ANALYSIS OF PLAYING ABILITY AND MENTAL TOUGHNESS OF VOLLEYBALL PLAYERS

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Abstract: The aim of this study is to compare the playing ability of Volleyball players and their Mental Toughness with their play positions and also found the relationship of playing ability and Mental Toughness of Volleyball players. Thirty Five university level Volleyball players from different universities of Karnataka who have participated at South Zone Volleyball Tournament 2018 were randomly selected as subjects for this study. The age of the subjects were ranged from 18-25 years. With regard to dependent variable playing ability was assessed by coaches rated scale on 10 point scale. Psychological Performance Inventory developed by J.E. Loehr (1986) was used to know the status of mental toughness among the players and mental toughness treated as independent variable. The volleyball players were divided based on their play positions. The Karl Pearson's Product Moment Coefficient of Correlation was used to find out the relationship between the variables. The level of significance was fixed at 0.05 level and also find out the significant differences in the Playing Ability and Mental Toughness among the players played with different play positions, One-way Analysis of Variance along with Scheffe's Post Hoc test was used to find the significant difference in the paired mean scores. It was found that there was significant relationship between playing ability and mental toughness of Volleyball players and also found significant difference in the playing ability of Volleyball players played with different play positions and not found significant difference in Mental Toughness. A better understanding of these relationships will help to understand the mental toughness and playing ability which will help to plan the specific skills and psychological training.

Index Terms - Volleyball players, Playing Ability, Mental Toughness, University, Analysis

I. INTRODUCTION

Sports psychology is the efficient investigation of the athletes and their behaviours with regards to sports and the pragmatic application of that knowledge. Sports psychology manages the expansion of performance by the management of emotions and the minimization of psychological impacts of injury and poor performance. Mental Toughness is critical to individual towards accomplishment in life, health, wealth and sports accomplishment. All together for a competitor to be as fruitful as could reasonably be expected, they should work to develop the mental toughness. It is fundamental to know the status of mental toughness among the players for offering training to improve the mental toughness among players.

The possibility of mental toughness has been perceived as one's ability to hold up trouble, pressure and stress (Loehr, 1995 and Goldberg, 1998). Sajjan (2018) studied the mental toughness between the athletes of open (football) and closed (aerobatic) aptitude sports and reasoned that open expertise athletes had significantly higher ability to handle pressure, confidence, motivation and overall mental toughness. Khoubi, Minoei, and Fadaee (2016) dissected the mental toughness of male Volleyball players of different positions and results did not show significant distinction to the extent mental toughness among the players. Kaur (2016) pondered on mental toughness among athletes and showed significant contrasts among the Team diversion players on different parts of Mental Toughness. Charly and Manoj (2016) dissected the level of mental toughness among inter colligate female volleyball player from four universities of Kerala state. The aftereffects of the investigation unmistakably demonstrate that the diverse universities are distinctive in developing the sports mental toughness of players.

Kumar, Singh and Mitra (2016) analyzed the mental toughness among male and female volleyball players of twelfth South Asian Games. The investigation uncovered that there was no significant contrast in the Mental Toughness among male and female Volleyball players. Kumar and Paramanik (2016) broke down an investigation of Mental Toughness among International Male Volleyball Players of twelfth South Asian Games and furthermore think about the mental toughness among India, Srilanka and Nepal kho-kho players. The finding of the investigation uncover there was no significant contrast among India and Srilanka, Nepal Volleyball players.

Singh and Singh (2014) directed to examine the mental skills level among high and low performing volleyball players of schools, colleges and clubs. The outcomes that mental skills among high and low performing school, school and club level volleyball players found significant for high performing volleyball players. Subramanyam (2014) broke down the relationship among factors of mental toughness in elite national level Indian athletes and found significant associations among factors of mental toughness parts of self confidence, negative energy control, attentional control, visualization/imagery control, motivation level, positive energy and attitude control of athletes. Yadav (2014) contemplated Mental Toughness between national female Volleyball and Kabaddi players of Uttar Pradesh teams and set up significant distinction in mental toughness between national

female volleyball and kabaddi players. In this paper, the specialist thought about the playing ability and mental toughness of Volleyball players with various play positions and furthermore found the relationship among them.

1.1 Statement of the Problem

Playing Abilities in Volleyball game depends upon factor such as mental toughness. The object of this study is to assess the relationship of mental toughness with playing ability of University level Volleyball players and also find out the playing ability and mental toughness of university Volleyball play with different play positions.

1.2 Delimitations

This study is restricted to university level men players and selected variables such as playing ability and mental toughness. The subjects were selected in the age group of 18-25 years.

1.3 Limitations

The subjects are from different socio-economical conditions and their ways of living, food habits, daily routine and previous training have been not considered and the data procured from the relevant tests conducted during the university competition.

1.4 Hypotheses

1. There is no significant relationship between Playing Ability and Mental Toughness of University level Volleyball players.
2. There is no significant difference in the Playing Ability of University Volleyball Players among different play positions.

II. METHODOLOGY

Thirty Five university level Volleyball players of different universities of Karnataka who have participated at South Zone Volleyball Tournament 2018 were randomly selected as subjects for this study. The age of the subjects were ranged from 18-25 years. With regard to dependent variable playing ability was assessed by coaches rated scale on 10 point scale. Psychological Performance Inventory developed by J.E. Loehr (1986) was used to know the status of mental toughness among the players and mental toughness treated as independent variable. The volleyball players were divided based on their play positions. The Karl Pearson's Product Moment Coefficient of Correlation was used to find out the relationship between variables. The level of significance was fixed at 0.05 level and also find out the significant differences in the Playing Ability and Mental Toughness among the players played with different play positions, One-way Analysis of Variance (ANOVA) was used. Further the Scheffe's Post Hoc test was used to find the significant difference in the paired mean scores.

III. RESULTS AND DISCUSSION

3.1 Correlation Results

The relationship of playing ability of University Volleyball players with Mental Toughness was ascertained by the obtained values of coefficient of correlation. The results are presented in Table-1.

Table-1: Relationship of selected Playing Ability of University Volleyball players with Mental Toughness. (N=35, df=33).

Dependent Variable	Independent Variable	Mean	Standard Deviation	'r' value and Sig. level
Playing Ability (M=79.257; SD=4.749)	Self Confidence	6.843	0.240	0.329*
	Negative Energy Control	11.368	0.219	0.398*
	Attention Control	34.257	5.014	0.410*
	Visual/Imagery Control	2.158	0.138	0.328*
	Motivational Level	24.343	4.820	0.332*
	Positive Energy	4.738	0.392	0.341*
	Attitude Control	24.343	4.820	0.360*
	Mental Toughness (Overall)	4.738	0.392	0.450*

* Significant at 0.05 level.

From the table it shows that playing ability of the Volleyball players was correlated with mental toughness along with its all aspects. The table clearly reveals that there is correlation of playing ability of university Volleyball players with self

confidence, negative energy control, attention control, visual/imagery control, motivational level, positive energy, attitude control and overall mental toughness since the obtained 'r' values 0.329, 0.398, 0.410, 0.328, 0.332, 0.341, 0.360 and 0.450 are greater than the table value 0.325 at 0.05 level of significance.

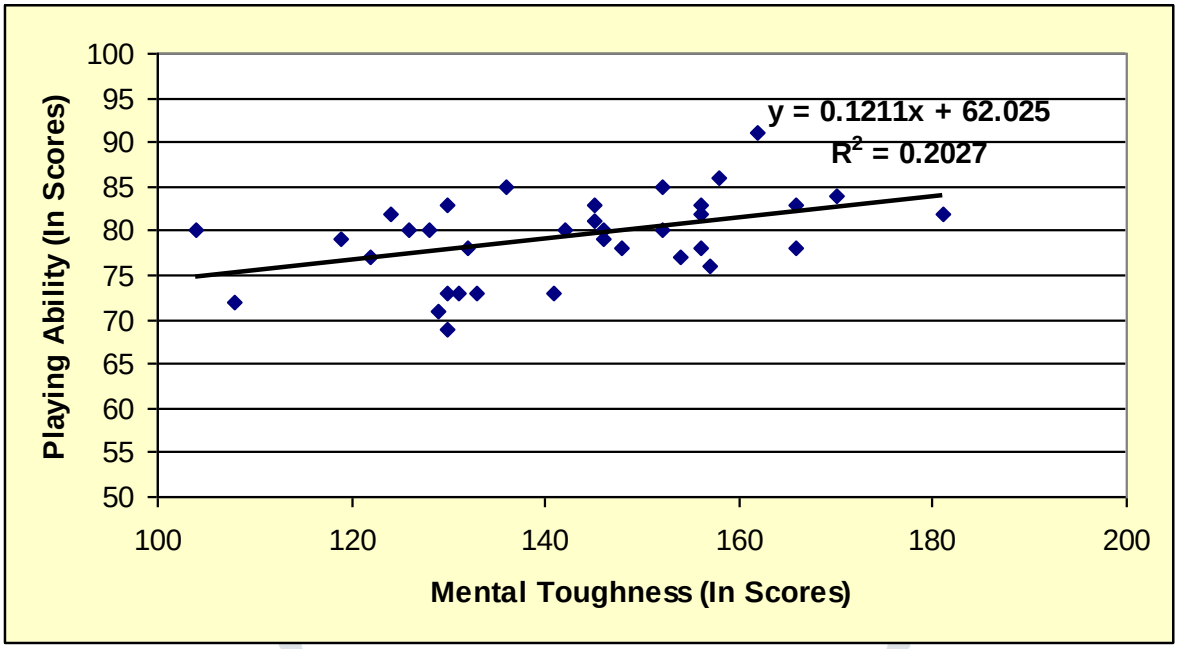

Fig.1: Scatter diagram shows relationship of mental toughness with playing ability of volleyball players.

3.2 ANOVA Results

The One-way ANOVA (F test) results on Playing Ability and Mental Toughness scores of Volleyball players with different play positions (Allrounders, Attackers, Blockers, Setters and Liberos).

Table-2: Table shows the One-Way ANOVA Analysis on Playing Ability and Mental Toughness scores of Volleyball players with different play positions. (Allrounders, Attackers, Blockers, Setters and Liberos)

Variables	Groups	Sum of Squares	df	Mean Squares	F Value	Level of Sig.
Playing Ability	Between Groups	300.259	4	75.065	4.83**	0.004
	Within Groups	466.427	30	15.548		
	Total	766.686	34			
Mental Toughness	Between Groups	1637.044	4	409.261	1.37^{NS}	0.268
	Within Groups	8960.499	30	298.683		
	Total	10597.543	34			

Table value at 0.05 (df is 4, 30); 2.69; 0.01(df is 4, 30) =4.02

From the table-2, it was observed that the obtained 'F' value 1.37 is less than table value of 2.69 for df is '4 and 30' required for the significance at 0.05 level of confidence and it is not found to be statistically significant even at 0.05 level of significance. Hence, the said hypothesis is **accepted** that "there is no significant difference in the Mental Toughness of Volleyball players of different play positions." This indicates Volleyball players playing with different play positions had comparable mental toughness.

The table-2 also shows that the obtained 'F' value 4.83 for Playing Ability of Volleyball players is greater than the table value of 4.02 for df '4 and 30' required for the significance at 0.01 level of confidence. Hence, the stated hypothesis was rejected and in its place an alternate hypothesis has been **accepted** that "there was significant difference in the Playing Ability of Volleyball players of different play positions." To determine the significant difference in the Playing Ability among these paired means, the Scheffe's test was applied as the Post hoc analysis and the results were presented in Table-3.

Table-3: Scheffe's Post Hoc Analysis on Playing Ability of Volleyball players with different play positions

Variable	Play Positions					Mean Difference
	Allrounders	Attackers	Blockers	Setters	Liberos	
Playing Ability	81.285	80.090				1.195
	81.285		80.888			0.397
	81.285			76.600		4.685
	81.285				71.000	10.285*
		80.090	80.888			0.798
		80.090		76.600		3.490
		80.090			71.000	9.090*
			80.888	76.600		4.288
			80.888		71.000	9.888*
				76.600	71.000	5.600

*Significant at 0.05 level

The table-3 presents significant paired mean differences on the playing ability between allrounders & liberos, attackers & liberos; and blockers & liberos and the values are 10.285, 9.090 and 9.888 which are greater than the critical difference value at 0.05 level of confidence. It was concluded that there was significant difference in the Playing Ability between allrounders & liberos, attackers & liberos; and blockers & liberos, but no different exists between allrounders & attackers; allrounders & blockers; allrounders & setters; attackers & blockers; attackers & setters; blockers & setters and setters & liberos. The allrounders had better playing ability followed by blockers, attackers, setters and liberos.

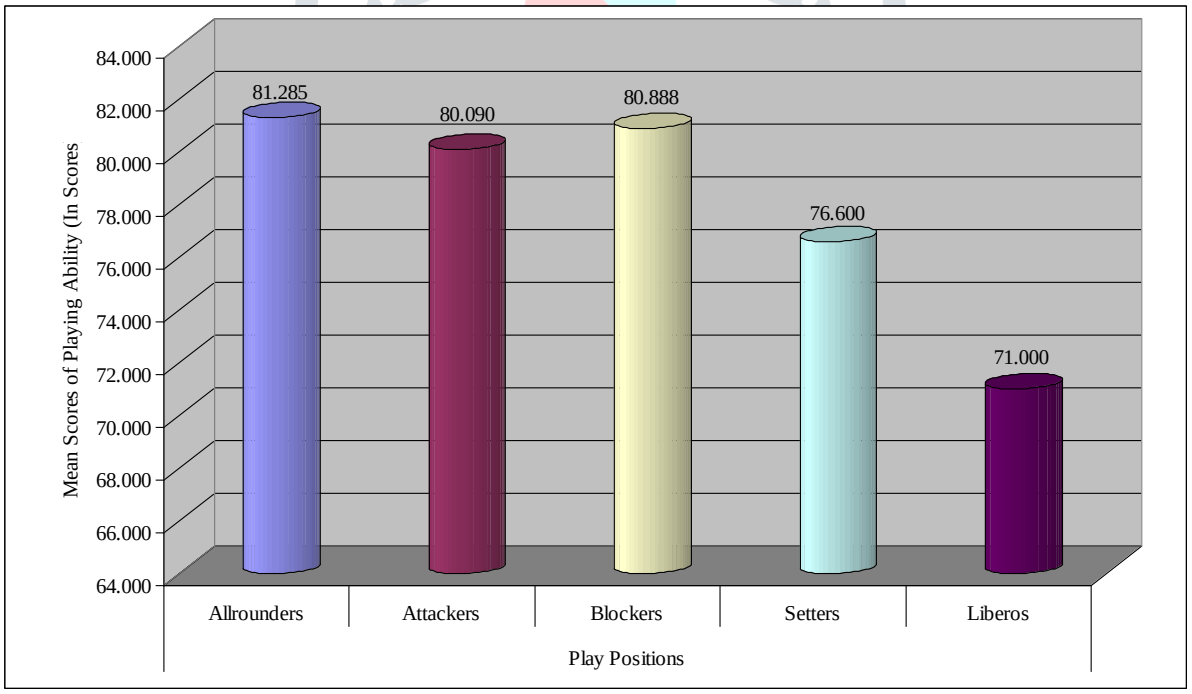

Fig.2: The Bar graph shows the comparison of mean scores of the Playing Ability and Mental Toughness of Volleyball players with different play positions.

IV. FINDINGS OF THE STUDY

The findings of the study are as under

1. There is a significant relationship of Playing Ability of Volleyball Players with their self confidence ('r'=0.329); negative energy control ('r'=0.398); attention control (('r'=0.410); visual/imagery control ('r'=0.328); motivational level ('r'=0.332); positive energy ('r'=0.341); attitude control ('r'=0.360) and Overall Mental Toughness (0.450)
2. There is no significant difference in the Mental Toughness of Volleyball players of different play positions ('F'=1.37; P=0.268; P>0.05).

3. There is a significant difference in the Playing Ability of Volleyball players of different play positions ('F'=4.83; P=0.004; P<0.01).

V. CONCLUSION

This article concludes that mental toughness of the volleyball players correlated with their playing ability and also shows that there was a significant difference in the playing ability of Volleyball players of different play positions. The allrounder had better playing ability followed by blockers, attackers, setters and liberos and no difference exists in their mental toughness. It is perceived that mental toughness is progressively essential in high-level focused sports. To the extent Volleyball is concerned, it is proposed that mental toughness play a significantly increasingly vital job in a competition, separating among effective and ineffective teams. Coaches that have an in-depth and out knowledge of their competitor's mental toughness could develop successful preparing regimens for every individual competitor or gatherings of athletes. Considering the favouring truth that mental toughness can offer higher accomplishment to the entertainer, this exploration would be advantageous for those attempting to build and develop this mental skill.

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