

## Effect of Quickness Training on Mental Toughness and Arousal of Sprinters

Balaji Pandurangan<sup>a</sup>, Jothi<sup>b</sup>

<sup>a</sup>Research Scholar, YMCA College of Physical Education, Chennai, India

<sup>b</sup>Associate Professor, YMCA College of Physical Education, Chennai, India

### Abstract

The objective of the present investigation was to examine the effect of quickness training on mental toughness and arousal of sprinters. To achieve the purpose of the study 30 Inter collegiate sprinters were selected as subjects. The age of the subjects ranged between 18-25 years. They were randomly assigned into two groups equally consisting of 15 subjects. The experimental group was named as quickness training group (QTG). The second group was control group (CG). After assigning the subjects into various groups the pretest was conducted on the selected psychological variables namely mental toughness and arousal. After completion of the pre test the subjects of the experimental group was treated with quickness training programs for two days a week along with their regular training schedule. The training period was scheduled for 12 weeks. After 12 weeks of the training period post test was conducted on the dependent variables for all the groups. To analyze the treatment effect of pre and post test training 't' ratio was used. The experimental group (QTG) skill training group has shown significant improvement than the control group in the selected variables. The control group did not show any significant improvement on any of the selected variables. Conclusion: Based on the results it was concluded that the implication of quickness training might have been the source of its dominance on the improvement of mental toughness and arousal of sprinters.

**KEYWORDS:** Quickness training, mental toughness, arousal, sprinters

### INTRODUCTION

Sprinting is one of the oldest recorded forms of athletic competition. The ancient Olympic Games consisted almost entirely of sprint races. The chief event was the stadion which at 192m was roughly the length of the stadium. Two more running races were held, the dialos, which was an out and back race double the length of the stadion, and a distance race of approximately 5,000m called the dolichos. Starting in the ancient games was from starting blocks, which were quite literally blocks of marble with grooves for the feet cut in them. These blocks ran the width of the stadium and thus all athletes had to use the same start irrespective of their size. Athletes also ran naked on bare, hard-baked earth.

The 100 meter, a test of pure speed over a straight distance, was first run at the first run at the first Olympic of the modern era, in Athens in 1896. It quickly became the star event of the games, with the winner of the race recognized as the fastest human being in the world. The first Olympic track events for women were held at the Amsterdam games in 1928.

Even among the most elite performers, certain athletes stand out as a cut above the rest, able to outperform in clutch, game-deciding moments. These athletes prove that raw athletic ability doesn't necessarily translate to a superior on-field experience its the mental game that matters most. (Jim 2015) Winning a race is not only determined by physical efficiency, but also by psychological makeup of each athlete. The success of race depends on the core mental skills of athletes. (Andrew 2015). Psychology plays a crucial role in sports and games. Emotions during a competition can cover the spectrum from excitement and elation (Jim 2010) Emotional challenge communicates that athletes have the ability to meet the demands of your sport, so that they are confident and filled with positive thoughts. Emotional challenge generates many positive emotions such as excitement, joy, and satisfaction. It also stimulates your body to achieve prime intensity, where body is relaxed, energized, and physically capable of performing its best. The athletes gain the ability to attain prime focus, with complete focus on what enables to perform your best.

A work well started is half finished. reaction time and readiness are the components of a good start. Quickness training involves more of reaction drills which may have a positive contribution to the results of the race.

## **METHODOLOGY**

**Selection of Subjects:** To achieve the purpose of the study 30 intercollegiate level sprinters from various universities in and around Chennai were selected as subjects. The age of the subjects ranges between 18-25 years. They were randomly assigned into two groups equally so that each group has 15 subjects. The experimental group was named as quickness training group (QTG).The second group was control group (CG). This study is a pre-post quasi experimental study. After assigning the subjects into various groups the pretest was conducted on the selected psychological variables namely sports emotion, mental toughness and arousal. After completion of the pre test the subjects of the experimental group was treated with quickness training programs. The training period was scheduled for 12 weeks. After 12 weeks of the training period post test was conducted on the dependent variables for all the groups.

## **TESTING PROCEDURE**

### ***Mental Toughness***

**Purpose:** This test is used to measure mental toughness; **Equipment:** Mental toughness Questionnaire (Loehr 1992) and a pen; **Procedure:** This questionnaire contains 18 questions. The sub components of mental toughness are focus, competitive desire, resiliency and self confidence. Participants are asked to read a statement and then circle the number that corresponded best to them. MTQ's question numbers 1, 5, 8, 15&17 corresponds to 'focus'. Similarly the question numbers 4, 9, 13 &18 corresponds to competitive desire. Question numbers 7, 10, 11, 12 & 16 corresponds to resiliency. Questions 2, 3, 6 and 14 corresponds to self- confidence; **Scoring:** A 5 point scale was used with 1 indicating that an athlete strongly agreed (more mentally tough) and 5 indicating strongly disagreed with the statement (less mentally tough)

### ***Arousal***

**Purpose:** This test is used to measure arousal. **Equipment:** Perceived Arousal Scale (Anderson1995) and pen **Procedure:** Different people react very differently to the same

situations. Indicate to what extent they feel this way right now, that is, at the present moment. The current version of the scale has 24 items, some of which are reverse scored, as shown in the second version below. The items of the questionnaire were active, alert, aroused, depressed, drowsy, dull, energetic, excited, exhausted, fatigued, forceful, inactive, lively, powerful, quiet, sharp, sleepy, slow, sluggish, tired, vigorous, weak, weary and worn-out. **Scoring:** A 5-point rating scale was used. The number corresponding to your rating has to be written on the blank line next to each word. Item needs to be reverse scored. The asterisks are not present in the scale when presented to research. The scoring was 1-very slightly or not at all, 2- a little, 3- moderately, 4-quite a bit and 5-extremely

**Training Programme:** Quickness training was given for twelve weeks for 30 minutes as 2 days a week along with one hour of regular training for six days a week. Load was managed by increasing the repetition of the exercises once and reducing the rest for the second six weeks. The training schedule included exercises such as 4-Cone agility Drill, Mirror Drill, Chute Run, X-Drill, 123 Back, Cone alley, direction runs and reaction drills.

**Statistical Technique:** To analyses the comparative treatment effects of training 't' ratio was used with df 1 and 14 at 0.05 level of significant

**RESULTS OF THE STUDY:** Table – I showing Significance of the mean difference of pre and post test of Quickness training group and control group on the selected variables

| Variables        | Groups                   | Pre-test Mean | Post-test Mean | 't' ratio |
|------------------|--------------------------|---------------|----------------|-----------|
| Mental Toughness | Quickness Training Group | 85            | 11             | 34.2      |
|                  | Control group            | 83            | 84             | 0.64      |
| Arousal          | Quickness Training Group | 30            | 99             | 17.12     |
|                  | Control group            | 32            | 31             | 0.67      |

Table - I shows that the obtained t- ratio's between the pre and posttest means of the quickness training group and control group on mental toughness and arousal of inter collegiate sprinters. The obtained t-values of quickness training group was found to be higher than the required table value 2.145 df 1 and 14 at 0.05 level of significant.

Figure -1

Diagram showing pretest and posttest means of QTG and CG on mental toughness

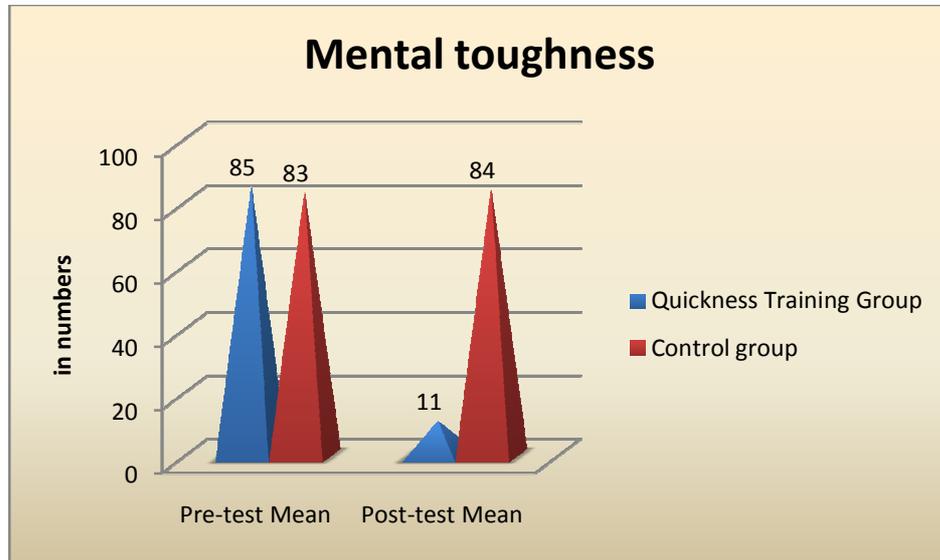
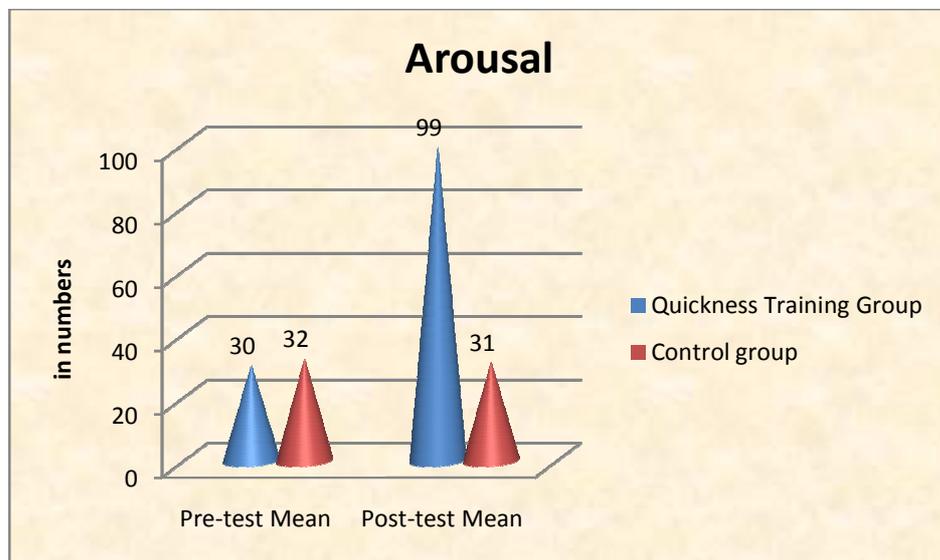


Figure -2

Diagram showing pretest and posttest means of QTG and CG on arousal



## CONCLUSION

This study confirms quickness training had improvements in sports emotion, mental toughness and arousal significantly improved pre test to post test with no changes in control group. Thus it is concluded that quickness training is an essential vital part of

training program designed for sprinters.

**References**

Andrew 2015 Cruickshank<sup>1</sup>, Susan Giblin<sup>1</sup>, and Dave Collins<sup>1, 2</sup>, <sup>1</sup> University of Central Lancashire; <sup>2</sup> Grey Matters for Performance Ltd; Mental Preparation for Competitive Sprinting *The Science of Sport: Sprinting* (pp. 153-164). Ramsbury, Wiltshire: Crowood Press

Jim Taylor 2010 *the power of emotions; psychology today*.

Jim Amfremov (2015) *the Champion's Mind: How Great Athletes Think, Train, and Thrive*