

HOW DO SAUDI UNIVERSITIES PROMOTE PHYSICAL ACTIVITY? A QUALITATIVE ANALYSIS BASED ON THE CAS FRAMEWORK

COMO AS UNIVERSIDADES SAUDITAS PROMOVEM A ATIVIDADE FÍSICA? UMA ANÁLISE QUALITATIVA BASEADA NO MODELO CAS

Maryam Abdullah¹, Asha Hasnimy Binti Mohd Hashim ²

¹Prince Mohammad Bin Fahd University, Saudi Arabia.

²University of Technology Malaysia, Malaysia.

RESUMO

Contextualização: Uma revisão abrangente da literatura revelou a necessidade de realizar pesquisas empíricas com universidades sauditas para compreender até que ponto se promove a prática de atividades físicas. Objetivo: O principal objetivo deste estudo é investigar a natureza e o alcance da promoção da atividade física nas universidades sauditas, utilizando o referencial Creating Active Schools (CAS). Metodologia: Os quatro temas do modelo CAS (isto é, políticas e visão da escola, partes interessadas, ambiente e oportunidades para atividades físicas), conforme proposto por Daly-Smith et al. (2020), foram utilizados como base para a coleta de dados. Foram realizadas entrevistas semiestruturadas com cinco universidades da região leste do Reino. Resultados: É um sinal positivo que a maioria das universidades da Arábia Saudita ofereça instalações adequadas para a prática de atividade física. No entanto, o "currículo de Educação Física" é a única oportunidade existente para promover a atividade física entre os estudantes. Há potencial para ampliar essa promoção explorando oportunidades adicionais, como clubes antes e depois das aulas ou atividades no horário do almoço. Conclusão: O estudo destaca a necessidade de maior envolvimento de diferentes partes interessadas e o fortalecimento das políticas institucionais para aprimorar a promoção da atividade física nas universidades sauditas.

Palavras-chave: Educação física. Atividade física; Promoção de atividade física. Estudo empírico. Ensino superior.

ABSTRACT

Background: A thorough literature review revealed a need to conduct empirical research with Saudi universities on understanding the extent of promoting physical activities. Objective: The main goal of this study is to investigate the nature and scope of physical activity promotion in Saudi universities using Creating Active Schools Framework (CAS). Methodology: The four themes (i.e., policies and vision of the school, stakeholders, environment, and opportunities for physical activities) of the CAS framework ¹ were used as a reference for data collection. Semi-structured interviews were conducted with five universities in the Kingdom's eastern region. Findings: It is a good sign that most universities in Saudi Arabia provide adequate facilities for PA. However, the "PE curriculum" is the only opportunity to promote PA among students. There is potential to enhance physical activity promotion by exploring additional opportunities, such as before- and after-university clubs or lunchtime activities. Conclusion: The study highlights the need for broader stakeholder involvement and stronger policies to enhance physical activity promotion in Saudi universities.

Keywords: Physical Education. Physical activity, physical activity promotion, empirical study, Higher education

Introduction

Physical inactivity is one of the four factors that increase the chance of death from stroke, cancer, heart disease, chronic lung disease, and diabetes ². According to a WHO report, globally, 28% of the adults are not active enough, including 23% of men and 32% of women ³. As global levels of physical inactivity rise, so does the prevalence of noncommunicable diseases ⁴. Saudi Arabia is also facing similar challenges. In recent years, the Kingdom has experienced unprecedented economic expansion, which has impacted many aspects of people's lives ⁴. Changes in physical activity and eating habits have occurred, contributing to establishing patterns of inactivity among Saudis ⁴. Most Saudi children, teenagers, and adults are not physically active enough to fulfill the moderate to vigorous physical activity requirements ^{4,5}. Saudi women were far less active than Saudi men. Depending on the population studied, area, age, and gender, the prevalence of physical inactivity ranged from 26 percent to 85 percent among Saudi males and 43 percent to 91 percent among Saudi females ⁴. One crucial point that needs consideration is that obesity relates to physical inactivity ⁶. Saudi Arabia is also facing similar problems of obesity.

According to a recent study, the nationwide weighted prevalence of obesity (BMI ≥ 30) was 24.7 percent ⁷. Based on the National Nutrition Survey report, the occurrence of obesity in Saudi Arabia was 36.2% for men and 22.2% for women. Obesity and weight increase among young Saudi people have become a national health issue that requires addressing. As a result, obesity and lack of physical activity have become a subject of concern in Saudi Arabia, and action is needed at many levels to reduce the possible adverse health effects of these on Saudi young adults ⁷.

The physical inactivity figures and its consequences described above show that limited efforts have been made on physical activity promotion in Saudi Arabia. Although many clinicians and healthcare centers in Saudi Arabia promote physical activities among their patients through counseling, this is not sufficient ⁸. In addition, a few studies have been conducted in Saudi Arabia on the associations between physical activity and sedentary behaviour ⁹. However, it is vital to mention that education systems, mainly physical education (PE) at universities, can play a vital role in educating young adults and promoting physical activities. The Saudi Ministry of Education in 2002 developed a PE curriculum called the Document of Physical Education in General Education ¹⁰. This curriculum has considered physical activity promotion as a critical objective of the subject. However, no efforts have been made to promote physical activities in Saudi schools and Universities. This is evident from the study of Almutairi et al. ¹¹, in which they assessed the health-promoting lifestyle of Saudi university students. According to the findings of this study, university students live unhealthy lives, with the majority having bad eating habits and low levels of physical activity. Their study concluded that developing and implementing programs to encourage students to take greater responsibility for their health, increase physical activity, adopt healthy eating habits, and engage in other types of wellness is critical ¹¹.

A thorough literature review revealed a need to conduct empirical research with Saudi universities on understanding the extent of the promotion of physical activities that influence physical activity promotion among Saudi university students. Research in this area is expected to improve Saudi university students' active participation in physical activities. In addition, this study will contribute to the available knowledge taught about how to promote physical activities in Saudi universities effectively.

The main goal of this study is to investigate the nature and scope of physical activity promotion in Saudi universities using Creating Active Schools Framework (CAS) ¹. To achieve this objective, the following research question has been examined in this study:

RQ: How do Saudi universities implement and support policies, environments, and opportunities to promote physical activity among students, based on the CAS framework?

In order to investigate RQ, the four themes (i.e., policies and vision of the school, environment, stakeholders, and opportunities for physical activities) of the CAS framework ¹ were used as a reference for data collection from five universities in the Kingdom's eastern region. The motivation for using the CAS framework is twofold. First, the nature and scope of physical activity promotion in Saudi universities will be examined to identify their strengths and weaknesses in this area. Second, the study will investigate whether the CAS framework is applicable and suitable for promoting physical activities at the university level, particularly within the context of Saudi universities.

The remainder of this paper is organized as follows. In Section 2, we discuss the study methodology. The results are described in Section 3. In Section 4, a discussion of the results is provided. Limitations of the study are discussed in Section 5. Finally, the paper is concluded in Section 6.

Method

In order to investigate the research objective, the CAS framework ¹ was used as a reference for data collection. Semi-structured interviews were used to collect data from the PE head of the

departments about four themes of CAS framework for promoting physical activity. The outcomes of the research objective contribute two-fold. First, the nature and scope of the promotion of physical activities in Saudi universities were investigated to identify the strengths and weaknesses of Saudi universities in the promotion of physical activities. Second, it was also investigated if the CAS framework can be applied and suitable for promoting physical activities at the university level, particularly at the Saudi universities level.

Data Collection Procedures

The semi-structured interview (SSI) uses closed and open-ended questions, with follow-up why and how inquiries frequently included¹². The SSI option was chosen in this study because it allows researchers to ask probing, open-ended, and closed-ended questions and learn about each individual's independent thinking. The average duration of each interview was one hour. The total data collection period spanned three months, depending on the availability of the participants. A letter of invitation was sent to all participants, and consent for recording the interviews was obtained.

The theme of the SSI is to collect data about the nature and scope of promoting physical activities in Saudi universities. The SSI has been divided into two sections with both open-ended and closed-ended questions. Section 1 is about demographic data, and most of the questions are closed-ended to collect data about the experience, qualifications, etc. Section 2 is about the four themes of CAS framework. The sample interview questions are provided in the Appendix.

The Participants

The research sample within a given population is defined by the research questions. This study aims to look into the promotion of physical activities in Saudi universities. As a result, the population frame in this research consisted of Saudi universities. Saudi Arabia is divided into five geographical regions, i.e., the central, western, eastern, southern, and northern regions. Due to time, expense, and accessibility constraints, it was decided to concentrate on one region, i.e., the eastern region within the Kingdom. There are five universities in the eastern region. The researcher has targeted five universities in the eastern province of Saudi Arabia, i.e., Prince Muhammad Bin Fahd University, Imam Abdulrahman Bin Faisal University, King Faisal University, University of Hafr Al Batin, and King Fahd University of Petroleum and Minerals. Participants for the semi-structured interviews were the head of PE departments of Saudi universities. Participants were recruited voluntarily from these universities. The PE department in each university was approached to get written informed consent from participants. All invited individuals agreed to participate in this study. This study is part of a PhD research project at University Technology Malaysia (UTM) and did not require formal ethics committee approval. It fully complies with the Declaration of Helsinki and underwent a rigorous proposal defense and viva voce to ensure ethical integrity. As the research involved non-invasive methods, it did not fall under UTM's requirements for formal ethical approval, but all ethical standards were upheld.

Data Analyses

All interviews were conducted on Zoom/ Teams. To analyze the interview data, a two-step process was used. For closed-ended questions, the researcher completed the interview transcript by selecting the appropriate option provided by the interviewees. The interview transcripts were completed for open-ended questions by listening to the recordings. Once data transcripts have been collected, the next task is to develop categories to compare and contrast results. The thematic analysis method¹³ was used to review the open-ended questions to identify, conceptualize and categorize the underpinning themes. Thematic data analysis was conducted through a multi-step process. First, the researcher familiarized themselves with the data by carefully reviewing the interview transcripts and making detailed notes. Next, initial codes were generated manually from

the data to identify meaningful patterns. These codes were then grouped into broader themes during the theme search phase. Finally, the themes were reviewed collaboratively by the authors, who discussed and refined them by separating, merging, or discarding themes as necessary.

This research has used two approaches to evaluate the validity of the data collection instrument, i.e., pilot study and expert judgment. A pilot study was conducted with one head of PE to gather valuable feedback on the data collecting instrument's format, content, and clarity. The participant provided a few comments (e.g., updating/rephrasing some questions etc.) which were addressed by the researchers. For the expert judgment, two academics (one assistant professor and another professor) were asked to check the contents of the data collecting instrument. These professors were chosen based on their knowledge of the Saudi educational system and their social science research experience. They were requested to look over the instructions, presentation, and content for clarity. One of the participants suggested the wording of questions in the interview. As a result, the questions were updated.

Results

In addition to the demographic results, the results of the four themes of the CAS framework¹ are discussed in this section.

Demographics

Nine questions were included in the demographic part of the structured interview. These questions were related to age, ethnicity, gender, qualifications, years of experience, skills in sports, the number of PE lecturers, and overall quality of PE, as shown in Table 1.

Four out of five heads of PE were more than 35 years of age. One of them is within the age of 31-35. All heads of PE were male and held a Ph.D. degree. Four had more than 10 years of experience in teaching PE, while one had 1-5 years of experience. When asked how many PE lecturers your university has, Table 1 shows that 3 Universities have more than 10 PE lecturers, one university has 6-10, and the other 1-5 PE lecturers. This indicates that three universities have large PE departments. Four heads of PE were Asian, and one was from Saudi Arabia. It is interesting to see that all heads of PE were skilled in different sports. All heads of PE rated the quality of their PE programs as Good.

Table 1. Demographic data

Age	Frequency n = 5	Qualification	Experience (years)	Ethnic Background
31-35	1	PhD	1-5	Saudi
Above 35	4	PhD	Above 10	Asian
Age	Frequency n = 5	Qualification	Experience (years)	Ethnic Background
Number of PE lecturers		Frequency		Percentage
1-5		1		20
6-10		1		20
Above 10		3		60

Source: The authors

The university policies and vision for the promotion of physical activities.

Policies for the promotion of physical activity

The results of the semi-structured interviews show that three universities have some policies for promoting PA. In comparison, the two universities do not have any policies for promoting PA. The following policies are being used for the promotion of PA in three universities:

1. “This semester we introduced coaching in 10 various activities for preparing the students for various tournaments”
2. “The university has started a Major in Physical Education”
3. “The government recommends the subjects which we teach”

It is clear from the above policies that universities are not paying sufficient attention to promoting PA. The above policies and plans could be further strengthened by developing more comprehensive approaches to promote physical activity.

One of the universities has introduced coaching as a policy to promote PA. Although research shows ¹⁴ that a low-contact PA coaching intervention leads to positive changes in PA, however, a holistic approach is needed to promote PA. If coaching is without fun or joy, students will most likely not participate in PA. The “fun in physical activities” sessions are one of the most important factors in influencing students to actively participate in PA ¹⁵. There is a multitude of strategies to make PE classes enjoyable, like employing a variety of physical activities, providing lots of specific positive feedback, progressing from simple to challenging, enabling students to choose and use music, and so on ¹⁶.

The second university is using PE as a major degree to promote PA. Universities can enforce this kind of policy without the motivation or engagement of students. It is also essential that deciding PE as a major is not enough to promote PA but designing an innovative PE curriculum is also required, which should include meeting students at their levels, assisting them in improving their abilities, and instilling a lifetime love of exercise in them. According to research, curriculum content is the most critical driver of students’ willingness to participate in physical activities ¹⁷. Multiple aims of PE, such as education, health, socializing, citizenship, essential skills, physical development, and sporting success, should be considered when building an innovative PE curriculum ¹⁸. One of the causes of student disengagement could be ineffective lessons and excessive teacher discussion ¹⁹.

The third university only relies on the policy that “the government recommends the subjects we teach”. This type of policy may indicate limited emphasis on promoting physical activity within universities. Relying solely on government-recommended subjects may not be sufficient to effectively promote physical activity. Additional efforts, such as incorporating competitive activities, encouraging teamwork, and fostering student autonomy, could enhance student participation in physical activity ²⁰. Competitive physical activities provide numerous advantages, including respect for game rules, social skills, physical growth, confidence, learning to lose, collaboration, and so on.

It is noteworthy that two out of five universities did not have any formal policies in place for promoting physical activity. Policies can influence physical activity in a variety of ways. They can increase access to chances for physical activity by altering community design and adding bike lanes or parks, for example. Policies can offer financing to promote physical activity at all levels, from the state to the local levels. Furthermore, policies governing before- and after-school programs may stipulate that a particular percentage of time be devoted to physical activity.

Views on the Role of Universities in the Promotion of PA

The following four responses were provided for this question:

1. “Students need at least 4 days of physical activity a week, according to the American College of Sports Medicine ACSM”
2. “Providing facilities and organizing sports Competition”
3. “We need to assess the promotion of sports activities in Saudi universities”
4. “We need more emphasis on PA”.

The above four replies show that the head of PE described some roles that universities can play in promoting PA. Universities are encouraged to play a supportive role in promoting physical activity. This is because people who exercise regularly during their college years are less likely to do so than those who exercise regularly in their school years ²¹. It may be helpful to develop and promote awareness programs, along with enhancing sports facilities and infrastructure, to help address the decline in physical activity.

There are many ways through which universities can promote PA. Colleges and universities can promote physical activity by creating pedestrian- and bicycle-friendly campuses and adopting policies that encourage walking and biking. In addition, peer support and interactive social groups, such as classes and clubs, can increase engagement in physical activity by allowing students to be connected to other students and staff members, enabling them to monitor their progress and encouraging them to continue their activities.

Lecturers' Training for Promoting PA in Universities

Table 2 shows that three out of five heads of PE stress the need to have lecturers' training programs to promote PA. However, two have disagreed. In addition, Table 2 shows that no university is running any lecturers' training programs. The current results show a need in Saudi universities to arrange lecturers' training for those teaching different courses of PE.

In recent years, teachers' training has undergone considerable changes, one of which is adopting professional standards in teaching quality ²². This has altered the concept of a “one-size-fits-all” approach and offered a variety of teachers' training possibilities. Different training programs can assist in improving teachers' subject knowledge, which is essential to running a successful PE program. A report by the Office for Standards in Education ¹⁹ stated that in PE, the main weakness was the teachers' limited subject knowledge and use of assessment, which resulted in superficial planning and insufficient challenges, particularly for the more able students. Good subject knowledge can help a teacher design tasks and resources, plan work, present information, diagnose pupil weaknesses, ask appropriate questions, or give formative and summative feedback ²³.

Table 2. Teachers' training

Lecturers' training	Frequency n=5	Frequency
Do you think lecturers' training is essential for promoting university physical activities?	Yes = (Experts 1,3, 5) No (Experts 2, 4)	3 2
Are you running any lecturers' training programs at your university?	Yes = 0 No = (Experts 1-5)	0 5

Source: The authors.

Measures to promote PA in Saudi universities

The highest cited measure to promote PA in Eastern universities of Saudi Arabia is “organizing sports events,” as shown in Table 3.

Organizing sporting events is a crucial part of education. On the one hand, they are critical because they help individuals gain sport-specific theoretical and practical knowledge and develop motor abilities. On the other hand, they develop personal skills that can only be developed if the students have participated in sporting events. Sports events play a significant part and give students

with motivation to participate in physical activity. Motivation is crucial because if students enjoy these forms of activity, they will be willing to spend their free time outside the university, i.e., as a form of entertainment. Students who enjoy these activities will incorporate them into their daily routines. Once they have completed their studies, they will be able to pursue them in their spare time, so improving their fitness and working skills.

Other measures are also being used to promote PA, as shown in Table 3. It is important to note that the measures “parents involvement” and “making changes to the curriculum” are not used to promote PA. Parents should be involved in promoting PA as parents/guardians can play an essential role in encouraging their children to participate in extracurricular activities by forming parent associations. Parents may help their children’s activity levels by encouraging them to be active and participate in physical activities with them, especially when they are not in school ²⁴.

Table 3. Measures for PA Promotion Data

Measures	Experts (1-5)	Frequency n=5
To develop policies	3	1
To make changes to the PE curriculum	0	0
To develop or provide new facilities/resources	2	1
Organize sports events	1, 2, 3, 4	4
Parents involvement	0	0
Others (please specify): Sports coaching	1	1

Source: The authors

Problems encountered in promoting PA among university students

The frequently cited problem for promoting PA among university students was "lack of training", as shown in Table 4. This problem is also depicted in Table 2, which showed no lecturers' training program running in the five universities in the Eastern province of Saudi Arabia. The other frequently cited problems were "lack of knowledge of how to promote PA" and "students' views/interests". The problems identified in Table 4 need to be addressed to promote PA in universities.

Table 4. Problems Encountered in Promoting PA

Problem	Experts	Frequency
Lack of knowledge/expertise in the area, how to	3, 4	2
Lack of PA/training/professional development;	3, 4, 5	3
Lack of information/ methods;	2	1
Lack of support/ staff/head lecturer/local PE monitor	0	0
Students' views/interests;	1, 4	2
Resources	0	0

Source: The authors

Current PE Programs and PA

The PE heads were asked how their current programs promote PA in their universities. Four out of 5 replied, "to some extent". Only one said, "to a great extent," as shown in Table 5. There is a need to improve current PE programs in five universities in the Eastern province of Saudi Arabia.

Table 5. Extent to Which Physical Activities are Promoted

Experts Views	Experts	Frequency
To a great extent	4	1
To some extent	1, 2, 3, 5	4
Not at all	0	0

Source: The authors

The Environment for the Promotion of Physical Activities

Different general questions were asked about the current environment in the five universities of the eastern province, as shown in Table 6. All participants agreed that providing indoor and outdoor facilities can promote PA among university students. Most participants mentioned that indoor, outdoor, and changing facilities in their current universities are adequate or more than adequate.

The participants were asked about the facilities provided for different sports in their universities, as shown in Table 7. Basketball and volleyball facilities are at the top among other sports facilities. The second most cited facilities were for soccer.

Table 6. The Environment for the Promotion of PA

Facilities	Response	Experts (1-5)	Frequency n=5
Indoor facilities	More than adequate	1	1
	Adequate	1,2,3,4	4
	Inadequate	5	1
Outdoor facilities	More than adequate	1	1
	Adequate	1,2,3,4	4
	Inadequate	5	1
Changing facilities	More than adequate	1	1
	Adequate	1,2,3,4	4
	Inadequate	5	1

Source: The authors

Table 7. Adequate Facilities for Different Sports in Saudi Arabia

Sports	Experts (1-5)	Frequency n=5
Soccer (football)	1,3,4	3
Basketball	1,2,3,4	4
Badminton	1,3	2
Volleyball	1,2,3,4	4
Karate	1,3	2
Cycling	0	0
Other (swimming, athletics)	3	1

Source: The authors

Opportunities for PA

The participants were asked about their views of the role of different opportunities for promoting PA, as shown in Table 8. Four out of five participants mentioned that the "PE curriculum" can cause PA promotion among university students. Two out of five mentioned "event visit", "breakfast/lunchtime activities", and "family/ community engagement".

Table 8. Opportunities That Can Cause PA Promotion in Saudi Arabia

Opportunities	Experts (1-5)	Frequency n=5
Event visits	3,4	2
Break/ lunchtime	3,4	2
PE curriculum	1,2,3,4	4
Non-PE curriculum	0	0
Before and after school clubs	3	1
Active travel	0	0
Family/ community engagement	3,5	2

Source: The authors

Table 9 shows the current opportunities used to promote PA in five universities in the eastern province. Most universities are using the "PE curriculum" as an opportunity to promote PA among students. Two universities also used "before and after university clubs" to promote PA among university students.

Table 9. Opportunities Being Used to Promote PA in Saudi Arabia

Opportunities	Experts (1-5)	Frequency n=5
Event visits	4	1
Break/ lunchtime	4	1
PE curriculum	1,2,3,4	4
Non-PE curriculum	0	0
Before and after school clubs	3,5	2
Active travel	0	0
Family/ community engagement	0	0

Source: The authors

The stakeholders for the promotion of physical activities

Four out of five heads of PE thought that university students could play an essential role in promoting PA in universities. Three out of five mentioned university leaders, while two mentioned lecturers and other university students. Only one PE head said parents, as shown in Table 10.

In addition, the PE heads were asked which stakeholders were currently playing a role in promoting PA in their universities. As shown in Table 11, most said "lecturers and other university staff". University leaders' and students' role in promoting PA was only cited by one PE head.

It is beneficial for all types of stakeholders to be involved in promoting physical activity at universities. This is because each group of stakeholders has distinct roles to play. Drafting policy and vision statements and managing associated resources is the responsibility of university leaders. Teachers play a critical role in fostering excellent social and physical environments and implementing opportunities for physical activities. Playground supervisors or teaching assistants (i.e., other university staff), for example, can both play a significant role in providing whole-university physical activity. Students can form student councils or organize physical activities. Parents/guardians can play an essential role in encouraging their children to participate in extracurricular activities by creating parent associations. Different groups, such as active

university coordinators, partner university specialists, external businesses, charities, or voluntary sector organizations, are wider stakeholders.

Table 10. Which Stakeholders Can Promote PA

Stakeholders	Experts (1-5)	Frequency n=5
University leaders	1,3,4	3
Lecturers and other university staff	2,3	2
University students	2,3,4,5	4
Parents	3	1

Source: The authors

Table 11. Which Stakeholders are Playing Any Role in Promoting PA

Stakeholders	Experts (1-5)	Frequency n=5
University leaders	1	1
Lecturers and other university staff	1,2,3,4	4
University students	5	1
Parents	0	0

Source: The authors

Discussion

The CAS framework ¹ was utilized as a data collecting reference to explore RQ. The PE heads of the departments were interviewed in semi-structured interviews regarding four elements of the CAS framework for encouraging physical activity. These themes are (1) university policies and vision, (2) environment, (3) stakeholders, and (4) opportunities for physical activities.

Governments and the scientific community increasingly acknowledge the relevance of policy in promoting physical activity and pushing for creating and monitoring PA policies ²⁵. For example, the UK's "Moving More, Living More" ²⁶, "Get Ireland Active" ²⁷, and Australia's "Sport 2030" ²⁸.

There are two key advantages of having PA policies, i.e., first, they reach a significant portion of the population, and second, they are long-term sustainable. Policies play an essential role in improving physical activity. However, increasing physical activity levels necessitates a systems-based approach in which all stakeholders collaborate to make the world healthier. Suppose we meet the aim of a 15% relative decrease in the worldwide prevalence of physical inactivity by 2030 ²⁹. In that case, we will need multi-level policies for action, encompassing social, cultural, economic, environmental, educational, and informational methods. To achieve this goal, the Global Action Plan on Physical Activity 2018–2030 ²⁹ offers a system-based approach with four primary objectives:

1. Build active communities
2. Build active environments
3. Encourage individuals to be active
4. Develop active systems

This study shows a need for Saudi universities in the Eastern province to design adequate policies for promoting PA using the four primary objectives set by WHO ²⁹. The policies currently being used in these universities are either insufficient or inadequate for promoting PA. Some work has been done in this regard, such as introducing coaching and using PE as a major subject in university degrees. However, a holistic approach is needed to promote PA. In addition, it is also essential to use a systems-based approach in which all stakeholders collaborate to make Saudi universities a healthier place. Using the WHO guidelines ²⁹, Saudi universities should design multi-level policies to promote PA.

Building active environments is also one of WHO's objectives ²⁹. Building an active environment requires a multifaceted approach that combines infrastructure (e.g., public parks, walking tracks, facilities, equipment in gyms), education, motivation, and support to make physical activity a natural and enjoyable part of people's lives. Adults have repeatedly been linked to more physical activity when leisure facilities are available. The evaluations conducted by a panel of 5 experts across three different types of facilities revealed a generally positive outlook, with the majority of experts consistently rating each facility category as at least "adequate" for their intended purposes. However, there were variations in the assessments, with one expert in each category expressing more critical views by deeming the facilities "inadequate" or rating them as "more than adequate." These assessments highlight the need for ongoing attention and potential improvements in certain areas to ensure that indoor, outdoor, and changing facilities meet the requirements and expectations for promoting physical activity.

Competitive and recreational sports require facilities and equipment. To reduce time and avoid accidents, it is also necessary to offer suitable equipment under acceptable working conditions. Universities should provide safe locations to be physically active in addition to indoor amenities, such as walking paths, parks, and playgrounds. It is a good sign that most universities in the Eastern province of Saudi Arabia provide adequate facilities for PA, such as indoor, outdoor, and changing facilities.

As each stakeholder group has a unique function to perform, different stakeholders should play a role in promoting PA in universities. University leaders are in charge of formulating policy and vision statements and managing associated resources. Teachers are crucial in creating positive social and physical settings and providing physical activity opportunities. Students can create student councils or plan sports events. By forming parent groups, parents/guardians may play an essential role in encouraging their children to join in extracurricular activities.

The data show that lecturers are the main promoters of physical activity. Other stakeholders, such as university leaders, students, and parents, are less involved. It is essential to increase the involvement of all pertinent stakeholders to create a more complete and productive environment for PA promotion ³⁰. Parents can serve as influential role models and sources of support for their children's PA efforts. By fostering collaboration between parents and universities, institutions can strengthen the connection between students' academic and home environments, reinforcing the importance of PA as a lifelong pursuit. Students are more likely to adopt and maintain active lifestyles throughout their university years and beyond when they are included in decision-making processes ³¹. This suggests that wider stakeholder engagement could help strengthen physical activity efforts in Eastern Province universities.

World Health Organization (WHO) urged decision-makers in the health, sport, education, and transportation sectors to increase the availability of more inclusive programs and services and safer surroundings ³². The WHO emphasizes the urgent need to improve access to opportunities for active, healthy living, noting that current access is unequal. In response, the organization is working with global partners to address key barriers to physical activity ³².

Different opportunities can be provided to promote PA in universities, such as PE curriculum, event visits, breakfast/ lunchtime activities, gyms, etc. In the eastern province, most of the universities are only using the "PE curriculum" as an opportunity to promote PA among students. Only two universities use "before and after university clubs" to promote PA among university students. However, no university uses opportunities such as non-PE curriculum (extra curriculum activities), active travel, and family or community engagement. There is a need to use these opportunities to improve students' engagement in PA at universities.

The summary of findings is provided in Table 12. Five themes were extracted from the findings of the interviews, as shown in Table 12.

Table 12. Summary of findings and themes

Research RQ	Themes Emerged
To what extent do Saudi universities promote physical activities?	<p>Theme 1: Importance of policy for the promotion of PA in Saudi universities</p> <p>Sub-Theme: The findings indicate that current policies in some universities are limited. This highlights an opportunity for institutions in the Eastern Province to design more comprehensive policies to support physical activity promotion</p> <p>Theme 2: A need for adequate facilities for PA, such as indoor, outdoor, and changing facilities</p> <p>Sub-Theme: It is a good sign that most universities in the Eastern province of Saudi Arabia provide adequate facilities for PA, such as indoor, outdoor, and changing facilities.</p> <p>Theme 3: Promoting physical activity at universities can be more effective when all stakeholders work collaboratively.</p> <p>Sub-Theme: Saudi universities in the Easter province need to involve other stakeholders, such as university leaders, parents, and students, in promoting PA in addition to only teachers.</p> <p>Theme 4: There is a need to provide opportunities for PA</p> <p>Sub-Theme: Most of the universities in the eastern province only use the "PE curriculum" as an opportunity to promote PA among students. More efforts are required to create other opportunities such as "before and after university clubs", "break or lunchtime activities," etc</p>

Source: The authors

Limitations with the study

Construct validity and external validity are the two categories of validity threats that apply to this study³³. Whether or not the measuring scales accurately reflect the attributes being measured is what construct validity means. The attributes come from a sizable corpus of prior research^{4, 8, 34}. The answers provided by the head of PE demonstrate that all the factors considered were pertinent to their workspace. The topics covered were seen to be crucial for promoting PA in universities.

The generalization of the findings to environments other than the one in which the initial study was conducted is known as external validity³³. External validity was examined by interviewing practitioners from five universities in the eastern region of Saudi Arabia. Although a sample of five is small and generalizability to all the universities in Saudi Arabia is problematic, our findings are a reasonable indicator of the nature and scope of physical activity promotion in the Kingdom's eastern region. This is because there are only five universities in the eastern region of Saudi Arabia. However, it should be noted that all interviewees were department heads or individuals in leadership positions, which may reflect institutional perspectives more than those of frontline staff or students. This dynamic, combined with the small sample size, may limit the diversity of viewpoints captured in the study.

An additional epistemological limitation of this study is the exclusive reliance on self-reported data from department heads, without triangulation through alternative sources such as institutional documents, direct observations, or student perspectives. This singular viewpoint may limit the depth and objectivity of the findings, as they reflect only the experiences and perceptions of a specific group.

Conclusion and future work

This paper investigates the nature and scope of physical activity promotion at the five universities in the Kingdom's eastern region. The CAS framework's four themes (i.e., policies and vision of the school, environment, stakeholders, and opportunities for physical activities) ¹ were used as a reference for data collection. Semi-structured interviews were conducted with five heads of PE in the Kingdom's eastern region.

In order to answer RQ, our findings show that most universities in the Eastern province of Saudi Arabia provide adequate facilities for PA. They used the "PE curriculum" as the only opportunity to promote PA among students. The findings indicate that current efforts to promote physical activity in Saudi universities rely heavily on the PE curriculum, with limited use of other opportunities such as before- and after-university clubs or lunchtime activities. Moreover, Saudi universities need to involve other stakeholders, such as university leaders, parents, and students, in promoting PA in addition to only teachers. The results highlight that universities in the Eastern Province could strengthen their promotion of physical activity through more comprehensive policy development. In conclusion, Universities should consider the implementation of multi-stakeholder strategies and diversified PA opportunities as part of a national agenda to combat physical inactivity among young adults.

Future research may focus on developing a set of evidence-based best practices to guide the implementation of PA promotion strategies in Saudi university settings.

References

1. Daly-Smith A, Quarmby T, Archbold VS, Corrigan N, Wilson D, Resaland GK, et al. Using a multi-stakeholder experience-based design process to co-develop the Creating Active Schools Framework. *Int J Behav Nutr Phys Act* 2020;17(1):1–12. DOI: <https://doi.org/10.1186/s12966-020-0917-z>
2. WHO. Noncommunicable diseases. World Health Organization 2020 [cited 2021 Apr 26]. Available from: https://www.who.int/health-topics/noncommunicable-diseases#tab=tab_1
3. WHO. Physical Activity. World Health Organization 2020 [cited 2021 Jul 8]. Available from: <https://www.who.int/news-room/fact-sheets/detail/physical-activity>
4. Al-Hazzaa HM. Physical inactivity in Saudi Arabia revisited: A systematic review of inactivity prevalence and perceived barriers to active living. *Int J Health Sci* 2018;12(6):50. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6257875/>
5. Al-Zalabani AH, Al-Hamdan NA, Saeed AA. The prevalence of physical activity and its socioeconomic correlates in Kingdom of Saudi Arabia: A cross-sectional population-based national survey. *J Taibah Univ Med Sci* 2015;10(2):208–15. DOI: <https://doi.org/10.1016/j.jtumed.2014.11.001>
6. Tremblay MS, Willms JD. Is the Canadian childhood obesity epidemic related to physical inactivity. *Int J Obes* 2003;27(9):1100–5. DOI: <https://doi.org/10.1038/sj.ijo.0802376>
7. Althumiri NA, Basyouni MH, AlMousa N, AlJuwaysim MF, Almubark RA, BinDhim NF, et al. Obesity in Saudi Arabia in 2020: Prevalence, Distribution, and Its Current Association with Various Health Conditions. *Healthcare* 2021;9(3):311. DOI: <https://doi.org/10.3390/healthcare9030311>
8. Alahmed Z, Lobelo F. Physical activity promotion in Saudi Arabia: A critical role for clinicians and the health care system. *J Epidemiol Glob Health* 2018;7:S7–S15. DOI: <https://doi.org/10.1016/j.jegh.2017.10.005>
9. Al Saif A, Alsenany S. Aerobic and anaerobic exercise training in obese adults. *J Phys Ther Sci* 2015;27(6):1697–700. DOI: <https://doi.org/10.1589/jpts.27.1697>
10. OECD. Education in Saudi Arabia. OECD 2002[cited 2025 Jun 25]. Available from: <https://www.moe.gov.sa/ar/education/studies/Documents/Education%20in%20Saudi%20Arabia.pdf>
11. Almutairi KM, Alonazi WB, Vinluan JM, Almigbal TH, Batais MA, Alodhayani AA, et al. Health promoting lifestyle of university students in Saudi Arabia: a cross-sectional assessment. *BMC Public Health* 2018;18:1–10. DOI: <https://doi.org/10.1186/s12889-018-5999-z>
12. Newcomer KE, Hatry HP, Wholey JS. Handbook of practical program evaluation. John Wiley & Sons 2015. Available from: <https://onlinelibrary.wiley.com/doi/book/10.1002/9781119171386>
13. Terry G, Hayfield N, Clarke V, Braun V. Thematic analysis. The SAGE handbook of qualitative research in psychology 2017:17–37. DOI: <https://doi.org/10.4135/9781526405555.n2>

14. Barrett S, Begg S, O'Halloran P, Kingsley M. A physical activity coaching intervention can improve and maintain physical activity and health-related outcomes in adult ambulatory hospital patients: the Healthy4U-2 randomised controlled trial. *Int J Behav Nutr Phys Act* 2020;17:1–11. DOI: <https://doi.org/10.1186/s12966-020-01063-x>
15. Garn AC, Cothran DJ. The fun factor in physical education. *J Teach Phys Educ* 2006;25(3):281–97. DOI: <https://doi.org/10.1123/jtpe.25.3.281>
16. Beighle A. 9 Tips for Making Fitness Fun, Educational, and Meaningful. Gopher Sport Blog 2019 [cited 2022 Feb 3]. Available from: <https://blog.gophersport.com/9-tips-for-making-fitness-fun-educational-and-meaningful>
17. Luke MD, Sinclair GD. Gender differences in adolescents' and attitudes towards school physical education. *J Teach Phys Educ* 1991;31–46. DOI: <https://doi.org/10.1123/jtpe.11.1.31>
18. Dudley D, Burden R. What effect on learning does increasing the proportion of curriculum time allocated to physical education have? A systematic review and meta-analysis. *Eur Phys Educ Rev* 2020;26(1):85–100. DOI: <https://doi.org/10.1177/1356336X19830113>
19. Ofsted. Beyond 2012 – outstanding physical education for all - Physical Education in Schools 2008–12, Reference no: 120367. Ofsted Reports 2013[Cited 2025 Jun 26]. Available from: https://assets.publishing.service.gov.uk/media/5a802df1e5274a2e87db850e/Beyond_2012_-_outstanding_physical_education_for_all.pdf
20. Jaakkola TT, Sääkslahti A, Yli-Pipari S, Manninen M, Watt A, Liukkonen J. Student motivation associated with fitness testing in the physical education context. *J Teach Phys Educ* 2013;32(3):270–86. DOI: <https://doi.org/10.1123/jtpe.32.3.270>
21. Alkhateeb SA, Alkhameesi NF, Lamfon GN, Khawandanh SZ, Kurdi LK, Faran MY, et al. Pattern of physical exercise practice among university students in the Kingdom of Saudi Arabia (before beginning and during college): a cross-sectional study. *BMC Public Health* 2019;19:1–7. DOI: <https://doi.org/10.1186/s12889-019-8093-2>
22. Call K. Professional teaching standards: A comparative analysis of their history, implementation and efficacy. *Aust J Teach Educ* 2018;43(3):6. DOI: <https://doi.org/10.14221/ajte.2018v43n3.6>
23. Capel S, Whitehead M. *Debates in Physical Education*. Routledge 2013.
24. Jegtvig S. Parent involvement can help kids get more active. Reuters 2014 [cited 2022 May 15]. Available from: <https://www.reuters.com/article/us-parent-involvement-idUSBREA0900A20140110>
25. Gelius P, Messing S, Goodwin L, Schow D, Abu-Omar K. What are effective policies for promoting physical activity? A systematic review of reviews. *Prev Med Rep* 2020;18:101095. DOI: <https://doi.org/10.1016/j.pmedr.2020.101095>
26. HM-Govt. Moving More, Living More: The Physical Activity, Olympic and Paralympic Legacy for the Nation. HM Government 2014 [cited 2022 May 22]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/279657/moving_more_inspired_2012.pdf
27. healthy-Ireland. Get Ireland Active. Gov.ie 2016 [cited 2022 May 25]. Available from: <https://assets.gov.ie/7563/23f51643fd1d4ad7abf529e58c8d8041.pdf>
28. Australian-Govt. Sport 2030. Australian Government 2018 [cited 2022 May 25]. Available from: https://www.sportaus.gov.au/_data/assets/pdf_file/0005/677894/Sport_2030_-_National_Sport_Plan_-_2018.pdf
29. WHO. Global action plan on physical activity 2018–2030: more active people for a healthier world. World Health Organization 2019[Cited 2025 Jun 26]. Available from: <https://www.who.int/publications/i/item/9789241514187>
30. Derose KP, Marsh T, Mariscal M, Pina-Cortez S, Cohen DA. Involving community stakeholders to increase park use and physical activity. *Prev Med* 2014;64:14–9. DOI: <https://doi.org/10.1016/j.ypmed.2014.03.019>
31. Deliens T, Deforche B, De Bourdeaudhuij I, Clarys P. Determinants of physical activity and sedentary behaviour in university students: a qualitative study using focus group discussions. *BMC Public Health* 2015;15:1–9. DOI: <https://doi.org/10.1186/s12889-015-1553-4>
32. WHO. WHO calls for better and fairer opportunities for physical activity to improve health. World Health Organization 2021 [cited 2022 May 24]. Available from: <https://www.who.int/news/item/14-10-2021-who-calls-for-better-and-fairer-opportunities-for-physical-activity-to-improve-mental-and-physical-health>
33. Creswell J. *Research Design: Qualitative, quantitative and mixed methods approaches*. Sage 2002.
34. Al-Hazzaa H. Prevalence of physical inactivity in Saudi Arabia: a brief review. *East Mediterr Health J* 2004[Cited 2025 Jun 26];10(4/5):663–70. Available from: <https://pubmed.ncbi.nlm.nih.gov/16335660/>

CRediT authorship statement

Maryam Abdullah: Conceptualization, Data curation, Investigation, Methodology, Validation, Writing – original draft, Writing – review & editing

Asha Hasnimy Binti Mohd Hashim: Conceptualization, Methodology, Supervision, Writing – review & editing

ORCID:

Maryam Abdullah: <https://orcid.org/0000-0002-1231-087X>

Asha Hasnimy Binti Mohd Hashim: <https://orcid.org/0000-0002-1958-4793>

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Corresponding author: Maryam Abdullah. E-mail: mabdullah@pmu.edu.sa