

Mental Toughness in Athletes: A Review

Ghanishta Tuli^{1*}

ABSTRACT

Every athlete experiences a variety of stressors, obstacles, adversities throughout their career. Injuries, self sabotage, emotional balance, performance pressure, hostile audience, fear of the opponent etc are some of the very few hurdles every athlete has to surpass in their athletic journey. Some sail through it smoothly and some struggle a lot. However, there are winning moments too. Leading a team, scoring the highest score, winning streaks etc are some of the positives too that every athlete experiences. But there's not much gap between these highs getting converted into lows. Overconfidence, ego, impatience, lacking empathy etc are some of the traits that develop when an athlete doesn't handle the success positively. Both negative and positive experiences persist of good and bad outcomes. Having the ability to balance both positives and negatives is what makes one different from the entire crowd. This review considers how important mental toughness could be for athletes and what attributes contribute in making a person mentally tough. Qualitative and quantitative studies on mental toughness are evaluated. Future directions for research are offered.

Keywords: *Mental Toughness, Athlete, Coping*

Physical talent not being the only factor leading to a better performance of an athlete, the importance of psychological awareness is building up its recognition in the sports industry (Gucciardi, Gordon & Dimmock, 2008). Mental toughness is viewed as one of the most important factor which determines the success of a professional athlete (Bull, Shambrook, James, & Brooks, 2005). Development of mental toughness is indicated to be a long process (Connaughton et al 2008) but not an impossible one.

Factors like coaches, parents, teammates, senior athletes, environment outside sports, experiences, psychological skills and inner motivation plays a very crucial role in the development of mental toughness. Weinberg & Gould (2003) stated that when competing with the opposition, 50% of the success rate is dependent upon the mental abilities of the athlete.

Research supported that motivation to succeed, strong personal network and basic psychological skills are the three mechanisms that help in maintaining the mental toughness (Connaughton et al, 2008).

¹BA Psychology Honors, Department of Psychology, MCM DAV College, Chandigarh, India

*Corresponding Author

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Coaches, athletes and sports psychologists have always considered mental toughness being one of the most important psychological characteristics for a successful performance (Crust, L. (2007).

However, it is probably the most underrated psychological term among the sports industry (Jones et al, 2002). This is mostly due to confusion surrounding so many definitions and different views on mental toughness.

The purpose of this review is to examine the existing studies on mental toughness, its importance and its relation with other psychological and environmental factors.

QUALITATIVE STUDIES

In a study conducted by Fourie and Potgieter (2001), they examined the responses of 131 expert coaches and 160 elite athletes. They were meant to describe their best meaning and explanation of mental toughness by answering a sequence of questions. 12 factors were identified as components of mental toughness: coping skills, confidence maintenance, discipline and goal directedness, motivation skills, cognitive skills, competitiveness, religious convictions, ethics, psychological hardiness, team unity, preparation skills and prerequisite physical and mental requirements. As a result of this research, **Concentration** turns out to be the most important characteristic according to the coaches, while for the athletes, **Perseverance** holds to be the most significant (Fourie and Potgieter 2001).

Kelly's (1955) personal construct theory explains how people form their individual constructs about how the world works. This then further helps in making sense about their observations and experiences. To understand mental toughness in depth, Jones et al. (2002) conducted a qualitative study employing Kelly's (1955) personal construct theory. Ten elite athletes were a part of this study. Jones et al. (2002) put forward that mental toughness is a **natural or in-built ability** of staying consistent, confident and focused under pressure and being able to cope better with competition and training in sports. Concluding this analysis, Jones et al. (2002) identified 12 main attributes of mental toughness: getting back up strong and facing all the setbacks with a goal to succeed, being very much confident about one's self-belief and strengths, having an aspiration to succeed, being fully focused on the professional tasks and not getting distracted, being able to mentally recover after any unforeseen events, Balancing the emotional and physical pain and continuing with the same efforts and approach under stress, knowing that anxiety in competitive situation is unavoidable and one can easily cope with it, having an unwavering self-belief in one's ability to achieve their competitive goals, facing the pressure of high level games, not getting affected by others performances, either good or bad, staying focused despite of being facing personal distractions and being able to turn the sport focal point on and off.

To get a more elaborated knowledge on Mental Toughness, in 2007, Jones et al. conducted a study on 8 elite athletes, 3 coaches and 4 sports psychologists. The study was carried forward in three stages. The result verified the Jones et al. (2002) earlier proposed definition of mental toughness. Earlier having stated 12 attributes Jones et al. (2002), in this study 30 attributes were identified as essentially being associated to being mentally tough. The attributes were categorized under 4 different dimensions within mental toughness; a general Attitude or mindset dimension and three-time specific dimensions i.e., Training, Competition and post competition (Jones et al. (2007).

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Another study conducted by Bull et al., (2005) examined the general conceptualization of the construct of mental toughness. Bull et al., (2005) kept this research specific for cricket players. The aim of this study was to get more in-depth knowledge about what cricketers mean by mental toughness and how they develop and form their own mental toughness. A qualitative method was used to interview 12 cricketers. The participating cricketers were the ones who were identified as mentally tough by their respective coaches. Analyzing the results, Bull et al., (2005) identified that a player's "environment" plays a vital role in influencing 'Tough Character', 'Tough Thinking' and 'Tough attitude'. Environmental factors like family, childhood, early survival from setbacks, foreign experience helps in shaping one's Tough character (confidence, independence, competitiveness with self), Tough attitude (never giving up attitude, making the extra efforts, willing to take risks, wish to make a difference, setting self-goals) and Tough thinking (clear thought process, good decision making, self-confidence) Bull et al., (2005).

Thelwell et al. (2005) conducted a study on professional male soccer players. Like Jones et al. (2007), the players were asked to differentiate between their sport specific meaning and general understanding and knowledge about mental toughness. The result concluded that the players view mental toughness "**always**" helping them cope better. They identified ten attributes of mental toughness. The attributes are as follows: wanting to be engaged and involved all the time, having utmost belief in self, being able to handle everything positively, being able to stay calm under pressure, being able to easily get out of troubled situations, being able to stay focused, being able to control emotions in between performances, being able to control everything off field, being able to have a strong presence among the opponents and enjoying the pressure while playing (Thelwell et al.,2005).

QUANTITATIVE STUDIES

Middleton et al. (2005) developed the Mental Toughness Inventory (MTI). It is a 67 item model based on mental toughness which originated from their previous qualitative study. MTI was developed to quantify the 12 characteristics proposed by Middleton et al. (2004). The characteristics are: self efficacy, future prospects, self perception, task familiarity, self motivation, value, commitment and focus towards a task, persistence, healthy competition, positivity and stress reduction. The model resulted to be a reliable fit.

Sheard et al. (2009) constructed the Sports Mental Toughness Questionnaire to assess mental toughness. Two independent studies were conducted which supported a three factor (Control, Constancy and Confidence) 14- item model for the SMTQ. A total sample of 633 athletes (206 female, 427 males; M age = 21.5 years; SD = 5.48), were drawn out of 25 sports classifications and athletes competing at national, international, country, club or regional standards. The first study was conducted with the purpose of developing items and exploratory factor analytic techniques to establish the psychometric properties of the questionnaire. The second study was conducted to confirm the structure obtained in the first study. With a sample of 509 sports performers (351 males, 158 females; M age = 20.2 years; SD = 3.35) drawn from 26 sports, confirmatory factor analytic techniques were used to confirm the structure. A high-order exploratory analysis was performed using the Schmid-leimam procedure which identified a single underlying factor of Mental Toughness.

To get a better vision onto the empirical evidence of mental toughness, Nicholls (2008) conducted a research exploring the relation between mental toughness and coping, mental toughness and optimism and coping and optimism. A total of 677 athletes (male 456; female 223) aged between 15 and 58 years (M age = 22.66 years, SD = 7.20) were administered.

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The result showed a significant correlation of Mental Toughness with 8 out of 10 coping subscales and optimism. 8 coping strategies significantly correlated with pessimism and optimism. The study concluded by suggesting incorporating coping and optimism training in the mental health interventions.

DISCUSSION

For this review, qualitative and quantitative studies been conducted on mental toughness are evaluated. The main focus of this review was to highlight the importance of mental toughness and finding the attributes that supports one to be mentally strong. The research focus seems to be emphasized more towards the non-empirical studies. While a theoretical knowledge is necessary for a basic understanding but putting in statistical implementation is necessary to see any developmental scope in the subject area. The studies have contributed to the field in systematic order however some drawbacks were identified in the review.

The review identified that very little emphasis is given upon the practical implementation of the theory and the entire developmental process of mental toughness. Studies have highlighted number of attributes contributing to the development of mental toughness but how to accomplish that is still to be worked upon.

Mental toughness is multifaceted and within the review many attributes were repetitive. This repetitiveness is a signal to the fact that different sports share some common attributes. Irrespective of the sport, the understanding of the attribute can be the same.

The review identified that various perspectives were been approached i.e., athletes, coaches, sports psychologists etc. This gives a broader viewpoint into the research matter.

The environmental factor seemed quite prominent across the studies reviewed. Bull et al., (2005) mentioned in his study that environmental factors like family, childhood, foreign experience etc as factors affecting one's mental toughness. It stated that environmental factors influence one's tough character, tough attitude and tough thinking.

CONCLUSION AND FUTURE RECOMMENDATIONS

Since the origination of the term mental toughness, many promising researches have been conducted which gives us a good insight into the subject matter. Both qualitative (Fourie and Potgieter, 2001; Kelly, 1955; Jones et al., 2002; Jones et al.,2007; Bull et al., 2005; Thelwell et al., 2005) and quantitative (Middleton et al.,2005; Sheard et al.,2009; Nicholls,2008) researches have been very vital in gaining information about mental toughness but some limitations still exist.

The review identified two main limitations. Firstly, the development of traits. Mental toughness is a vast and multifaceted subject area. Many attributes like coping skills, confidence maintenance, discipline and goal directedness, motivation skills, cognitive skills (Fourie and Potgieter, 2001) etc. listed within the review are some of the pathways of achieving mental toughness. Inventories can be formed that helps athletes improve these skills which would further help them with their respective games.

Secondly, conducting more quantitative studies would give a much broader outlook as to which area needs to be developed. Mental toughness is stuck to more of a qualitative approach which in fact requires a practical approach. It's a concept which is implemented into the practical field. Research with a combination of both quantitative and qualitative would be appropriate to find some revolutionary findings.

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Therefore, these two areas should be considered as potential study since the subject area still has a lot more developmental potential.

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Conflict of Interest

The author(s) declared no conflict of interest.

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