IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Comparative Study Of Selected Physical Fitness Components Between Master Athletes And Non-Athletes

[1]P. Sanjeevulu, [2]Dr. Savita M. Kene

[1]PhD Scholar, [2]Associate Professor

[1,2] Sant Gadge Baba Amravati University, Amravati

Abstract:

A healthy body and mind are essential for overall well-being. If we are in excellent health, we can defend our bodies against pathogens. Because our bodies are so delicate, they must be handled with particular care. The main purpose of the study was to compare selected physical fitness components between Master athletes and Non-athletes of Telangana state. For fulfilling the purpose, the 25 Master athletes were selected from Master Athletic Meet, Hyderabad, Telangana and 25 non-athletes were also selected. The age of the subjects will be ranging from 35-45 years. The data of muscular strength, Agility and flexibility was collected by three different physical tests namely Hand grip dynamometer, Agility T test and sit and Reach test accordingly. The collected data was analyzed by using t-test. At last, it was found that there is significant difference found between master athletes and non-athletes in all the three physical fitness variables. So, the researcher's hypothesis is accepted.

Key Words: Physical Fitness, Strength, Agility, Flexibility, Master athlete, Non-athlete, Comparison.

Introduction:

The decision to begin a physical fitness program should not be taken lightly. It necessitates a lifetime commitment of time and effort. Workouts, like bathing and brushing your teeth, must become automatic habits. You will not be successful unless you are influenced by the benefits of fitness and the risks of inactivity. This fitness is important not only on a physical level, but also on a psychological, social, emotional, and spiritual level. All of these fitness levels are developed concurrently and are interconnected.

Physical Fitness:

A healthy body and mind are required for a complete well-being. We can protect our bodies from germs if we are in good health. Because our bodies are extremely sensitive, they must be handled with extreme caution. We can improve our overall health by developing healthy habits such as eating and sleeping on time. This contributes to us becoming a healthier version of ourselves. We can achieve holistic growth if we focus on all aspects of our health. Nutrition, wellness, spirituality, and mental health are a few examples.There are numerous exercises that can help us improve our physical health and strength. A stronger body would result in less fatigue while participating in any activity. It is recommended that we exercise for at least two hours per day for better health. We can even enroll in fitness classes to receive professional assistance and better practice the art of health and wellness.

Strength:

Muscular strength is the ability to exert force against a resistance enabling you to push, move or lift objects. Greater muscular strength means we can lift, push or pull more.Muscles support the skeleton and allow moving the body.Strong muscles in legs, buttocks, back, abdomen, chest, and shoulders help to stand up straight and maintain good posture.Strong muscles allow for functional movements in everyday life. Many recreational activities, such as skiing and kayaking, necessitate muscle strength in specific muscle groups, such as the legs or upper body. When muscles are strong, the tendons that connect muscles to bone and the ligaments that connect bone to bone are usually strong as well. Muscle-strengthening exercises are linked to bone-strengthening exercises. Strong muscles, tendons, ligaments, and bones reduce the risk of injury because the body is better able to respond to falls or extra loads.

Agility:

Agility is one of the key components of fitness and is valuable in many sports and physical activities. Agility is defined as the ability to move and change the direction and position of one's body quickly and effectively while maintaining control. It necessitates quick reflexes, coordination, balance, speed, and the ability to respond appropriately to changing circumstances.Being agile means moving to the best position to perform the next action, such as catching a ball or making a tackle. Agility ensures that your body and sports equipment are in the best possible position to take the next action.

Flexibility:

The ability of muscles, joints, and soft tissues to move through an unrestricted, pain-free range of motion is referred to as flexibility. It refers to these structures' ability to stretch, lengthen, and contract without restriction, allowing for smooth and efficient movement.The ability of a joint or series of joints to move through an unrestricted, pain-free range of motion is referred to as flexibility. Although flexibility varies greatly between people, certain minimum ranges are required to maintain joint and total body health. Injury, inactivity, and a lack of stretching are all factors that contribute to the loss of normal joint flexibility. The mobility of the soft tissues that surround the joint will influence the range of motion. Muscles, ligaments, tendons, joint capsules, and skin are examples of soft tissues. Stretching insufficiently, especially when combined with activity, can result in fatigue-induced soft tissue shortening over time.

Purpose of the Study:

The main purpose of the study was to compare selected physical fitness components between Master athletes and Non-athletes of Telangana state.

Hypothesis:

On the basis ofavailable literature the researcherhypothesizedthat;there will be significant difference of physical fitness between Master athletes and Non-athletes of Telangana state.

Methodology:

Source of Data:

For the present study the subjects were selected from Master Athletic Meet, Hyderabad, Telangana.

Selection of the Subject:

For the present study 25 male Master Athletes and 25 male non-athletes whose age ranging from 35-45 years were selected, by Simple random sampling technique.

Criterion measures and tools:

Following are the criterion measures which were responsible for collection of data, to testing the hypothesis.

Sr. No.	Variables	Equipment's
01	Strength	Hand grip dynamometer
02	Agility	Agility T-Test
03	Flexibility	Sit & reach test

Measuring procedure:

Strength: Hold the arm with your elbow bent at a 90-degree angle. Squeeze the dynamometer as hard as possible. Apply grip force in a smooth motion. Avoid jerking. Repeat twice more for a total of three times. The grip strength is the average of the three readings.

Agility: Subjects were asked to sprint forwards 9.14 m from the start line to the first cone and touch the tip with their right hand, shuffle 4.57 m left to the second cone and touch with their left hand, then shuffle 9.14 m to the right to the third cone and touch with their right, shuffle 4.57 m back left to the middle cone and touch with their left hand before finally back pedaling to the start line. Time began upon subjects passing through the timing gates and stopped upon them passing through on return.

Flexibility: The 15 inch mark of the yard stick was lined up with a line on the floor and the stick was taped to the floor. The subject was directed to sit down and to line up her heels with its near edge of the 15 inch mark and to slide her seat back beyond the zero end of the yard stick. With the subject's heel not more than 5 inches apart, she was asked to stretch forward slowly with knee locked and touch the fingertips of both hands as many inches down the stick as possible. The best of three trials measured to the nearest quarter of an inch was test score. According to the following criteria score 1, 2, 3, 4 or 5 will be given.

Excellent	Good	Average	Fair	Poor
< 6.5 inch	2.5 to 6.0 inch	0 to 2.0 inch	-3.0 to -0.5	< -7.5
5	4	3	2	1

Analysis of the Data:

After the collection of data from Master athletesand non-athletes of Hyderabad,Telangana, the raw data were converted into standard one by using a statistical technique 't 'test for testing of hypothesis.

Table No. 1

Comparison of Muscular Strength between Master Athleteand Non-Athlete

Game	Mean	S.D.	Mean Difference	SE	Calculated 't'	Tabulated 't'
Master Athlete	**34.64**	**5.908**	**6.56**	**1.43**	**4.586**	**2.000**
Non-Athlete	**28.08**	**4.030**				

Table No1: indicates that the mean of muscular strength of master athlete is 34.64 which is greater than the mean of non-athletes which is 28.08. So, this mean difference is found as 6.56. The calculated value of 't' is found as 4.586 which is greater than tabulated 't' which is 2.000 at 0.05 level of significance, which shows significant difference between two groups. Hence, the hypothesis which was given by the researcher is accepted.

Graph-1

Graphical Representation of Mean difference of Muscular Strength between Master Athlete and Non-Athlete

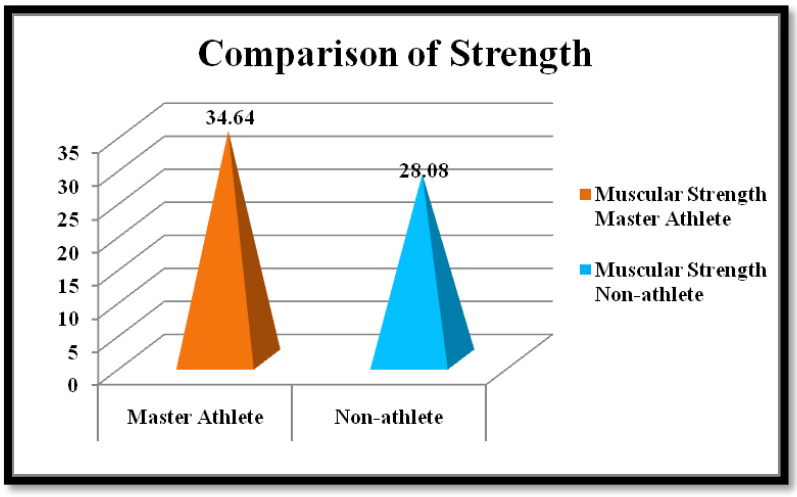


Table No. 2

Comparison of Agility between Master Athlete and Non-Athlete

Game	Mean	S.D.	Mean Difference	SE	Calculated 't'	Tabulated 't'
Master Athlete	6.956	0.947	1.066	0.357	2.979	2.000
Non-Athlete	8.026	1.517				

Table No 2: indicates less time better agility and the mean of Agility of master athletes is 6.956 which is less than the mean of non-athletes which is 8.026. So, this mean difference is found as 1.066. The calculated value of 't' is found as 2.979 which is greater than tabulated 't' which is 2.000 at 0.05 level of significance, which shows significant difference between two groups. Hence, the hypothesis which was given by the researcher is accepted.

Graph-2

Graphical Representation of Mean difference of Agility between Master Athlete and Non-Athlete

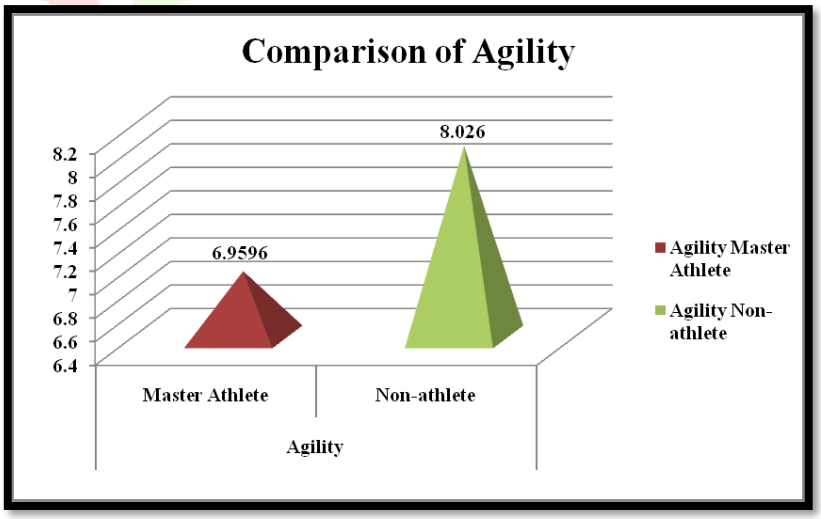


Table No. 3

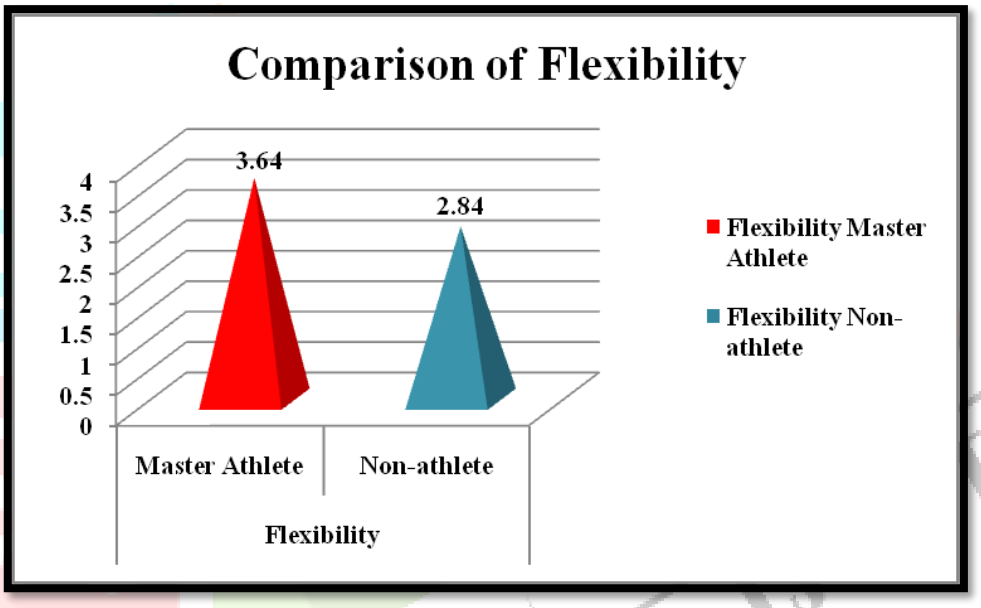
Comparison of Flexibility between Master Athlete and Non-Athlete

Game	Mean	S.D.	Mean Difference	SE	Calculated 't'	Tabulated 't'
Master Athlete	3.64	1.186	0.8	0.324	2.466	2.000
Non-Athlete	2.84	1.106				

Table No 3: indicates that the mean of flexibility of master athletes is 3.64 which is more than the mean of non-athletes which is 2.84. So, this mean difference is found as 0.8. The calculated value of 't' is found as 2.466 which is greater than tabulated 't' which is 2.000 at 0.05 level of significance, shows significant difference between two groups. Hence the hypothesis which was given by the researcher is accepted.

Graph-3

Graphical Representation of Mean difference of Flexibility between Master Athlete and Non-Athlete



Discussion:

The above result of the study shows that there is significant difference between the two groups i.e. master athletes and non-athletes. Also, in all the three tests master athletes' mean are higher than the mean of non-athletes. It is due to may be because of their regular workout schedule, their fitness work outs and practices. But, in non-athlete the absence of daily practice and work outs is the cause of dominance of Master athlete group.

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