



## Sport, Students and Academic Achievement: A Cross-sectional Survey

**Dr. Tasleem Arif**, Assistant Professor, Department of Sports Sciences and Physical Education, University of Science and Technology, Peshawar, [Tasleem.ss@suit.edu.pk](mailto:Tasleem.ss@suit.edu.pk)

**Dr. Wasim Khan**, Incharge, Department of Sports Sciences and Physical Education, Gomal University, Dera Ismail Khan, [Wasimsspe@gu.edu.pk](mailto:Wasimsspe@gu.edu.pk)

**Fakiha Wadiat**, Visiting Lecturer, Department of Physical Education & Sports Sciences, University of Sargodha, sub-campus Bhakkar, [Fakihasports94@gmail.com](mailto:Fakihasports94@gmail.com)

**Muhammad Ijaz**, Lecturer, (Coordinator) Department of Physical Education & Sports Sciences, University of Sargodha, sub-campus Bhakkar, [ajazathlete@yahoo.com](mailto:ajazathlete@yahoo.com)

**Abstract-** Participation in sport and students' academic achievement has remained a debatable topic among researchers for years. There has been a long-running discussion about the role of sports in student academic achievement, but no consensus has yet been achieved. Therefore, the purpose of this study was to determine the role of sport in the academic achievement of students at the college level. A cross-sectional survey was performed among n=346 participants (parents=110, teachers=120 & students= 116) in which 330 valid and duly filled questionnaires were used for data analysis. Findings indicated that participants acknowledged sport participation as an important tool for the overall development of students, and the principles that prepare students to excel in sport can contribute to academic achievement. These findings suggest that promoting sport participation and having access to different formats of sport such as team versus individual sport events during the college years can be a good way to help students boost their grades.

**Key words:** Sport Participation, Academic Achievement, College Students

### I. INTRODUCTION

Physical educators commonly agree that participation in various sports activities leads to the overall and balanced growth of its participants, as well as having long-term and significant effects on the athletes' personalities. As far as the outcomes of sports participation in terms of academic achievements are concerned, it has been admitted by experts that sports help to enhance mental and intellectual capacities of the individuals and sharpens the thinking abilities (Tompsonowski, McCullick&Pesce, 2015), which have positive impacts on the academics of the students, and proves helpful in solving numerous academic problem (Van Boekel et al., 2016). The human body and brain are like a machine and factually these are very complex machines. Likewise, other machines, the human body and the brain need appropriate rest to restore energies and restart source if providing the requisite rest to the human body and freshness to the mind for restarting work to attain better desirable results.

Academic achievement refers to the progress a child makes in school as measured by scores on achievement tests, grade-point averages, promotion from grade to grade, and the development of proper attitude. As any experienced teacher knows, academic achievement requires more than intellectual capacity. Non-intellectual factors, such as the will to achieve, health and self-concept, are almost certain to play an important part in a student's ability to achieve academically (Burger, 2017).

Historically, participation in organized sports has been considered as a means of incorporating students into both the college and society as a whole. Participation in competitive sports programs at the college level has the potential to improve participants' behavior, accomplishments, and character in other aspects of their lives outside their field of play, which has been a hot subject of debate (Mandic et al., 2012; Eime et al., 2013; García-López & Gutiérrez, 2015). Hence, colleges must emphasize that active participation in an extracurricular activity is a privilege and opportunity reserved for students who have completed their academic obligations and meet the eligibility requirements. (Lumpkin & Favor, 2012). It is reasonable to expect positive outcomes in student-athletes' educational expectations, academic performance (Lipošek, Planinšek, Leskošek, Pajtler, 2018) and character development (Dishon, 2017; Pennington, 2017) as a result of participation in sport.

Academic success is linked to physical education and sport in at least four ways: 1) by putting a strong focus on motor skill growth, 2) by encouraging physical activity, 3) by disseminating information and changing behavior in the area of health, and 4) by assisting in the growth of social and emotional skills,

resulting in a more positive self-image (Walton-Fisette&Wuest, 2015). By the development of desirable attitudes and the application of health knowledge, the student achieves maximum strength, energy, endurance, recuperative power, and sensory acuity. Furthermore, the effective program of physical education and sport helps boys and girls to understand and appreciate the value of good health as a means of achieving their greatest productivity, effectiveness, and happiness as individuals (Pangrazi&Beighle, 2019).

Some of the world's most profound thinkers have acknowledged this fact throughout history. Socrates, for example, emphasizes that poor health can lead to severe errors in reasoning. "Bodily vigor is considered at any stage by intellectual progress,". Physical exercise must complement and condition mental preparation to achieve the best results."Rousseau observed that"an enfeebled body enervated the mind," and Emile's routine included a number of physical activities. Arnold Gesell, Arthur T. Jersild, and the Swiss psychologist Jean Piaget have recently discovered that a child's early learnings are primarily motor in nature (involving neuromuscular system and resulting in movement such as running, jumping, reaching, and the like) and provide the base for succeeding learning (Bucher, 1975).

The general perception regarding the role of sports in promoting academics is a bit different, is assumed that sports spoils the academic and is a tool helpful in refraining from studies. Keeping in view the general perception, this study has been designed to furnish a logical response to such thoughts. This study focused on determining the role of sports in academic achievement, especially at the college level, since this is a critical age in the life of a young man, from which he can either steer his life in a positive direction or, sadly, down a dark road.

#### **Purpose of the Study**

The experts in the field of health, physical education and recreation have a firm and very clear conception of the outcomes of sports participation, but as a matter of fact, the general concept regarding the role of sports in promoting academic among the youth is not very encouraging. The researchers investigated the real position on the ground as to what extent the sport is playing or can play a positive rather significant role in the promotion of academics among students at college level.

#### **Research Hypotheses**

Ha1: The respondents perceive a significant relationship between participation in sports and academic achievement.

H<sub>0</sub>2: There is no significance difference between the stance of participants regarding the role of sports in academic achievement of the students at college level.

H<sub>0</sub>3: There is no significant difference between the stance of male and female respondents regarding the role of sports in academic achievement.

H<sub>0</sub>4: There is no significant impact of respondent's qualification on their perception regarding the role of sports in academic achievement.

## II. METHODOLOGY OF THE STUDY

### **Research Design**

To arrive at certain facts about the study in hand, the researcher used descriptive survey research design from a quantitative model. The most excellent way of estimating perception and attitude in a large population is the survey methodology (Saris&Gallhofer, 2014). The study's main aim was to explore college teachers', students', and parents' views of the effect of sports activity on academics at the college level. Therefore, through the quantitative survey analysis paradigm, their perceptions can be calculated and the results are described in tables and figures. The current research was carried out in the Pakistani province of Khyber Pakhtunkhwa (KP). For the selection of the sample population for the analysis, the main districts of Kohat, Karak, Bannu, LakkiMarwat, Tank and Dera Ismail Khan were selected.

### **Study Participants**

All the male college teachers, students and their parents from Kohat, Karak, Bannu, LakkiMarwat, Tank and Dera Ismail Khan constituted the population for this particular study. **Sampling Determinants**

All the relevant aspects were carefully considered in the sample population for the current analysis. Teachers and students were chosen via a random sampling technique because a precise list of the teachers and students was easy to obtain from the concerned colleges in the sampled districts. Parents were chosen by convenient sampling procedure because the accurate list of the parents was not possible for the researchers. The sample size is calculated by the research requirement for correct and authentic results to be collected in order to draw final conclusions. For statistical analysis, the sample size needs to be adequate. A sample of n=346 (parents=110, teachers=120 & students= 116) was selected and included in the survey.

### Research Instrument

The most influential instrument used in quantitative analysis is the questionnaire. As Dörnyei and Taguchi (2009) notes that closed form questionnaires are preferably used in a quantitative analysis, a closed questionnaire with suitable questions was developed and used. Therefore, a closed-form self-made questionnaire with "strongly agree to strongly disagree" choices was developed to examine the perception of college teachers, students and their parents of the impact of sports participation on academics at the college level.

Many statements were collected from participants in the development of a questionnaire, which were equally selected from each population. Respondents were encouraged to respond openly in regards to the format, language, and feasibility of the items included in the questionnaire's preparatory stage. The respondents' feedback and recommendations formed a basis for forming the final version of the questionnaire. Just 10 items were chosen out of 28 items to form a final questionnaire. On the 10 item questionnaires, the validity and reliability process was carried out.

### Validity and Reliability

To determine the scale's effectiveness and practical utility in assessing college teachers', students', and parents' perceptions of the impact of sports activity on college academics, a perception scale based on literature, the opinion of experts and society's existing standards was constructed. This scale was validated through face and content validity by administering among five experts in the field of physical education and sport sciences. While, Internal Consistency Reliability was used for reliability purposes. The reliability procedure was carried out on a scale of five points. The reliability coefficient of the scale was calculated using the Statistical Package for Social Sciences (SPSS), and the results were found to be extremely reliable, with a value of 0.87. Finally, an accurate scale with 10 items was developed and used for data gathering.

### Procedure

Before collecting the data, the researcher contacted the principals of the colleges concerned in order to formally approve the distribution of the questionnaire between teachers, students and their parents. After receiving approval, the researchers went to the sampled colleges and distributed the questionnaire among the participants. For this reason, the researcher clarified the method by which most respondents had no query to fill out the questionnaire. In addition, in order to gather data from their guardians, the researchers handed over letters of authority to the students. A total of 346 questionnaires were distributed in the current study among parents (110), teachers (120) and students (116), while 330 were returned. It is pertinent to mention that 16 spoiled and partially filled questionnaires were declined for research purposes, and 330 valid questionnaires were used in this study.

### Statistical Analysis

The use of effective statistical methods in the study process for the development of authentic results is crucial. The collected data was properly organized and treated for statistical analysis through SPSS version 26 after proper coding. To interpret the data accordingly, statistical methods such as mean, Pearson correlation, independent sample t-test and one-way ANOVA (analysis of variance) were used for analysis of data.

## III. RESULTS AND DISCUSSION

Table 1 Viewpoint of the teachers, students and their parents (Participants= 330)

S.No	Statement	Mean
1.	Sports activities contribute to academic achievement	2.40
2.	Time devoted to athletic practice compel athletes to sacrifice attention to academic	2.36
3.	Sports participation stimulate students interest in college	2.26
4.	Sports participation has positive influence on the students' educational outcomes	2.90
5.	Sport is regarded as form of knowledge to strengthen the students' body	2.20
6.	Participation in sport temper the soul of college's students	2.22

7.	Participation in sport raise students' grade and test score	2.12
8.	Sports and education can be beneficial for students success in important domains of life	2.34
9.	The principles that prepare students to excel in sport can contribute to academic achievement	2.18
10.	The skills students excel in sport contribute to academic achievement	2.80

The point of view of the teachers, students and their parents regarding the role of the college's sport in the academic achievement of the students was surveyed through ten different questions and their responses are presented in the table 1. The mean score of item one is 2.40 which indicated that respondents acknowledged the contribution of sport in the academic achievement of college students. Mean score of item two is 2.36, which conceal that participants are agreed with the statement time devoted to athletic practice compel athletes to sacrifice attention to academics. Mean score of item three is 2.26, which confirms that, in the view of major participants, sports participation stimulates students' interest in college. Likewise, the mean score I respect of item four is 2.90, which means that in view of the respondents sports participation has a positive influence on the students' educational outcomes. The mean score of item five is 2.20, which reflects that sport is regarded as a form of knowledge to strengthen the students' body. According to the table, the mean score of item six is 2.22 which confirms that participants agree with the statement that participation in sports temper the soul of college's students. Mean score of item seven is 2.12, which indicated that participants admitted that participation in sport raises students' grades and test score. Mean score of item eight is 2.34, which implies that sport and education can be beneficial for students' success in important domains of life. Mean score of item nine is 2.18 which confirms that agreement of the participants with the statement that the principles that prepare students to excel in sport can contribute to academic achievement. The mean score of item ten is 2.80, which ratifies that the skills students excel in sport contribute to academic achievement.

#### Testing of hypotheses

H01: The respondents perceive a significant relationship between participation in sports and academic achievement

Table 2 Correlation Analysis

participation in sports	N	r	Sig. 2-tailed
	330	.357**	.000

\*\*Correlation is significant at the 0.05 level (2-tailed).

In this table correlation coefficient values (.357\*\*) for participation in sports and academic achievement indicates that participation in sports has positive correlation with academic achievement and it is significant at 0.05 level. Therefore, the hypothesis that there is significant relationship between participation in sports and academic achievement is hereby accepted.

**H<sub>0</sub>2: There is no significance difference between the stance of participants regarding the role of sports in academic achievement of the students at college level**

Table 3 Results of One-way ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	876.166	3	291.243	.971	.479
Within Groups	216631.8	227	348.246		

Total	218511.1	330
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The above table is showing  $F(3,291) = .971, P=.479$  which means that there is no significant difference between the stance of participants regarding the role of sports in academic achievement of students. Thus the null hypothesis that there is no significant impact of respondent's qualification on their perception regarding the role of sports in academic achievement is hereby accepted

**H<sub>0</sub>3: There is no significant difference between the stance of male and female respondents regarding the role of sports in academic achievement**

Table 4 Test of Significance

Group	N	Mean	S.D	Mean Diff.	t	P_Value
Male	200	3.99	.69			
Female	130	3.98	.38	0.52	0.492	0.924

\* Not Significant

Group	N	Mean	S.D	Mean Diff.	t	P_Value
Male	200	3.99	.69			
Female	130	3.98	.38	0.52	0.492	0.924

\* Not Significant

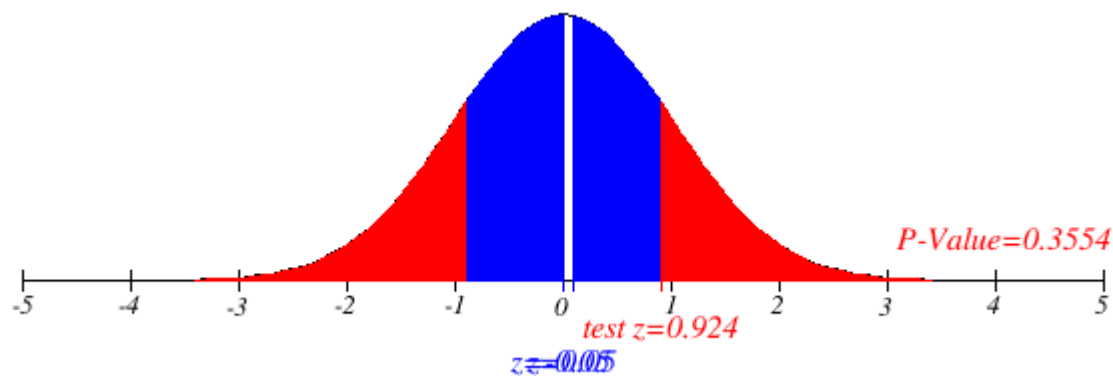


Table shows that t-value is insignificant at 0.05 level. Therefore, H<sub>0</sub> that there is no significant difference between mean stance score of male and female respondents about the role of sports in academic achievement is accepted. It means the stance of male and female respondents about role of sports in academic achievement are same.

**H<sub>0</sub>4: There is no significant impact of respondent's qualification on their perception regarding the role of sports in academic achievement**

Table 5 Results of One-way ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	983.255	3	302.179		.541
Within Groups	197722.9	227	354.301	.899	
Total	198499.2	330			

The above table is showing  $F(3,302) = .899, P = .541$  which means that there is no significant difference between the stance of participants regarding the role of sports in academic achievement of students. Thus the null hypothesis that there is no significant impact of respondent's qualification on their perception regarding the role of sports in academic achievement is hereby accepted.

#### IV. DISCUSSION

The current study was conducted with the hypothetical statement that respondents would consider that participation in sport has a positive effect on academic achievement of students at college level, which is confirmed by the gathered information. Participation in an organized sport program is considered an important tool for the overall development of students, and the principles that prepare students to excel in sport can contribute to academic achievement.

When we consider different questions pertaining to the role of sport in the academic achievement, almost all show that teachers, parents and students acknowledged that this role existed. The majority of participants, for example, 2.40 and 2.90 strongly agreed with the statements "Sports activities contribute to academic achievement" and "Sports participation has a positive influence on students' educational outcomes". The participants also admitted the role of sport in raising students' grade, test score and for students' success in their important domains of life. (Table 1).

As identified in the literature, various studies have considered the role of sport in improving students' academic performance. According to one study, athletes outperform non-athletes in any subject area examined by the High School and Beyond survey, with the impact differed by sex and ethnicity. (Cetin, 2015). A systematic review found evidence of positive associations between physical activity, memory, and academic achievement (Donnelly et al., 2016). According to the findings, school sports participation has strong link with academic achievement, positive body image perceptions, and self-esteem. (Wretman, 2017). The rhythmic gymnasts' academic achievement was statistically significantly higher than the sedentary community. (Polat, 2018). Higher math and spelling scores were also significantly correlated with a higher percentage of time spent doing MVPA (Szabo-Reed et al., 2019).

The time spent in sport activities was acknowledged by community members including teachers, parents and students as being a significant tool for academic achievement in our society, along with a clear viewpoint that skills and techniques students excel in sport contribute to their academic achievement. This raises a lot of questions about who is allowed to compete in sports, and who is not, and why. Even if this connection is not accurate, does the idea that participating in sports means you've learned to work hard give athletes an advantage in Pakistani promotion processes?

It is undeniable that participation in sports is an important source of holistic growth for its participants in all facets of life, no matter it is the social development (Gilchrist & Wheaton, 2017) or it is mental, psychological, intellectual (Hurley et al., 2017) or spiritual development (Noh & Shahdan, 2020) and emotional stability (Yeh et al., 2017), or even economic development (Di Palma, Tafuri, Ascione & Raiola, 2018). Education is a process that needs a lot of energies to be utilized adequately for real success. For the excessive and successful usage of energies but also getting out of fatigues. Sports and re-creative activities provide a very firm base for the restoration of the energies and prove helpful in extending the study hours to the maximum (Roddy, Pohle-Krauz & Geltz, 2017; Sanderson, DeRousie & Guistwite, 2018).

Participation in sports is linked in our culture to the perceptions of teachers and parents, who have the authority to authorize sports participation for their students and wards/children. If parents and teachers have a strong and optimistic view of sports and encourage their children to participate in them, then sport can prosper and participation levels can grow, allowing all to enjoy the benefits of sports participation. Otherwise, the level of participation in sport will dwindle in the long run. This research will provide information to concerned individuals about the positive role of sports in order to reassure them so that they can promote and support their children's participation in sports. This research can also be useful in finding deficiencies in the execution of sports activities so that they can be corrected in order to produce more favorable outcomes.

#### V. CONCLUSION

Based on data analysis, it can be interpreted that the majority of the participants acknowledged the effect of sport on students' academic at college level. Participants revealed that those sport activities are beneficial to the colleges' academic mission, students' academic emphasis, and students' ability to thrive academically. Therefore, it can be said that participation in these activities also improves youth's emotional or cognitive growth, as well as their grade point average and class test results. Further,

participation in sport has a positive impact on students' memory and concentration in the classroom. More research is required to determine and identify the precise relationship between sport and academic achievement, but the evidence so far strongly suggests that they are related. Indeed, the kind of sport and physical education program that leads to improved physical and social fitness and health are vital to the education and academic achievement of every boy and girl students.

### **Implications**

Many studies on the subject of sport participation have yielded useful information on the academic impacts it has on its participants. Athletes may experience both negative and positive consequences as a result of their participation. The data obtained in this study will be used to create additional data that will be useful to potential athletes in terms of positive progress.

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### **Conflict**

We have declared no conflict of interest.

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