The Study of Relationship of Physical Fitness Components and Academic Achievements of Rural and Urban Girls of Gadchiroli District

Pankaj Chaudhary
Director of physical education Mohasinbahi Zaweri Arts, Commerce and Science College, Desaiganj (Wadsa), Maharashtra, India

Abstract

The mind and the body controversy seems to have been the concern of the philosophers since the day of Ancient Greece Kane States that, even in the process of thinking in which the use of the body seems to be reduced to minimum it is matter of common knowledge that of mistake can often be traced to bad health. A sound mind in sound body the problem is state as “The Study of Relationship of Physical Fitness Components and Academic Achievements of Rural and Urban Girls of Gadchiroli District”. To Study the relationship of physical fitness components and academic achievement of rural and urban. The study would help in the selection of brilliant students on the basis of physical fitness. It was hypothesized that there would be significant correlation between Academic achievement and physical fitness scores of rural girls and urban girls. The fitness score were converted to T-scores to make composite score. The study may be undertaken to find out the factors which adversely affects the academic achievement of student who are physically more fit and vice versa.

INTRODUCTION
The mind and the body controversy seems to have been the concern of the philosophers since the day of Ancient Greece Kane States that, even in the process of thinking in which the use of the body seems to be reduced to minimum it is matter of common knowledge that of mistake can often be traced to bad health. Intelligence seems to have acquired a board meaning. The abstract intelligence is the concern of researcher which means the ability to adapt to book. Intelligence tests have been most useful in the school situation. The aim of education is also the total and harmonious development of human being which includes the development of body mind and spirit. The modern concept of fitness means fitness of body and mind, due to body-mind relationship. Physical fitness is one aspect of total fitness. New aspect of fitness includes the mental,emotional,social as well as the physical aspects and all these components of total fitness play a significant role in living a fully and happy life. Study of freshmen at the University of Lowey reported a correlation between physical fitness score and grade point average. It seems reasonable to conclude that a certain level of organic functioning favor cadmic achievements and success in intellectual pursuits. It should also be noted that while research is not conclusive in supporting relationship between the mental and physical, there are some the relationship, yet some correlation are very low or even in significant. It appears therefore there is an urgent need for extending research efforts to find out the correlation between academic achievement and physical fitness of the students so that education as a whole can proceed on scientific lines. Physical fitness is the ability to lose, to bear up, to with stand stress and pressure under difficult circumstance where an unfelt person would quit. Physical fitness is more than being well or not being sick and extends
on a scale from abundant life. It is by and large agreed by Physical educators, physiologists, and physician’s etc. The three main components of physical fitness are muscular strength, muscular endurance and cardiovascular endurance. Many other components are also identified such as muscular power, speed; an agility, flexibility, coordination, balance and accuracy etc. These component are interrelated and not discrete, through each on contribute to physical fitness and has distinctive fitness.

STATEMENT OF THE PROBLEM
On the basis of philosophical point of view regarding body, mind relationship Greek philosopher-Plato, "A SOUND MIND IN A SOUND BODY” the problem is states as “The Study of Relationship of Physical Fitness Components and Academic Achievements of Rural and Urban Girls of Gadchiroli District”.

PURPOSE OF THE STUDY
1. This study has the following purpose to investing whether there is any relationship between academic achievement and physical fitness of the girls.
2. The other purpose oft the study is to investigate whether rural girls are very good in physical fitness than that in academic achievement and vice versa with urban girls.
3. To study the relationship of physical fitness components and academic achievements of rural and urban.

SIGNIFICANCE OF THE STUDY
1. The study would help in the selection of brilliant students on the basis of physical fitness.
2. This study will also help to know about the physical fitness of rural and urban girls.

HYPOTHESIS

It was hypothesized that there would be significant correlation between Academic achievement and physical fitness scores of rural girls and urban girls.

It was further hypothesized that rural girls are more in physical fitness than urban girls and urban girls are more in academic achievement than rural girls.

METHDOLOGY

Collection of Data

The statistical correlations of academic achievement with physical fitness of 120 female students belonging to different categories of schools under Gadchiroli district have been presented in this chapter. Subjects were divided on the basis of their level of academic achievement in to four groups.

Group 1. Below 45% of the marks.
Group 2. 45% to 59% of the marks.

Group 3. 60% to 74% of the marks.

Group 4. 75% and above of the marks.

The fitness scores were converted to T-score to make composite scores.

RESULT

TABLE – 1

CALULATION OF COEFFICIENT OF CORRELATION OF RURAL AREAS REGARDING PHYSICAL FITNESS AND ACADEMIC ACHIEVEMENT

<table>
<thead>
<tr>
<th>Below 45%</th>
<th>Below 60%</th>
<th>Below 75%</th>
<th>Above 45%</th>
</tr>
</thead>
<tbody>
<tr>
<td>r=0.29643</td>
<td>r=0.36854</td>
<td>r=-0.5159071</td>
<td>r=-0.45053</td>
</tr>
</tbody>
</table>

1. The coefficient of correlation of rural girls securing the percentage below 45% is 0.29643. This value .29699 lies between +.20 +.40 which shows the low correlation. So we come to the conclusion that there is relation between the academic achievement and physical fitness but it is low.

2. The coefficient of correlation of rural girls securing the percentage less then 60% is 0.36854. This value .36854 lies between +.20 +.40 which shows the low correlation. So we come to the conclusion that there is relation between the academic achievement and physical fitness but it is low.

3. The coefficient of correlation of rural girls securing the percentage below then 75% is -0.5159071. This value lies between +.40 +.70 which shows the –ve correlation. So we come to the conclusion that there some relation between the academic achievement and physical fitness.

4. The coefficient of correlation of rural girls securing the percentage above 75% is -0.45053. This value -.44593 lies between +.40 +.70 which shows the –ve correlation. So we come to the conclusion that there some relation between the academic achievement and physical fitness.

TABLE – 2

CALULATION OF COEFFICIENT OF CORRELATION OF URBAN AREAS REGARDING PHYSICAL FITNESS AND ACADEMIC ACHIEVEMENT

<table>
<thead>
<tr>
<th>Below 45%</th>
<th>Below 60%</th>
<th>Below 75%</th>
<th>Above 45%</th>
</tr>
</thead>
<tbody>
<tr>
<td>r=0.00032</td>
<td>r=0.1081</td>
<td>r=-0.288738</td>
<td>r= 0.00033</td>
</tr>
</tbody>
</table>
1. The coefficient of correlation of urban girls securing the percentage below 45% is 0.00032. This value 0.0003 does not show any correlation. So we come to the conclusion that there is no relation between the academic achievement and physical fitness scores for urban girls.

2. The coefficient of correlation of urban girls securing the percentage less than 60% is 0.1081. This value 0.1081 lies between +.00 +.20 which shows very little correlation. So we come to the conclusion that there is relation between the academic achievement and physical fitness but it is very low.

3. The coefficient of correlation of urban girls securing the percentage below then 75% is -.288738. This value -.288738 lies between +.20 +.40 which shows low correlation. So we come to the conclusion that there is –ve relation between the academic achievement and physical fitness.

4. The coefficient of correlation of urban girls securing the percentage above 75% is 0.0003. This value 0.0003 does not show any correlation. So we come to the conclusion that there is no relation between the academic achievement and physical fitness.

### TABLE – 3

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>S.D.</th>
<th>M.D.</th>
<th>S.E.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>300.007</td>
<td>33.327</td>
<td>0.0013</td>
<td>11.04</td>
<td>0.00021</td>
</tr>
<tr>
<td>Urban</td>
<td>299.993</td>
<td>36.810</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The value of ‘t’ at 28 degree of freedom and at .05 level of confidence is 2.05. Here the calculated’ is 0.00021 which is less than the table value of 2.048 at 0.05 level of confidence. So we come to the conclusion that there is no significant difference between the rural and urban girls having academic score less than 45%.

### TABLE – 4

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>S.D.</th>
<th>M.D.</th>
<th>S.E.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>300.007</td>
<td>29.515</td>
<td>0.6713</td>
<td>11.001</td>
<td>0.000061</td>
</tr>
<tr>
<td>Urban</td>
<td>300.000</td>
<td>30.729</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The value of ‘t’ at 28 degree of freedom and at .05 level of confidence is 2.05. Here the calculated’ is 0.716. So value of ‘t’ 0.000061 is less then the level of confidence. We come to the conclusion that there is no significant difference between the rural and urban girls having academic score less than 45%-60%.

**TABLE – 5**

**COMPARISON OF PHYSICAL FITNESS OF RURAL AND URBAN GIRLS HAVING ACADEMIC SCORE BETWEEN 60-75%**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>S.D.</th>
<th>M.D.</th>
<th>S.E.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>300.0007</td>
<td>28.497</td>
<td>0.00</td>
<td>10.48</td>
<td>0.00</td>
</tr>
<tr>
<td>Urban</td>
<td>300.0000</td>
<td>28.921</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The value of ‘t’ at 28 degree of freedom and at .05 level of confidence is 2.05. Here the calculated’ is 0.00 which is less then the table value of 2.048 at 0.05 level of confidence. We come to the conclusion that there is no significant difference between the rural and urban girls having academic score less than 60%-75%.

**TABLE – 6**

**COMPARISON OF PHYSICAL FITNESS OF RURAL AND URBAN GIRLS HAVING ACADEMIC SCORE ABOVE 75%**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>S.D.</th>
<th>M.D.</th>
<th>S.E.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>300.0007</td>
<td>26.2693</td>
<td>0.0007</td>
<td>10.015</td>
<td>0.00006</td>
</tr>
<tr>
<td>Urban</td>
<td>300.0000</td>
<td>28.5433</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The value of ‘t’ at 28 degree of freedom and at .05 level of confidence is 2.05. Here the calculated’ is 0.00006 which is less then the table value of 2.048 at 0.05 level of confidence. We come to the conclusion that there is no significant difference between the rural and urban girls having academic score less than 75%.

Comparison of physical fitness of Rural and Urban girls according to their academic grade was worked out as well as the coefficient of correlation was calculated and 't' test was also applied.
TESTING OF HYPOTHESIS:

There is a significant correlation between academic achievement and physical fitness scores of rural girls and urban girls i.e. our first hypothesis is correct. Our 2nd hypothesis i.e. rural girls are more in physical fitness than urban girls is discarded since the school is in rural area but meant for urban students only.

CONCLUSION

1. In Table-1, we found that there is a relation between the academic achievement and physical fitness but it is low for the rural girls below 45%.
2. The rural girls below 60% we come to the conclusion that there is relation Between the academic achievement and physical fitness but it is low.
3. The rural girls below 75% we come to the conclusion that the value shows –ve correlation but -.5159 lies between +.40 +.70. So we can say there is some relation between the achievement and physical fitness.
4. The rural girls above 75% we come to the conclusion that there some relation between academic and physical fitness.

In Table-2, we found coefficient of correlation urban girls below 45%. Is 0.0003. we come to the conclusion that there is no relation between the academic achievement and physical fitness scores for urban girls

5. Below 60% is academic achievement shows that there is a relation between academic achievement and physical fitness but it is very little.
6. Below 75% in academic achievement for urban girls shows that there is a low relation between academic achievement and physical fitness.
7. The above 75% in academic achievement for urban girls shows that there is a no relation between academic achievement and physical fitness.
8. In Table-3, ‘t’ test was applied for the comparison of physical fitness of rural and urban girls below 45%we come to the conclusion that there is No significant difference between the rural and urban.
9. In Table-4, we again come to the conclusion that there is no significant difference between the rural and urban having academic scores less than 60%.
10. In Table-5, after finding the value of ‘t’ is less than is levels confidence So there is no significant difference between the rural and urban having Academic scores less than 70%.
11. In Table-6, after finding the value of ‘t’ is less than is levels confidence So there is no significant difference between the rural and urban having Academic scores less than 75%.

RECOMMENDATION

1. Similar study may be conducted on boy’s students also.
2. Similar study, may be extended to the middle and primary school Students.
3. Similar study, may under taken on students studying in colleges and
Professional college of physical education.

4. The study may be undertaken to find out the factors which adversely affects the academic achievement of students who are physically more fit. And vice versa.

5. The study may be undertaken to seek the factors which may bring about the Equilibrium between the academic achievement and physical fitness for Optimum development of the child in both the field.

Reference


