

## The Data Analysis of Physical Activities & Sports Between the Participants and Non-Participants of Physical Education College Students

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### Abstract:

The regular performance of physical activities has lots of benefits in our lives. Exercise and physical activity during adolescence may positively effect on the physical fitness levels and body composition. If a person engages him/herself in physical activities will remain physically fit and can maintain healthy body composition which is the key of life. This research is based on male colleges of northern Punjab. There is total 112 male colleges in the northern Punjab from which 21 colleges were selected and 210 participants and non-participants were collected. Four physical activities were compared like flexibility, general endurance, long jump and speed. This research revealed that the participants have more stamina as compare to non-participants. This study also found that the flexibility, general endurance, long jump and speed was good in participants as compare to non-participants. Total number of participants were 210 and non-participants were 210. The mean score percentage of participants is 11.04 with standard deviation 10.582 and mean score percentage of non-participants is 6.92 with standard deviation 10.235.

**Keywords:**

Physical Activities, Sports, Exercise, Participant, Non-Participants

**Introduction:**

The main objective of the study COMPARATIVE ANALYSIS OF PHYSICAL ACTIVITIES BETWEEN THE PARTICIPANTS AND NON-PARTICIPANTS OF PHYSICAL EDUCATION COLLEGE STUDENTS. Any healthy lifestyle must include physical activity, and this applies to more than just physical well-being. Making a good connection between physical exercise and raising student accomplishment in the classroom could be the only way to demonstrate the value of exercise and physical education in our academic communities. Studies have discovered beneficial relationships between academic success. The academic success of students should demonstrate their readiness to begin post-compulsory education. However, it is unknown how much academic success affects starting post-compulsory education. When students started in post-compulsory education, we looked at the relationships between academic achievement and physical exercise. The union contract for New York City (NYC) states that the maximum number of pupils in the gym at one time for physical education in high school is 50, but there is currently no such restriction for younger grades. (NYC Teacher contract, 2018).

Tomprowski, P.D.; McCullick, B.; Pendleton, D.M.; Pesce, C. (2015), Understanding the effects of PA on students' mental activity, classroom behavior, and academic performance has received a lot of scholarly attention due to the significant negative effects on educational practices at the population level.

Exercise and physical activity during adolescence may positively effect on the physical fitness levels and body composition. If a person engages him/herself in physical activities will remain physically fit and can maintain healthy body composition which is the key of life (Ruiz et al., 2010).

Physical activity sort of motion that quickens your respiration and pulse rate is considered to be physically active. Your general well-being and health will benefit from physical activity. It provides advantages for people of all ages, such as lowering the chance of developing long-term illnesses, enhancing sleep, boosting power, and enhancing both one's physical and mental health.

According to WHO in 2018, any physical activity based on skeletal muscles that uses energy is considered to be intense exercise. Physical exercise includes all forms of movement, whether they are performed for fun, as a means of transit to and from destinations, or as part of work. Intense and moderate physical activity are both good for your health. The act of running, cycling, swimming, sports, physical recreation, and playing are all popular activities that everyone may undertake for enjoyment regardless of skill.

The following major elements, according to Martin (2010), were revealed by reviewing the research on "physical activity, fitness, and academic success" The overwhelming mostly of school-based, widely disseminated research in this area has discovered a beneficial relationship between kids' engagement in physical exercise and academic success. Caspersen's definition was somewhat modified in 2017 for the World Health Organization's (WHO) Global Strategy on Increasing Physical Activity. The WHO refers to a bodily movement that "requires energy spending" as opposed to activity that uses up energy.

Thomas, J. R., Nelson, J. K., & Silverman, S. J. (2015). Regular physical activity, such as riding a bike, participating in sports, or taking part in active leisure, has a favorable effect on well-being. It is better to exercise some than none.

People may simply increase their daily activity using simple approaches, which will help them attain the essential exercise levels. Lack of exercise is one of the key indicators of risk for illnesses that are not communicable death. Those who are not sufficiently or insufficiently active have a 22% to 32% greater risk of passing away than those who are suitably active.

#### **Physical exercise categories:**

Aerobic exercise, bone and muscle repairing, stretching, and strengthening bones are among the five basic categories of physical activity.

#### **Aerobic Exercise:**

Tinazci, C., EAlrefai, S., & Musa, O. (2019), Your legs and arms, as well as other big muscles, are moved during aerobic exercise. Aerobic exercise includes things like running, swimming, walking, biking, dancing, and performing jumping jacks. The term "endurance activity" also applies to aerobic exercise.

According to Tomporowski, P. D., Davis, C. L., Miller, P. H., & Naglieri, J. A. (2008), Your heart beats more quickly during aerobic exercise. Furthermore, this kind of exercise makes you breathe more heavily. Regular aerobic exercise strengthens and improves the function of both your lungs and your heart over time.

#### **Muscles-strengthening:**

According to the American College of Sports Medicine 2019, Exercise for muscle development is a voluntary endeavor that uses resistance bands, machines for weightlifting, hand-held dumbbells, or the weight of one's own body (such as push-ups or sit-ups).

Troiano RP, Berrigan D, Dodd KW (2017) described that, the developing field of muscle-strengthening exercise epidemiology is described in this current point of view. The worldwide physical activity recommendations, which previously prioritized aerobic physical activity (running, jogging, playing indoor games, etc.), have recently included a muscle-strengthening exercise to their list of recommended activities. First, we define this term and examine this inclusion.

#### **Presses with a standing dumbbell above:**

Thomas, J. R., Nelson, J. K., & Silverman, S. J. (2015), Compound workouts, which employ several muscles and joints, are the best type of exercise for those with busy schedules since they work on different areas of the body simultaneously. Freestanding overhead presses, which also strengthen your upper back as well as your core, are one of the best exercises for shoulders.

#### **Research methodology:**

This research is based on male colleges of northern Punjab. There is total 112 male colleges in the northern Punjab from which 21 colleges were selected according to equal proportion from each district. Data were gathered from physical education department of each college. The equal sample size of participants and non-participant (Ten students) were selected from each physical education department.

Table No:01 Total and Selected colleges from each tehsil according to number of colleges

Division	Districts	Total colleges	Total male colleges	Selected male colleges
Nankana	Sanglahill	12	1	1
	Nankana	8	2	0
	Shahkot	24	12	1
Sargodha	Sargodha	33	15	3
	Mianwali	15	6	1
Sahiwal	Okara	15	7	1
	Pakpattan	5	3	1
Rawalpindi	Rawalpindi	53	21	4
	Jhelum	12	6	1
Gujranwala	Sialkot	25	8	1
	Narowal	9	3	1
Faisalabad	Faisalabad	40	15	3
	Chiniot	9	4	1
	Jang	9		2
Total		288	112	21

#### Selected sample size for this study:

This study is based Bachelors in Art (B.A) and Bachelors in Science (B.Sc) colleges were considered. 21 male colleges were selected. 210 male participant and 210 male non-participant of physical education students at college level. The difficulty and complexities to the respondents were removed, prior to actual data collection. Ten participants and ten non-participants were selected from each college.

### Variables

The physical activities have various shapes in modern world. In the research four physical activities were selected like flexibility, general endurance, power and speed. The measurement for all activities were performed and their data were collected. Those tests tool and units are given below.

Test	Tool	Unit
Flexibility	Sit & reach box	Cm
Endurance	Jogging	F
Long jump	Standing Long Jump	F
Speed	200 m Running	Sec

### Statistical analysis for the data:

Present study had utilized the descriptive as well as inferential statistics. T-test was used for the comparison of physical activities data of participants and non-participants. The data was analyzed by using the (SPSS-23 version).

### Results of analysis:

The results of statistical tool t- tests are obtained and presented in table form. Their interpretation also provided below.

Table No: 2: Group statistics of flexibility participants and non-participants

Group Statistics				
Group	N	Mean	Std. Deviation	Std. Error Mean
Participants	210	11.04	10.582	.730
Non-participants	210	6.92	10.235	.706

Total number of participants were 210 and non-participants were 210. The mean score percentage of participants is 11.04 with standard deviation 10.582 and mean score percentage of non-participants is 6.92 with standard deviation 10.235.

Table No: 3: Comparison of speed between participants and non-participants

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.418	.519	4.054	418	.000	4.119	1.016	2.122	6.116
Equal variances not assumed			4.054	417.535	.000	4.119	1.016	2.122	6.116

It is evident that the  $t$ -value is 417.5, which is significant at the value of degree of freedom 998.  $P$ -value is less than specified level of significance ( $\alpha = 0.05$ ). It reflects that mean flexibility of participants and non-participants differ significantly.

Table No: 4: Group statistics of speed participants and non-participants

Group Statistics				
Group	N	Mean	Std. Deviation	Std. Error Mean
Participants	210	38.00	8.978	.620
Non-participants	210	18.38	4.684	.323

Total number of participants were 210 and non-participants were 210. The mean of general endurance of participants is 38 with standard deviation 8.978 and non-participants is 18.38 with standard deviation 4.684.

Table No: 5: Comparison of general endurance between participants and non-participants

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	145.460	.000	28.083	418	.000	19.624	.699	18.250	20.997
Equal variances not assumed			28.083	314.927	.000	19.624	.699	18.249	20.999

It is evident that the t value is 28.083, which is significant at the value of degree of freedom 418. P-value is less than specified level of significance ( $\alpha = 0.05$ ). It reflects that mean general endurance of participants and non-participants is not same.

**Table No:06: Group statistics of long jump participants and non-participants**

Group Statistics				
Group	N	Mean	Std. Deviation	Std. Error Mean
Participants	210	2.2695	.42424	.02928
Non-participants	210	1.8812	.20129	.01389

Total number of participants were 210 and non-participants were 210. The mean of long jump of participants is 2.2695 with standard deviation 0.42424 and non-participants is 1.8812 with standard deviation 0.1389.

**Table No:07: Comparison of long jump between participants and non-participants**

Independent Samples Test		
	Levene's Test for Equality of Variances	t-test for Equality of Means



	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	140.855	.000	11.981	418	.000	.38824	.03240	.32454	.45193
Equal variances not assumed			11.981	298.560	.000	.38824	.03240	.32447	.45201

It is evident that the t value is 11.981, which is significant at the value of degree of freedom 418. P-value is less than specified level of significance ( $\alpha = 0.05$ ). It reflects that mean long jump of participants and non-participants is different.

**Table No:08: Group statistics of speed participants and non-participants**

Group Statistics				
Group	N	Mean	Std. Deviation	Std. Error Mean
Participants	210	30.7364	3.35526	.23153
Non-participants	210	33.8021	4.81255	.33210

Total number of participants were 210 and non-participants were 210. The mean of speed of participants is 30.7364 with standard deviation 3.35526 and non-participants is 33.8021 with standard deviation 4.81255.

**Table No:09: Comparison of speed between participants and non-participants**

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
	41.330	.000	7.573	418	.000	-3.06571	.40484	3.86149	2.26993

Equal variances assumed									
Equal variances not assumed			7.573	373.348	.000	-3.06571	.40484	3.86177	2.26966

It is evident that the t value is 7.573, which is significant at the value of degree of freedom 418. P-value is less than specified level of significance ( $\alpha = 0.05$ ). It reflects that mean speed of participants and non-participants differ significantly.

#### Conclusion:

The study is conducted to test the levels of performing physical activities between the participant and non-participants of male students of physical education department. This research revealed that the participants have more stamina as compare to non-participants. This study also found that the flexibility, general endurance, long jump and speed was good in participants as compare to non-participants. The flexibility level of the participators was extremely better than non-participators. Participators were found efficient as compare to non-participators. Power of the both groups was not different, their power strength was same. Sports participation reported in a positive relationship with health and academic achievement.

Sports participation may improve cognitive health leading to improved academic achievement. Total number of participants were 210 and non-participants were 210. The mean score percentage of participants is 11.04 with standard deviation 10.582 and mean score percentage of non-participants is 6.92 with standard deviation 10.235.

Previous studies have provided evidence that sports participation has a positive association with cognitive and physical health. This study has examined the relationship between the sports and academic achievement.

#### Recommendations:

Many future studies are recommended based on this study's limitations and findings. For instance, a qualitative study is recommended to profoundly understand the physical activity

phenomenon among academic achievement. The qualitative part is essential in addition to the quantitative section. Future qualitative studies that focus on understanding the weak association between attitude and subjective norms with intention toward physical activity are also recommended. Furthermore, conducting this study at an international level to compare different Physical activity & sports would be beneficial to a better understanding of this phenomenon.

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