

Comparison of Physical Fitness Components of Rural and Urban Collegiate Students of Swami Ramanand Teerth Marathwada University

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Abstract

The purpose of the study was to identify the physical fitness components of rural and urban students. 40 students, 20 rural and 20 urban from various colleges of Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra India were selected as a subjects for the study. Execution criteria were the presence of chronic medical condition such as asthma, heart disease or any other condition that would put the subject at risk when performing the physical fitness components. The data was collected by use of measurements of height & weight as well as by application of tests like, running, jumping, steeping, setups etc. The data was analysed with the help of statistical procedure in which arithmetic mean, standard deviation and t - test were employed. The mean age of rural students were 21.03 (± 3.11) years, height were 171.33 (± 5.22) cm. and the weight were 68.48 (± 3.91) kg. On other hand the mean (\pm S.D.) age of the urban students were 21.99 (± 3.72) years, height 171.66 (± 8.29) cm. and weight 67.92 (± 3.76). Significant difference in the agility ($t=3.11$, $p<.05$) was found between rural and urban students, urban students was found to be greater agility as compared to rural students while comparing speed ability ($t= 3.26$, $p<.05$) significant difference was found between rural & urban students. Urban students incur significantly less speed ability as compare to rural students. Meanwhile, significant difference was found in endurance ability ($t=5.96$, $p<.05$) between rural and urban students. Rural students were found to have got more cardio vascular efficiency as compare to urban students. While comparing explosive strength between rural and urban students, significance difference was found ($t=6.53$, $p<0.5$). Rural students were Strongest as compared to their counterpart. Whilst no significant difference in the muscular strength was found between two groups students.

Introduction

Physical fitness is recognized as an important component of health (Lamb et al.1988; Twisk et al.2002) and it may be important for the performance of functional activities and quality of life (Noreau and Shephard1995; Stewart et al.1994). Low physical fitness may result in high physical strain during the performance of activities (Bruinings et al.2007). As a consequence, activity levels may decrease due to fatigue and discomfort, exacerbating low physical fitness. Caspersen and co-workers defined several health-related components of physical fitness, i.e. aerobic capacity, muscle strength and endurance, flexibility and body composition (Caspersen et al.1985).

Keeping in view the fact that childhood physical fitness has important health consequences during adulthood (Sallis et al, 1992) a large number of studies on physical fitness have been reported from different countries of the world.

Materials and Methods

Subjects: Twenty rural and twenty urban students from various colleges of Swami Ramanand Teerth Marathwada University Nanded.

Who were regularly participating two years in the inter collegiate athletic tournament selected as subject for present study, "exclusion criteria were the presence of chronic medical conditions such as asthma, heart disease or any other condition that would put the subjects at risk when performing the test the subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs. The age, height, agility, endurance, speed, muscular strength, explosive strength of all subjects measured in physical education department ground. The data analysed with the help of stastical procedure in which mean, standard deviation, t test were used to compare the data.

Selection of Variable and Their Criterion Measures

Explosive strength was measured by the standing broad jump, speed was measured by 50 meter dash, endurance was using Harword Step test, agility was shuttle run and muscular strength was measured by sit ups all test were conduct according to the **AAPHER** youth fitness test.

Results

The statistical of the results of physical fitness components between rural & urban students are shown in table 1 to 5.

The mean (\pm S.D.) of the age of the rural students was 21.03 (\pm 3.11) years, height 171.33 (\pm 5.22) cm. weight 68.48 (\pm 3.91) kg. On other hand, the mean (\pm S.D.) of the urban students was 21.99 (\pm 3.72) years height 171.66 (\pm 8.29) cm. and weight 67.92 (\pm 3.76). Table 4 shows statistical comparison of Muscular Strength between rural & urban collegiate students.

Students	No.	Means	S.D.	S.Ed.	t-value
Rural	20	24.85	3.40	0.98	0.60NS
Urban	20	19.70	2.81		

NS = Not Significant

Table 4 compares the muscular strength of rural and urban students. Results indicate that no significant differences in Muscular strength were found when comparison is made between the rural and urban students.

Table 3 shows statistical comparison of Agility between rural & urban collegiate students.

Students	No.	Means	S.D.	S. Ed.	t-value
Rural	20	10.84	0.90	0.34	3.11*
Urban	20	11.90	1.27		

*** Significant at 0.05 level.**

With regard to agility of rural and urban collegiate Students, mean values of 10.84 and 11.90 respectively were observed (Table-1).the obtained $t=3.11$ indicating that the urban students had greater agility than the rural students.

Table 4 shows statistical comparison of Explosive Strength between rural & urban collegiate students.

Students	No.	Means	S.D.	S.Ed.	t-value
Rural	20	149.88	8.66	0.34	6.53*
Urban	20	134.33	6.22		

***Significant at 0.05 level.**

Table 4 indicates the existence of statistically significant difference between rural and urban students with respect to Explosive strength .Significant differences was found in explosive strength ($t=6.53, p<.05$).Rural students was found to have got greater explosive strength as compared to urban students.

Table 5 shows statistical comparison of Speed between rural & urban collegiate students.

Students	No.	Means	S.D.	S.Ed.	t-value
Rural	20	7.75	0.74	0.19	3.26*
Urban	20	7.13	0.49		

***Significant**

Table 5 gives the statistical comparison of speed ability of rural and urban students. Results indicates significant difference was found ($t=3.26, p<.05$) when comparison is made between two groups. Urban students incur significantly less Speed ability than rural students.

Table 6 shows statistical comparison of endurance between rural & urban collegiate students.

Students	No.	Means	S.D.	S.Ed.	t-value
Rural	20	88.03	8.12	0.14	6.96*
Urban	20	71.39	6.99		

***significant**

Table 6 depicts the statistical information of endurance ability between rural and urban students. Significant difference were observed in Endurance ($t=5.95, P<.05$) between the rural and urban students. Rural students were found to have got greater endurance ability as compared to urban students.

Discussion

This study reveals that significant differences were found in agility ($t=3.11$, $P < 0.5$), speed ($t=3.26$, $P < 0.5$), endurance ($t=4.0$, $P < 0.5$) and explosive strength ($t=5.00$, $P < 0.5$) between rural and urban students. Urban students were found to have got stronger than rural students. This results didn't supported sandhu (1983) compared rural and urban students of Amritsar district. He was found rural students were stronger than urban students. Tsimeas and Tsigilis (2005) conducted a study on Greek rural students to find out "Does living in urban or rural setting effect aspect of physical fitness in children". A similar type of result was obtained in the work of Mehtap and Nihal (2005). Who conducted a study on physical fitness in rural children compared with urban children in turkey and found that children living in the urban areas were more inactive and obese than rural children. Urban students incur significantly low speed ability as compared to rural children. This may be due to mechanization, automation and computerization have minimised the opportunities for vigorous physical activities to cause physical exertion in urban population. The result is supported Uppal and Sareen (2000) choudhary (1998) and Ray (1979). However rural students were found to have got strong cardio Respiratory efficiency as compared them urban students The relatively greater Cardio-respiratory of rural students were Probably due to rural students engaged in vigour physical activity like agriculture and Animal husbandry. Rural students demonstrated significantly greater explosive strength as compared to urban students. This may be due to the rural life style is more active in nature then the life in urban areas which produced high level physical and psychological functioning in rural areas.

Conclusion

It is found that the rural students were comparatively better than urban students except agility ability of colleges of Swami Ramanand Teerth University.

Rural students were stronger to urban students in explosive strength speed and endurance. However urban students are stronger in agility.

References

Choudhary Anchal 1998. Physical Fitness of Female Students Studying in High Schools in Rural and Urban Areas. M.Phil Thesis, Unpublished. Kurukshetra: Kurukshetra University.

Mehtap Ozdirenc, Nihal Gelecek 2005. Physical fitness in rural children compared with urban children in Turkey. *Pediatrics International*, 47(1): 26-31.

Sallis, J.F., McKenzie, T.L., Kolody, B., Lewis, M., marshall, S., & Rosengeard, P. 1999. Effects of health – related physical education on on academic achievement: Project SPARK, *Research Quarterly for Exercise and Sport*, 70:127-134.

Bruinings A.L., et. al., (2007) Energy cost and physical strain of daily activities in adolescents and young adults with myelomeningocele. *Dev Med Child Neurol* 49:672–677

Caspersen CJ, Powell KE, Christenson GM (1985) Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public Health Rep* 100:126–131

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Lamb KL, Brodie DA, Roberts K (1988) Physical fitness and health-related fitness as indicators of a positive health state. *Health Promot Int* 3:171–182.

Noreau L, Shephard RJ (1995) Spinal cord injury, exercise and quality of life. *Sports Med* 20:226–250

Stewart AL, Hays RD, Wells KB, Rogers WH, Spritzer KL, Greenfield S (1994) Long-term functioning and well-being outcomes associated with physical activity and exercise in patients with chronic conditions in the Medical Outcomes Study. *J Clin Epidemiol* 47:719–730.

Ray Krishna B 1979, Comparison of Physical Fitness of Tribal and Urban Students. Master's Thesis, Unpublished. Gwalior: Jiwaji University

Sandhu Surjit Singh 1983. Physical education of rural and urban middle school students of Amritsar district, M. P. ED. Thesis, unpublished. Amritsar G.N.D.U.

Uppal AK, Sareen Rajiv 2000. Cardiovascular endurance of rural and urban school students. *Research bulletin, research division, L.N.I.P.E. GWALIOR*, 15;11-13.

Tsimeas PD, Tsigilis N 2005. Does living in urban or rural setting effects aspects of physical fitness in children? An allometric approach. *British journal of sports medicine*, 39:671-674.