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# Effect of Circuit Training Program on Selected Motor Abilities among University Male

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The purpose of present study was to find out the effect of circuit training on selected motor abilities among university male students. For the purpose of the study total 60 boys, age ranged from 18 to 28 years were selected as subjects from the Department of Physical Education (T), Punjabi university University, patiala, Punjab (India). The subjects were purposively divided into two groups: Group-A: Experimental (N1=30) and Group-B: Control (N2=30). All the subjects were informed about the aim and methodology of the study. The subjects from Group-A were subjected to 8-week of Circuit Training Program. Group-B acted as control who did not participate any special training apart from the regular curricular activities. The training program starts with warm up exercises for 10 minutes (jogging, slow space running, stretching exercises etc.), then Sit ups (lower abdominals), pushups, Squat jumps, Compass jumps, Astride jumps, Shuttle runs were selected for the main training schedule. Volume and intensity: Experimental group performed 20 to 30seconds work on each exercise with a 20 to 30 seconds recovery. They performed 2 to 4 sets with a 2 to 3 minutes recovery between each set. T-test was used to find out the statistical significances of each age groups pre and post mean differences. The level of significance was set at $p<0.05$ level of confidence. The results of the study stated that the Circuit Training had significantly improved the speed, leg power, arm power and agility of the subjects.

**Keywords:** Circuit Training, Motor Abilities, Volume and Intensity

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## Introduction

Physical education is all about learning new skills because the majority of "education through physical" involves using athletes', gymnasts', dancers', and other people's specific skills in games and sports. These physical activities that make up each activity and are unique to that sport, such as motor capacity (innate ability), motor educability (ability to learn new behaviour), and motor capacity, may be referred to as these specialised skills (acquired or innate ability to perform movement skills). The term "motor ability" refers to the currently possessed, natural ability to carry out motor functions of a general and fundamental type. It has traditionally been thought of as a mix of aspects that are fundamental to all actions requiring physical fitness components like strength, speed, agility, flexibility, and so forth. The pioneering scientists. Early studies described motor ability as "general physical efficiency" (M.C. Cloys), "the level to which one has developed his intrinsic capability to gain more skill" (Cozens), and the immediate ability of a person to accomplish numerous feats or several athletic events. People differ significantly in their abilities. Because of this, a person's motor abilities serve as a capacity indicator that points up restrictions on how well they may perform. Different people have different motor skills for a variety of reasons. One theory holds that aptitudes are genetically predetermined. In other words, people are born with certain qualities According to the second hypothesis, people acquire these skills through non-genetic elements like experience, which are the most important non-genetic factors. the most important non-genetic elements, including experience. Unquestionably, athletic participation involves fitness levels above and beyond those required for good health. However, there has been substantial discussion regarding the relevance of specific motor ability test questions for athletes and coaches, as well as the applications for the data gathered (Gollnick and Mataba, 1984, Noakes, 1988). Naturally, they will adopt different strategies depending on whether the objective is to research the human body's reaction to various exercise intensities and regimens, or to measure health fitness to assess fitness for successful athletic participation. A motor skill is a function that entails the exact movement of muscles with the intention of carrying out a certain action. To move with purpose, one needs to be able to comprehend or feel what their muscles are doing.

## Methods

For the purpose of present study, total sixty (60) male subjects, age ranged from 18 to 28 years were selected as subjects from the Department of Physical Education,Punjab university, patiala, Punjab (India). The subjects were purposively divided into two groups: Group-A: Experimental (N1=30) and Group-B: Control (N2=30). All the subjects were informed about the aim and methodology of the study. Exercise schedule: The duration of the training was eight weeks. The training program was consists of warm up exercise for 10 mintuies (jogging, slow space running, stretching exercises etc.), circuit training exercise of core and trunk and lower and upper body, cool down exercises. Sit ups (lower abdominals), pushups, Squat jumps, Compass jumps, astride jumps, Shuttle runs were selected for the main training schedule. Experimental group performed 25 to 35 seconds work on each exercise with a 20 to 30 seconds recovery. They performed 2 to 4 sets with a 2 to 3minutes recovery between each set. The training program was conducted three days in a week of two months. Various Tests by Johnson and Nelson

(1982) was used to assess motor fitness components as described below:

**Table 1:** of Motor Fitness Components and Test

| S. No | Motor Fitness Components | Test |
|---|---|---|
| 1 | Speed | 50- Yard Dash Run |
| 2 | Arm Power | Two Hand Medicine Ball Put |
| 3 | Leg Power | Standing Broad Jump |
| 4 | Agility | Shuttle Run |

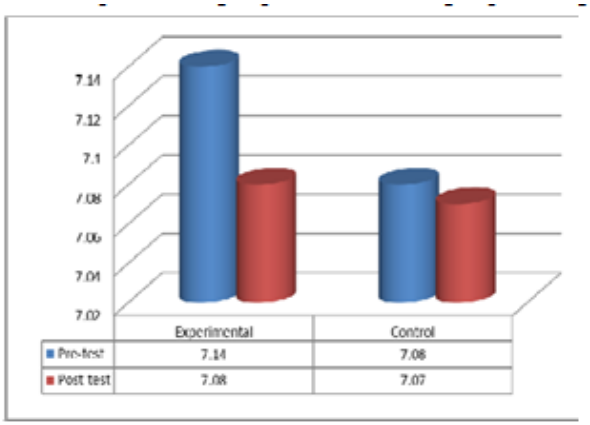
## Statistical Analysis

The data collected in the study was subjected to statistical analysis with appropriate use of SPSS package. Central tendency was judged by calculating mean and variability was assessed by standard deviation. T-test was used to find out the statistical significances of each age groups pre and post mean differences. The level of significance was set at $p<0.05$ level of confidence.

## Result

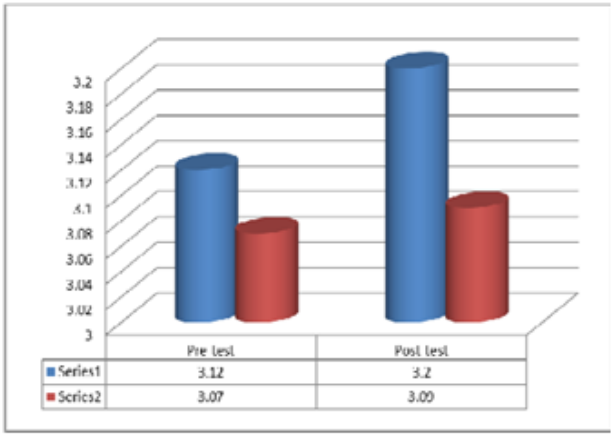
Graph- 1 presents the results of experimental group and the control group with regard to the variable SpeedThe descriptive statistics shows the Mean and SD values of speed of pre test and posttest of experimental group

Was 7.14±0.0682 and 7.08±0.0983 respectively, whereas, the Mean and SD values of speed of pre-test and post-test of control group was 7.08±0.066 and 7.07±0.074. The "t" value in case of experimental group was 6.2032* and for control group it was 0.75.The't'-value in case of experimental group 6.2032* as shown in the table above was found statistically significant.




ARM POWER

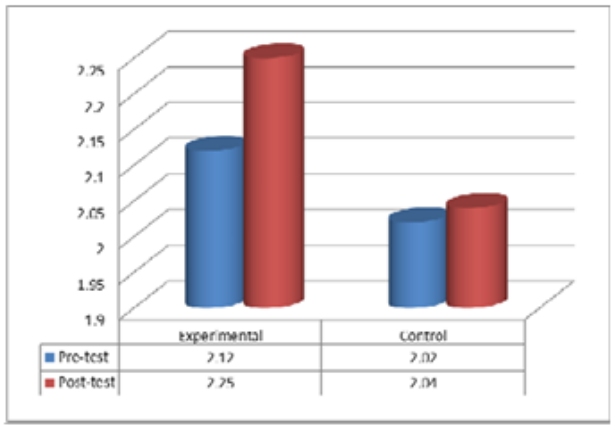
Graph- 2 presents the results of experimental group and the control group with regard to the variable arm power. The descriptive statistics shows the Mean and SD values of arm power of pre test and post test of experimental group was 3.12±0.1640 and 3.20±0.0730 respectively, whereas, the Mean and SD values of arm power of pre-test and post-test of control group was 3.07±0.13 and 3.09±0.11. The "t" value in case of experimental group was 4.2731* and for control group it was 1.4.The't'-value in case of experimental group 4.2731* as shown in the table above was found statistically significant.




LEG POWER

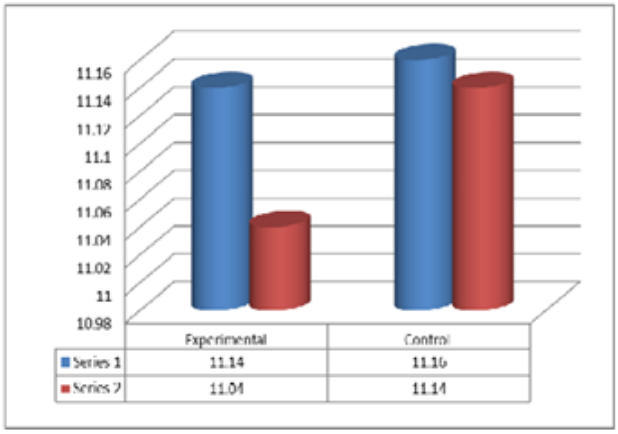
Graph- 3 presents the results of experimental group

And the control group with regard to the variable leg power. The descriptive statistics shows the Mean and SD values of leg power of pre test and post test of experimental group was 2.12±0.0626 and 2.25±0.0628 respectively, whereas, the Mean and SD values of leg power of pre-test and post-test of control group was 2.02 ±0.0657and 2.04±.0694. The "t" value in case of experimental group was 8.2775* and for control group it was 1.26.The't'-value in case of experimental group 8.2775* as shown in the table above was found statistically significant.




AGILITY

Graph- 4 presents the results of experimental group and the control group with regard to the variable agility. The descriptive statistics shows the Mean and SD values of agility of pre test and post test of experimental group was 11.14±0.1273 and 11.04±0.1291 respectively, whereas, the Mean and SD values of agility of pre-test and post-test of control group was 11.16 ±0.016 and 11.14±.099. The "t" value in case of experimental group was 4.0936* and for control group it was 1.46. The't'-value in case of experimental group 4.0936* as shown in the table above was found statistically significant.




## Conclusion

The researcher analyzed the collected data as per the purpose of study. The statistical analysis of the study stated that the Circuit Training had significantly improved the speed, leg power, arm power and agility of subjects. Similar results were founded in the study carried out by Dr. M. Suresh Kumar (2014) Influence of Circuit Training on Selected Physical Fitness Variables among Men Hockey Players Significant improvement was founded for Speed, Agility, and Explosive Strength. The results are also in conformity with the study carried out by Dr. Saugata sarkar (2013) Effect of Circuit Training Program on Explosive Strength and Strength Endurance of School Going Students. Significant improvement was founded for Explosive strength and strength endurance. So it is concluded that motor abilities can be improved by circuit training. But training should be systematic, planned and scientific.

## Reference

01. Mathew's, Donald K. Measurement in Physical Education Philadelphia: Saunders, 1973; 3:5. . *[Crossref][Google Scholar]*

02. Saugata Sarkar. Effect of Circuit Training Program on Explosive Strength and Strength Endurance of School Going Students. 2013; 2:21-23. *[Crossref][Google Scholar]*

03. Sushil Lega. A Comparative Study of Selected Motor Abilities of Football and Handball Players International Journal of Behavioral Social and Movement Sciences. 2014, 59-63. *[Crossref] [Google Scholar]*

04. Alauddin Shaikh. Effects of Plymetrics Training And Weight Training on selected Motor Ability Components among University Male Students. International Journal of Advancements in Research & Technology. 2012; 1:1-8. *[Crossref][Google Scholar]*

05. Suresh Kumar M. Influence of Circuit Training on Selected Physical Fitness Variables among Men Hockey Players. International Journal of Recent Research and Applied Studies. 2014; 7(6):16-19. *[Crossref][Google Scholar]*

06. Patricia E Mosher. Effects of 12 Weeks of Aerobic Circuit Training on Aerobic Capacity, Muscular Strength, and Body Composition in College-Age Women. The Journal of Strength and Conditioning Research. 1994; 8(3):144- 148. *[Crossref][Google Scholar]*

07. Mandeep Singh Nathial, Analysis of set shot in basketball in relation with time to perform the course and displacement of center of gravity, American Journal of Sports Science, Vol. 2 Issue. 5 pp: 122-126 (2014). Retrieved from https://www. *sciencepublishinggroup.com/journal/paperinfo.aspx?journalid=155&doi=10.11648/j.ajss.20140205.13 [Crossref][Google Scholar]*

08. Mandeep Singh (2010). Evaluation And Improvement Of Sports Techniques Through Biomechanical Updated Analyzing Technology, University News, Journal of Higher Education Association of Indian Universities, Association of Indian Universities, Vol:48:Issue. 05;2010 Pp45-57, 2010. *sciencepublishinggroup.com/journal/paperinfo.aspx?journalid=155&doi=10.11648/j.ajss.20140205.13 [Crossref][Google Scholar] [Crossref][Google Scholar]*

09. Mandeep Singh Nathial, A Study of Adjustment and Emotional Intelligence of University Coaches in India, American Journal of Applied Psychology. Volume 3, Issue 6, November 2014 , pp. 122-126. doi: 10. *11648/j.ajap.20140306.11 [Crossref] [Google Scholar]*

10. Nathial, Mandeep Singh. A COMPARATIVE AND ANALYTICAL STUDY OF SELF-ESTEEM AND JOB SATISFACTION IN ATHLETES AND NON ATHLETES. Journal of Advances in Social Science and Humanities, 2(10). https://doi. *org/10.15520/jassh210123 [Crossref][Google Scholar]*

11. Singh, M. , Kour, R. , & Kour, A. ,. *A collaborative diversified investigation of respective responses of sports person coaches and organizations on criminalization of doping.International Journal of Health Sciences,6(S3), 11295–11310. [Article][Crossref] [Google Scholar]*

12. Mandeep Singh. , Assessment of Vocational Interests of Pahadi & Bakarwal School Students In Relation To Their Gender. Int J Recent Sci Res. 9(3), pp. *24817-24819. DOI: [Article][Crossref][Google Scholar]*

13. Singh, M. , & Deol, N. S. ; KINEMATICAL ANALYSIS OF HIGH DRIVE IN SOCCER. *INTERNATIONAL JOURNAL OF RESEARCH PEDAGOGY AND TECHNOLOGY IN EDUCATION AND MOVEMENT SCIENCES, 1(01). Retrieved from [Article][Crossref][Google Scholar]*

14. Kraimer, Koffand Bauman (1997) Williams and Cash (2001) Effects of aerobic and circuit training on fitness and body image among women. Journal of Sport Behavior. 2001. *[Crossref][Google Scholar]*

15. Wilmore Jack H, Costill David L. physiology of exercise, Human Kinetics, United States; 3rd Ed. , 2004. *[Crossref][Google Scholar]*