

The Effects of Health Related Fitness Awareness on Physical Activity Among School Students

Junaid Ur Rehman¹, Muhammad Badar Habib², Muhammad Zia Ul Haq³
Maham Qurashi⁴ and Uzma Jabeen⁵

Abstract

This study aims to investigate the effects of health-related fitness awareness on physical activity among school students. The quantitative research technique was applied to gather the information from the participants. A total of 180 boys and girls aged between 13 and 16 years school students were selected for the study. The data was collected from the school students of district Bahawalpur. The researcher employed convenient sampling as the sampling technique for the particular analysis. The researcher used a questionnaire as a research tool to collect data on health-related fitness awareness in numeric form from the research participants. The results were analysed through quantitative research tools, i.e., descriptive statistics, t-tests, bivariate correlation, and regression analysis in SPSS. The findings revealed a positive correlation between students' health-associated fitness awareness and bodily pursuit. Linear regression analysis demonstrated that health-related fitness awareness significantly predicted PA among the students. The results revealed a significant difference ($p < .01$) between the health-related fitness awareness scores of boys ($M = 8.85$, $SD = 1.78$) and girls ($M = 8.4$, $SD = 1.73$). This finding indicated that boys had higher health-related fitness awareness scores than girls. The study concluded that promoting health-related fitness awareness may increase PA levels among school students.

Keywords: Health; Fitness; Awareness; Students; Physical Activity.

Introduction

A person's physical activity (PA) is closely related to health maintenance, especially for school-going children (Haible et al., 2020). Awareness about health-related fitness is necessary to cope with both health and mental issues. Health-related fitness awareness denotes the comprehension and appreciation among individuals about the significance of physical fitness maintenance. By fostering health-related fitness awareness, students may be encouraged to participate in bodily tasks and embrace healthy lifestyle habits (Grieco et al., 2009). While specific studies have shown positive outcomes from such interventions, others have reported conflicting or adverse results (Van et al., 2017).

Researchers have examined the idea of health-related fitness awareness in promoting PA, especially among school-aged children. Certain studies have shown that increasing awareness of health-related fitness can boost bodily pursuit levels (McKenzie et al., 1991; Dobbins et al., 2009). Nevertheless, additional research has produced mixed or unfavourable outcomes, implying that more than merely increasing awareness might be required to sustain behavioural

¹Assistant Professor, Department of Physical Education, Government Sadiq Egerton College Bahawalpur. Email: junaidscout67@gmail.com

²Associate Professor, Department of Physical Education & Sports Sciences, The Islamia University of Bahawalpur. Email: Badar.habib@iub.edu.pk

³Associate Professor, Department of Physical Education & Sports Sciences, The Islamia University of Bahawalpur. Email: muhammad.zia@iub.edu.pk

⁴M.Phil Scholar, Department of Physical Education & Sports Sciences, The Islamia University of Bahawalpur.

⁵M.Phil Scholar, Department of Physical Education & Sports Sciences, The Islamia University of Bahawalpur.

changes among individuals (Van et al., 2017). PA is an extensively researched variable in health-related studies, encompassing research endeavours focused on promoting PA and preventing sedentary behaviours. Several methods for gauging PA, including self-reported questionnaires, accelerometers, and pedometers, were outlined by Sallis and Saelens (2000).

Research has consistently shown that systematic bodily pursuit might contribute to a variety of health benefits, including a lower probability of obesity, diabetes, cardiovascular diseases, and mental health issues such as anxiety and depression (Kibbe et al., 2011). Today's children at school and home have become less inclined to engage in physical activities due to the increasing accessibility and usage of technological devices. These actions and attributes play a significant role in the maturation and evolution of corporal and cognitive states, psychosocial wellbeing, wellbeing, intellectual capabilities, and children's educational achievements. Additionally, contemporary technology has led to a sedentary lifestyle among children, making them have a different phenotype than their parent's generation, as noted by Sbeih and Shibly (2021). Nowadays, children tend to have a heavy body weight and body mass index (BMI) compared to their peers from previous decades. Despite recommendations for children to captivate in 60 or more minutes of average to buoyant bodily pursuit every day, only approximately one-third of children reported being physically active in the five days leading up to the survey. The decrease in physical fitness, as measured by factors like flexibility, muscular strength, and cardiorespiratory capacity, and the rise in health risks associated with a sedentary lifestyle caused the epidemic of childhood obesity (Wong et al., 2021).

Regular PA is essential for children and students as it helps develop a strong foundation in motor skills and physical literacy. Engaging in PA has numerous benefits, such as maintaining a healthy weight and developing strong bones, muscles, heart, and lungs. Additionally, PA can also be beneficial in weight maintenance. Although any form of PA is practical, aging in moderate to high-intensity activities can provide even more advantages (O'Kane et al., 2021). Regular exercise provides obvious health benefits and reduces the severity of PMS symptoms in girls. This is because the body produces endorphins during moderate activity, contributing to a feeling of wellbeing. These natural pain relievers work well on muscle cramps and aching backs. Therefore, when children engage in PA, they benefit in terms of physical, cognitive, and other areas of their body. Regular PA improves focus, academic performance, sleep quality, and schoolchildren's energy levels. Additionally, children who engage in PA regularly have better social ties and a more positive self-perception (Mavilidi et al., 2018). Therefore, the problem that this study seeks to address is the influence of health-associated fitness awareness on bodily task measures among school students and how such understanding can be optimized to promote sustained behaviour change.

Encouraging children to engage in PA throughout their development stages, such as dancing, jumping, walking, running, stretching, and playing, can help them develop a lifelong appreciation for movement. This approach can also promote positive self-esteem and a healthy body image, as children focus on their body's abilities rather than their appearance (Macdonald et al., 2021). This research aims to evaluate health-related fitness awareness by physical activities and their impact on children's education, physical health, and academic achievements. By understanding the implications of this research, people can appreciate the importance of imparting knowledge and education about PA and health in schools. This can help students achieve optimum progress in their physical and mental wellbeing and academic performance during their studies.

Materials and Methods

Research Design

Quantitative research is an appropriate choice for the current study as it allows the researchers to test hypotheses and draw inferences from numerical data. Additionally, quantitative research

can help to determine the prevalence and extent of PA among children. The study aims to assess the influence of strength-associated wellbeing on bodily activities among school students and to explore differences in PA levels originating from demographic characteristics such as rivalry, ethnicity, plan of sports, and sports experience. Consequently, the researcher opted for quantitative research methods. The primary focus of the analysis was to examine the impact of health-related fitness recognition on PA among school students using hypothetical propositions.

Population and Sampling of the Study

The population of the study includes school students in the region of Bahawalpur. In this analysis, the researcher utilized convenient sampling as the most feasible option for obtaining the necessary information. The population consists of school students who engage in minimally physical activities. The researcher opted for convenient sampling as it was the most feasible and accessible option for obtaining the necessary information from this population.

Sample Size

The sample size of 180 school students was chosen based on the research objectives and the population's characteristics. The researcher used an online statistical calculator called A-prior (Soper, 2020) to justify the sample size calculation. The anticipated effect size in the study was set at 0.15, the desired statistical power level was set at 0.8, and the possibility measure was set to 0.05, which could be related to the significance level or alpha value in hypothesis testing. Considering a 20% attrition rate, the researcher obtained a minimum sample size of 144. However, the final sample size was 180 school students to compensate for potential dropouts or attrition during the study.

Research Instrument

In the present study, the researcher opted for a questionnaire as the research instrument to collect the needed particulars from the sampled populace. A questionnaire consists of several questions that respondents mark, record, or answer. The researcher opted for a closed-ended questionnaire format to gather the required information from participants. Closed-ended questionnaires were presented with predetermined answers to the respondents to choose their answers by ticking the best option (Griffith et al., 1999).

Health and Physical Activity Questionnaire

The questionnaire covered the strength condition and present PA of school students. The first focused on the participants' spontaneous wellbeing, with questions using a five-point scale to assess their current health status and interests associated with their strengths. Participants were also asked to identify which areas required improved health maintenance, such as physical activities, eating habits, sleep habits, etc. The current PA levels were with questions asked participants to rate their inspiration to exertion or involvement in sports activities on a five-point scale. Additionally, the participants were questioned about how often they partake in exercise or sports activities and to specify the types of exercises and spots they prefer to do more than once a week.

Data Collection Procedure

The researcher employed convenient sampling as the sampling technique in this particular analysis. Convenient sampling is a non-probability method where the researcher selects participants based on their accessibility and availability. It is often used when locating or reaching the entire population of interest is challenging. The data was gathered from the school students of Bahawalpur. The participants were assured that their responses would be kept

confidential, and they had the right to retract from the analysis whenever they felt like leaving. Furthermore, they were informed they would be provided access to the study's findings.

Results

The collected data was organized into a matrix and analysed using Statistical Package for Social Sciences (SPSS, Version-24) and MS Excel (Microsoft Excel, Addition-2013). The data are displayed using descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (such as linear regression and t-test). The result presents demographic information of the sample population, including gender, and utilizes descriptive statistics to outline respondents' health-related fitness awareness of PA among school students. Different statistical processes were applied, including linear regression to evaluate the effect of health-related fitness awareness on PA and t-tests to determine the difference in the impact of health-related fitness awareness on PA based on gender.

As per the table, it is evident that the sample consists of 65.6% male students and 34.4% female students.

Table 1 Gender (n=180)

		<i>f</i>	%	<i>Mean</i>	<i>Std. D</i>
Gender	Boys	118	65.6	1.34	.47
	Girls	62	34.4		

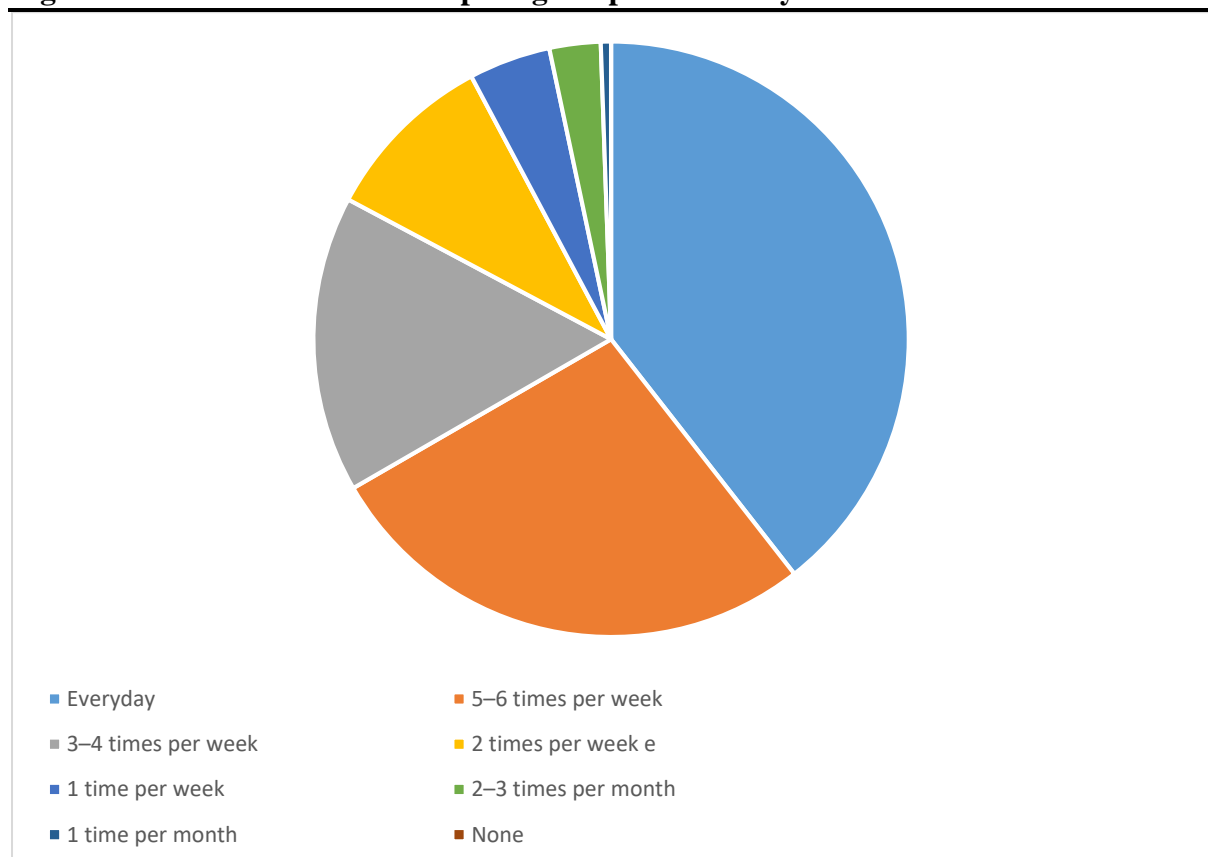
Physical Activity of School Students

The table presents the frequency distribution of the number of times school students participate in sports activities in a week. The majority of students (39.4%) reported participating in sports activities every day, followed by 27.2% who reported participating 5-6 times per week, and 16.1% who reported participating 3-4 times per week. The mean score of this statement was 2.23, which indicates that on average, students reported participating in sports activities almost every day of the week. This suggests that PA is an important part of their daily routine, which may have positive effects on their health and well-being.

Table 2 On a weekly basis, how frequently do you engage in physical exercise or sports activities (n=180)

	<i>f</i>	%	Mean	Std.D
Everyday	71	39.4	2.23	1.36
5-6 times per week	49	27.2		
3-4 times per week	29	16.1		
2 times per week e	17	9.4		
1 time per week	08	4.4		
2-3 times per month	05	2.8		
1 time per month	01	0.6		
None	00	00		

The qualitative analysis suggests that participating in sports activities is a regular part of the routine for the majority of school students. The high percentages of students reporting participation every day and 5-6 times per week indicate a strong commitment to physical activity. Additionally, the mean score of 2.23 supports the conclusion that, on average, students engage in sports activities almost every day. This regular engagement in physical activity is likely to have positive effects on their health and well-being.

Figure 1 Time Division of Participating in Sports Activity

The result presented in the table indicates that the students were asked about their purpose for engaging in PA. The table shows that the majority of school students (40.6%) aim to maintain or improve their health through PA. Additionally, 36.1% of students engage in PA as part of school activities. The mean score for this statement was 2.13, indicating that on average, students had a moderate level of agreement with these statements. Only a small percentage of students had other purposes, such as rehabilitation, improving sports performance, or making friends.

Table 3 If you engage in physical exercise or a sports activity more than once a week, what is the primary goal or objective of your participation (n=180)

	<i>f</i>	%	Mean	Std.D
School activities	65	36.1	2.13	1.33
Maintenance or improvement of health	72	40.6		
Improvement of activity	00	00		
Rehabilitation	08	4.4		
Diet	17	9.4		
Making friends	14	7.8		
Improvement of performance in sports	03	1.7		
Others				

The table presents the reasons for not participating in sports activities among school students. The findings reveal that the most common reason for not participating in sports activities is weakness or lack of physical fitness (36.1%), followed by being too busy with part-time academy (23.9%) and being too busy with school (15.6%). Other reasons for not participating

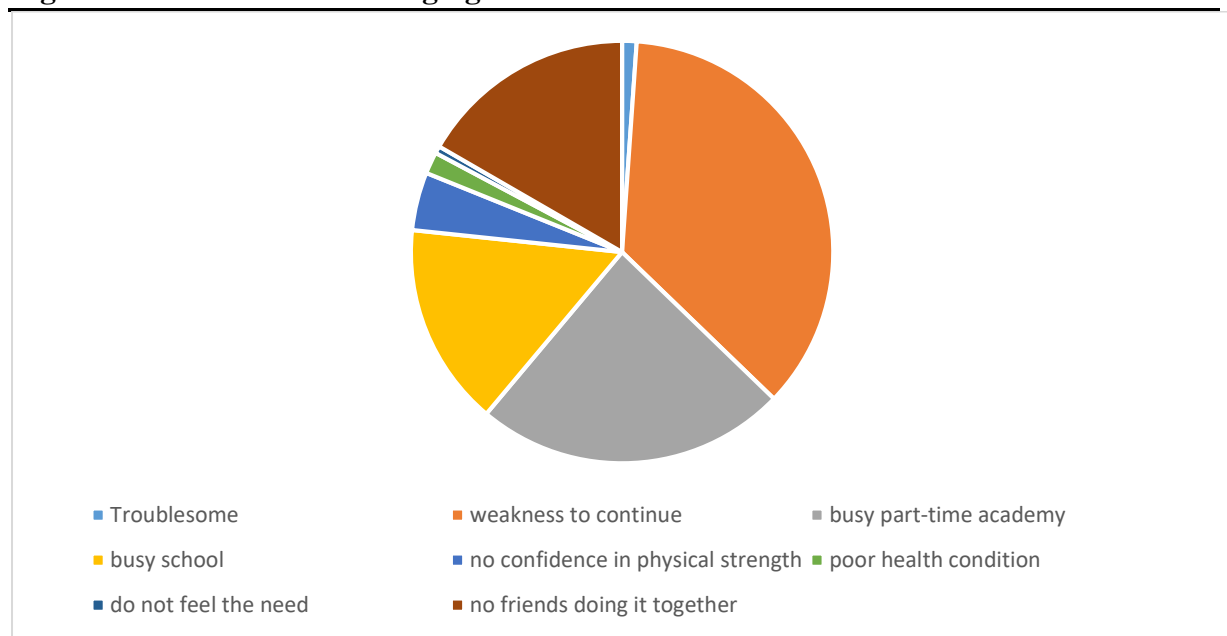
in sports activities include lack of confidence in physical strength (4.4%), poor health conditions (1.7%), and not feeling the need (0.6%). Additionally, 16.7% of school students reported that they do not have friends to do sports activities together. The mean score of this statement was 3.48, indicating that the students who do not participate in sports activities have relatively high scores in terms of these reasons.

Table 4 If you do not engage in physical exercise or sports activities during the week, what is the reason for your inactivity? (n=180)

	<i>f</i>	%	Mean	Std.D
Troublesome	02	1.1	3.48	1.64
weakness to continue	65	36.1		
busy part-time academy	43	23.9		
busy school	28	15.6		
no confidence in physical strength	08	4.4		
poor health condition	03	1.7		
do not feel the need	01	0.6		
no friends doing it together	30	16.7		

The above table shows that the 1.1% troublesome, 36.1% weakness to continue, 23.9% busy part time academy, 15.6% busy school, 4.4% no confidence in physical strength, 1.7% poor health conditions, 0.6% do not feel the need and 16.7 percent no friends doing it together. Finding shows that the majority of school students do not participate in sports due to weakness and health issues. The mean score of this statement was 3.48.

Figure 2 Reasons of Not Indulging in Health Related Fitness



The result indicates that there is a strong and positive correlation between health-related fitness awareness and PA among school students. The correlation coefficient ($r=.47^{**}$) suggests a highly significant relationship between these two variables. This means that as students' awareness of health-related fitness increases, their level of PA also tends to increase. In other words, the students who are more aware of the benefits of health-related fitness are more likely to engage in physical activities.

Table 5 Inter-Correlation between health-related fitness awareness and PA (n=180)

Variables	M	SD	Health related fitness	PA
Health related fitness	8.54	1.76	-	.47**
PA	18.9	5.88		-

**p < .01

Results of linear regression indicate that PA among school students showed as significant predictor with 22% variance in health-related fitness awareness. Results showed that health related fitness awareness was a confirmed significant positive predictor of PA and contribute 22% Variance among school students.

Table 6 Linear Regression Analysis for health-related fitness and PA among school students (n=180)

Health related fitness							
Variable	B	SE	β	T	R ²	ΔR^2	
Constant	5.65	1.92		2.94			
PA	1.55**	.22	.46	7.06	.22	.21**	

** p <.01; B for Unstandardized regression coefficient; B= Unstandardized beta; β =Standardized beta; SE= standard error

The results of the independent sample t-test indicate that there is a significant difference in both health-related fitness awareness and PA between boys and girls in the school sample. The mean score of health-related fitness awareness was found to be higher among boys compared to girls, indicating that boys may have greater knowledge and understanding of health-related fitness. Similarly, the mean score of PA was found to be higher among boys compared to girls, indicating that boys may be more physically active than girls. The significant differences suggest that there may be gender-related factors that influence health related fitness awareness and PA among school students.

Table 7 Comparison between gender (male & female) Sample through Independent Sample t-Test among health-related fitness awareness and PA among school students (n=180)

Variable	boys (n = 118)		girls (n =62)				95%CI		Cohen's D
	M	SD	M	SD	t	p	LL	UL	
Health	8.85	1.78	8.4	1.73	.47	.03	-.41	.68	0.102
PA		5.47	18.5	6.63	.15	.02	-1.6	1.9	0.098
	19.1								

Discussion

Current analysis aimed to investigate how awareness of strength-associated wellbeing impacts the level of PA among students in Punjab's Bahawalpur province, Pakistan. This research represents the first attempt to explore the relationship between strength -associated well-being, wellbeing awareness, and PA among school students. Physical exercise is considered vital for the wellbeing of Pakistani students. Regarding their present health status, most school students reported feeling either moderately or very healthy. A prior survey conducted among Japanese

school students found that 74.2% of students in humanities courses and 82.5% in medical courses rated their subjective health condition as healthy (Tamura., Shimura., & Inoue, 2021). According to Saranya et al. (2016), Japanese undergraduate rehabilitation students have been perceived as lacking motivation for PA. However, in this study, many rehabilitation students reported being “very much” or “moderately much” motivated to exercise and perceived it as essential. In contrast, only 44.9% of the participants in this study were involved in PA at least once a week, and merely 12.7% were involved in PA minimal thrice a week. The study also showed that the scheme increased PA measures on school days and weekends. The research of Carlin, Murphy, and Gallagher (2016) conducted a meta-analysis of 12 studies to investigate the impact of programs on walking activity among school kids and juveniles. The results showed that nine of the studies positively affected increasing the amount of walking among participants. The study highlighted the importance of aim familiarization, organizing, interpretation, scrutiny, social strength, and repetition in achieving this increase in walking activity.

The analysis outcomes discovered a significant and optimistic correlation between -associated well-being, wellbeing awareness, and PA among school students. The results showed a highly significant, sturdy, and optimistic association between well-being wellbeing awareness and PA ($r=.47^{**}$, $p<.01$). These findings suggest that students with a greater awareness of health-related fitness are more likely to engage in physical activities. Nazeer (2016) conducted a study to investigate the impact of wellbeing grasp on exertion and physical fitness.

The results further indicated that health-related fitness awareness was a confirmed significant and positive predictor of PA, contributing to 22% of the variance among school students. Based on the results, it can be concluded that all students needed better fitness awareness. Additionally, the increasing use of technology contributed to reduced PA measures. Consequently, the critical factors of health, mobility, and PA may be severely limited, and students may have poor cardiovascular fitness. Limited PA options in small apartment buildings can also exacerbate the problem.

The results revealed a significant difference ($p < .01$) between the health-related fitness awareness scores of boys ($M = 8.85$, $SD = 1.78$) and girls ($M = 8.4$, $SD = 1.73$). This finding indicated that boys had higher health-related fitness awareness scores than girls. Additionally, the outcome specified a notable variance ($p < .01$) in PA levels between boys ($M = 19.1$, $SD = 5.4$) and girls ($M = 18.5$, $SD = 6.6$), with boys having higher PA levels than girls. The findings revealed that students' physical fitness was moderate, with only a tiny percentage achieving a high activity level. When comparing boys and girls, it was found that boys outperformed compared to girls. Therefore, since boys typically have more muscle mass and less fat mass than girls, it could be inferred that their higher muscular endurance is a result of this difference, as proposed by Hosseini et al. (2019). The study reported moderate to good flexibility levels, with girls exhibiting higher flexibility than boys. Furthermore, the level of PA reduced with age for both males and females, which is consistent with past analyses by Pojskic and Eslami (2018).

Conclusion

In conclusion, this analysis found a constructive correlation between health-related fitness awareness and PA among school students aged between 13-16 years. The study suggests that promoting health-related fitness awareness may increase PA levels among school students. These findings have important implications for schools and policymakers who aim to enhance the haleness and fitness of young people. The result suggests that most school students have a positive attitude towards exercise and sports activities. In light of these results, it is recommended that programs developed to promote PA and prevent portliness in adolescents should be included in the national educational curriculum. Additionally, this study used a

convenience sample rather than a random sample, which could have introduced bias into the study. Lastly, this analysis possessed a cross-sectional scheme, which may limit the ability to establish causal relationships between variables. The sample size of the current study enabled the results to be generalized to the broader population.

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