

**RESEARCH PAPER****Study of Anthropometric Measurements (Weight and Height) Amongst Early Adolescent Boys in Rural and Urban Areas of Srinagar District of Jammu & Kashmir****Nilesh A. Lohar**

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Email: dr.nileshlohardpeum@gmail.comReceived: 27th October 2017, Revised: 14th November 2017, Accepted: 20th November 2017**ABSTRACT**

Anthropometry has played a determining role in sports counseling, talent selection, talent identification and guidance for nutritional intake in determining parameters for health related physical fitness. The developmental stages comprises of infancy, childhood, puberty, adolescence and adulthood. There are four characteristics stages of growth from birth to adult: Rapid growth in infancy and early childhood, slow steady growth in middle childhood, rapid growth during puberty, gradual slowing down of growth in adolescence until adult height is reached. Physical fitness helps in developing a positive attitude towards body and helps the child to remain concerned and highly motivated to maintain or improve his individual fitness. For identification of places which would qualify to be classified as 'urban' all villages, which, as per the 2001 Census had a population of 4,000 and above, a population density of 400 persons per sq. km. and having at least 75 per cent of male working population engaged in non-agricultural activity were considered. An area is considered 'Rural' if it is not classified as 'Urban' as per the above definition. The Researcher has undertaken a comprehensive survey comparing the anthropometric measurements and physical fitness levels amongst the Early Adolescent age, 50 students each from rural and urban areas of Srinagar district of Jammu and Kashmir. The data was analyzed using independent Factorial ANOVA test. In the early adolescent age group the rural adolescent age group seems to have significant advantage in the anthropometric measurements and physical fitness over the urban adolescent age group. In Srinagar District, the Early Adolescent age boys show significant difference in the Gross Body Measurements variables, viz. Weight and Height between Rural and Urban areas.

Key words: Anthropometry, Physical fitness variables, Rural, Urban, Early Adolescent age

INTRODUCTION

The society in modern times provides a number of challenges that test the knowledge acquired by human beings. The human race comprises of different ethnic groups, each ethnic group provides unique features that differ with ethnicity and geographical location. The geographical location is an indicator that influences the general environmental conditions in which the humans are structured and develops. The development of the human being is the result of the type of diet, socio-cultural and political environment. As children grow various groups of people become more or less important. Significant groups and individuals are sometimes more important because of the powerful influence they can have on children. Significant others include parents, teachers, and other children, all of whom may have different attitudes towards a child. The information and changing situations received from these different sources means that children frequently have to adapt their image of themselves. The exposure to different adults and other children allows them to fit according to the needs becomes important. As they mature they understand better how to get on with others.

The word Anthropometry is derived from the Greek word 'Anthropo' meaning 'Human' and 'Metron' meaning 'Measurement' (Gorstein, *et. al.*, 1994). It includes a range of human body measurement such as Weight, Height, Skin fold thickness, Circumferences, Diameters, and Length measurements of the body segments. Anthropometric measurements has played a very significant role in sports counseling, talent selection, talent identification, and guidance for nutritional intake in determining parameters for health related physical fitness.

Fitness is an individual matter which characterizes the degree to which the person is able to function. It means the ability of each person to live with his potential most effectively. According to

Kirchner, 'the ability to function depends up on physical, mental, emotional and social components of fitness, all of which are related to each other and mutually interdependent.'

Play and sport is not necessarily the same thing and play has different functions for adults and children. Playing as far as adults are concerned means relaxing or taking time away from work and possibly taking some recreation while for children it provides unique opportunities and interesting learning experiences. Children should live for long periods in the world of play that provides a pathway for transforming their life upward from childhood to adulthood. Competition is a form of comparison and means different things to the child than to the adult.

Jammu and Kashmir occupies a unique position lying in the northern most part of India which is mostly situated in the Himalayan mountain range. The state of Jammu and Kashmir is bounded with Himachal Pradesh and Punjab to the south, Pakistan to the west, Afghanistan to the North and China to the North-East. Some of its territory was forcibly captured by Pakistan, which is called Pakistan occupied Kashmir (PoK). The geographical location of the state of Jammu and Kashmir is situated between 32° 15" and 37° 05" north latitudes and 72° 35" and 83° 20" east longitudes geographically. The state of Jammu and Kashmir covers total surface area of about 2,22,236 sq. km, the urban population of the state of Jammu and Kashmir is 27.21% and the rural population is 72.79%.

RURAL-URBAN AREAS

While classifying places as Rural and Urban areas, as per the 2001 Census, the areas that would qualify to be classified as 'urban' all villages, which, had a population of 4,000 and above, and population density of 400 persons per sq. km. Another criteria, is that at least 75 per cent of the male working population should be engaged in non-agricultural activity. An area is considered 'Rural' if it is not classified as 'Urban' as per the given definition below:

1. The areas such as municipality, corporation, cantonment board or notified town area committee, etc.
2. A place is considered as Rural if the following three criteria are satisfied simultaneously:
 - a. The area has a minimum population of 5,000
 - b. At least 75 per cent of male working population are engaged in agricultural pursuits
 - c. Has density of population of at least 400 per sq. km or 1,000 per sq. mile

RATIONALE OF THE STUDY

Physical fitness is the capacity of an individual to do work effectively with joy and pleasure. Human beings come in all shapes and sizes and have different skin colors, but their bodies all work in exactly the same way. In children, the anthropometric measurements shows the health status of child and can act as an indicator to assess the health, work capacity and cognitive function of children. These measurements help in the early stage of children, as this period experiences physical, mental, emotional and social change in a child. Physical fitness at the childhood stage has important benefits, as it is reflected in the later stage of adulthood. The individual undergoes the following developmental stages that comprises of infancy, childhood, puberty, adolescence and adulthood. The growth from birth to adult can be characterized into four stages: Rapid growth in infancy and early childhood, slow steady growth in middle childhood, rapid growth during puberty that leads to gradual slowing down of growth in adolescence until adult height is reached. Throughout the world, anthropometric characteristics and physical fitness levels are considered to guide any individual to take up any physical activity or sports.

AIMS AND OBJECTIVES OF THE STUDY

1. To find out the differences in anthropometric measurements between the rural and urban Early Adolescent boys of Jammu and Kashmir.
2. To find out the differences in anthropometric measurements between the rural and urban Middle Adolescent boys of Jammu and Kashmir.
3. To examine the differences in the physical fitness between the rural and urban Early Adolescent boys of Jammu and Kashmir.

4. To examine the differences in the physical fitness between the rural and urban Middle Adolescent boys of Jammu and Kashmir.

SIGNIFICANCE OF THE STUDY

The study has the significance in following ways

1. The finding of this study might help in selecting the anthropometric variables for sports amongst rural and urban adolescent boys.
2. The study may also help in comparing anthropometric characteristics and physical fitness standard of rural and urban adolescent boys.
3. The findings of this study are likely to provide criteria for selecting potential beginners for different sports from rural and urban areas.
4. The results of the study would add new objectives and interpretations to the literature, which would be helpful to physical educators, trainers, and coaches.
5. The findings of the study would be helpful for government while making policies regarding sports promotion, health and fitness programs.

HYPOTHESIS OF THE STUDY

H₀₀₁. There is no significant difference between rural and urban areas in the Anthropometric variables of Early Adolescent Boys of Srinagar district.

H₁₁. There is no significant difference between rural and urban areas in the Anthropometric variables of Early Adolescent Boys of Srinagar district.

METHODOLOGY

In this work, the Researcher has tried to collect the Anthropometric Measurements and Physical fitness levels of Adolescent Boys in Rural and Urban Areas of Jammu and Kashmir. The Researcher visited three Districts each of Jammu Division and Kashmir Division respectively. In total six districts were covered for collecting the required data from the State of Jammu and Kashmir, which are mentioned below:

1. Jammu Division: Doda, Kishtwar, Kathua.
2. Kashmir Division: Kulgam, Srinagar, Ganderbal.
3. The sample collected from the six districts of Jammu and Kashmir has been categorized into two groups.
4. Early Adolescent age (E.A.A) 10 to14 Years.
5. Middle Adolescent age (M.A.A) 15 to17 Years.

TOOLS OF DATA COLLECTION

The tools for Anthropometric measurements and Physical fitness variables was done, keeping in view the availability of equipment, acceptability to the subjects, feasibility of tests, the legitimate time that could be devoted for tests and after consultation with experts. The following Anthropometric Measurements (Weight) was collected by using Portable Weighing Machine in Kgs. The subject stands erect on the platform of the balance with equal weight on both feet. The machine was checked for alignment of zero error, before asking the subject to stand on its platform and after the subject gets down. The maximum height of the individual is taken by asking him to stand erect, barefooted on a plain horizontal surface against a wall, with his heels, back and head touching the wall, the subject is requested to stretch the body upwards as much as possible without his heels leaving the ground. The subject is placed in front of the anthropometer rod and the cross bar of the anthropometer rod is adjusted so that its lower edge touches the highest point of the subject's head.

STATISTICAL TECHNIQUE

The data has been analyzed using independent Factorial ANOVA test with online Vassar stats Computational package to test this hypothesis as shown in the following table.

Table 1: 2x2 Factorial ANOVA Summary for Gross Body Measurements variables, viz. Weight & Height of Rural and Urban boys of Early Adolescent age in Srinagar District

ANOVA Summary					
Source	SS	df	MS	F	P
Rows	334.89	1	334.89	4.9	0.0292
Columns	327985.29	1	327985.29	4800.9	<.0001
r x c	90.25	1	90.25	1.32	0.2534
Error	6558.48	96	68.32		
Total	334968.91	99			

INTERPRETATION

The observed F- ratio $F(1,96)= 1.32$ is greater than the tabulated F- ratio $p=0.2534$ ($p>.05$) we accept the null hypothesis that there is no significant difference between the interaction of Rural boys and Urban boys of Early Adolescent age in Srinagar District with respect to Gross Body Measurements variables. The observed F- ratio $F(1,96)= 4.9$ is lesser than the tabulated F- ratio $p=0.0292$ ($p<.05$) we reject the null hypothesis that there is no significant difference between the Rural boys and Urban boys with respect to Gross Body Measurements variables. The observed F- ratio $F(1,96)= 4800.9$ is lesser than the tabulated F- ratio $p<.0001$ ($p<.05$) we reject the null hypothesis that there is no significant difference within the Gross Body Measurements variables, viz. Weight and Height of Rural boys and Urban boys of Early Adolescent age in Srinagar District.

CONCLUSION

In Srinagar District, the Early Adolescent age boys show significant difference in the Gross Body Measurements variables, viz. Weight and Height between Rural and Urban areas.

SUGGESTIONS

1. The same Anthropometric measurements and Physical Fitness variables may be used for different districts of Jammu and Kashmir.
2. The same Anthropometric measurements and Physical Fitness variables may be used for different districts of various States in India.
3. Different Anthropometric measurements and Physical Fitness variables may be used for different districts of Jammu and Kashmir.
4. Different Anthropometric measurements and Physical Fitness variables may be used for different districts of various States in India.
5. The same Anthropometric measurements and Physical Fitness variables may be used for suggesting different sports disciplines in the different districts of Jammu and Kashmir.
6. The same Anthropometric measurements and Physical Fitness variables may be used for suggesting different sports disciplines in the different districts of various States in India.
7. Different Anthropometric measurements and Physical Fitness variables may be used for suggesting different sports disciplines in the different districts of Jammu and Kashmir.
8. Different Anthropometric measurements and Physical Fitness variables may be used for suggesting different sports disciplines in the different districts of various States in India.

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