

## Analytical Study of Health Related Fitness of Rural, Urban and Slum Boys

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### Abstract

The purpose of the study was to find out the difference of health related fitness of rural, urban and slum boys. The samples were selected randomly from district Patiala, Punjab. Total one hundred fifty (n=150) subjects were selected, 50 from rural area, 50 from urban area and 50 from slum area. The age of subjects ranged between 12 to 17 years. The study aimed at studying speed, agility, flexibility and explosive strength of rural, urban and slum boys.

**KEYWORDS:** Health related fitness, rural, urban, slum, speed, agility, flexibility, explosive strength.

### INTRODUCTION

Activity is the basis of life. It may be defined as movement, which is born with living beings. Life was characterized by it or it is a play, which interest quality in the germ plasma of every man. It is a key factor of physical fitness. The health related fitness and performance related fitness is well known to sports scientists. Both are influenced by several factors namely by bi-cultural and bi-social one. This leads to the physical fitness of sportsman. The definition of health-related fitness involves exercise activities that you do in order to try to improve your physical health and stay healthy, particularly in the categories of cardiovascular endurance, muscular strength, flexibility, muscular endurance and body composition. World Health Organization defines health as ‘‘a state of complete physical, mental and social wellbeing, not merely the absence of diseases’’. Being physically fit means living at our fullest physical potential.

According to **Tancred (1987)** ‘‘Health related fitness is the ability to perform strenuous activity without excessive fatigue, showing evidence of traits that limit the risks of developing diseases and disorders which affect a person’s functional capacity. Health and physical fitness is important to everyone and should be stressed by physical educators and medical people alike.’’ Fitness is closely associated with good health. In the past health meant only absence of diseases but today we have much broader component of total health. **Sandhu (1983)** compared rural and urban students of Amritsar district and found that rural students were superior to urban students. ). **Weinreb et al. (2002)** examined the independent contribution of child hunger on children’s physical and mental health and academic functioning, when controlling for a range of environmental and maternal factor. After controlling for housing status, mother’s distress, and stressful life events, severe child hunger was also associated with higher reported anxiety/depression among school-aged children. **Andrews (1976)** undertook a comparative study of physical fitness of South African and Canadian boys. One-minute speed sit-ups, standing broad jump, shuttle run, flexed arm hang, 50 yards dash and 600 yards run/walk test variables

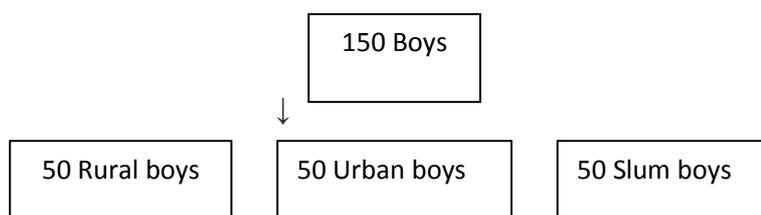
were administered. It was found that the South African boys are significantly superior in physical fitness level than Canadian boys. **Grant R, et al. (2007)** The authors' data suggest that the gap between the health status of homeless children and housed children in minority, low-income families is narrowing. Studies of the health status of homeless children allow a window into the health status of medically underserved children whose needs may not be readily documented because of their lack of access to the health care system. Nutrition often suffers as a result of inadequate access to nutritious food and cooking facilities in shelters, as indicated by the high rate of iron-deficiency anemia among very young children. These conditions seem to be exacerbated by the specific conditions associated with homeless shelter life. **Martins et al. (2010)** studied a comprehensive meta-analysis of the relation between emotional intelligence and health and showed that emotional intelligence is associated with better health. The weighted average association with mental ( $\bar{r}+0.36$ ) and psychosomatic health ( $\bar{r}+0.33$ ) was higher, than the association with physical health ( $\bar{r}+0.27$ ).

The focus of the present study was to compare and find out the difference in health related fitness of rural, urban and slum boys of Patiala District.

## MATERIALS AND METHODS

### Subjects

One hundred fifty boys from rural, urban and slum area were selected as subjects for the present study. Out of 150 boys, 50 boys were from rural area, 50 boys were from urban area and 50 boys were from slum area. The age of the subjects were ranged from 12 to 17 years.



### Variables

Table 1 presents the components of health related fitness which were selected for the present study and were measured.

**Table- 1**

#### Tests and equipments used for health related fitness measurements:

Variables	Test executed	Equipment used	Unit of Measurement
Speed	30 meter sprint	Stopwatch Line powder	Second
Agility	Shuttle run	Stopwatch Wooden boxes Line powder	Second
Flexibility	Sit and reach test	Acuflex Floor surface	Centimeter
Explosive strength	Standing broad jump	Floor surface Steel tape Line powder	Feet

### Procedure of tests

**Speed-** For measuring the speed 30-meter sprint test was administered. After making a distance of 30 meter, subject was asked to start with the command, 'Ready? Go!' using a stopwatch, the time taken to cover the distance was administered.

**Agility-** It is the ability to change the body position and direction rapidly in a precise manner. To measure the agility shuttle run test was executed. Two parallel lines were marked on the floor 10 feet apart. Two blocks of wood of dimension 5 cm x5cm x 10cm, were placed behind one of these lines and subject started behind from the other line. On the signal, ready? Go! Subject ran to the blocks, picked one up, ran back to the starting line and placed the block behind the line. He then ran back and picked up the second block, which was carried back across the starting line. Time taken to complete this procedure was noted in seconds as the scores, using a stopwatch.

**Flexibility-** The subject was asked to sit on the floor with his hip; back and head against a wall, legs fully extended and the bottom of his feet against the acuflex. Subject was asked to place his hands one on top of the other and reach forward as far as possible, without lifting the hips, back or head and hold the final position for at least two seconds. Final numbers of inches reached to the nearest was recorded.

**Explosive strength-** Standing broad jump was executed to measure the explosive strength of the subject. Standing with feet approximately 10cm apart and the toes just behind the take off line, subject was asked to jump vertically forward with the arms swinging backward and the knees bent. The number of inches between the starting line and the nearest heel upon landing is the score.

### Statistical Analysis

The data was analyzed and compared with the help of statistical procedure in which Mean, Standard deviation and Anova were used.

### RESULT

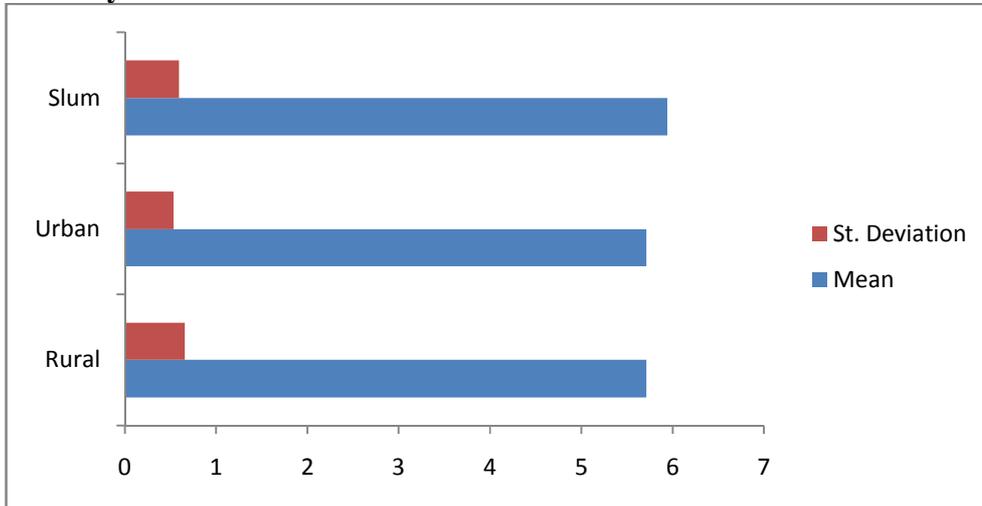
Mean and standard deviation of the selected dimensions of health related fitness of rural, urban and slum boys were computed. The results have been presented in table-2.

**Table:-2**

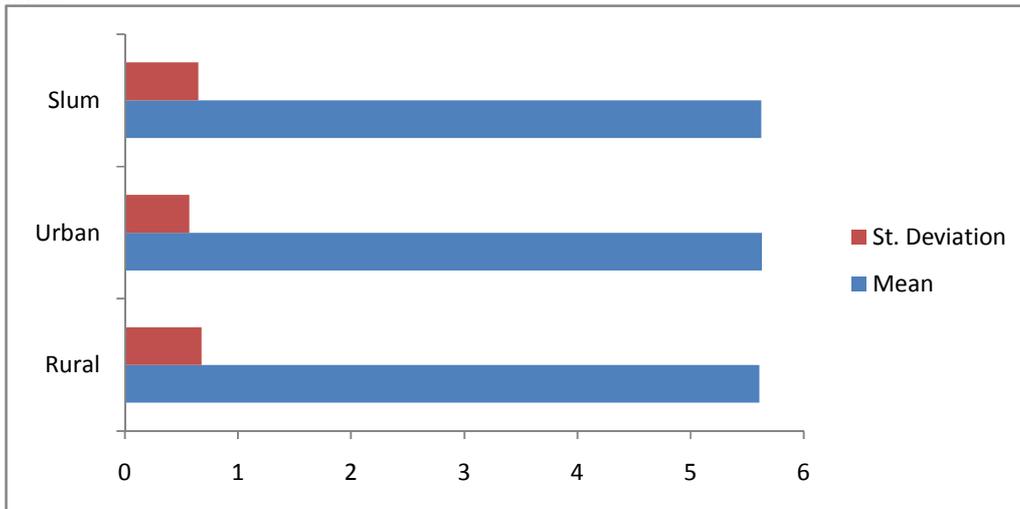
**Means & SDs of health related fitness variables of boys of rural, urban and slum Areas**

variables	Group	N	Mean	Std. deviation
Speed	Rural	50	5.7138	.65624
	Urban	50	5.7148	.53470
	Slum	50	5.9390	.59373
Agility	Rural	50	5.6064	.67901
	Urban	50	5.6328	.56972
	Slum	50	5.6236	.65111
Flexibility	Rural	50	1.8800	8.92746
	Urban	50	3.7600	6.66872
	Slum	50	1.6000	6.17103
Explosive strength	Rural	50	4.8440	1.07289
	Urban	50	4.8540	.83817
	Slum	50	5.2062	.70053

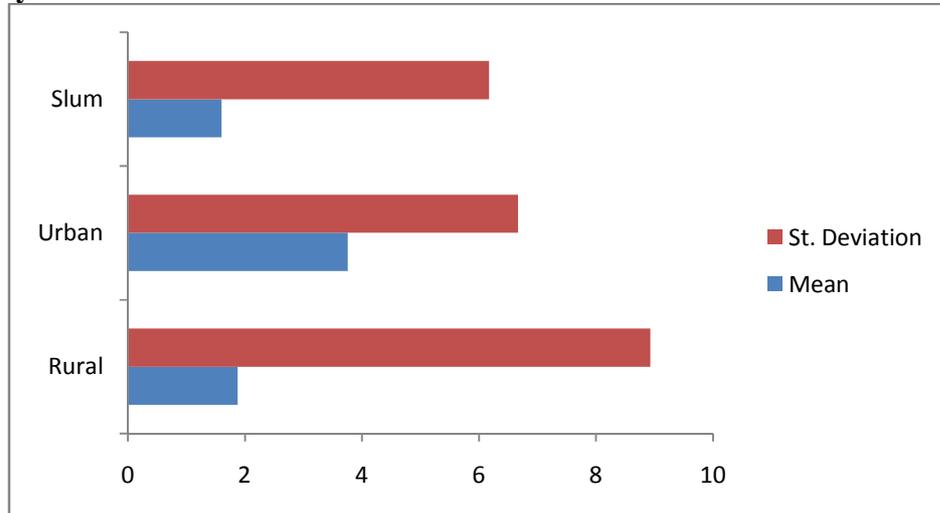
**Figure:-1**  
**Comparison of mean values and standard deviation of speed of rural, urban and slum boys.**



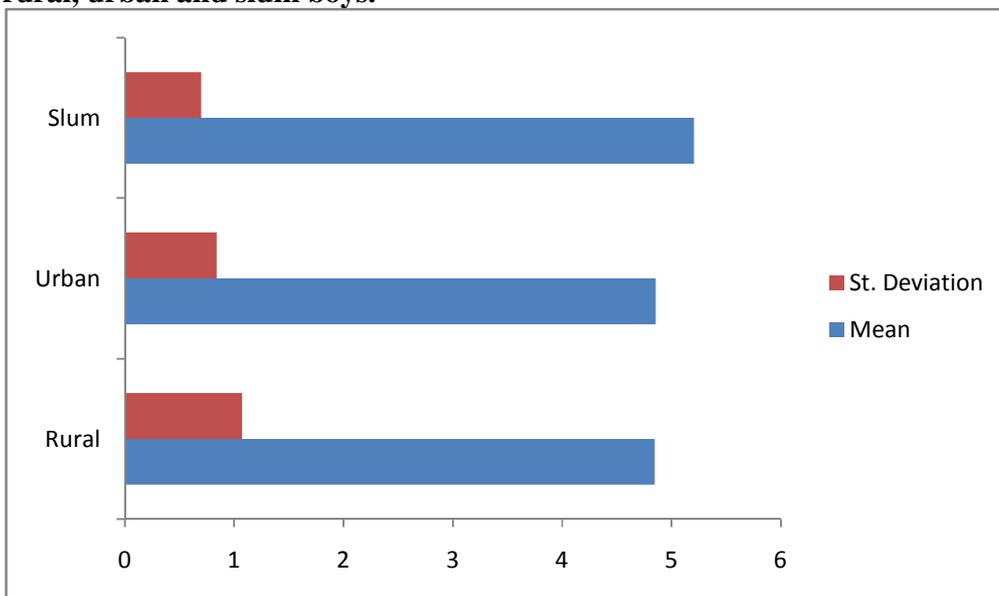
**Figure:-2**  
**Comparison of mean values and standard deviation of agility of rural, urban and slum boys**



**Figure:-3**  
**Comparison of mean values and standard deviation of flexibility of rural, urban and slum boys.**



**Figure:-4**  
**Comparison of mean values and standard deviation of explosive strength of rural, urban and slum boys.**



ANOVA was applied to find out the intra- group differences where 'P' values found significant.

**Table:-3**

**Analysis of variance (ANOVA) results of Speed among rural, urban and slum boys**

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	1.683	2	.842	2.361	.098
Within Groups	52.385	147	.356		
Total	54.068	149			

**\*Significant at 0.05**

It can be seen from table-3 that no significant differences were found with regard to the speed of rural, urban and slum boys. As the p-value (sig.) .098 was found higher than 0.05 level of significance ( $p > 0.05$ ).

**Table:-4**

**Analysis of variance (ANOVA) results of Agility among rural, urban and slum boys**

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	.018	2	.009	.022	.978
Within Groups	59.269	147	.403		
Total	59.287	149			

**\*Significant at 0.05**

It can be seen from table-4 that no significant differences were found with regard to the agility of rural, urban and slum boys as the p-value (sig.) .978 was found higher than 0.05 level of significance ( $p > 0.05$ ).

**Table:-5**

**Analysis of variance (ANOVA) results of Flexibility among rural, urban and slum boys**

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	137.973	2	68.987	1.276	.282
Within Groups	7950.400	147	54.084		
Total	8088.373	149			

**\*Significant at 0.05**

It can be seen from table-5 that no significant differences were found with regard to the flexibility among rural, urban and slum boys as the p-value (sig.) .282 was found higher than 0.05 level of significance ( $p > 0.05$ ).

**Table:6**

**Analysis of variance (ANOVA) results of Explosive strength among rural, urban and slum boys**

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value (Sig.)
Between Groups	4.256	2	2.128	2.723	.069
Within Groups	114.874	147	.781		
Total	119.129	149			

**\*Significant at 0.05**

It can be seen from table-6 that no significant differences were found with regard to the explosive strength of rural, urban and slum boys as the p-value (sig.) .069 was found higher than 0.05 level of significance ( $p > 0.05$ ).

**DISCUSSION AND FINDINGS**

The present study was designed to analysis the health related fitness of the rural, urban and slum boys. To achieve this purpose total three hundred (150) rural, urban and slum boys were taken as subjects. The age range of these boys was 12 to 17 years. The rural and urban boys were taken as subjects from Government School near durga mandir, Rajpura. Slum boys were taken from SAS nagar & DMW, Patiala and different slum areas of Rajpura. The subjects were divided into three groups. Group-1 (N-50) rural boys, Group-2 (N-50) urban boys, Group-3 (N-50) slum boys. To know about health related fitness and researcher had selected following four variables:-

1. Speed
2. Agility
3. Flexibility
4. Explosive strength

The result of the study proved that there is no significance difference regarding to health related fitness of boys of different area. The result of the study confirmed with the findings of Boone's (1967).

**CONCLUSION**

The present study has been conducted in order to make a comparison of health related fitness of boys. The boys who were selected for this study belongs to rural, urban and slum areas. The variables selected for the study were speed, agility, flexibility and explosive strength. The result of the present study clearly indicate that rural, urban and slum boys have similar health related fitness. There is no significant differences found related to health related fitness among rural, urban and slum boys.

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