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Comparative evaluation of mental toughness among female players based on their achievements in indigenous sports

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Abstract

The present study was planned to assess the difference in mental toughness of indigenous sports female players based on their achievements. To conduct the study 30 high achiever female players were selected from indigenous sports namely kho-kho and kabaddi. The criteria were to have a team member of a team from the first four places in the national tournament. 30 district level female players were also selected from the same indigenous sports and labelled as low achievers. The age range of female players of both groups was 20-25 years. Random sampling was used for selecting female players participating in indigenous sports. The mental toughness of female players participating in indigenous sports was evaluated by a questionnaire constructed by Tiwari (2007). This questionnaire is a valid measure to evaluate mental toughness and it is based on five factors namely self-confidence, motivation, attention control, goal setting, visual and imagery control and attitude control respectively. The reliability and validity of this questionnaire are established by the author with proper statistical techniques. Based on results and discussion it may be concluded that high achiever female players from indigenous sports possess more magnitude of mental toughness than the low achiever female players from indigenous sports thereby reestablishing the scientific linkage between mental toughness and achievement in indigenous sports competitions.

Keywords: mental toughness, indigenous sport

Introduction

In recent times the term mental toughness is often used in connection with performance. This may range from performance in academics, the workplace or even sports. A broad concept of mental toughness is used in sports training. A mental state of a player governs his/her success because it has been equivocally advocated that some psychological characteristics are vital for sports performance. The meaning of the term mental toughness is also controversial because sometimes sports psychologists or media also uses it to show an athlete's persistence despite being not in an elite group. Commitment, control plus challenge are the main attributes of mental toughness. This definition of Kobasa (1979) ^[14] lays so much emphasis on these three variables. A wholehearted commitment coupled with control over emotional, social and physical surroundings may make a player take future challenges. Sports performance comes with immense stress and physical demands. According to Smith and Smoll (1989) ^[23] mental toughness means the coping ability of an individual to deal with various types of stress arising out of different sources and environments. Another important contributor to developing the definition of mental toughness is Fouries and Potgieter (2001) and they include several cognitive, psychological, physiological and perceptual factors in it. They include discipline, concentration, team cohesion, keeping the confidence level up, good competitive behaviour and adequate motivation while defining the controversial term mental toughness. Jones (2002) ^[11] suggest that consistency in cognitive and psychological characteristics during a competition give hindsight about an athletes mental toughness. Mental toughness allows athletes to maintain confidence, emotional control, concentration and focus during the entire duration of a match or even tournaments.

Jones *et al.* (2002) ^[11] opined that athletes who compete better during training or competition or maintain the equilibrium between personal life and sports naturally have a psychological

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upper hand and that is why those athletes are considered mentally tough just because of their coping skills. They also defined mental toughness as performing to the best of their abilities under intense psychological stress and pressure from competitive sport.

Connaughton *et al.* (2010) [3] reported that decision making and environment are the major sub-variables of the mental toughness framework. Despite extensive research, it is not known yet whether mental toughness is trainable or not? This view was expressed by Sheard (2010) [20]. Jones *et al.* (2007) [12] also prove that 30 attributes make up for mental toughness and world-beater athletes and sportspersons normally have a minimum of 12 attributes.

The main factor that is advocated in mental toughness is attention control. It means that a sportsperson focuses his entire energy on a given task. When a batsman watches the bowlers hand till the last minute it shows that his attention is entirely on the bowling hand. Astle and Scerif (2011) [1] also opined that execution attention or attention control is closely guarded by working memory. Because attention control is the result of cognition and anxiety an athlete must control their anxiety so that he can focus entirely on a single task. Goal setting is another subfactor of mental toughness and Locke and Latham (2006) [16] defined its utility in sports performance. They reported that task difficulty and goal setting accordingly is embedded in mental toughness. Again focussing on a single task is part of achieving goals. Mental rehearsal is also a major part of mental toughness because it gives an athlete control to focus on only those tasks/information that is most relevant in a particular situation. This opinion is given by Feltz and Landers (1983) [5]. Morris and Watt (2003) [17] also showed the improvement in sports performance due to the proper use of mental imagery and rehearsal. Motivation is another factor in the mental toughness framework and a sportsperson needs to set challenging tasks so that it motivates him to achieve that task or enhance some sports skills (Hayashi, 1996) [10].

Review of Literature

Studies conducted by Gould *et al.* (2002) [7], Hanton *et al.* (2003) [9], Kuan and Roy (2007) [15], Patel *et al.* (2011) [19], Sathe (2013) and Shrigiriwar (2019) [21] studied mental toughness in sportsperson and they revealed a positive influence of mental toughness on sports performance but Boroujeni *et al.* (2012) [2] and Singh (2015) [22] did not find association of mental toughness with sports performance. Because of this, the present study is relevant.

Hypothesis

It was hypothesized that the mental toughness in high achiever female players will be significantly superior to the low achiever female players participating in indigenous sport.

Methodology

Sample

To conduct the study 30 high achiever female players were selected from indigenous sports namely kho-kho and kabaddi. The criteria were to have a team member of a team from the first four places in the national tournament. 30 district level

female players were also selected from the same indigenous sports and labelled as low achievers.

The age range of female players of both groups was 20-25 years.

Random sampling was used for selecting female players participating in indigenous sports.

Tools

The mental toughness of female players participating in indigenous sports was evaluated by a questionnaire constructed by Tiwari (2007). This questionnaire is a valid measure to evaluate mental toughness and it is based on five factors namely self-confidence, motivation, attention control, goal setting, visual and imagery control and attitude control respectively. The minimum score a subject attain on this questionnaire is 48 while a subject can score a maximum score of 240.

The reliability and validity of this questionnaire are established by the author with proper statistical techniques.

Procedure

Based on inclusion criteria, 30 high achievers and 30 low achievers female players from indigenous sport namely kho-kho and kabaddi were selected. The mental toughness questionnaire was administered and received responses on each statement were numerically evaluated. The numerically evaluated responses were separately tabulated in two study groups. The results derived from independent sample 't' test are given in table 1 and 2 respectively.

Result and Discussion

Table 1 gives the comparative statistics of mental toughness between high and low achiever female players from indigenous games such as kho-kho and kabaddi.

Table 1: Comparison of Mental Toughness among Female Players from Indigenous Sports Based on their Achievements

Groups	Mean	S.D.	Mean Difference	't'
High Achiever (N=100)	191.96	34.43	24.46	2.79**
Low Achiever (N=100)	167.50	33.26		

** Significant at .01 level

According to the information given in table 1, the mean value on mental toughness for high achievers female players was 191.96 and the standard deviation was 34.43.

The mean value on mental toughness for low achiever female players was 167.50 and the standard deviation was 167.50.

Hence it is clear that mental toughness is superior in high achiever female players than the low achiever female players because the $t=2.79$ proves the statistical significance of mean difference = 24.46 between two groups at .01 level.

The factors of mental toughness were also compared between high achiever and low achiever female players group so that the make-up of mental toughness in these groups can be understood more properly and the results are given in table 2.

Table 2: Depicting Comparative Statistics for Factors of Mental Toughness for High and Low Achiever Female Players

Sub-factors of Mental Toughness	Female Players from Indigenous Sport				Mean Difference	't'
	High Achievers (N=50)		Low Achievers (N=50)			
	Mean	S.D.	Mean	S.D.		
Self Confidence	34.93	5.65	28.53	9.19	6.40	3.24**
Motivation	39.20	7.70	37.96	8.64	1.23	0.58
Attention Control	39.53	8.60	31.20	11.00	8.33	3.26**
Goal Setting	29.66	7.63	24.73	7.47	4.93	2.52*
Visual and Imagery Control	25.03	4.37	19.36	6.15	5.66	4.11**
Attitude Control	24.83	6.44	24.46	4.62	0.36	0.25

** Significant at .01 level

The detailed analysis for table 2 is presented below

- High achievers female players participating in indigenous sport was found to be a significantly higher level of self confidence than the low achiever female players also participating in indigenous sport. The $t=3.24$ and mean difference of 6.40 proves it at $p<.01$.
- Motivation level of high and low achiever female players participating in indigenous sport was found to be on similar levels. The $t=0.58$ and mean difference of 1.23 proves it at $p>.05$.
- High achiever female players participating in indigenous sport was found to be significantly higher level of attention control than the low achiever female players also participating in indigenous sport. The $t=3.26$ and mean difference of 8.33 proves it at $p<.01$.
- High achiever female players participating in indigenous sport was found to be significantly better goal setting ability than the low achiever female players also participating in indigenous sport. The $t=2.52$ and mean difference of 4.93 proves it at $p<.01$.
- High achiever female players participating in indigenous sport was found to be significantly higher level of visual-imagery control than the low achiever female players also participating in indigenous sport. The $t=4.11$ and mean difference of 5.66 proves it at $p<.01$.
- Attitude control capabilities of high and low achiever female players participating in indigenous sport was found to be on similar levels. The $t=0.25$ and mean difference of 0.36 proves it at $p>.05$.

Studies conducted by Gucciardi *et al.* (2009) [8], Crust and Azadi (2010) [4], Nicholls *et al.* (2008) [18] established a link between mental toughness with sports performance by including factors such as emotional control, coping ability, confidence and some other psychological skills. Hence the results are consistent with previously established theories of mental toughness which says that it affects sports performance.

Conclusion

Based on results and discussion it may be concluded that high achiever female players from indigenous sports possess more magnitude of mental toughness than the low achiever female players from indigenous sports thereby reestablishing the scientific linkage between mental toughness and achievement in indigenous sports competitions.

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