

Assessment of Mental Toughness among High and Low Achievers of Competitive Athletes: A Comparative Study

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Abstract

This study examined the mental toughness and its influence on performance outcomes in competition. For this study 60 athletes competed in different state championships were selected as sample. The samples were further divided in two groups as per performance outcomes in competitions; one was successful athletes who had won the medals (n=30) and other one was non-successful athletes who had not won any medals in any state championship. Psychological Performance Inventory (PPI; Loehr, 1986) was administered to measures the mental toughness to both the groups. Analysis of the fundamental areas of mental toughness revealed that the successful athletes scored significantly higher on all subscale of mental toughness and significant differences were observed between two groups (successful and non-successful) in self-confidence ($p = 0.002$), negative energy control ($p = 0.017$). Attention Control ($p = 0.014$), Visual / Imagery Control ($p=0.253$), Motivational Level ($p = 0.003$), Positive Energy ($p = 0.002$) and Attitude Control ($p =0.012$)

KEYWORDS: Goal orientation, mental toughness, Yogis, Stress and Anxiety.

Introduction

Sven Groan Eriksson, England Football Manger described effectively that- *“Little is required to be successful in sport. It’s certainly mostly a matter of psychology and in the end it’s that psychological difference that decides whether you win or lose.”*

The aim of Physical Education is total personality development of an individual. The objective of Physical education is physical development, mental development, spiritual development and social development. On the other hand, the aim of yoga is the union of mind, body and soul which is same as the aim of physical education. The objective of yoga is social development, physical development, mental development and spiritual development. Kriya, Asana, Mudra help to develop physical and physiological potential. Pranayama, Pratyahara, Dharana can develop mental faculty and by exercising Dhyana and Samadhi one can attain spirituality.

Yoga is a science of right living and it works when integrated in our daily life. It works on all aspects of the person: the physical, mental, emotional, psychic and spiritual.

The classical techniques of Yoga date back more than 5,000 years. In ancient times, the desire for greater personal freedom, health and long life, and heightened self-understanding gave birth to this system of physical and mental exercise which has since

spread throughout the world. The word Yoga means “to join or yoke together,” and it brings the body and mind together into one harmonious experience.

Now a day in the entire world Yoga has become competitive sports. The men and women who are taking in Yoga competitions share incredibly similar penchants for being projected into athletic contexts of existential thoroughness as a response to late-modern boundary-crossing tendencies. In particular, they share preferences for entire physical cultural styles of life which consciously subvert the idea that health, movement and athletics are merely technological or rational modernist ‘things’.

In a competition athlete are constantly under severe levels of stress and anxiety to perform well. They fight for every inch and often put their bodies through unbearable pain to secure a win. Yet how is it done? How does one get the subconscious mind and body to work together without consulting the conscious and rational mind which surely would prevent such nonsense from continuing? As is the case with any competition, there are situations that require the utmost concentration in face of difficult circumstances.

Most coaches and athletes acknowledge that anything between forty and ninety percent of sporting success is due to mental factors (Williams, & Krane, 2001). In fact, only mental readiness was seen as significant for Olympic success (Olick & Partington, 1998). According to Loehr (1982), mentally tough athletes respond in varying ways which enable them to remain feeling relaxed, calm and energized because they have learned to develop two skills; firstly, the ability to increase their flow of positive energy (i.e. using energy positively) in crisis and adversity, and secondly, to think in specific ways so that they have the right attributes regarding problems, pressure, mistakes and competition. (Jones, Hanton, & Connaughton, 2002).

A factor often associated with successful performance in competition is mental toughness. Mental toughness can be considered as a mental skill factor. Some research findings has identified mental skills as a psychological construct that distinguishes between more and less successful performance across a number of sports; for example, golf (Thomas and Over, 1994), and equestrian, (Meyers et al., 1998). Mental toughness and its importance in competitive sports have been documented in literature (see Goldberg, 1998; Hodge, 1994; Tunney, 1987; Williams, 1988). Loehr (1982; 1986) suggested that fifty percent of success in competitions could be attributed to mental toughness in athletes.

Therefore, in this study the researcher has considered the seven fundamental attributes of mental toughness suggested by Loehr (1986), specifically, the mental toughness attributes include (1) self-confidence (i.e. belief that one can perform well and be successful), (2) negative energy control (i.e. to cope with negative emotions such as fear, anger, frustration and temper for achieving success), (3) attention control (i.e. stay focused and to perform well), (4) visualization and imagery control (i.e. creating positive mental images), (5) motivation level (i.e. the energy and willingness to persevere), (6) positive energy control (i.e. energized with fun, joy and satisfaction), and (7) attitude control (i.e. habits of thought and unyielding).

Methodology

Total 60 male athletes took part in this study. All the athletes were state level athletes from West Bengal. The sample included 30 high achiever athletes (N=30) who had won the Gold, Silver and Bronze medals in different state level championships and 30 low achiever athletes who could not win the medals (N=30). The samples were selected by random sampling technique. Sample was taken from the different venues of open state level championships. Data was collected one day prior to the competitions.

Instrument

Mental toughness: Psychological Performance Inventory

(P. P.I, Loehr, 1986) a 42 items self-report inventory with seven subscales, designed to measure factors that reflect mental toughness in an athlete were administered to the athletes. Each subscale consisted of six items measuring the seven fundamental areas of mental toughness viz. self-confidence (e.g., "I believe in myself as a player"), negative energy control (e.g., "I can remain calm during competition when confused by problems"), attention control (e.g., "I can clear interfering emotion quickly and regain my focus"), visualization and imagery control level (e.g., "Before competition, I picture myself performing perfectly"), positive energy control (e.g., "I can keep strong positive emotion flowing during competition"), and attitude control (e.g., "I am a positive thinker during competition"). The responses are indicated on a 5- point Liker type scale where 1=Almost always, and 5=Almost never).

Performance measure: Winning a medal in the Open State Championship was considered as successful performance outcome for the purpose of this study.

Data analysis

Descriptive statistics were computed for all measures assessed, the data obtained were analyzed with the help of statistical software (SPSS 16 version). The mean, standard deviation along with 't' test was applied to check the differences between samples mean of two groups viz. high achievers and low achiever athletes. The criterion for statistical significance was set at 0.01 level of confidence.

Results

Table-1
Descriptive Statistics of Successful Athletes (n=30)

Mental Toughness	Mean	S.D
Self Confidence	19.62	2.34
Negative Energy Control	19.57	1.75
Attention Control	18.16	2.49
Visual / Imagery Control	18.72	2.77
Motivational Level	19.61	2.55
Positive Energy	18.86	2.56
Attitude Control	19.35	2.56

Table-2
Descriptive Statistics of Non-Successful Athletes (n=30)

Mental Toughness	Mean	S.D
Self Confidence	17.14	3.09
Negative Energy Control	17.81	3.25
Attention Control	16.27	2.70
Visual / Imagery Control	18.16	1.98
Motivational Level	17.31	2.83
Positive Energy	16.64	2.57
Attitude Control	17.74	2.73

Table-3
Comparison of Mental Toughness Successful and Non-Successful Athletes (n=60)

Mental Toughness	t	df	Sig. (2-tailed)	Mean Difference
Self Confidence	3.37*	58	.002	2.48
Negative Energy Control	2.43	58	.017	1.76
Attention Control	2.62	58	.014	1.89
Visual / Imagery Control	1.23	58	.253	.56
Motivational Level	3.31	58	.003	2.30
Positive Energy	3.26	58	.002	2.22
Attitude Control	2.57	58	.012	1.61

Analysis of the fundamental areas of mental toughness revealed that the successful athletes scored significantly higher on all subscale of mental toughness and significant differences were observed between two groups (successful and non-successful) in self-confidence ($p = 0.002$), negative energy control ($p = 0.017$), Attention Control ($p = 0.014$), Visual / Imagery Control ($p=0.253$), Motivational Level ($p = 0.003$), Positive Energy ($p = 0.002$) and Attitude Control ($p = 0.012$) the finding of this study is also supported by Kuan, G., Roy, J. (2004) who also observed significant differences between athletes (medalist and non-medalist) in self-confidence($p=0.001$) and negative energy control ($p=0.042$). Medalist's scored significantly higher on self-confidence and negative energy control than the non-medalists. The results of this experiment clearly show that affecting some one's confidence will affect their performance. In this study also successful athletes were reported more self-confidence than non-successful athletes, 't' 3.48 is significant at 0.01 level of significance. The finding of this study is also supported by the Golby and Sheard (2003) who studied mental toughness at different levels of rugby league and reported that the athletes scored significantly higher on two of the seven mental toughness subscales (negative energy control and attention control).

Another study carried by Bortoli and Robazza (1997) and Stephaniel L and Stolz have clearly shown that in the motor and sport domain, the confidence which subject places on their own capacities is one of the most important factors affecting performance, it is also found that there is a significant increase in the performance of individuals with

higher self-confidence. The results of this experiment clearly show that affecting one's confidence will affect their performance. In this case also successful athletes were reported more self-confidence than non-successful athletes as 3.48 is significant at 0.01 level of significance.

Conclusion

At high level sport competitions, it is difficult to beat the opposition by raw physical talent and game skill alone but sport performance is depending upon mental preparation and psychological strength so mental preparation must be done along with physical preparation for upcoming competition. The mental training may include setting up short-term goals, building confidence and control the negative thoughts. Present study has focused on the implication and importance of psychological training by understanding effects of athlete's mind on their sports performance may be beneficial for achieving maximum potential in sports.

Implication

Sports psychology is the key to sports excellence. Therefore, through the implementation of the psychology performance inventory, which highlights the mental toughness of players and the information obtained, would be specific to the psychological demands of athletes to achieve success in sports. A greater understanding of psychological needs and demands of athletes would offer coaches, physical educationist, and trainer the opportunity to provide better support and advice to individual athlete. Therefore, this study is useful to enhance the athlete's overall performance.

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