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A study of mental toughness among male sportspersons on the basis of sports achievement and type of sport

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Abstract

The present study was conducted to find out the effect of sports achievement and type of sport on mental toughness among male sportspersons. To conduct the study 100 male sportspersons were selected. Out of these 50 male sportspersons were competing in team events while 50 male sportspersons were competing in individual events. Among 50 male sportspersons from team events, 25 male sportspersons were medal winners in national level tournament while 25 male sportspersons were non-medal winners. Similarly among 50 male sportspersons from individual events, 25 male sportspersons were medal winners in national level tournament while 25 male sportspersons were non-medal winners. The sportspersons were selected from team sport such as volleyball, basketball and hockey as well as from individual sports such as badminton, athletics and table tennis. Mental toughness questionnaire prepared by Tiwari (2007) was used for data collection. Results obtained from 2x2 ANOVA reveals significant main effect of sports achievement on mental toughness with medal winner male sportsperson showing superiority over non-medal winner male sportsperson. The main effect of type of sport on mental toughness was not observed but mental toughness of male sportspersons participating in team sport was found to be higher as compared to male sportsperson participating in individual sports. The two factor interaction effect of sports achievement and type of sport was not observed on mental toughness of male sportsperson. It was concluded that mental toughness of male sportsperson can be predicted by their sports achievement alone and type of sport to a limited extent but not collectively as an interaction between sports achievement and type of sport.

Keywords: Mental toughness, sports achievement, type of sport

Introduction

Psychological feature of sports performance has been widely emphasized in sports psychology. The role of psychological parameters towards sporting success is widely accepted these days. The fitness, tactical and technical skills of players at the highest level are somewhat similar and that is why psychological characteristics are essential for sports performance. One such psychological variable that has gained popularity over the years is mental toughness. Mental toughness defines the mental state of a player. The term mental toughness is used to describe certain positive psychological attributes that are required to deal with complex situations effectively. We often hear the term mentally tough from sports psychologist, former player and coaches. A definition put forth by Kobasa (1979)^[12] describes mental toughness as "a set of ideas about self and the environment which are comprised of three elements including commitment, control and challenge." Smith and Smoll (1989)^[19] described mental toughness as the ability to handle stress and adversity in a manner that does not suffer performance under conditions that place high physical and psychological demands on athletes. In continuation with definition of mental toughness factors such as confidence, coping strategies, level of motivation, psychological hardiness etc. are included by Fourie and Potgieter (2001)^[7] in their definition. Loehr (1994) introduced four core elements of emotion, i.e. versatility, sensitivity, strength and resilience as major contributors of mental toughness, contributing significantly to sporting performance. Researchers like Sheikh and Korn (1994)^[17], Keenan (1996)^[11], Abrahamsen *et al.* (2008)^[1], Astle and Scerif (2009), Grant (2012)^[10] have included sub factors such as attention control, goal setting, mental imagery, competitive anxiety and motivation in a framework of mental toughness. The efficacy of mental toughness towards enhanced sports performance has attracted quite a few researchers. Researchers like

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Gould *et al.* (2002) [9], Golby & Sheared (2004) [8], Kuan and Roy (2007) [13], Sheard (2009) [16], Boroujeni *et al.* (2012) [4], Bhardwaj *et al.* (2014) [3], Singh (2015), Cowden (2016) [6] have explored the possible linkage between mental toughness and sports performance. Despite extensive research so far no study yet has been conducted in which mental toughness in male sportsperson has been analysed in the light of their sports achievement and type of sport. There is a basic difference in team and individual sport. In team sport a players work together while in individual sport a player rely entirely on own skills. Hence the researcher decided to assess mental toughness of male sportsperson with a different angle.

Objective

The objective of the present study is to assess main and interaction effect of sports achievement and type of sports on mental toughness of male sportsperson.

Hypothesis

It was hypothesized that sports achievement (medal winner - non-medal winner) and type of sport (team - individual) alone and interaction with each other will significantly influence mental toughness of national male sportsperson.

Methodology

Sample

To conduct the study 100 male sportspersons were selected. Out of these 50 male sportspersons were competing in team events while 50 male sportspersons were competing in individual events. Among 50 male sportspersons from team events, 25 male sportspersons were medal winners in national

level tournament while 25 male sportspersons were non-medal winners. Similarly among 50 male sportspersons from individual events, 25 male sportspersons were medal winners in national level tournament while 25 male sportspersons were non-medal winners. The sportspersons were selected from team sport such as volleyball, basketball and hockey as well as from individual sports such as badminton, athletics and table tennis. The age range of subjects was 19 to 25 years.

Tools

Mental toughness questionnaire prepared by Tiwari (2007) was used for data collection. It consists of 48 items which measures overall mental toughness and sub variables i.e. self confidence, motivation, attention control, goal setting, visual and imagery control and attitude control. This test is highly reliable and valid.

Procedure

After selection of subjects as per the objectives of the present study, Mental toughness questionnaire prepared by Tiwari (2007) was administered.

After scoring of the responses according to author’s manual, obtained data was tabulated. Data analysis was carried out by 2x2 ANOVA method.

In this fourfold ANOVA table, sports achievement has two categories namely medal winner and non medal winner male sportsperson while type of sport has two categories in the form of team and individual sports events.

The obtained results are presented in table 1.

Results

Table 1: Effect of Sports Achievement (A) x Type of Sports (B) on Mental Toughness of Male Players (N=100)

		Type of Sports (B)		Marginal Mean
		Team Event (b1)	Individual Event (b2)	
Sport s Achieve men t (A)	High (a1)	N=25 M=196.96 S.D. = 22.41	N=25 M=190.80 S.D.=31.12	193.88
	Low (a2)	N=25 M=188.12 S.D.=34.35	N=25 M=173.60 S.D.=27.72	180.86
Marginal Mean		192.54	182.20	

Table 2: ANOVA Summary

Source of Variation	SS	df	MS	F
A4238.010				1
4238.0104.95*				
B2672.890				1
2672.8903.12(NS)				
AB436.810				1
436.810 0.51 (NS)				
Within treatment82093.600				96
855.142 (Error)				

* Significant at .05 level; NS Not Significant Table 1 reveals the following facts–

- The main effect of sports achievement on mental toughness of male sportspersons was found to be statistically significant at .05 level (F=4.95, *p*<.01). It reveals that mental toughness in medal winner national male sportsperson (M=193.88) was significantly superior as compared to non-medal winner national male sportsperson.
- F=3.12, an indicator of the main effect of type of sport on mental toughness of male sportspersons was not found to be statistically significant but close to statistical significance. (F=3.12, *p*>.05) It thereby shows that mental toughness of national male sportsperson participating in team sport (M=192.54) was better as

compared national male sportsperson participating in individual sport events (M=182.20) but did not meet the criteria for statistical significance.

- The F of 0.51, an indicator of interaction effect of sports achievement and type of sport on mental toughness of national male sportsperson was not found to be statistically significant.

Discussion

In the present study medal winner national male sportsperson showed more magnitude of mental toughness as compared to non medal winner national male sportsperson. Macnamara, Button and Collins (2010) [15] reported that excellence and success at highest sporting event require self confidence, good coping skills and motivation. These qualities are also embedded in 4C model of Clogh *et al.* (2002) [5]. Apart from this previous studies have also shown the meaningful association between mental toughness and sports performance. Hence this result is in expected direction.

Another main effect in the form of type of sport on mental toughness of national male sportspersons was not found to be statistically significant close to criterion set for .05 level. The better mental toughness in national male sportspersons participating in team sport as compared to individual sports event is surprising and needs to be examined more carefully.

The non significance of two factor interaction is also justified

by two main effects in ANOVA.

Conclusion

1. Medal winner national male sportspersons possesses superior mental toughness as compared to non-medal winner national male sportsperson.
2. Mental toughness among national male sportsperson did not differ significantly on the basis of type of sport.
3. Sports achievement and type of sport in interaction with other failed to create variance on mental toughness of national male sportsperson.

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