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Comparative study of selected physical fitness components between urban and rural college level students

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Abstract

The researcher was the student of post graduate department of physical education and he observes physical fitness among Rural and Urban area students in Rehmat-Alam College of Education Shopian (J&K) by taking three tests on them. The test taken by him are muscular endurance, flexibility and reaction time test. That is why the researcher thinks about the physical fitness in physical education. Hence the researcher has undertaken the study, "Comparative Study of Selected Physical Fitness Components between Urban and Rural College Level Students" For the present study, the subjects were selected from Rehmat-Alam College of Education Shopian (J&K). In order to fulfill the study, 40 subjects were selected (20 from rural area and 20 from urban area). The subjects were selected by available sampling method. The data was collected by researcher on endurance, flexibility and reaction time test in university gym of Rehmat-Alam College of Education Shopian (J&K).

In the beginning of this study it was hypothesized that, there might be significant difference in muscular endurance, flexibility and reaction time between Rural and urban college level students. In overall Numerical and statistical analysis of physical fitness variables among Rural and urban students. "It was found that there was significant difference in muscular endurance between Rural and urban college level student". Therefore, the researcher hypotheses were accepted. "It was also found that there was insignificant difference in flexibility and reaction time between Rural and urban college level student". Therefore, the researcher hypotheses were rejected.

Keywords: Comparative study, physical fitness, urban and rural college etc.

Introduction

Physical education in India is often a neglected part of education and many schools across the country do not realize the importance of having physical education as a part of the system. There are many benefits that are available from physical education and there are a few schools that have managed to strike the balance between academics and physical fitness.

Physical Fitness

The ability to meet the demands of daily living with energy to spare, possessing the functional capacities to do not only task that are required, but also those activities that one enjoys.

Fitness is sometimes also described in quantitative terms using measures such as heart rate, endurance, blood pressure or blood cholesterol level. This valuable measure may be indicative of one's general state of health and thus are certainly related to fitness.

Today, there is a growing emphasis on looking good, feeling and living longer. Increasingly, scientific evidence tells that one of the keys to achieving these ideals is fitness and exercise. Getting moving is a challenge because today physical activity is less a part of our daily lives. There are fewer jobs that require physical exertion. We have become a nation of observers with more people (including children) spending their leisure time pursuing just that – leisure. Consequently, statistics show that obesity and overweight, the problems that come with high blood pressure, diabetes, cardiac arrest, etc. are on the rise. But statistics also show that preventive medicine pays off, so one should not wait until his/her doctor gives an ultimatum. Everyone must take the initiative to get active now. The decision to carry out a physical fitness program cannot be taken lightly. It requires a lifelong commitment of time and effort. Exercise must become one of those things that you do without question, like bathing and brushing your teeth.

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Unless you are convinced of the benefits of fitness and the risks of unfitness, you will not succeed. It has been realized that fitness adds not only years to one's life, but life to one's years.

Benefits of Physical Activity

Regular physical activity is one of the most important things you can do for your health. It can help:

- i) Control your weight
- ii) Reduce your risk of cardiovascular disease
- iii) Reduce your risk for type 2 diabetes and metabolic syndrome
- iv) Reduce your risk of some cancers
- v) Strengthen your bones and muscles
- vi) Improve your mental health and mood
- vii) Improve your ability to do daily activities and prevent falls, if you're an older adult

Urban and Urban culture

In most cases, urban is defined from its comparable rural areas. Clark (1996: 190) argues that the designation of areas as urban and rural is closely bound up with historical, political, cultural and administrative consideration. He identifies wide-range criteria that can be used to define urban, including size of population, population density, distance between built-up areas, predominant type of economic activity, conformity to legal or administrative status, and other characteristics such as specific services and facilities. In addition, urban is a descriptive label which is used to describe both a particular type of place and a set of distinctive patterns of association, values and behavior (Clark, 1996: 100). The latter refers to urban culture as any of the behavioral patterns of the various types of cities and urban areas, both past and present. Thus, it is the culture of the cities that have behaviors and cultural elements separating them from otherwise comparable rural areas.

It has been recognized that cities around the world have evolved into a distinctive type of urban with a whole fabric modern facilities, appearances and life-styles reflecting the notion of modern life. Despite infinite and intricate variations of tradition and culture that exist within and between nations, cities appear to have and to be acquiring more in common than they have the differences (Clark, 1996: 2). Similarities can be observed in terms of physical appearance, social and economic structure and organization as well as cultural features. In his study in Shanghai, Lee (E:\downloads\urbanculture\Shanghai Modern Reflections on Urban Culture in China.htm) shows that while it is obviously determined by economic forces, urban culture is itself the result of a process of both production and consumption. He observes that the process involves the growth of both socioeconomic institutions and new forms of cultural activity and expression made possible by the appearance of new public structures and spaces for urban cultural production and consumption. Urban culture which nurtures originally in the urban environments is no longer exclusive to urban places.

Based on the work of Wallerstein's world system theory, Clark (1996: 6-10) argues further that the world-economy is organized around and through the cities and a case can be made that global society is increasingly urban in character. Cities are points of production and reproduction of urban culture, meaning that the culture has been drawn, shared, spread and adopted by population from various backgrounds both inside and outside city and national boundaries. In this case, the concept of urbanism applies; it is that of a set of

lifestyles, a way of life, which arises in cities that can be extended and exported to distant destination well beyond the city –both within the country and across the world- via media of print, film, tape, disk, radio and television. The following sections deal with the links urban culture and urban family with a special attention on specific role of urban family as a site of cultural learning.

Rural Area

Rural areas or the country or countryside are areas of land that are not urbanized, though when large areas are described, country towns and smaller cities will be included. They have a low population density, and typically much of the land is devoted to agriculture and there may be less air and water pollution than in an urban area. The degree to which areas of wilderness are included in the term varies; very large wilderness areas are not likely to be described by the term in most contexts.

In most parts of the world rural areas have been declining since the 19th century or earlier, both as a proportion of land area, and in terms of the proportion of the population living in them. Urbanization encroaches on rural land, and the mechanization of agriculture has reduced the number of workers needed to work the land, while alternative employment is typically easier to obtain in cities. In parts of the developed world urban sprawl has greatly reduced the areas that can be called rural, and land use planning measures are used to protect the character of rural areas in various ways.

Significance of the study

1. The study may be helpful to teachers and Students.
2. The findings of this study would assist in designing suitable academic program to improve physical fitness.

Objectives of the study

- i) The primary objective of the study was to compare muscular endurance between rural and urban area of students.
- ii) The secondary objective of the study was to compare flexibility between rural and urban area of students.
- iii) The third objective of the study was to compare reaction time between rural and urban area of students.

Methodology

As every research demands a systematic method and procedure likewise this chapter adopts the following procedures including information regarding source of data, sampling method, selection of subjects, criterion measures, selection of test, description of test and collection of data etc. A research become successful accompanied and supported by some reliable and authentic data. The statistical analysis of the gathered data provides a well-knit picture of a complete and successful hypothesis as pre-settled by the researcher. The chapter has been divided into the following headings:

- i) Source of data
- ii) Selection of subjects
- iii) Collection of the data
- iv) Administration of the test
- v) Statistical Analysis

Source of data

The data pertaining to this study were collected from the physical education students of Rehmat-Alam College Of Education Anantnag. (J&K)

Selection of Subject

The subjects were selected in Rehmat-Alam College of Education Anantnag. (J&k), Total 40 subjects were selected for the presented studies and their age is ranged from 18-28 years.

Collection of data

The data pertaining to the study was collected by administering the tests for the selected variables. Before Collection of data, the subjects were given a chance to practice the prescribed tests so that they should become familiar with the tests and know exactly what is to be done to ensure uniform testing condition the subjects was tested during morning and data was collected.

Selections of Variables

The following variables were selected

1. Muscular endurance
2. Flexibility
3. Reaction time

Administration of the test

Bend and reach

Purpose: To measure the flexibility of the back and leg (hamstring) muscles.

Equipment: A testing box or a flex measure and a yardstick.

Scoring: Each subject is given three trials and the highest score nearest to an inch is recorded and 10 inches are subtracted from the recorded reading.

Bent knee sit-ups

Purpose: To measure the muscle strength and endurance.

Equipment: A mat for each subject & stopwatch.

Scoring: Complete sit ups in one minute will be the score of the test.

Reaction time

Purpose: to measure reaction time, hand-eye quickness and attentiveness.

Equipment: 1-meter-long ruler or Yardstick, calculator

Scoring: Calculate the average distance the meterstick fell. Use the table below to determine how long it took the ruler to fall the measured distance (distance in cm, time in seconds). The table is based on the following formula, where d = the distance the ruler fell in meters, g = the acceleration of gravity (9.8 m/s²), and t = the time the ruler was falling (seconds).

Statistical analysis

For the analysis of data mean, standard deviation and t- ratio were used to compare physical fitness between urban and rural inter-collegiate students. The level of significance was setup at 0.05.

Formula for mean, standard deviation and t-ratio are as below.

$$M = \frac{\sum X}{N}$$

$$S.D = \sqrt{\frac{\sum X^2}{N}}$$

$$T\text{-Ratio} = \frac{M_1 - M_2}{\text{Critical ratio}}$$

Analysis of the Data and Results of the Study

For the analysis of Physical fitness variables, Urban and Rural area students in Rehmat-Alam College of Education Shopian (J&K) were selected for the study, who was instructed to give the true response for the selected test, sit-ups, flexibility and reaction time were used. After collecting the data, the mean and standard deviation of Urban and Rural area students group were found out and t- test value was calculated in order to find the Physical fitness difference between Urban and Rural area students of Rehmat-Alam College of Education Shopian. (J&K)

Table 1: Shows statistical comparison in muscular endurance between Rural and urban area students

Group	N	Mean	S.D	D.O.F	T-ratio
Rural	20	30.35	4.00	38	2.76
Urban	20	36.8	9.66		

Mean of Rural group =30.35 which is lesser than the mean of Urban group =36.8, so the mean difference was found as 6.45. To check the significant difference between Rural and Urban group, the data was again analyzed by applying t test. Before applying t test, standard deviation was calculated between Rural and Urban group. Where S.D. of Rural group =4.00 and S.D. of Urban group=9.66 and the calculated value of 't' where found 2.76 which was greater than tabulated t=2.0244at 0.05 level of significance. This shows that there was significant difference in Sit-ups between Rural and Urban group, so the hypothesis was accepted.

Table 2: Shows statistical comparison in Flexibility between Rural and urban area students

Group	N	Mean	S.D	D.O.F	T-ratio
Rural	20	7.75	2.82	38	1.07
Urban	20	6.25	5.59		

Mean of Rural group =7.75which is greater than the mean of Urban group =6.25, so the mean difference was found as 1.5. To check the significant difference between Rural and Urban group, the data was again analyzed by applying t test. Before applying t test, standard deviation was calculated between Rural and Urban group. Where S.D. of Rural group =2.82 and S.D. of Urban group=5.59and the calculated value of 't' where found 1.07 which was lesser than tabulated t=2.0244at 0.05 level of significance. This shows that there was insignificant difference in Flexibility between Rural and Urban group, so the hypothesis was rejected.

Table 3: Shows statistical comparison in Reaction time between Rural and urban area students

Group	N	Mean	S.D	D.O.F	T-ratio
Rural	20	13.8	2.62	38	1.27
Urban	20	15.1	3.75		

Mean of Rural group =13.8which is lesser than the mean of Urban group =15.1, so the mean difference was found as 1.3. To check the significant difference between Rural and Urban group, the data was again analyzed by applying t test. Before applying t test, standard deviation was calculated between Rural and Urban group. Where S.D. of Rural group =2.62 and S.D. of Urban group=3.75and the calculated value of 't' where found 1.27 which was lesser than tabulated t=2.0244at 0.05 level of significance. This shows that there was insignificant difference in Reaction time between Rural and Urban group, so the hypothesis was rejected.

Summary

Physical education is that part of general education program which is concerned with growth, development and education of children through the medium of muscular activities. Physical education helps in the development of physically, mentally, emotionally and moral development of the child. Physical education is that phase of education concerned with the teaching of skills, acquisition of knowledge and development of attitudes through human movement. Most public schools, colleges, and universities recognize the importance of physical education by making it part of

required curriculum. This recognition is according to physical education by many nations throughout the world.

Conclusion

- i) Within the limitations of the study and from the statistical analysis the following conclusion is drawn.
- ii) There was insignificant difference in flexibility among Rural and urban college level students.
- iii) There was significant difference in muscular endurance among Rural and urban college level students.
- iv) There was insignificant difference in reaction time among Rural and urban college level students.

Recommendation of the study

1. This study may helpful for the current Post graduate students.
2. The study will be helpful to understand the importance of physical education for mankind.
3. The study will be helpful for the students in the competitive sports.

The study will be held on the different subjects students also.

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