

Effect of Different Types or Warm Up on Pull Ups

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Abstract

Background: Warming up is the process of increasing blood flow and muscles temperature. It is possible to warm up your whole or part of your body studies have showing however, that warming up the whole body as specific parts, in the only beneficial method. The objective was to study and analyse the effect of the four types of warming up methods namely General warm up, Specific warm up, combination of general & specific warm up and the Passive warm up on the pull ups performance

Methods: 500 male students in the age groups of 14 to 17 years of different school's of Delhi (India) studying in the standard 9 through 12 standard. The respective types of warming up method was repeatedly administered on the 4 group (each group comprising 125 students) and they were measured on their performance on the pull ups of AAHPERD fitness test. The values/scores of the subject were computed to study and analyse which type(s) of warm up is superior over the other(s) in terms of the subject performance on pull ups. One way analysis is variance showed significant difference between the four different warm up groups "Scheffe Post-hoc Test".

Results: However the mean difference between different group on pull up was found to be insignificantly surprising among the selected four types of warm ups passive warm up groups have shows higher mean value then other groups have shows higher mean value then other three groups.

Key words: Physical fitness, Warm up

INTRODUCTION

Exercise may reduce the risk of stroke, which after occurs through the same disease process that leads to heart attacks. There is evidence that exercise reduces the risk of some kinds of cancer, particularly colon cancer, and perhaps cancer of the breast and reproductive organ in women. Protection against osteoporosis comes from weight-bearing exercise, which builds bone during the teens and twenties, and strength, which increases bone density throughout life. Exercise prevents the development of type 2 diabetes and for those who already have diabetes is an important part of treatment. Exercise burns excess sugar and makes cells more sensitive to insulin, as well as keeping body fit at healthy levels.

Exercise improves social, psychological, and emotional wellness. Physical fitness reduces stress reactions, providing protection against physical effects of stress such as cardiorespiratory illness. Psychological stress increases secretion of epinephrine and norepinephrine, which may speed development of atherosclerosis. Exercise hostility also raises the risk of heart disease. Endurance exercise decreases the secretion of hormones and can provide an outlet for feeling of hostility and anxiety. It can also relieve sleep disturbances. Exercise reduce fatigue, anxiety and depression. Physical activity contributes of feelings of self control and increase self-confidence. Exercise provides enjoyment for its own sake and offers changes to interact with other people.

Moderate exercise appears to boost immune function and protect from disease while, excessive training may depresses the immune systems. Increased muscle strength protects against injury by helping people maintain good posture and appropriate body mechanics. It also helps prevent low-back pain. Exercising regularly may be the single most important thing a person can do to improve his quality of life and ensure a longer, healthier life.

The best exercise program promotes health and is fun. To improve health, physical activity should be performed regularly. Recommended accumulation of activity is 30 minutes of endurance type activity of at least moderate intensity on most or all days of the week. Increasing the time spent or the intensity of exercise brings greater benefits. Strength and flexibility activities should be performed at least twice a week. A person's current activity level should determine how to increase the amount of regular physical activity in his or her life. A sedentary person should gradually increase the amount of activity in daily life, perhaps by walking more, taking stairs instead of an elevator or escalator, or doing yard or house work. Small blocks of active time can add up to 30 minutes a day. A more active person may begin a formal exercise program that includes cardiorespiratory endurance, (aerobic exercise) resistance training, and stretching and can participate in recreational sports and increase leisure activities. Planning is important in beginning a formal exercise program. Men over age 40 and women over age 50 should get a medical examination. Certain medical conditions may require a modified exercise program. Participating in a variety of activities ensures development of all the components of fitness, as each component requires specific exercise. When the amount of exercise, also called overload, is progressively increased, the body adapts by improving its functioning and fitness improves. The amount of exercise needed to improve fitness depends on each person's current fitness level and fitness goals.

Rhythmic limbering exercise multi joint exercises that incorporate large muscle groups and are performed at a smooth and moderate pace. They help prepare your body for more vigorous exercise by increasing the range of motion of the joint and its attachments, raising muscle and body temperature, increasing circulation to the tissue surrounding the joints and maximizing neuro-muscular function. Rhythmic limbering exercises can serve as a rehearsal of similar moves that may be performed later at a higher exercise intensity, walking, easy jogging, making in place are a few examples of rhythmic limbering exercises.

Active warm ups can be in a general or specific form or a combination of the two. Rhythmic limbering exercise may be categorized as either general or specific depending on the activity.

General warm up exercises incorporate large muscles of the upper and lower body and require working at a light pace for 5-10 minutes. Such activities are walking, jogging, marching in place, riding a stationary bike, etc. These help to gradually warm up the cardiovascular system and lessen the risk for abnormal functioning of the heart. A general warm up should always be performed prior to stretching and resistance training, specific warm ups involve the same muscles you are planning to train in your exercise session. Some examples are tossing a baseball prior to playing, volleying a tennis ball either with a partner or against a wall, shooting a few baskets before playing basketball and rhythmic limbering exercises prior to aerobic dance exercise.

There is no difference in performance for those people who practice general versus specific warm-ups. Either form, general or specific may be performed in the purpose of a warm up is achieved. Remember that certain activities require complex skill such as throwing or

jumping movements. Therefore, it would be better to participate in a warm up activity specifically related to the athletics event prior to competition.

Purpose of the Study

The present study aim to study and analyse the effect of the four types of warm up methods namely general warm up, specific warm up, combination of general& specific warm up and passive warm up on the performance of students on pull ups paramenter of AAHPERD youth fitness test.

MATERIAL AND METHOD

Aim: The purpose of the test will be to measure muscular endurance of arms and shoulders.

Equipment: Horizontal fixed bar, pen and paper.

Procedure: The subject was asked to use an overhand group with the palms facing away from the body. From the hanging position, the pupil raised the body by the arms until the chin was placed over the bar and then lowers the body to a full extensions/hang. Subject repeated the action as many times as possible. Neither swinging, nor kicking the legs nor knee raising was allowed.

Scoring: The maximum number of completed pull ups performed at one go was considered as the final score of each subject.

RESULTS & DISCUSSION

Table – 1: One way Analysis of Variance between different types of Warm up among Selected Groups on Pull Ups.

	df	S.S.	M.S.S.	F.Ratio Calculated	F.Ratio Tabulated
Between groups	3	8559.602	212.049	86.817	2.60
Within groups	1996	41789.756	2.442		
Total	1999				

* Significant at .05 level of confident $F_{.05}(3,1999)=2.60$

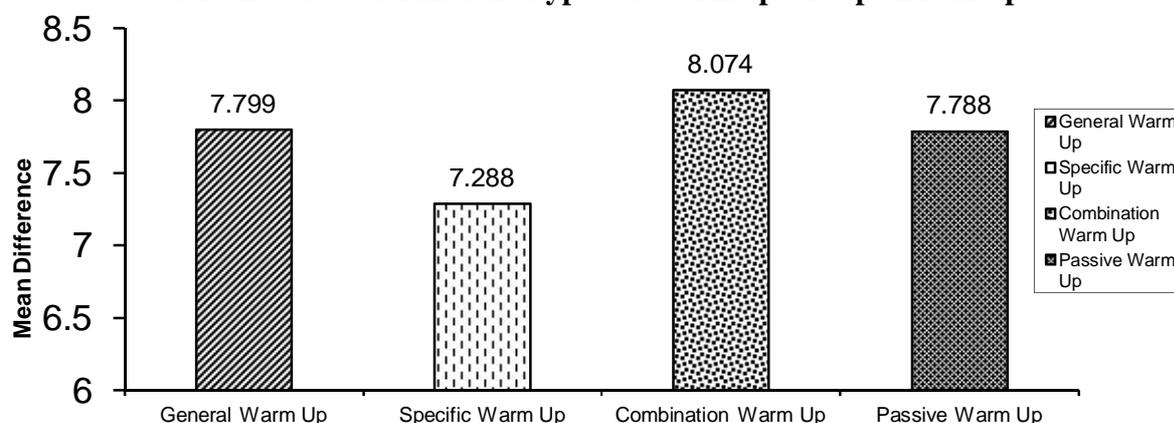
The table 1 reveal that there is significant difference between different types of warm up on Pull Ups as calculated F ratio value was found to be 86.817 against the tabulated F ratio value 2.60 at .05 level of significant. The calculated F ratio value was found to be significantly higher then the tabulated F ratio value. Since that F ratio was found to be significantly higher the "Scheffe Post-hoc Test" was computed. The findings pertaining to scheffe test has been presented in Table 2.

Table-2: Post-hoc Test for Significant of Mean Difference between Different types of warm up Group on Pull Ups.

General warm up	Specific warm up	Combination of Generals & specific warm-up	Passive warm-up	D.M.	C.D.
2.81	2.53			0.28	9.88
2.81		1.64		1.17	
2.81			3.16	0.35	
	2.53	1.64		0.89	
	2.58		3.16	0.63	
		1.64	3.16	1.52	

Table 2 demonstrate that insignificant mean difference was found between the groups involved in different types of warm up on Pull Ups. The mean difference between general warm up and specific warm up was found to be 0.28 which is smaller then the critical value of 9.88. Similarly general warm up compared with combination warm up the mean difference to be 1.17, which is again smaller then the critical value. Table further shows that the mean difference between general warm up and passive warm up was found to be 0.35. The mean difference between specific warm up and combination warm up was found to be 0.89, and specific warm up and passive warm up was found to be 0.63. Similarly combination warm up and passive warm up was found to be 1.52 against the critical value of 9.88. It means that the significant F ratio reveals that among the warm ups group the mean difference exist but this mean difference may not necessarily effect the performance on Pull Ups and this differences in mean value may not be actual differences. The pictorial representation of mean value is depicted in fig. no. 1

Mean Values of Different Types of Warm up Group on Pull Ups.



CONCLUSION

The values/scores of the subject were computed to study and analyse which type(s) of warm up is superior over the other(s) in terms of the subject performance on pull ups. One way analysis is variance showed significant difference between the 4 different warm up groups "Scheffe Post-hoc Test". However the mean difference between different group on pull up was found to be insignificantly surprising among the selected four types of warm ups passive warm up groups have shows higher mean value then other groups have shows higher mean value then other three groups.

References:

- Bonner, H. (1974): Preliminary Exercise. A two factor theory. *Research Quarterly*, 45, 138-147.
 Chaouachi A et. al (2010) Effect of warm-ups involving static or dynamic stretching on agility, sprinting, and jumping performance in trained individuals. *J Strength Cond Res* 24(8):
 Fletcher, I.M., and B. Jones (2004). The effect of different warm-up stretch protocols on 20-m sprint performance in trained rugby union players. *J. Strength Cond. Res.* 18(4).
 Fox & Mathews (1981): The effects of Warm-up Contraction on Concentric and Eccentric isokinetic Torque Value of the Quadriceps. *Athletic Training Journal*, 26,37.
 Gutinet. al. (1981): Depression of Muscles Fatigue curves by heat and cold. *Research Quarterly*, 29 (19), 52.

<http://www.aahperd.org/naspe>

- Ingjer&Strommer (1979): Effect of warm Up on Metabolic responses to strenuous exercise. *Medical Science Sports*, 7 (2),146-149.
- Knowlton et. al. (1978): 12 Month Tai chi training in the elderly. *Med. Science Sports Exercise*. 30 (3), 345-351.
- Lamb (1978): Exemplary Physical Fitness program in the traditional elementary school setting. *Dissertation Abstracts International*, 57 (1), 150-A.
- Sahni P. Sanjeev & Singh Vikram -*Physical fitness training for Adolescents* (Article).Published in "Medi-Focus".A medical magazine by Pushpanjali Medical Publications Pvt. Ltd., VikasMarg, Delhi.