



ISSN: 2456-4419

Impact Factor: (RJIF): 5.18

Yoga 2016; 1(1): 39-41

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www.theyogicjournal.com

Received: 15-05-2016

Accepted: 19-06-2016

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## A comparative study of mental toughness between national male and female volleyball players of Maharashtra

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### Abstract

The physical, physiological and psychological characteristics of male and female athletes differ with each other. So it is essential for coaches and trainers to assess the magnitude of difference in psychological skills of male and female athletes. This helps them to formulate the psychological training program for male and female athletes separately. The present study aims at comparing mental toughness and its sub-factor among national volleyball players on the basis of gender. To conduct the study 45 national male volleyball players (Average 24.11 years) and 50 national female volleyball players (Average age 23.11 years) from Maharashtra were selected. The selected subjects represented Maharashtra state in the national level volleyball tournament. To assess mental toughness of selected national volleyball players, Mental Toughness Questionnaire prepared by Tiwari (2007) was used. Results revealed that national male volleyball players showed their supremacy on mental toughness and its sub-variables over national female volleyball players. The results provide a data on mental toughness of national volleyball players of Maharashtra on the basis of gender and which can be used by the coaches to prepare a suitable psychological program according to the need of national male and female volleyball players of Maharashtra.

**Keywords:** Volleyball, gender, mental toughness

### Introduction

Psychological training for performance enhancement is not a new phenomenon but it is essential for a coach or a sports psychologist to know whether psychological skill of male and female athletes are same or differ with each other. One such variable which is integral part of sports performance is mental toughness. Cattell (1957) <sup>[1]</sup> was the first who attempted to construct a theoretical framework of mental toughness. Cattell (1957) <sup>[1]</sup> defined mental toughness in the light of 16 primary personality trait. According to Cattell, mental toughness is embedded in human personality but Clough and Earle (2002a) <sup>[2]</sup> contradicted this framework by stating that it is devoid of any theoretical framework. The four major elements of emotions are flexibility, responsiveness, strength and resilience respectively. Loehr (1994) used these four characteristics of emotion to define mental toughness. According to Loehr (1994) flexibility, responsiveness, strength and resilience which defines mental toughness is also an integral part of sports performance. As per Loehr (1994) theory, emotional flexibility is useful for a player to create balance between offense and defense while responsiveness gives complete involvement of a player in a match. Emotional strength means good coping skills while showing positive emotions to bounce back from hopeless situations during match. Clough et al. (2002) <sup>[2]</sup> proposed a 4C model for mental toughness in which they used variables such as challenge, commitment, emotional control, life control, confidence and interpersonal confidence to define mental toughness. As far as difference in psychological characteristics of male and female athletes are concerned, self-concept in male and female Kho-Kho players was compared in a study conducted by Sunil Kumar and Paramanik (2016) <sup>[6]</sup> found that self-concept in male players was significantly higher as compared to female players. Verma (2017) <sup>[7]</sup> compared achievement motivation of male and female interuniversity Kho-Kho players and reported that interuniversity male Kho-Kho players had higher achievement motivation as compared to female Kho-Kho players.

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Hence on the basis of previous findings the researcher decided to assess mental toughness of male and female national volleyball players of Maharashtra.

### Aims & Objective

The objective of the present study was to compare mental toughness and its sub-factors between national male and female volleyball players of Maharashtra.

### Hypothesis

It was hypothesized that mental toughness in national level volleyball players of Maharashtra will differ on the basis of gender.

### Methodology

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

### Sample

To conduct the study 45 national male volleyball players (Average 24.11 years) and 50 national female volleyball players (Average age 23.11 years) from Maharashtra were selected. The selected subjects represented Maharashtra state in the national level volleyball tournament. Convenience

sampling was used as method for selection of varsity male sportsperson.

### Tools

The evaluation of mental toughness in selected national volleyball players of Maharashtra was done with the help of Mental Toughness Questionnaire prepared by Tiwari (2007) was used. The six sub-factors of this questionnaire are self confidence, motivation, attention control, goal setting, visual and imagery control and attitude control respectively. This reliable and valid questionnaire consists of 48 statements and the minimum score being 48 and maximum score being 240.

### Procedure

With the help of convenience sampling method 45 national male volleyball players (Average 24.11 years) and 50 national female volleyball players (Average age 23.11 years) from Maharashtra were selected. Mental toughness questionnaire was administered on each selected national volleyball players of Maharashtra. After scoring the data was tabulated. The analysis of data as shown in table 1 and 2 is carried out with the help of independent Sample 't' test.

### Result and Discussion

**Table 1:** Comparison of Sub-variables of Mental Toughness between National Male and Female Volleyball Players of Maharashtra

Sub-variables of Mental Toughness	National Volleyball Players				Mean Difference	't'
	Males (N=45)		Females (N=50)			
	Mean	S.D.	Mean	S.D.		
Self Confidence	33.33	8.01	28.92	9.41	4.40	2.30*
Motivation	36.66	10.65	35.97	9.74	0.69	0.31
Attention Control	34.28	9.85	33.57	8.75	0.71	0.35
Goal Setting	28.82	7.94	25.12	7.23	3.69	2.24*
Visual and Imagery Control	24.22	6.13	15.72	6.21	8.49	5.29**
Attitude Control	24.77	5.34	17.97	6.49	6.80	5.23**

\*\* Significant at .01 level, \* Significant at .05 level

### Statistical figures in table reveals the following outcome

- Self confidence in national male volleyball players was found to be significantly higher as compared to national female volleyball players. ( $t=2.30, p<.05$ )
- Motivation in national male volleyball players and national female volleyball players was not found to differ significantly with each other. [ $t=0.31, p>.05$ ]
- Attention control in national male volleyball players and national female volleyball players was not found to differ significantly with each other. [ $t=0.35, p>.05$ ]
- Goal setting sub-factor of mental toughness in national

male volleyball players was found to be significantly higher as compared to national female volleyball players. ( $t=2.24, p<.05$ )

- Visual and imagery control sub-factor of mental toughness in national male volleyball players was found to be significantly higher as compared to national female volleyball player. ( $t=5.29, p<.01$ )
- Attitude control sub-factor of mental toughness in national male volleyball players was found to be significantly higher as compared to national female volleyball players. ( $t=5.23, p<.01$ )

**Table 2:** Comparison of Mental Toughness between National Male and Female Volleyball Players of Maharashtra

Groups	Mean	S.D.	Mean Difference	't'
National Male Volleyball Players (N=45)	182.11	39.36	24.81	3.22**
National Female Volleyball Players (N=50)	157.30	31.58		

\*\* Significant at .01 level

As reported in table 2 the mean score on mental toughness questionnaire for group of national male volleyball players was 182.11 while for group of national female volleyball players it was 157.30. The  $t=3.22, p<.01$  clearly indicate that mental toughness of national male volleyball players was way to high as compared to national female volleyball players. Results clearly differentiate mental toughness in national volleyball players of Maharashtra on the basis of gender. The results are in line with previous findings in this regard and clearly suggest the supremacy of male volleyball players in

terms of mental toughness over national female volleyball players.

### Conclusion

On the basis of results, it was concluded that there exist a distinct relationship between gender with mental toughness of national volleyball players. It was also recommended that sports psychological trainer and coaches needs to closely screen the mental toughness of a player on the basis of gender so that they can psychological train them more effectively.

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