and the confidentiality of their data. It also included contact information for the research staff in case participants had any questions or concerns.

Data Analysis

Data were analyzed using descriptive statistics such as frequency, mean, percentage, and standard deviation, as well as inferential statistics performed with software. Different variables were tested by calculating means and standard deviations based on the gender of the adolescents. The comparison between groups (gender) was

conducted using a *t*-test. A *t*-test was employed to assess the physical activity barriers among adolescents. *P* values less than .05 were considered significant using SPSS software version 21.

Results

Table 1 presents an overview of the distribution and frequencies of different characteristics among the study participants. The initial aspect analyzed is the distribution of participants among various age groups. The majority of participants are in the 14–16 age range, comprising 50.3% of the total. The next age group, 11–13, accounts for 49.7% of participants. In terms of gender, 48.7% of the participants are male, while 51.3% are female.

Table 2 displays the perceived barriers to physical activity among the sample. Gender variations were observed in the average levels of perceived barriers, with female students

exhibiting higher rates on all questions and significant differences present.

The total score for external barriers was significantly higher than the score for internal barriers. Lack of resources was the most prominent external barrier (mean = 3.49), while lack of self-confidence was the most significant internal barrier (mean = 3.47).

According to the internal barriers, the highest value observed was in question number four, indicating a lack of motivation due to not thinking that exercising has positive effects on health (mean = 1.75), and in question number 5, indicating lack of self-confidence due to worries about appearance when exercising (mean = 1.78). Regarding the external barriers, the highest value observed was in question number seven, indicating a lack of resources due to no access to a fitness center (mean = 1.76), and in question number 9, indicating lack of support due to no encouragement from family or friends to exercise (mean = 1.78).

There was a statistically significant difference between females and males regarding internal barriers related to “lack of self-confidence” ($p = .045$). Additionally, a significant statistical relationship was found between females and males regarding external barriers related to “lack of time” ($p = .040$).

When examining the participants’ responses to the tool related to barriers to physical activity, the five items with the highest ratings among female adolescents were: “I have not been thinking about exercise having positive effects on

Table 1. Distribution and Frequencies of Study Participant’s age and Gender, $n = 600$.

Variable	Category	Frequency	Percent
Participant’s age	11–13	298	49.7
	14–16	302	50.3
Participant’s gender	Male	292	48.7
	Female	308	51.3

Table 2. Exercise Barriers Items.

Items	All		Males		Females		<i>p</i>
	Mean	SD	Mean	SD	Mean	SD	
1. I’ve been thinking about exercise is difficult and too tiring	1.36	1.23	1.35	1.21	1.36	1.24	.591
2. I have never energy as much as to able to do exercise	1.66	1.19	1.54	1.19	1.77	1.19	.424
Lack of energy score	3.02	1.83	2.89	1.82	3.14	1.83	.786
3. I’ve been thinking about other recreational activities with my friends are more entertaining than exercise	1.68	1.20	1.56	1.19	1.79	1.19	.577
4. I have not been thinking about exercise has positive effects on my health	1.75	1.21	1.60	1.22	1.89	1.19	.068
Lack of motivation score	3.43	2.32	3.16	2.33	3.68	2.29	.141
5. I’ve been worried about my looks when I exercise	1.78	1.23	1.65	1.24	1.91	1.21	.088
6. I have not been thinking about my ability to exercise.	1.69	1.20	1.54	1.21	1.83	1.18	.060
Lack of self-confidence score	3.47	2.32	3.19	2.34	3.74	2.27	*.045
Sum of perceived internal barriers score	*9.91	5.94	9.23	6.00	10.55	5.83	*.007
7. There is no fitness center that I could get to	1.76	1.16	1.64	1.16	1.88	1.15	.231
8. I have no exercise equipment at home that I use	1.73	1.17	1.58	1.16	1.88	1.16	.102
Lack of resource score	3.49	2.27	3.21	2.27	3.76	2.23	.150
9. My family or friends do not encourage me to exercise	1.74	1.11	1.74	1.11	1.75	1.12	.847
10. My parents give academic success priority over exercise	1.72	1.17	1.58	1.19	1.86	1.14	*.027
Lack of support	3.46	1.68	3.31	1.62	3.61	1.73	.123
11. My parents give academic success priority over exercise	1.71	1.21	1.58	1.22	1.83	1.19	.098
12. I have no leisure time for exercise because of my busy lesson schedule	1.73	1.22	1.55	1.23	1.89	1.20	*.038
Lack of time	3.43	2.38	3.13	2.40	3.72	2.32	*.040
Sum of perceived external barriers score	10.39	5.74	9.65	5.64	11.08	5.76	*.002

* $p < .05$.

my health” (mean = 1.89), “I’ve been worried about my looks when I exercise” (mean = 1.91), “There is no fitness center that I could get to” (mean = 1.88), “I have no exercise equipment at home that I use” (mean = 1.88), and “I have no leisure time for exercise because of my busy lesson schedule” (mean = 1.89).

The most significant items that showed significant differences between males and females were from external barriers: “My parents give academic success priority over exercise” ($p = .027$) and “I have no leisure time for exercise because of my busy lesson schedule” ($p = .038$). Our results indicate that perceived external barriers ($p = .002$) were more important and significant than perceived internal barriers ($p = .007$).

Discussion

Physical activity is critical for promoting health; worldwide health statistics highlight its link to noncommunicable diseases (Saqib et al., 2020). In fact, a lack of physical activity is a substantial risk factor, accounting for 9% of premature deaths worldwide and causing approximately 5.3 million fatalities each year (Al-Hazzaa, 2018). The current study indicated that female students experience larger impediments to physical exercise than males. This pattern is comparable to the findings of Fernández et al. (2017) and Santos et al. (2010), who also found that girls have lower activity levels than boys. Several factors contribute to this outcome. One potential explanation is that girls participate less in physical activities due to a lack of interest, a preference for lower-intensity activities, spending free time on household chores, and feeling self-conscious about participating in outdoor activities. Additionally, girls may face barriers to engaging in physical activities compared to boys, as boys often dominate neighborhood spaces with sports activities, particularly football (Abdelghaffar et al., 2019). Furthermore, there is a lack of safe and monitored spaces for girls to participate in physical activities. Strategies aimed at increasing physical activity should be comprehensive and tailored to address the differing pathways for boys and girls to increase their physical activity levels (Telford et al., 2016).

In the current study, insufficient resources and support were identified as the most significant barriers to participation in physical activity among the study sample. Our study findings align with previous research on barriers to physical activity in student populations (Fernández et al., 2017; Gunnell et al., 2015). Arzu et al. (2006) also reported low levels of physical activity among 7- to 18-year-olds in Turkey, highlighting the prevalence of exercise barriers among teenagers, which are likely influenced by cultural and environmental factors. National development and cultural norms are closely linked to physical activity levels (Haase et al., 2004). Obstacles to increased activity vary by social class, and indicators of socioeconomic status may result in different perceptions of barriers (Chinn et al., 1999).

Rosselli et al. (2020) identified more barriers to physical activity in girls than in boys, emphasizing a lack of energy and willpower among girls. This finding is consistent with our discovery of increased perceived barriers and specific concerns related to energy among females. In contrast to our findings, Fernández et al. (2017) found no significant gender differences in the barrier of time scarcity. These disparities could be due to different study samples or methodologies used to assess physical activity challenges.

Furthermore, our study identified specific items rated as the most significant barriers to physical activity among female adolescents, such as lack of motivation, self-confidence issues, and lack of access to fitness facilities. These findings align with previous studies by Jodkowska et al. (2015) and Kimm et al. (2006), which also highlighted similar barriers to physical activity among adolescents.

In comparison to studies by Rosselli et al. (2020) and Santos et al. (2010), our findings on gender differences in perceived barriers to physical activity contribute further to the existing literature on this topic. The identification of specific barriers and recognition of gender disparities in physical activity participation can inform targeted interventions and policies aimed at promoting physical activity among adolescents, with a particular focus on addressing external barriers and enhancing support systems for female students.

Limitations of the Study

One study limitation was the potential for response bias, as data obtained through self-reported questionnaires may not always accurately reflect the participants’ actual behavior. Furthermore, the study was restricted to public schools, which may not be representative of all Jordanian adolescents, including those attending private institutions.

Implications for Practice

The findings of the study have significant implications for practice, particularly in promoting physical activity among Jordanian adolescents. Implementing interventions that address the identified barriers to physical activity, including internal and external barriers, can potentially increase teenagers’ participation in regular physical exercise, thereby reducing the risk of noncommunicable diseases and enhancing overall health and well-being.

Conclusions and Recommendations

The study found that perceived barriers to physical exercise among Jordanian teenagers are influenced by various factors, including gender, internal, and external barriers. Male adolescents reported more perceived hurdles to physical exercise than female adolescents, with time and self-confidence being the most significant barriers for males. External obstacles, such as a lack of resources and support,

were found to be more significant than internal barriers, with the most substantial external barrier being a lack of fitness centers.

Based on the study findings, the researchers recommend developing and implementing interventions and strategies that address the identified barriers to physical activity, particularly among female adolescents. These interventions should focus on expanding physical activity opportunities and increasing social support for participation. Additionally, interventions should target boys' lack of self-confidence and provide access to resources, such as fitness centers, to help overcome external obstacles. Ultimately, these efforts aim to promote a culture of physical activity and improve overall health and well-being in this population. Further research and evaluation of the effectiveness of these interventions are warranted to inform future public health initiatives aimed at increasing physical activity levels among adolescents in Jordan.

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Availability of Data and Materials

The datasets used during the current study are available from the corresponding author upon reasonable request.

Authors Contributions

NA: Conceptualization; methodology; investigation; data curation; resources; funding acquisition; writing – original draft; writing – review and editing. AD, IA, RA, IA, AA, and MA: Methodology; investigation; formal analysis; project administration; supervision. IAO, SA, AA, ZA, AA, and HA: Conceptualization; methodology; software; validation; investigation; data curation; formal analysis; writing – original draft; writing – review and editing. All authors read and approved the final manuscript.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.



Ethics Approval and Consent to Participate



Ethical approval was obtained from Al al-Bayt University Ethical Review Committee before data collection. Participants were informed of the study's objectives, their right to refuse participation, and the confidentiality of their information. Written informed consent was obtained from all participants.


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Supplemental Material

Supplemental material for this article is available online.

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