

Attitudes of Male University Students towards a Physical Education Curriculum that Includes Health Education

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Abstract

Objectives: To investigate the attitudes of King Fahd University of Petroleum and Minerals (KFUPM) students toward a physical education (PE) curriculum that includes health education. **Method:** A self-designed questionnaire titled “Attitudes of Male University students towards their Physical Education Curriculum Questionnaire” was administered to orientation and college level students. It consisted of six aspects with ten items per aspect. All the students were male and non-PE majors. The internal consistency of the questionnaire was determined from the answers of 60 students selected randomly (alpha value = 0.05). Descriptive statistics were used to determine the overall attitude of the participants. Any aspect rated with an average score per item greater than 3 meant a positive attitude in that aspect. **Results:** The questionnaire had a good internal consistency (Pearson’s Correlation Coefficient range of 0.631–0.713, Cronbach’s alpha range of 0.682–0.734, test-retest reliability range of 0.879–0.934). A total of 1,327 valid questionnaires were analysed. All the aspects of the PE curriculum were viewed positively by the participants. Both levels viewed the “social aspect” and the “psychological aspect” most favourably. **Novelty/Improvement:** The study shows evidence for the necessity of health education in a PE curriculum designed for university students in order to encourage participation in physical activity.

Keywords: Attitude, Curriculum, Health Education, Physical Education, University Students

1. Introduction

Education helps individuals obtain the necessary skills needed during their lifetime. Physical Education (PE) curricula are designed to impart physical activity knowledge and skills to students in order that they can be physically active throughout their lives¹. This is important considering that physical activity has a role in improving health².

Designing effective curricula to enhance student learning requires considering the factors that affect learning³. Attitude is one of the factors that influences PE learning⁴. According to the Theory of Planned Behaviour⁵1985, 1987, an individual’s intention in participating in an activity can predict a particular behaviour. This intention is based on the attitude of the individual. Based on the theory and the aims of PE curricula, a positive attitude

towards a PE curriculum will have the following effects: encourage PE learning, encourage students to take their health seriously, and motivate them to participate in physical activity during and after school hours so as to improve and maintain their health. The conclusion is backed by evidence that suggests that attitudes of school children towards a PE curriculum affect their physical activity participation after school hours^{6,7}. There is evidence that students with positive attitudes towards their PE curriculum have a high psychological wellbeing⁸.

To the author’s knowledge, there are few investigations on the attitudes of university students towards PE. Most investigations focus on students from elementary to high school. Moreover, few studies investigated the attitudes of Saudi University students towards their PE curriculum. Attitudes of school children were explored

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in order to make informed changes to PE curricula in order to encourage physical activity participation^{9,10} as encouraging physical activity participation will counter the increasing sedentary lifestyle which negatively affects health. But a sedentary lifestyle is also prevalent in adults. Physical inactivity prevalence in Saudis of age 15–65 years is 66.6%¹¹. Moreover, there is an obesity prevalence of 28.7% among Saudis aged 15 years and older¹². If a PE curriculum can play a role in countering the increasing sedentary lifestyle in children and adolescents by motivating physical activity participation, then it is possible that it can serve the same for young adults. This thought is based on two considerations: 1) Adults can change their behaviour, which requires a change in attitudes¹³. 2) Both children and adults have similar modifiable factors that determine physical activity participation⁷.

Furthermore, as people in different countries have different attitudes towards PE¹⁴, it is proper to make such an investigation in Saudi Arabia. This investigation, together with the motivation of Saudi students to participate in physical activities¹⁵ and their attitudes towards physical activities¹⁶, will provide PE lecturers in Saudi Arabia with the required information to make curriculum changes which will have a positive effect on the attitudes of university students towards PE and physical activity.

Most physical education curricula in Saudi Arabia focus on physical literacy. But given the relationship between regular physical activity and health, it is appropriate to think that including health education in a PE curriculum is important. Not only does physical activity positively affect health, but there are other lifestyle habits which affect health, which in turn will affect physical fitness. An example is the negative effect of addictive behaviours such as tobacco smoking on physical fitness components such as body composition¹⁷ and cardiovascular fitness¹⁸. For this reason, physical education should not only rely on physical literacy but also health literacy as related to physical activity and fitness.

Given the importance of investigating attitudes towards a PE curriculum and the importance of health education in a PE curriculum, the purpose of this study was to determine the attitudes of university students at KFUPM towards a PE curriculum that includes health education.

2. Method

2.1 Study Setting and Participants

The study was conducted at KFUPM, located in the Eastern Province of Saudi Arabia, during the first semester of the 2015/2016 academic year. All the students in the university were male. A total of 1388 orientation (17–23 years) and college (18–25 years) students who enrolled for the PE course participated in the study. No student pursued an academic major in PE.

The PE curriculum is divided into three sections: health education, sports games training, and pre and post health-related fitness assessment. The students are taught health education for three weeks and tested at the end of the three weeks. The aim of health education is to inform them about basic health aspects that are related to physical activity.

Fundamental rules and skills of several sports games are taught for eight weeks. Orientation students are given two sports activities a semester, whereas college students choose a sports activity they prefer from the options available in the semester. Tests on the sports games are given to the students at the end of the eight weeks. Moreover, the students are required to compete against each other at the end of the eight weeks.

Health-related fitness assessments are conducted before and after the eight weeks of sports games training. The aim is to make them aware of their health-related fitness levels. Those with a low health-related fitness level are encouraged to improve, whereas those with a good health-related fitness level are encouraged to maintain it.

2.2 Ethical Considerations

The Scientific Committee of the Deanship of Scientific Research (DSR) of KFUPM reviewed and approved the study. The students were guaranteed the privacy to their results.

2.3 Questionnaire Development

A questionnaire titled “Attitudes of Male University Students towards their Physical Education Curriculum Questionnaire” was developed for the study. The cognitive aspect of attitude was mainly considered while designing the questionnaire. A literature search on attitudes towards PE curriculum was conducted to determine the kind of items found in questionnaires distributed in other Arab

countries^{19–25}. Expert psychologists in attitude were also consulted to help in constructing the questionnaire.

The original questionnaire contained 60 items classified into six aspects. These aspects were the “physical aspect”, “social aspect”, “psychological aspect”, “recreational aspect”, “general aspects”, and “health aspect”. Each item had both Arabic and English versions. Thirteen PE university professors and Ph.D. lecturers reviewed the questionnaire to check its clarity and validity and provided corrections.

The validated questionnaire was administered to 60 KFUPM orientation and college students who were randomly selected to determine its reliability. These students filled the questionnaire twice, two weeks apart.

2.4 Data Collection

To determine the attitudes of the students, the questionnaire was distributed to 1388 orientation and college students. The inclusion criterion was that the participants must be currently enrolled for the PE course. Each item was answered with a 5-point Likert scale, with “1” representing “Strongly Disagree” and “5” representing “Strongly Agree”.

2.5 Data Analysis

SPSS 16 was used for statistical analysis. Cronbach’s alpha and test-retest reliability were used to determine the reliability of the questionnaire. The internal consistency of the questionnaire was determined using the Pearson Correlation Coefficient. The alpha value for questionnaire internal consistency was set at 0.05.

Descriptive statistics were used to determine the overall attitudes of the participants. Points of “1” and “5” represented strong negative and positive attitudes, respectively. For positive items, one point was given for answers with “Strongly Disagree” and five points for answers with “Strongly Agree”. Meanwhile, one point was given for answers with “Strongly Agree” and five points for answers with “Strongly Disagree” for negative items. Using the average score per item, the attitude of the participants in each aspect was classified as follows: 1 for a “highly negative”, >1 to 2 for a “negative” attitude, > 2 to 3 for “undecided”, > 3 to 4 for a “positive” attitude, and > 4 to 5 for a “highly positive” attitude²⁶.

3. Results

3.1 Questionnaire Reliability

The validated questionnaire had 60 items, with 10 items per aspect (Supplementary file 1). The aspects were similar to the original questionnaire. The internal consistency of the questionnaire obtained from the Pearson’s Correlation Coefficient ranged from 0.631–0.713 (Table 1 and Table 2). Moreover, each aspect of the questionnaire had a Cronbach’s alpha reliability range of 0.682–0.734 with an overall Cronbach’s alpha of 0.771 (Table 3). The test-retest reliability range was 0.879–0.934 (Table 4).

Table 1. Internal consistency per item and per aspect for the physical, social and psychological aspects using Pearson Correlation Coefficient (N=60)

Aspect	Item #	Consistency	Overall Consistency
Physical	1	0.679**	0.684**
	2	0.725**	
	3	0.580**	
	4	0.729**	
	5	0.630**	
	6	0.723**	
	7	0.713**	
	8	0.631**	
	9	0.737**	
	10	0.620**	
Social	1	0.559**	0.698**
	2	0.631**	
	3	0.787**	
	4	0.590**	
	5	0.648**	
	6	0.547**	
	7	0.609**	
	8	0.687**	
	9	0.812**	
	10	0.671**	

Psychological	1	0.810**	0.713**
	2	0.666**	
	3	0.764**	
	4	0.581**	
	5	0.590**	
	6	0.800**	
	7	0.708**	
	8	0.722**	
	9	0.610**	
	10	0.609**	

*p=0.05, **p=0.01

Table 2. Internal consistency per item and per aspect for the recreational, general and health aspects using Pearson Correlation Coefficient (N=60)

Aspect	Item #	Consistency	Overall Consistency
Recreational	1	0.721**	0.635**
	2	0.696**	
	3	0.654**	
	4	0.730**	
	5	0.642**	
	6	0.729**	
	7	0.626**	
	8	0.645**	
	9	0.746**	
	10	0.652**	
General	1	0.807**	0.704**
	2	0.748**	
	3	0.679**	
	4	0.721**	
	5	0.598**	
	6	0.636**	

	7	0.586**	
	8	0.639**	
	9	0.532**	
	10	0.617**	
Health	1	0.709**	0.631**
	2	0.642**	
	3	0.706**	
	4	0.602**	
	5	0.612**	
	6	0.674**	
	7	0.657**	
	8	0.563**	
	9	0.715**	
	10	0.599**	

Table 3. Cronbach's alpha test (N=60)

Aspects	Cronbach's alpha	
	Per aspect	Overall
Physical	0.724	0.771
Social	0.706	
Psychological	0.694	
Recreational	0.734	
General	0.682	
Health	0.731	

3.2 Attitude towards Physical Education Curriculum

A total of 1,327 valid questionnaires were analysed. The characteristics and demographics of the participants are shown in Table 5 and Table 6, respectively. The attitudes of the participants are shown in Table 7.

All the aspects of the PE curriculum were viewed positively by the participants (a score greater than 3 out of 5).

Table 4. Test-retest reliability (N=60)

Aspects	First Test (Mean (SD))	Second Test (Mean (SD))	p-Value	Reliability Coefficient
Physical	3.685 (0.548)	3.677 (0.528)	0.08	0.908
Social	3.790 (0.698)	3.798 (0.688)	0.06	0.924
Psychological	3.598 (0.744)	3.478 (0.754)	0.83	0.879
Recreational	3.475 (0.487)	3.415 (0.446)	0.70	0.886
General	3.422 (0.554)	3.308 (0.603)	0.98	0.928
Health	3.477 (0.641)	3.483 (0.623)	0.05	0.934

*p<0.05

Table 5. Characteristics of participants (N=1,327)

Level	Age range (years)	Mean age (SD)	Number of Saudis	Number of non-Saudis
Orientation (N=719)	17–23	18.79 (0.762)	685	34
College (N=608)	18–25	20.06 (0.912)	596	12

Table 6. Saudi participants per province

Province	Orientation		College		Total	
	Number of Participants	Percentage	Number of Participants	Percentage	Number of Participants	Percentage
Northern	25	3.6	32	4.7	57	4.4
Southern	34	5.0	44	6.4	78	6.1
Central	124	18.1	109	15.9	233	18.2
Eastern	359	52.4	268	39.1	627	48.9
Western	143	20.9	143	20.9	286	22.3

Table 7. Ranking of aspects of attitudes towards PE and health curriculum of the participants (N = 1,327)

Aspect	Mean per item (SD)	Participants with positive attitude		
		Number	Percentage	Ranking
Physical Aspect	3.642 (0.7123)	1056	79.6	3
Social Aspect	3.695 (0.7197)	1102	83.0	1
Psychological Aspect	3.594 (0.7323)	1069	80.6	2
Recreational Aspect	3.472 (0.5844)	1040	78.4	4
General Aspects	3.405 (0.5165)	996	75.1	6
Health Aspect	3.580 (0.7754)	1015	76.5	5

The students at both levels ranked the “social aspect” and the “psychological aspect” first and second, respectively (Table 7).

4. Discussion

The study investigated the attitudes of KFUPM students toward their PE curriculum. This was achieved by administering questionnaires to the students, which they filled using a 5-point Likert scale. The participants ranked the “social aspect” and the “psychological aspect” in the first and second place respectively. They had an overall positive attitude towards their PE curriculum (average point per item > 3).

A positive attitude towards the “social aspect” means the students agreed that the curriculum was useful in helping them build friendships and teaching them the importance of teamwork. Chinese University students had similar attitudes towards physical education²⁷.

The positive attitude of the students in the “psychological aspect” and “health aspect” shows that the curriculum provided information about the importance of physical activity on physical and mental health. Furthermore, it demonstrates that the activities offered in the curriculum provided health benefits. The “health” and “psychological” aspects were also positively viewed by Chinese University students²⁷. A positive attitude in the “health aspect” and “physical aspect” shows that the students agreed they obtained the necessary knowledge and training to improve and maintain their physical fitness through their curriculum. High school students from the northeastern United States also agreed that fitness benefits could be obtained from a PE curriculum⁹.

A possible reason for the positive attitude in the “psychological aspect”, “physical aspect”, and “health aspect” is that the students were given health education courses for three weeks, and were tested immediately at the end of the session. Another possible reason might have been the health-related fitness assessments that are conducted

before and after eight weeks of sports games training. These factors might have helped the students recognize the importance the curriculum placed on physical and mental health, and physical fitness.

The “general aspect” comprised of items related to the overall view of the PE curriculum with respect to academics and lifestyle. This aspect referred to the importance of PE in an academic program, and whether an individual is unbalanced or undignified to participate in PE. A positive attitude in the “general aspect” reveals that the students found the curriculum and its related activities necessary for academic completion and should not be removed from the academic program. New York city high school students also considered PE a necessary subject in their academic program²⁶. The positive attitudes in this aspect also show that they did not view themselves as unbalanced nor undignified to participate in physical activities offered in the curriculum.

A positive attitude in the “recreational aspect” means that the curriculum provided information about the recreational benefits of physical activity. It also shows that the students enjoyed the activities provided in the curriculum. A reason might be that the students are given the chance to compete against each other at the end of the game sports training. The “recreational aspect” was also viewed positively by middle school students from the Midwest of the United States³.

Positive views on all the aspects investigated in this study were also shown by Chinese University students²⁷. A previous study conducted on KFUPM college students also revealed overall positive attitudes towards PE²⁸. The overall positive attitude shown by the students indicate that the students found the PE curriculum generally useful. Middle school students from the Midwest United States had the same attitude³.

4.1 Implications

The study adds evidence to the importance of a PE curriculum at the university level for students who do not pursue a Bachelor degree in PE. It also shows the importance of adding health education in a PE curriculum.

Furthermore, the study shows that the University PE curriculum might play a corrective role for university students who had little to no PE in their previous academic years. This corrective role needs to be considered when designing a PE curriculum at the university level. The study also shows the ability of PE curriculum activities in contributing to the recommended amount of physical

activity for young adults. It also shows that a good PE curriculum can also encourage positive attitudes towards PE and physical activity. This, in turn, might motivate students to practice what they have been taught after school, contributing to a reduction in the national prevalence of a sedentary lifestyle.

Adding health-related fitness assessments to the curriculum can also be used to motivate students to participate in physical activity after school hours. The motivation will come from informing each student about their health-related fitness level and giving them advice on what to do to maintain or improve it.

4.2 Limitations and Recommendations for Future Study

One limitation of this study is that the participants were male. Thus, the questionnaire was designed to take into consideration only male students. It is recommended that such a study is conducted at both female and mixed-sex universities. It is especially recommended that the attitudes of university students towards their PE curriculum are investigated if their curriculum incorporates health education and health-related fitness assessments.

Another limitation is that the data is not representative of male Saudi University students; only the Eastern province had a representative sample size. This makes the conclusions of this study only generalizable for male university students in the Eastern Province and not male Saudi University students.

5. Conclusions

The PE curriculum received positive attitudes from KFUPM university students. The positive attitudes towards the curriculum reveal that the curriculum plays a role in teaching students the necessary skills to maintain an active lifestyle. It shows that health education can also positively influence their attitudes. The lessons taught in the curriculum can positively affect the health of the young adults if applied during out of school hours. The physical activities provided during the PE classes can also contribute to the reduction of the sedentary lifestyles of students.

6. Conflict of Interest

There are no conflicts of interest to declare.

7. Acknowledgements

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8. Disclosure Statement

None declared.

9. References

- Centers for Disease Control and Prevention. Comprehensive School Physical Activity Programs: A Guide for Schools. U.S. Department of Health and Human Services: Atlanta, GA. 2013.
- Warburton DER, Nicol CW, Bredin SSD. Health benefits of physical activity: the evidence. *Canadian Medical Association Journal*. 2006; 174(6):801–9.
- Subramaniam PR, Silverman S. Middle school students' attitudes toward physical education. *Teaching and Teacher Education*. 2007; 23(5):602–11.
- Solmon MA. Student issues in physical education classes: Attitudes, cognition, and motivation. In: Silverman SJ, Ennis CD, editors. *Student Learning in Physical Education: Applying Research to Enhance Instruction*. 2nd ed. Human Kinetics: Champaign, III; 2003.
- Ajzen I. The theory of planned behavior. *Organizational Behavior and Human Decision Processes*. 1991; 50(2):179–211.
- Kjønniksen L, Fjørtoft I, Wold B. Attitude to physical education and participation in organized youth sports during adolescence related to physical activity in young adulthood: A 10-year longitudinal study. *European Physical Education Review*. 2009; 15(2):139–54.
- U. S. Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General*. 1st ed. International Medical Publishing: Atlanta, GA.; McLean, Va., 1996.
- Back KH. The Level of Participation and Attitude of School Physical Education and the Relationship with Academic Stress, Ego-resilience and Psychological Wellbeing of High School Students. *Indian Journal of Science and Technology* [Internet]. 2015 [cited 18 Nov 2015]; 8(15). Available from: <http://www.indjst.org/index.php/indjst/article/view/73097>.
- Rikard GL, Banville D. High school student attitudes about physical education. *Sport, Education and Society*. 2006; 11(4):385–400.
- Tannehill D, Zakrajsek D. Student attitudes towards physical education: A multicultural study. *Journal of Teaching in Physical Education*. 1993; 13:78–78.
- 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. *Journal of Taibah University Medical Sciences*. 2015; 10(2):208–215.
- Memish ZA, El Bcheraoui C, Tuffaha M, Robinson M, Daoud F, Jaber S. Obesity and Associated Factors - Kingdom of Saudi Arabia, 2013. *Preventing Chronic Disease*. 2014; 11:E174.
- Baldwin DAS. Attitudes. In: MDJR, itor *Encyclopedia of Behavioral Medicine* [Internet]. New York: Springer. 2013; 155–9. [cited 9 Jul 2015]. Available from: http://link.springer.com/referenceworkentry/10.1007/978-1-4419-1005-9_940.
- Stelzer J, Ernest JM, Fenster MJ, Langford G. Attitudes toward Physical Education: A Study of High School Students from Four Countries-Austria, Czech Republic, England, and USA. *College Student Journal*. 2004; 38(2):171.
- Antony VC, Tomar R. Investigating Participation Motives of Saudi University Students towards Physical Activity at Different Educational Levels. *Indian Journal of Science and Technology* [Internet]. 2015 [cited 5 Jun 2016]; 8(30). Available from: <http://www.indjst.org/index.php/indjst/article/view/77169>.
- Hamdan Hashem Mohammed M. Attitudes of Saudi Arabian Students at Different Academic Levels towards Physical Activity: An Objective Comparison. *Indian Journal of Science and Technology* [Internet]. 2016 [cited 29 May 2016]; 9(10). Available from: <http://www.indjst.org/index.php/indjst/article/view/81899>.
- Chiolero A, Faeh D, Paccaud F, Cornuz J. Consequences of smoking for body weight, body fat distribution, and insulin resistance. *The American Journal of Clinical Nutrition*. 2008; 87(4):801–9.
- Bernaards CM, Twisk JWR, van Mechelen W, Snel J, Kemper HCG. A longitudinal study on smoking in relationship to fitness and heart rate response. *Medicine and Science in Sports and Exercise*. 2003; 35(5):793–800.
- Abdelazim M, Abdul-Rahim Z. Aytijahat talabat wa talibat jamieat al-kuwait wa kulliat at-tarbia al-asasia nahu an-nashat al-badani [Attitudes of male and female students of Kuwait University and College of Basic Education

- toward physical activity]. *Al-mujalla al-almiya littarbiya al-badaniya walriyadiya*. 1995; 22:271–90.
20. Abu-Harjah MH, Zagloul MS. *Manahaj at-tarbia ar-riyadiya* [Physical Education Curriculum]. Merkaz al-kitab lilnashr: Cairo; 1999.
 21. Al-Khouli AA, Al-Shafaiy JA-D. *Manahaj at-Tarbiya al-badaniya al-moasarah* [Contemporary Physical Education Curriculum]. 1st ed. Dar Al-Fikr Al-Arabi: Cairo; 2000.
 22. Al-Lakani A. *Tatwir Manahaj At-Taleem* [The development of educational curricula]. Alaam Al-Kutub: Cairo; 1995.
 23. At-Tawil H. *Tah-sir tadriss misaak mabaad at-tarbiyah ar-riyadah aala taghir al-itijihat lidi talabat jameat mutah nahu at-tarbiya ar-riyadiya* [The effect of teaching the principles of physical education course to change the attitudes of Mutah University students towards Physical Education]. *Mutah al-bouhouth wal-darasat*. 2001; 16(4):87–109.
 24. Bu-Saleh Q. *Aittijahat almara nahu ahammiyat mumarasat an-nashat al-badani litalibat jamiyat almalik faysal fi almamlaka al-arabia as-saudia* [Women's attitudes towards the importance of physical activity for students of King Faisal University in Saudi Arabia]. *Majallat al-ulum at-tar-bawiya walnnafsia*. 2003; 4(1):103–20.
 25. Hassanein MS. *Alqias waltaqvim fiy at-tarbiat albadania walrriyada* [Measurement and Evaluation in Physical Education and Sports]. 3rd ed. Dar Alfikr Al-Arabi: Cairo; 1995.
 26. Zeng HZ, Hipscher M, Leung RW. Attitudes of High School Students toward Physical Education and Their Sport Activity Preferences. *Journal of Social Sciences*. 2011; 7(4):529–37.
 27. Li F, Chen J, Baker M. University Students' Attitudes Toward Physical Education Teaching. *Journal of Teaching in Physical Education*. 2014; 33(2):186–212.
 28. Abu-Saleh KM. Measurement of and correlation between attitudes toward physical education and health-related physical fitness among male students at two Saudi Arabian universities [Internet]. 1989 [cited 2 Aug 2015]. Available from: <http://search.proquest.com/docview/303713677/abstract>.