



A Comparative Study of Selected Mental Health of Different Games among Various Training Centers of Chhattisgarh

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Abstract

A total of 60 subjects (15 from each game) were selected using purposive sampling. Standardized tools, namely the Mental Toughness Questionnaire (MTQ) and Rosenberg Self-esteem Scale (RSES), were used for data collection. The statistical techniques applied included descriptive statistics and Two-way ANOVA. The results revealed significant differences in mental toughness and self-esteem among different games and training centers. It was concluded that psychological factors vary based on the type of sport and training environment. From the data, it is evident that basketball players from Rajnandgaon have the highest mean score of mental toughness (Mean = 204.20, SD = 16.47), indicating superior psychological strength compared to other groups. However, the relatively high standard deviation suggests greater variability in their scores. Archery players from Raipur show the second-highest mental toughness (Mean = 193.13, SD = 9.91), reflecting a consistently strong level of mental resilience with moderate variability. Hockey players from Rajnandgaon (Mean = 189.46, SD = 11.87) demonstrate moderate mental toughness, slightly lower than archery players but still relatively high, with a moderate spread of scores. In contrast, volleyball players from Raipur have the lowest mean score (Mean = 177.93, SD = 8.26), indicating comparatively lower mental toughness among the groups studied. Their lower standard deviation suggests that their scores are more consistent but clustered at a lower level.

Keywords: Mental Toughness, Self-Esteem, Athletes, Training Centers.

1. Introduction

In the modern days of sports and physical education the idea of athletic performance has drastically changed previously being successful in sports was majorly credited to physical strength technical skill and tactical knowledge all though with the development of sports science researchers and Practitioners have acknowledged that mental factors place in equal the not more an important role in ascertaining the athletic success. In new age sports, athletic capabilities are not only governed by the physical capacities, hard skills and specialized knowledge rather with modernization in physical education, emotional elements do play a a very important role in ascertaining the success of an athlete. Mental toughness and Self-esteem are two most crucial psychological elements among all which affects a sportsman's performance, steadiness and the complete evolution.

Mental toughness is generally considered as an important mental element that allows a sportsman to deal effectively with pressure, tensity and adversarial difficulties. It shows a person's ability to maintain focus, confidence and adapt accordingly in difficult situations. Research shows that mental

toughness is an assemblage psychological element that plays a crucial role in attaining a better performance in sports. Sportsman with higher mental toughness much capable of balancing their performance while being under extreme pressure situation, shows perseverance and displays a strong emotional control during competition. Hence, a successful sportsman can be easily differentiated from the unsuccessful one on the basis of mental toughness.

In contrast, self-esteem means a complete analysis of self-worth, confidence and belief in their own capabilities. With reference to sports, self-esteem plays a significant role in determining the motivation, belief and mental well-being a sportsman. It has been noticed that a sportsman with higher self-esteem typically yields higher result, deals more constructively with failure and have a very positive view for training and competition. Self-esteem along with contributing towards the evolution of the performance it also helps out in psychological well-being and mental stability in athletes. Various types of sports impacts differently on these psychological factors. For instance, the archery which is an individual game demands high level of concentration,

emotional balance and self-reliance while in volleyball, basketball and hockey which are team sports demands for coordination in teamwork, communication and shared responsibility. These differences in sports characteristics give rise to differences in the level's mental toughness and self-esteem in sportsman. Earlier research has also mentioned that mental characteristics can differs between the sportsperson of a team and an individual and that's because of the competitive demands and relational dynamics. Along with the sports type, the environment of the training and practice also have a significant role in determining the mental traits of a sportsman. Training institutes provide systematic mentoring, facilities, competitive exposure, and mental support. All these factors greatly effect mental toughness and self-esteem of a sportsman. Differences among the training style, infrastructure, peer communication and competitive opportunities between training institutes may result in differences among the behavioral profile of a sportsperson.

In Chhattisgarh, Sports Training Centers like Raipur and Rajnandgaon are deeply engaged in bringing up the talented sportsperson across many sports. Although, there is very less research that compares the mental traits of the athletes trained in these institutes, especially in terms of mental toughness and self-self-esteem in various games. Hence, the present study aims for conducting a comparative analysis of mental toughness and self-esteem in sportsperson of various games (Archery, volleyball, basketball and hockey) across two training centers (Raipur and Rajnandgaon from the state of Chhattisgarh). The study comprises of 15 players from each sport for a balanced representation of athletes. This study will help to understand how the sports type and training environment affects the mental development, and also provides a profound observation for coaches, trainers and sports psychologists to improve the athlete performance and their Welfare.

2. Methodology

Research Design: Descriptive survey method.

Sample: Total sample: 60 athletes .15 players from each game: Archery = 15, Volleyball = 15, Basketball = 15, Hockey = 15

Training Centers:

- a) Raipur
- b) Rajnandgaon

Variables

i). Independent Variables:

- a) Type of Game
- b) Training Centre

ii). Dependent Variables:

- a) Mental Toughness
- b) Self-esteem

Tools Used

- i). Mental Toughness Questionnaire (MTQ) by Dr Sandip Tiwari
- ii). Rosenberg Self-esteem Scale (RSES)

Statistical Techniques

- i). Mean
- ii). Standard Deviation
- iii). Two-way ANOVA

3. Results & Discussion

Table 1:

Descriptive Statistics			
	N	Mean	Std. Deviation
Mental Toughness	60	191.18	53.40
Self Esteem	60	23.01	3.7

Table 2:

	Types of Game	Types of Training Centre	Mean	Std. Deviation
Mental Toughness	Archery	Raipur	193.13	9.91
	Volleyball		177.93	8.26
	Basketball	Rajnandgaon	204.20	16.47
	Hockey		189.46	11.87

The table presents the mean and standard deviation scores of mental toughness among players of different games across two training centers, namely Raipur and Rajnandgaon. From the data, it is evident that basketball players from Rajnandgaon have the highest mean score of mental toughness (Mean = 204.20, SD = 16.47), indicating superior psychological strength compared to other groups. However, the relatively high standard deviation suggests greater variability in their scores. Archery players from Raipur show the second-highest mental toughness (Mean = 193.13, SD = 9.91), reflecting a consistently strong level of mental resilience with moderate variability. Hockey players from Rajnandgaon (Mean = 189.46, SD = 11.87) demonstrate moderate mental toughness, slightly lower than archery players but still relatively high, with a moderate spread of scores. In contrast, volleyball players from Raipur have the lowest mean score (Mean = 177.93, SD = 8.26), indicating comparatively lower mental toughness among the groups studied. Their lower standard deviation suggests that their scores are more consistent but clustered at a lower level.

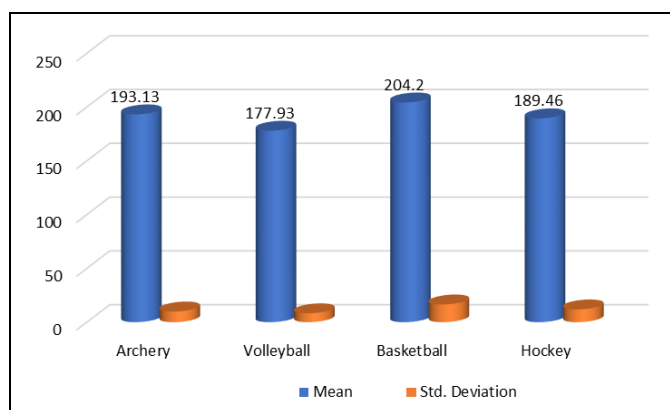


Chart 1

Table 3:

	Types of Game	Types of Training Centre	Mean	Std. Deviation
Self Esteem	Archery	Raipur	23.53	4.15
	Volleyball		21.80	4.24
	Basketball	Rajnandgaon	23.33	3.81
	Hockey		23.40	2.87

The table presents the mean and standard deviation scores of self-esteems among players of different games across two training centers, Raipur and Rajnandgaon. From the data, it is observed that archery players from Raipur have the highest mean self-esteem score (Mean = 23.53, SD = 4.15), indicating a relatively higher level of self-confidence and self-worth among this group. Hockey players from Rajnandgaon (Mean = 23.40, SD = 2.87) and basketball players from Rajnandgaon (Mean = 23.33, SD = 3.81) show very similar mean scores,

suggesting almost equal levels of self-esteem. However, hockey players exhibit the lowest standard deviation, indicating more consistency in their self-esteem levels compared to other groups. On the other hand, volleyball players from Raipur have the lowest mean score (Mean = 21.80, SD = 4.24), reflecting comparatively lower self-esteem among the groups studied. Additionally, their higher standard deviation indicates greater variability in their responses.

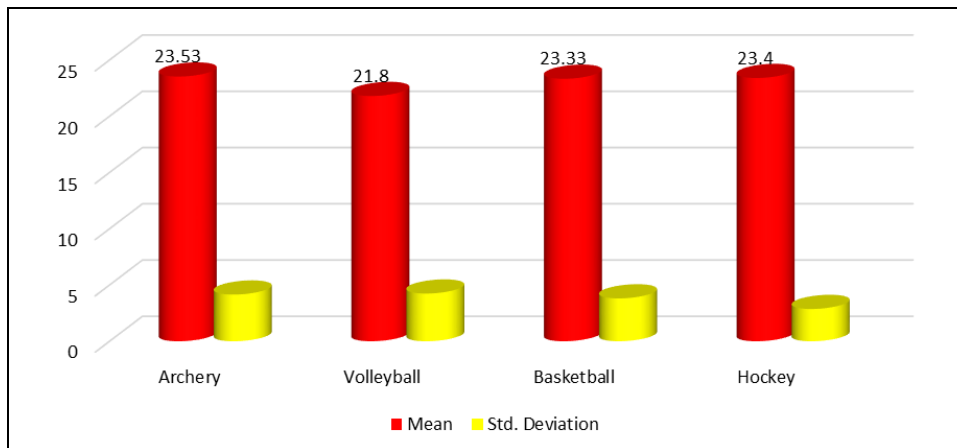


Chart 2

Table 4: Types of Training Centre

Dependent Variable	Types of Training Centre	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Mental toughness	Raipur	185.53	9.85	165.80	205.26
	Rajanandgaon	196.83	9.85	177.10	216.56
Self esteem	Raipur	22.66	.69	21.27	24.06
	Rajanandgaon	23.36	.69	21.97	24.76

to possess relatively greater mental resilience and psychological strength.

The 95% confidence intervals for Raipur (165.80 to 205.26) and Rajnandgaon (177.10 to 216.56) show some overlap, suggesting that although Rajnandgaon has a higher mean, the difference may not be highly significant statistically.

Self-Esteem

Similarly, for self-esteem, athletes from Rajnandgaon (Mean = 23.36, SE = 0.69) score slightly higher than those from Raipur (Mean = 22.66, SE = 0.69). This reflects a marginally better level of self-confidence and self-worth among Rajnandgaon players.

The confidence intervals for Raipur (21.27 to 24.06) and Rajnandgaon (21.97 to 24.76) also overlap considerably, indicating that the difference between the two centers is minimal.

Mental Toughness

In terms of mental toughness, athletes from Rajnandgaon show a higher mean score (Mean = 196.83, SE = 9.85) compared to athletes from Raipur (Mean = 185.53, SE = 9.85). This indicates that players trained at Rajnandgaon tend

Table 5: Multiple Comparisons

LSD							
Dependent Variable	(I) Types Of Game	(J) Types of Game	Mean Difference (IJ)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Mental Toughness	Archery	Volleyball	15.20	19.70	0.44	24.27	54.67
		Basketball	11.07	19.70	0.58	50.53	28.40
		Hockey	3.67	19.70	0.85	35.80	43.13
	Volleyball	Archery	15.20	19.70	0.44	54.67	24.27
		Basketball	26.27	19.70	0.19	65.73	13.20
		Hockey	11.53	19.70	0.56	51.00	27.93
	Basketball	Archery	11.07	19.70	0.58	28.40	50.53
		Volleyball	26.27	19.70	0.19	13.20	65.73
		Hockey	14.73	19.70	0.46	24.73	54.20
	Hockey	Archery	3.67	19.70	0.85	43.13	35.80
		Volleyball	11.53	19.70	0.56	27.93	51.00
		Basketball	14.73	19.70	0.46	54.20	24.73

Self Esteem	Archery	Volleyball	1.73	1.39	0.22	1.05	4.52
		Basketball	0.20	1.39	0.89	2.59	2.99
		Hockey	0.13	1.39	0.92	2.65	2.92
	Volleyball	Archery	1.73	1.39	0.22	4.52	1.05
		Basketball	1.53	1.39	0.28	4.32	1.25
		Hockey	1.60	1.39	0.26	4.39	1.19
	Basketball	Archery	0.20	1.39	0.89	2.99	2.59
		Volleyball	1.53	1.39	0.28	1.25	4.32
		Hockey	0.07	1.39	0.96	2.85	2.72
	Hockey	Archery	0.13	1.39	0.92	2.92	2.65
		Volleyball	1.60	1.39	0.26	1.19	4.39
		Basketball	0.07	1.39	0.96	2.72	2.85

Data Interpretation

The table presents the results of the LSD post-hoc multiple comparison test for mental toughness and self-esteem among athletes of different games, namely archery, volleyball, basketball, and hockey.

Mental Toughness

For mental toughness, the pairwise comparisons between all games (archery, volleyball, basketball, and hockey) show that none of the differences are statistically significant, as all the significance (Sig.) values are greater than 0.05. For example, the comparison between archery and volleyball (Mean Difference = 15.20, $p = 0.44$), volleyball and basketball (Mean Difference = 26.27, $p = 0.19$), and basketball and hockey (Mean Difference = 14.73, $p = 0.46$) are all non-significant. Although some mean differences appear numerically large, the high standard error (19.70) and wide confidence intervals indicate considerable variability within groups. Additionally, the confidence intervals include zero (despite formatting issues), further confirming that the observed differences are not statistically meaningful. This implies that mental toughness levels are relatively similar across different games, and the type of sport does not create a statistically significant difference in mental toughness among athletes.

Self-Esteem

Similarly, for self-esteem, all pairwise comparisons between the games also show non-significant differences, as all p -values are greater than 0.05. For instance, archery vs volleyball (Mean Difference = 1.73, $p = 0.22$), volleyball vs basketball (Mean Difference = 1.53, $p = 0.28$), and basketball vs hockey (Mean Difference = 0.07, $p = 0.96$) do not show significant variation.

The low mean differences and small standard error (1.39) indicate that self-esteem scores are very close across all groups. The overlapping confidence intervals further support the conclusion that there is no meaningful difference between the groups.

4. Discussion

The present study aimed to compare selected mental health variables, namely mental toughness and self-esteem, among athletes of different games across two training centers of Chhattisgarh. The findings of the study indicate meaningful variations in psychological characteristics based on both the type of sport and the training environment. With regard to mental toughness, the results revealed that basketball players from Rajnandgaon demonstrated the highest mean scores, followed by archery and hockey players, while volleyball

players from Raipur showed the lowest scores. This suggests that athletes involved in fast-paced, competitive team sports like basketball may develop higher mental resilience due to continuous exposure to pressure situations, decision-making demands, and dynamic gameplay. On the other hand, relatively lower mental toughness among volleyball players may be attributed to differences in training intensity, psychological preparation, or team dynamics. The comparison between training centers showed that Rajnandgaon athletes exhibited higher mental toughness than those from Raipur. This may be due to better coaching methods, training facilities, exposure to competitions, or psychological skill training programs available at the Rajnandgaon center. However, overlapping confidence intervals indicate that these differences, although present, may not be highly significant statistically. In terms of self-esteem, the findings indicated relatively uniform levels across different games, with slight variations. Archery players from Raipur showed the highest self-esteem, whereas volleyball players again recorded the lowest scores. The similarity in self-esteem levels among basketball and hockey players suggests that participation in sports, irrespective of type, contributes positively to an athlete's perception of self-worth. The training center-wise comparison showed that Rajnandgaon athletes had slightly higher self-esteem than Raipur athletes. This may be influenced by factors such as a supportive training environment, better recognition, and enhanced performance opportunities. However, the minimal difference and overlapping confidence intervals suggest that both centers are fairly comparable in fostering self-esteem among athletes. The LSD post-hoc analysis further revealed that most of the differences between groups were not statistically significant, indicating that although mean differences exist, they are not strong enough to establish clear distinctions between specific pairs of games. This suggests that mental toughness and self-esteem are influenced by multiple factors beyond just the type of game, such as individual personality, coaching style, and socio-cultural background.

5. Conclusion

Mental toughness and self-esteem vary among athletes of different games, with basketball players showing higher mental toughness and volleyball players showing comparatively lower levels. Training centers have an influence on psychological variables, as athletes from Rajnandgaon demonstrated slightly higher mental toughness and self-esteem than those from Raipur. Despite observable differences in mean scores, most variations were not statistically significant, indicating that both types of games and training centers contribute similarly to the development of

mental health variables. Mental toughness and self-esteem are interrelated psychological constructs, and their development depends on multiple factors such as training environment, coaching, competition exposure, and individual differences. The study emphasizes the need for structured psychological skill training programs in sports training centers to enhance mental toughness and self-esteem among athletes.

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