



A STUDY OF MENTAL TOUGHNESS IN NATIONAL FEMALE SPORTS PERSONS BASED ON INDIGENOUS-NON-INDIGENOUS NATURE OF SPORTS AND SPORTS RESULTS

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ABSTRACT

Indigenous or rural or tribal games have been recently identified under the promotion of rural and indigenous tribal games as a component of the Khelo India scheme. It is indeed necessary to know the mental toughness of these sports persons participating in indigenous sports as well so that they can be coached better. It is also essential to have a look at the interaction effect of types of sports in the form of indigenous and non-indigenous sports with sports results on mental toughness. Since females actively participate in both of these and there is a dearth of studies on them, this study was planned. To conduct the study 160 national female sports persons were selected and their average age was 23.11 years. The sample comprises 80 national female sports persons from indigenous sports such as Kho-Kho and Wrestling while 80 national female sports persons representing non-indigenous sports such as Volleyball and Athletics. Out of these 40 medal-winner female sports persons, 40 non-medal-winner female sports persons were selected from indigenous sports while 40 medal-winner female sports persons, while 40 non-medal winner female sports persons were selected from non-indigenous sports. The mental toughness of female sports persons was assessed through a questionnaire standardized by Tiwari (2007). A 2x2 ANOVA design was adopted for this study and the results reveal a significant impact of indigenous and non-indigenous nature of sport on the mental toughness of female sports persons in which female sports persons from non-indigenous sports showed significantly superior mental toughness as compared to female sports persons participating in indigenous sports. The main effect of sports results was also found to be statistically significant with medal-winner national female sports persons showing superior mental toughness as compared to non-medal winner national female sports persons. The interaction effect of these two variables was not observed on the mental toughness of national female sports persons. It was concluded that the indigenous-non-indigenous nature of sports and sports results can potentially predict mental toughness in national female sports persons individually but not collectively.

Keywords: Indigenous-Non indigenous Sports, Mental Toughness, Female Sports Persons

INTRODUCTION

One of the most distinct characteristics of successful athletes is mental toughness. Although debatable but still considered an essential asset for any athlete to succeed in demanding situations. It gives an athlete the strength to face challenges and learn from mistakes and bounce back more strongly. Clough et al. (2002) described mental toughness in the perception of self-confidence and self-belief. He opined that being psychologically strong or sturdy means that a person possesses higher self-confidence and self-belief in his/her abilities. This confidence and self-belief make him choose and set goals that are realistic and pursue those goals without being affected by adverse conditions. Fletcher and Fletcher (2005) included coping skills about environmental stressors in their definition of mental toughness. Gucciardi, Gordon, and Dimmock (2008) defined mental toughness as enduring attributes which enable an athlete to cope with adverse circumstances and perform well. They also defined mental toughness as maintaining a certain performance level even when the game situation is easy or against a weak opponent. Mental toughness in general terms encompasses some positive psychological attributes that absorb the effect of stressful situations so that one can perform at its best with consistency (Clough, Earle, & Sewell, 2002). Moran (2012) opined that due to the theoretical nature of the definition which was given based on unreliable plausibility than scientific research, care should be taken to conclude the nature, characteristics, determinants and development of mental toughness in sports. Middleton et al. (2004) opined that a sustained effort in adverse situations is indicative of mental toughness. Researchers like Crust (2008), Jones et al. (2007) have reported confidence, self-belief and the ability to accept challenges as important psychological variables of the mental toughness paradigm. Researchers have also linked factors such as commitment, self-belief, the coping ability of athletes under pressure and desire for competition as major facilitators for performance at the highest level (McNamara, Button, & Collins, 2010). All the above qualities are also incorporated in the 4C model of mental toughness proposed by Clough et al. (2002).

Indigenous or rural or tribal games have been recently identified under the promotion of rural and indigenous tribal games as a component of the Khelo India scheme. It is indeed necessary to know the mental toughness of these sports persons participating in indigenous sports as well so that they can be coached better. It is also essential to have a look at the interaction effect of indigenous and non-indigenous nature of sport with sports results on mental toughness. Since females actively participate in both of these and there is a dearth of studies on them, this work was planned.

REVIEW OF LITERATURE

The notable studies conducted under sports psychology on mental toughness by researchers namely Gould et al. (2002), Golby and Sheard (2004), Kuan and Roy (2007), Sheard (2009), Boroujeni et al. (2012), Bhardwaj et al. (2014), Reddy and Berhanu (2016), Cowden (2016) and Guskowska and Wojcik (2021) and there is vast literature is available but the chosen problem area in the present study has not been studied so far.

OBJECTIVES

The objective of the present study was to assess the interaction effect of indigenous and non-indigenous nature of sports and sports results on the mental toughness of national female sports persons.

HYPOTHESIS

It was hypothesized that the indigenous-non-indigenous nature of sports and sports results will jointly influence mental toughness in a national female sports person.

METHODOLOGY

The following methodological steps were taken to conduct the present study.

Sample:-

To conduct the study 160 national female sports persons were selected and their average age was 23.11 years. The sample comprises 80 national female sports persons from indigenous sports such as Kho-Kho and Wrestling while 80 national female sports persons representing non-indigenous sports such as Volleyball and Athletics. Out of these 40 medal-winner female sports persons, 40 non-medal-winner female sports persons were selected from indigenous sports while 40 medal-winner female sports persons, while 40 non-medal winner female sports persons were selected from non-indigenous sports. Purposive sampling was employed in this study.

Tools:

Mental Toughness Questionnaire:

The mental toughness of national female Track and Field athletes was assessed through the mental toughness questionnaire validated by Tiwari (2007). The questionnaire has 48 items and it uses subscales namely self-confidence, motivation, attention control, goal setting, visual and imagery control and attitude control respectively to measure mental toughness. The reliability and validity of this scale are proven beyond doubt through sound statistical procedures.

Procedure:

The selected female sports persons were subjected to mental toughness questionnaires. The scoring was done as per the author's guidelines. 2x2 ANOVA was employed for the analysis of data. In this technique, the main and interaction effect and associated F-ratio were computed.

RESULT AND DISCUSSION:**Table 1****Effect of Indigenous and Non-Indigenous Nature of Sports x Sports Result on Mental Toughness in Female Sports persons**

		Sports Result		Marginal Mean
		Medal Winner (b ₁)	Non-Medal Winner (b ₂)	
Nature of Sport (A)	Indigenous (a ₁)	N=40 Mean=180.32 S.D.=44.20	N=40 Mean=138.57 S.D.=47.69	159.45
	Non-indigenous (a ₂)	N=40 Mean=182.82 S.D.=38.69	N=40 Mean=165.62 S.D.=36.10	174.22
Marginal Mean		181.57	152.10	

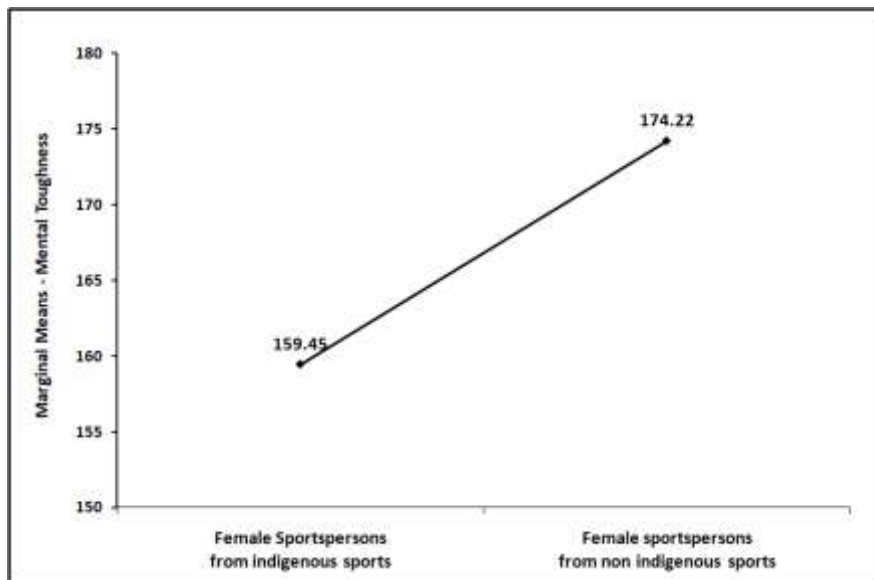
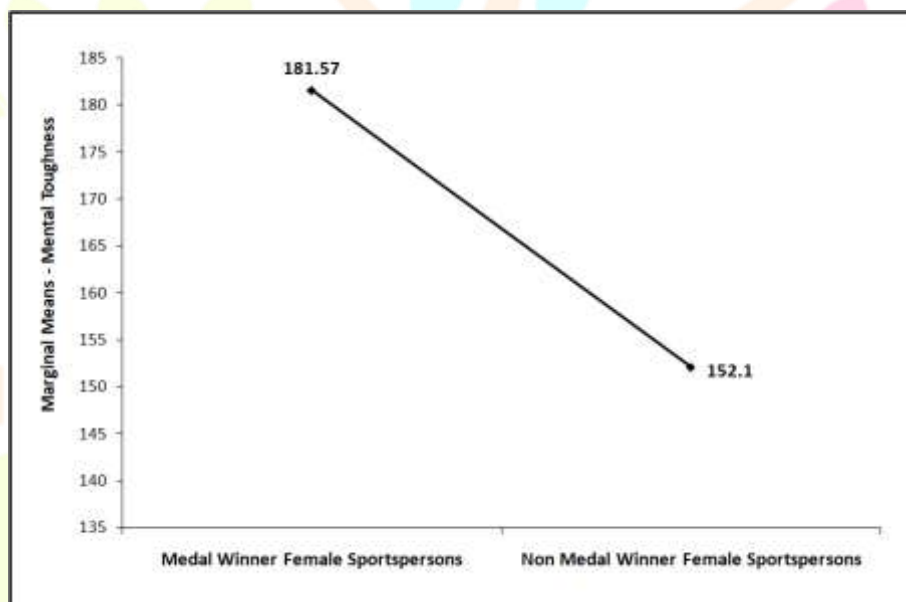
ANOVA Summary

Source of Variation	SS	df	MS	F
A	34751.025	1	34751.025	19.77**
B	8732.025	1	8732.025	4.96*
AB	6027.025	1	6027.025	3.43 (NS)
Within treatment (Error)	274145.700	156	1757.344	

F(1,156) = 3.94 p<.05 and 6.81, ** Significant at .01 level; NS Not Significant

Perusal of table 1 gives following facts regarding outcome of 2x2 factorial design-based analyses.

The main effect of the indigenous and non-indigenous nature of sports was statistically significant on mental toughness. The calculated F=4.96 was statistically significant at .01 level and denotes that mental toughness in female sports persons from non-indigenous sports is higher (M=174.22) as compared to female sports persons from non-indigenous sports.

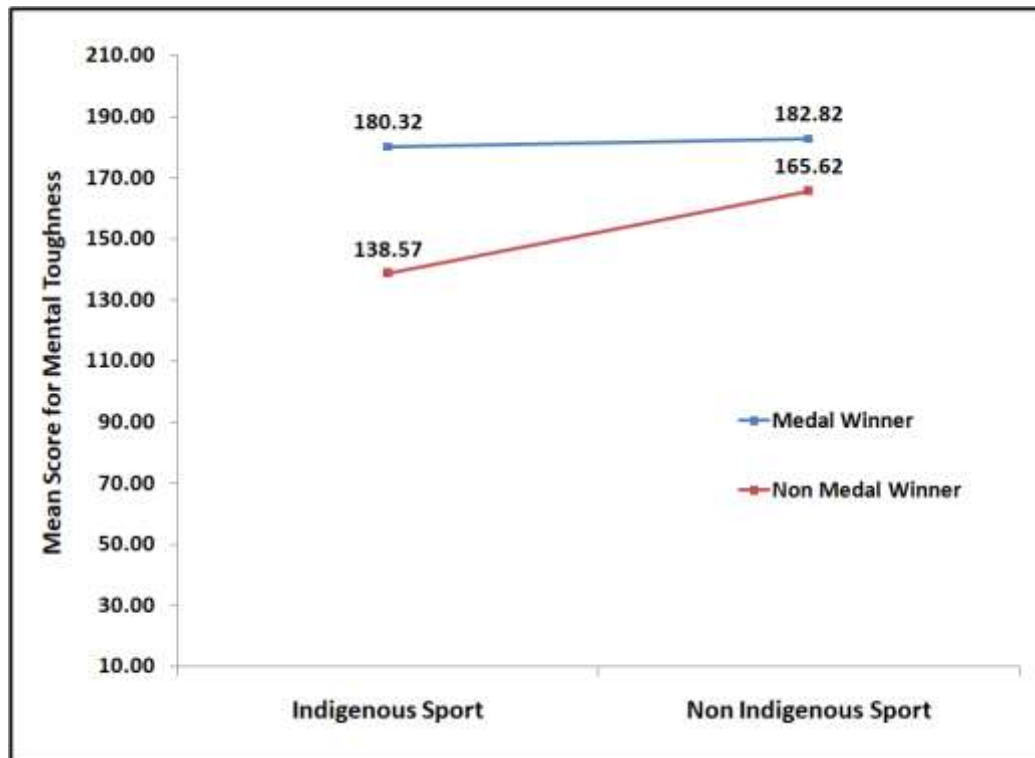
Figure 1**Main Effect of Nature of Sport on Mental Toughness of National Female Sports persons****Figure 2****Main Effect of Sports Results on Mental Toughness of National Female Sports persons**

The main effect of sports results was statistically significant on the mental toughness of national female sports persons. It means that the mental toughness in medal winner national female sports persons was significantly higher ($M=174.22$) as compared to non-medal winner national female sports persons ($M=159.45$).

The 2x2 ANOVA result in the form of $F=3.43$ did not get the confirmation from statistical norms and it thereby reveals the type of sports and sports results are unable to generate any significant variance in the mental toughness of national female sports persons.

Figure 3

**Interaction Effect of Nature of Sport and Sports Results on
Mental Toughness of National Female Sports persons**



Again the line diagram shows that the lines are not cutting each other, so we can safely say that there was no interaction between the indigenous and non-indigenous nature of sports and sports results produce a significant variance in the mental toughness of national female sports persons.

DISCUSSION:

The main effect of the indigenous and non-indigenous nature of sports on the mental toughness of female sports persons is supported by the study conducted by Reddy and Berhanu (2016) in which they reported that mental toughness in sports persons do differ significantly by nature of sports they are participating. The main effect of sports results on the mental toughness of female sports persons was supported by the study of Gupta (2013) in which they reported that sub-variables of mental toughness i.e. rebound ability, ability to handle pressure, concentration and confidence as well as will to win are in greater magnitude in elite athletes.

The two-factor interaction effect was not observed and not at all surprising because the main effects were statistically significant.

CONCLUSION

Based on the results, the following conclusions are drawn:

1. Indigenous-non-indigenous nature of sports is a predictor variable for mental toughness in female sports persons.
2. Sports results i.e. medal winning ability/inability is a predictor variable for mental toughness in female sports persons.

3. Indigenous-non-indigenous nature of sports and Sports results i.e. medal winning ability/inability jointly have no impact on mental toughness in female sports persons.

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