IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A Comparative Study Of Motor Ability Between Non-Exercising And Exercising Students

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Abstract:

The aim of this study was to compare motor ability between non-exercising and exercising students. For this study, the researcher selected 45 subjects from Yuvashakti Arts & Science College, Amravati (M.S.). All the subjects selected in this study were between 18 and 22 years of age. Among the selected subjects, 15 were students who did not do any exercise or physical activity, 15 were gym goers, 15 were participants in various sports, thus there were a total of forty subjects. To test the components of motor ability of the subjects, B. E. Phillips (1957) developed a test to measure the ability of individuals to perform basic fundamental motor skills. Through which strength, power, speed, agility and endurance were measured. This test includes jumps, chin-ups, and shuttle run. The information was analyzed by applying descriptive statistics and one way analysis of variance (ANOVA) among students. The level of confidence was fixed at 0.05 level of significance. Data was analyzed using the Microsoft Excel. This study concluded that there is a significant difference in the ability to perform chin-up between the sports group and the exercise group, but there is no significant difference in vertical jump and shuttle run. Compared to the group of normal students, it was found that there is a significant difference in vertical jump, chin-up and shuttle run. The motor fitness index shows that there is no significant difference between the sports group and the exercise group, but a significant difference was found when compared with normal students. Physical abilities can be developed by doing physical activities.

Keywords: Motor Ability, Exercise.

1. Introduction:

In today's industrial age, general knowledge about exercise has a different importance for almost all people. The reality is that a person uses exercise in some form or the other in his daily life. In the social environment, its use is considered beneficial in both ways. By using adequate exercise, a person tries to become healthy and increase his capacity and in the second stage, a sick, weak and ill person tries to gain health benefits through various types of special exercises. A person also tries to evaluate the usefulness of exercise himself. Physical education experts believe that exercise seems to directly contribute in various areas such as development of muscle size, mutual coordination and balance in the entire body parts, maintaining the best state of the respiratory process, making the digestive process effective, controlling the mutual coordination in the nervous system, diagnosis of disorders present in the body, etc. The reality is that initially, a common person only believed that only muscle development is possible through exercise. But in the present times, when exercise was used on scientific and experimental basis, many qualities present in it came to light. Classification of exercises mainly depends on the types of exercises. Exercises are used in different ways from general purpose to special purpose. In the field of physical education, teachers and trainers use different names of exercises at the educational level, such as isotonic exercise, isometric exercise, weight training related exercise, free hand exercise, exercise with equipment, wall bar exercise, stretching exercise, general exercise, special exercise, acclimatization exercise, adaptation exercise, flower exercise etc.(Srivastava, 2002).

Generally speaking, everyone does exercise in some form or the other, but in today's modern era, instead of exercise, due to the increase in mechanical means, all work is being done through machines, due to which the chances of the physical and mental health of the coming generation being affected have increased. If we look at the past, earlier to get education, one had to travel on foot from very far due to lack of means, but today due to this modernity, travel is done by car, motor, bus, this is not wrong as it saves time, but it is also true that the physical activities that used to happen earlier are not happening today. Earlier, some kind of sports or physical activity was done for entertainment but today, due to excessive use of things like mobile, TV, computer, laptop, tablet for entertainment or to pass time, physical exercise has become almost negligible. Even in schools and colleges, physical exercise is not being paid attention to. To clarify the importance of physical exercise, researchers have studied the components of motor ability of students participating in physical activity, sports and exercise and those who do not exercise.

2. Methodology:

For this study, the researcher selected 45 subjects from Yuvashakti Arts & Science College, Amravati (M.S.). All the subjects selected in this study were between 18 and 22 years of age. Among the selected subjects, 15 were students who did not do any exercise or physical activity, 15 were gym goers, 15 were participants in various sports, thus there were a total of forty subjects. To test the components of motor ability of the subjects, B. E. Phillips (1957) developed a test to measure the ability of individuals to perform basic fundamental motor skills. Through which strength, power, speed, agility and endurance were measured. This test includes jumps, chin-ups, and shuttle run.

3. Statistical Techniques:

The information was analyzed by applying descriptive statistics and one way analysis of variance (ANOVA) among students. The level of confidence was fixed at 0.05 level of significance. Data was analyzed using the Microsoft Excel.

Table 1: Descriptive statistics of age, height, weight and body mass index of students

Descriptive statistics	Age	Height	Weight	BMI
Mean	19.1	171.7	65.1	22.2
Standard Deviation	0.7	4.8	5.2	2.5
Minimum	18.0	163.0	51.0	15.9
Maximum	20.0	179.0	74.0	26.7
Count	45	45	45	45

Table 2: Analysis of Variance (ANOVA) of the means of different group students with compare to motor abilities

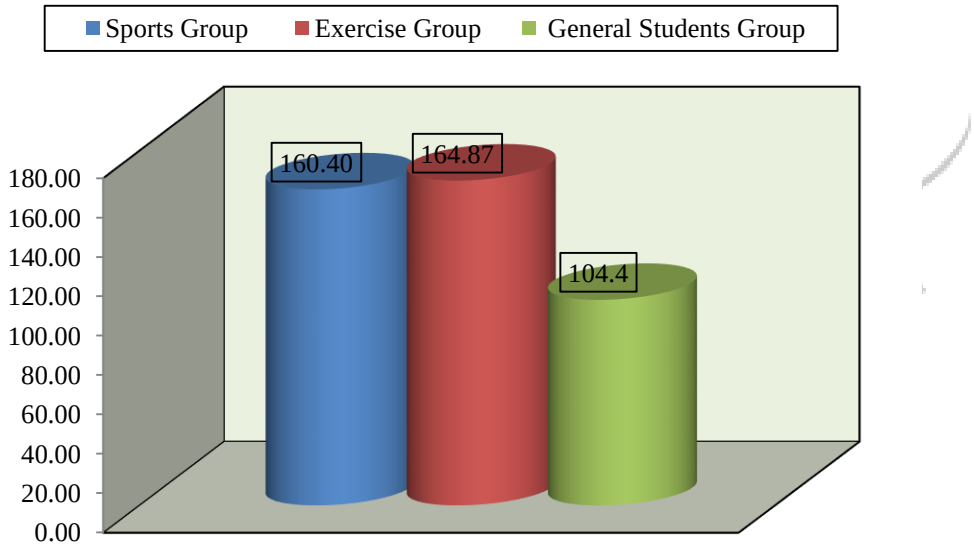
Variables	*Source of Variation*	*SS*	*df*	*MS*	*F*	*F crit*
Vertical Jump	Between Groups	372.13	2	186.07	11.441*	3.220
	Within Groups	683.07	42	16.26		
Chin-Up	Between Groups	1319.64	2	659.82	137.100*	3.220
	Within Groups	202.13	42	4.81		
Shuttle Run	Between Groups	344.84	2	172.42	16.774*	3.220
	Within Groups	431.73	42	10.28		
JCR Converted Score	Between Groups	34060.84	2	17030.42	35.648*	3.220
	Within Groups	20064.93	42	477.74		

Table-2 reveals that there was significant difference between the means of sports group, exercise group and general students group of motor fitness. The calculated ‘F’ was (11.441, 137.100, 16.774 and 35.648) where as tabulated ‘F’ was 3.220. Calculated ‘F’ greater than the tabulated ‘F’, which shows significance in sports group, exercise group and general students group of motor fitness. Therefore, there is need of post hoc test.

Table-3: Post hoc test table showing mean difference of all groups in motor fitness

Variables	Sports Group	Exercise Group	General Students Group	M.D.	C.D.
Vertical Jump	24.60	24.53		0.07	3.00
	24.60		18.47	6.13*	3.00
		24.53	18.47	6.07*	3.00
Chin-Up	11.53	17.00		5.47*	1.63
	11.53		3.80	7.73*	1.63
		17.00	3.80	13.20*	1.63
Shuttle Run	26.53	28.00		1.47	2.39
	26.53		33.00	6.47*	2.39
		28.00	33.00	5.00*	2.39
JCR Converted Score	160.40	164.87		4.47	16.28
	160.40		104.40	56.00*	16.28
		164.87	104.40	60.47*	16.28

Table-3 clearly shows that there is significant difference in the ability of doing chin-ups between sports group and exercise group but there is no significant difference in vertical jump and shuttle run. Compared to normal students group, it is found that there is significant difference in vertical jump, chin-ups and shuttle run. Motor Fitness Index shows that there is no significant difference between sports group and exercise group but there is a significant difference when compared with normal students. The order of higher motor fitness in all the three groups was (164.87) exercise group > (160.40) sports group > (104.40) normal students group.



Graph-1: showing mean difference of all groups in motor fitness

5. Conclusion:

This study concluded that there is a significant difference in the ability to perform chin-up between the sports group and the exercise group, but there is no significant difference in vertical jump and shuttle run. Compared to the group of normal students, it was found that there is a significant difference in vertical jump, chin-up and shuttle run. The motor fitness index shows that there is no significant difference between the sports group and the exercise group, but a significant difference was found when compared with normal students. Physical abilities can be developed by doing physical activities.

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