International Journal of Humanities and Social Science Research
ISSN: 2455-2070; Impact Factor: RJIF 5.22
www.socialresearchjournals.com
Volume 2; Issue 9; September 2016; Page No. 11-12

Comparison of motor fitness component with developmental age of 16 and 18 years of age

Ved Parkash Sharma

Assit. Prof. Department of Physical Education, S.G.G.S Khalsa College, Mahilpur, Punjab, India

Abstract
Motor fitness is a term that describes an athlete's ability to perform effectively during sports or other physical activity. An athlete's motor fitness is a combination of five different components, each of which is essential for high levels of performance. Improving motor fitness involves a training regimen in all five. Power is the most important factor in assessing a person's capacity for performance in sport. Power and physical performance have been closely related and investigated by various investigators using different protocols. The ability of an athlete to produce high forces at high velocity is an important component of the physical performance and functional capacity. There is no agreement in the literature over the definition of power. However, power has been defined as the product of force (or torque) and velocity, ie, rate of doing work (Thomas *et al* 1997). It is of two types, aerobic or endurance and anaerobic.
Sample: Purposive sampling technique was used to collect data from different school of Punjab. The data of 100 boys ranging in age from 16 and 18 years were collected from different schools of the Punjab.
Statistical Analysis: 'T' ratio was used to find out significance difference between the different age group of school boys of Punjab.

Keywords: Motor Fitness, Variables, AAHPERD

Introduction
Physical fitness comprises two related concepts: general fitness (a state of health and well-being), and specific fitness (a task-oriented definition based on the ability to perform specific aspects of sports or occupations). Physical fitness is generally achieved through correct nutrition, exercise, and enough rest. In previous years, fitness was commonly defined as the capacity to carry out the day's activities without undue fatigue. However, as automation increased leisure time, changes in lifestyles following the industrial revolution rendered this definition insufficient. In current contexts, physical fitness is considered a measure of the body's ability to function efficiently and effectively in work and leisure activities, to be healthy, to resist hypokinetic diseases, and to meet emergency situations. Hypokinetic diseases are conditions that occur from a sedentary lifestyle. Examples could include obesity and complications arising from sedentary behaviour. Hypokinetic conditions could include: Cardiovascular disease, some forms of cancer, Back problems, Obesity, Type 2 diabetes and mental health.
According to Brukner and Khan (2001), power is the equivalent of explosive strength. Young and Bilby (1993) have used the term "speed-strength" synonymous with power. Paavolaienen *et al* (1999) have suggested that muscle power is the ability of neuromuscular system to produce power during maximal exercise when glycolytic and oxidative energy production is high and muscle contractility may be limited. Schmidtbleicher (1992) has defined power as the ability of neuromuscular system to produce greatest possible impulse in a given time period, which depends on resistance of the load, and organisation of the acceleration. The latter parameter is influenced by the sport played by the athlete. There are others factors as well, which are pertinent for power generation. The exploration of these factors is important for understanding the alterations in the power production under different conditions.

Sample
Purposive sampling technique was employed to collect data from the boys 16 and 18 years of different schools of Punjab. The data of 100 boys ranging in age from 16 and 18 years were collected from different schools of the Punjab. The subjects were divided into 2 age groups i.e. (16 and 18 years). Each group contains 50 subjects.

Tools and motor fitness variable
Health related physical fitness is defined as the ability to perform strenuous activity without fatigue, showing evidence of traits that limit the risks of developing diseases and disorders which reflects a person's functional capacity. Health and physical fitness is important to everyone and should be stressed by physical educators and medical people alike. (Tancred 1987). American Alliances of Health, Physical Education, Recreation and Dance (AAHPERD) (1980) health related physical fitness tests were used to measure health related physical fitness.
Motor Fitness performance of subjects of age 16 and 18 years at different levels is taken by applying Motor fitness test variable i.e. strength. To check the explosive strength of legs of the Panjab boy's Vertical Jump test is applied.

Test Administration
Vertical Jump (Explosive Strength of Legs)
Equipment
Measuring tape, lime powder, vertical wall and water. A black board 200 cm high and 60 cm wide was fixed on the wall 155 cm above the ground. The board was divided by horizontal lines placed 5 cm apart. The exact height above the ground

was written on the board every 10 cm in order to facilitate the reading of the results.

Testing Procedure

In this test the subject with bare feet facing the wall without raising his heels, extends his one arm upward to the maximum level along the scale (marked on the wall). This level is recorded as standing reach of the subject. Then he puts chalk powder on the tips of the fingers of the hand and stands facing toward wall and away 20 cm and parallel to the wall by bending his knees and taking arm swing, he jumps vertically up and makes a mark on the scale with his hand as high as possible. There should be no double jump. Three attempts are given with a little rest period in between and distance is recoded in cm.

Statistical Analysis

'T' ratio was used to find out significance difference between the different age group of school boys of Punjab.

Findings

The findings of the study are discussed as under:

Table 1: MEAN, S.D., values of vertical jump of boys from age group 16 and 18 years during the first phase of testing. Phase-I

Age in Years	Mean (Sec.)	S.D
16	2.456	0.164
18	2.557	0.102

Table 2: MEAN, S.D., values of vertical jump of boys from age group 16 and 18 years during the second phase of testing. Phase-II

Age in Years	Mean (Sec.)	S.D
16.5	2.491	0.160
18.5	2.602	0.102

Table 3: Difference of Means between developmental age and motor fitness component (Vertical Jump)

Age in Years	Age in Years	Mean		S.D		't' ratio
Phase-I	Phase-II	Phase-I	Phase-II	Phase-I	Phase-II	
16	16.5	2.456	2.491	0.164	0.160	1.064
18	18.5	2.557	2.602	0.102	0.102	2.250*

S** = Significant at 1% level
S* = Significant at 5% level

Discussion

From the results of above table, it has been observed that for vertical jump test boys showed no significant performance has been observed, at the age of 16 year, at 18 years there was increase in performance level of boys. it may be due to their revised and improved techniques and tactics.

References

1. Singh SP, Sidhu LS, Singh J. Skeletal Maturity – Growth Development and Physical Performance. Human Biology Publication Society, Patiala. 1992.
2. Singh SP, Sidhu LS, Malhotra P. Growth Performance of Punjabi Children aged 6-12 years. Annals of Human Biology. 1987; 14:169.
3. Rotch TM. Chronologic and anatomic age in early life. J Am Med Assn. 1908; 51:1197.
4. Wutscherk H. Die Bistimmung des biologischen Alters. Theorie Und Prax. Keorperkult, 1973; 23:159-170.
5. Malina RM. Growth strength and physical performance. In Encyclopedia of physical education, fitness and sports: Training, environment, nutrition and fitness. Stull, G.A. (Ed.). Brighton Publishing Company, Salt Lake City, Utah. 1980.