

An exploratory study on selected psychological variables among women athletes at various levels of competition at Hyderabad

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Abstract

The study was conducted a study to find out the significant differences in selected psychological factors like Anxiety, Aggression, Motivation and Achievement Motivation levels among women athletes from Individual and Team games at Inter College, University and at National level competitions held in Hyderabad, for 600 women athletes. Statistical techniques, Mean, SD, correlation & Anova (SPSS Version 20.0) were calculated on the data collected. Theoretical self-explanatory questions were offered for those observed at different levels of competition. These results obtained have shown significant impacts on motivation levels and achievement motivation among women athletes leading to their perceptions of competence during the sports competition at Individual level as well as Team Game level.

Keywords: psychological variables, correlation & anova

Introduction

Prior to the Nineties, athletes failed to have the needed information or foundation based on which, they could put up a superior athletic performance. Athletes thus relied on smart luck to put up an optimal and superior performance. In 1897, Norman Triplett, an Indiana psychologist, began to explore why Figure 1.1 athletes performed the way they did in specific situations. These initial studies resulted in the growth and development of the contemporary games psychology industry.



Fig 1

The Early Years

Triplett began by trying out the results of cycling on own as in comparison with cycling with a group. Triplett concluded that cyclists who cycled in group cycled faster than the ones that cycled alone. To test his findings more insightfully, Triplett decided to test children to look how fast they might carry out an easy task of reeling in fish alone as when compared with the same task being done by a group. Triplett discovered youngsters reeled their strains in faster while others were present as compared with when they had been alone.

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THE GRIFFITH ERA

Coleman Griffith undertook informal investigations of football and basketball gamers at the same time as he was once pursuing his doctorate in psychology at Illinois school in 1918. He was fascinated in the reaction times of players'

and also their psychological awareness, muscular rigidity and recreation. 1925, Griffith established his own games activities lab, which was dedicated to the field of games psychology. He investigated the aspects that affected the performance of the athletics. In the year following this, Griffith published his first book named "The Psychology of Coaching" and another book named "Psychology of Athletics" in the year 1928.

Franklin Henry won his Ph.D. from the California University in the year 1938, and that very same year, he was employed as an instructor at college of California-Berkeley's physical education division. While working here at the California-Berkeley University, Henry started to review the games psychology components and how they have an effect on the motor skills of athletes. He started to test with the effects of workout at high altitudes, decompression illness and aeroembolism (this is the release of air bubbles in tissue upon speedy lower in air power). In 1964, Henry authored and circulated a paper named "Physical Education: An Academic Discipline." 1965 marked the beginning and establishment of "The International Society of Games Psychology" in Europe in the same year, the society also conducted its first ever global meeting. In the year 1967, "The North American Society for the Psychology of Games and Physical Activity" was established in the United States. Professor Dorothy Harris created a "Games Psychology" graduate program at the college of Penn State, and she systematized the first research conference in 1972 that dealt with women and games. "The Journal of Games Psychology" was founded in the year 1979.



Fig 1.2

year 1967, "The North American Society for the Psychology of Games and Physical Activity" was established in the United States. Professor Dorothy Harris created a "Games Psychology" graduate program at the college of Penn State, and she systematized the first research conference in 1972 that dealt with women and games. "The Journal of Games Psychology" was founded in the year 1979.

Significance of the Study

In the field of games, where an individual and team game performs, the psychological variables have a notable importance. The ability of an athlete person to perform a task effectively and efficiently is an interaction between one's physical and mental process. Both physical and mental capabilities of the individual are closely linked with each other that along with the mental task at hand one has to cope-up with the demands of physical work as well and vice versa in both team and individual games. The present study is an attempt at an investigation into the psychological variables of athletes and psychological impacts to team and individual game i.e., Inter college, University and National players. An effort was made by the investigator to take a coherent view of the player's „Psyche“ so that coaches and trainers who provide specialized training to the players for higher accomplishment may benefit to the extent of provide correct guide lines to the women athletes. The present study will provide the coaches with extremely relevant clues and clues to adopt psychological techniques to suit each individual players so that his/her potentials exploited to be maximum for the glory of games and country at the international level competitions.

The objectives or goals are desired outcomes that can be realized through sound and definite aims of the study. Objectives can be long and short term in nature; these are often expressed as goals and general statements of intent. Short term objectives can be used as stepping stones to the attainment of long range goals. The four traditional objectives of psychological variables are Anxiety, Aggression, Motivation and Achievement Motivation.

1. To measure the difference among women athletes at various levels of competition in relation to their selected psychological variables.
1. To study the difference among women athletes at various levels of competition in relation to their levels of Anxiety.
2. To find out the existing difference among women athletes at various levels of competition in relation to their levels of Aggression.

Hypotheses

Based on the literature reviewed and discussion with the experts in the field and own understanding of the problem, the following hypothesis were formulated:

1. There may not be any significant difference among women athletes in relation to their total selected psychological variables at various levels of competition at Hyderabad.
2. There may not be any significant difference among women athletes in relation to their Anxiety level at various levels of competition at Hyderabad.
3. There may not be any significant difference among women athletes in relation to their Aggression level at various levels of competition at Hyderabad.

4. There may not be any significant difference among women athletes in relation to their Motivation level at various levels of competition at Hyderabad.
5. There may not be any significant difference among women athletes in relation to their Achievement Motivation level at various levels of competition at Hyderabad.

Limitations

1. The factors like food habits, climatic conditions, life style, and
2. financial position were beyond the control of the Investigator.
3. There may not be any significant difference among women athletes in relation to their Anxiety level at various levels of competition at Hyderabad.
4. There may not be any significant difference among women athletes in relation to their Aggression level at various levels of competition at Hyderabad.
5. There may not be any significant difference among women athletes in relation to their Motivation level at various levels of competition at Hyderabad

Review of related literature

In the year 2001, Todal A. Ryska conducted a study to reveal differences in motivation orientation among athletes from various ethnic groups, as no work had addressed the impact of within group variation in acculturation on motivational goal perspectives. Multiple regression analysis were conducted on data generated from a young group of 83 male and 80 female athletes aged between 14 and 17 years. Among males the acculturation dimensions of media use and ethnic social relations significantly predicted a task goal perspective, explaining 32% of the variance, whereas increased ego involvement among female athletes was significantly predicted by language use and ethnic social relations accounting for 29% of the variance. Both statistical and theoretical explanations are offered for the observed gender differences. These preliminary results suggest that acculturation differentially impacts how male and female athletes derive their perceptions of competence within the competitive sports setting.

In the year 1999, Sivaramakrishnan, Nageswrn and Kalidasan) undertook a study to compare the competitive trait and state anxiety among university women Volleyball players. One hundred sixty eight volleyball women players of South-West zone inter-university tournament. SCAT and CSAI-2 of R. Martens were used to obtain the required data. The obtained data were analyzed using two way nested factorial design and six states with various universities as the second factor. The results of the study indicated that there was no significant difference in somatic anxiety and self-confidence between them but there existed significant difference between some universities in self-confidence. The analysis further showed significant difference in cognitive anxiety between south and west zone universities and between universities of various states there were no significant difference in state anxiety prior to competition between south and west zone University. There was significant difference in state anxiety between university of Kerala and universities of Karnataka, Gujarat and Maharashtra states.

In the year 1999, Stuart J.H.Biddle analysis of control related motivation constructs that have been studied in Sport

and exercise psychology is attempted using E. Skinner's (1995, 1996) agent means ends frame work and her competence system model. This article reviews and analysis 6 constructs of approaches that have received a great deal of attention in the field in the past, (locus of control and attributions), the present (Self-efficacy, achievement goal orientations and perceived behavioral control) and it is predicted, the future (self-determination theory). For each construct, the author provides and overviews and research summary followed by an analysis of its control-related properties using Skinner's frameworks.

Methodology

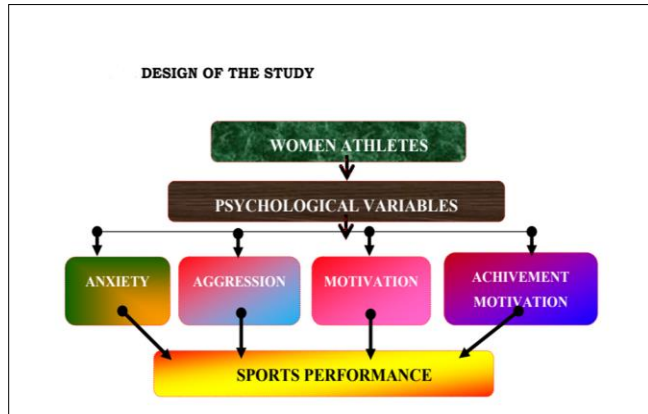


Fig 2

Sample of the study

A sample of 600 women athletes who participated in team games and individual games at national level, university level and inter collegiate level were considered from satisfied random sample Techniques.

Tools used

The following four types of tools were used to measure the impact of the selected psychological variables in assessing the individual and team games at various levels of competitions i.e., intercollegiate, University and National Level..

Results and Discussions showing the Inter Collegiate level Team Game

Results and discussion showing among Inter Collegiate level Team Game in relation to their psychological factors" are presented in Table.

Table 1: Showing the Mean values, SD, 't' value and p-value among inter collegiate level Team game.

Sl. No	Subjects	N	Mean	SD	t-value	P-value
1.	Anxiety	100	268.93	68.54	15.20	0.00
2.	Aggression	100	251.73	78.43	12.43	0.00
3.	Motivation	100	405.47	18.78	83.60	0.00
4	Achievement Motivation	100	414.80	31.23	51.44	0.00

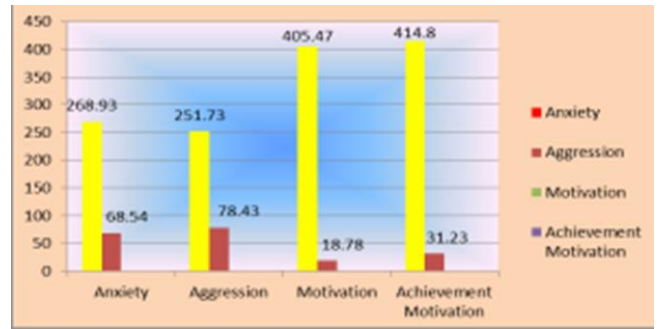


Fig 3

The results presented in the table have shown scores on inter collegiate level Team game in relation to their selected psychological variables. The results of Anxiety (Mean – 268.93, SD – 68.54), Aggression (Mean-251.73, SD- 78.43), Motivation (Mean- 405.47, SD 18.78) and Achievement motivation (Mean-414.80, SD-31.23)

The p-values of all the variables of inter collegiate level team game presented in the table are found to be significant at 0.01 level but the t-value of inter collegiate level at motivation level on higher side. So, it was proved that motivation level is significant.

Thus, it was concluded that the motivation level at inter collegiate individual Game was found significant.

Table 2

parameter		Sum of Squares	df	Mean Square	F	Sig.
Anxiety	Between Groups	53274.93	12.00	4439.58	0.71	0.72
	Within Groups	12484.00	2.00	6242.00		
	Total	65758.93	14.00			
Aggression	Between Groups	63596.93	12.00	5299.74	0.47	0.84
	Within Groups	22522.00	2.00	11261.00		
	Total	86118.93	14.00			
Motivation	Between Groups	4119.73	12.00	343.31	0.84	0.66
	Within Groups	820.00	2.00	410.00		
	Total	4939.73	14.00			

Results and Discussions showing the University level Team Game:

Results and discussions showing among University level Team game in relation to their psychological factors are presented in Table

Table 3: Showing the Mean values, SD, 't' value and p-value among University level team Game.

Sl. No	Subjects	N	Mean	SD	t-value	P-value
1.	Anxiety	100	243.07	77.72	12.11	0.00
2.	Aggression	100	246.93	94.07	10.17	0.00
3.	Motivation	100	434.93	38.03	44.29	0.00
4	Achievement Motivation	100	432.80	44.23	37.90	0.00

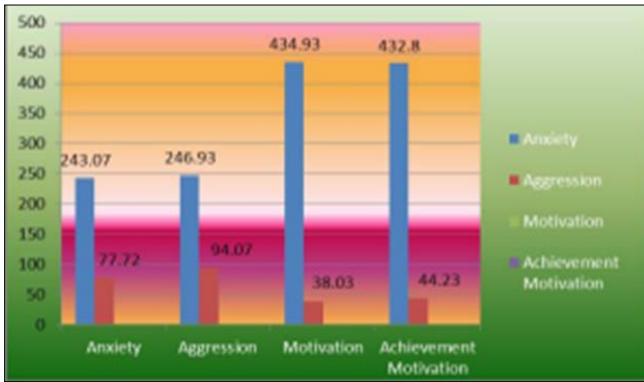


Fig 4

The results presented in the table reveal the scores on University level Team game in relation to their psychological factors. The results of Anxiety (Mean – 243.07, SD – 77.72), Aggression (Mean 246.93, SD- 94.07), Motivation (Mean- 434.93, SD- 38.03) and Achievement motivation (Mean-432.80, SD-44.23) The p-values of all the segments of University level team game presented in the table are found significant at 0.01 levels but the t value of University level at motivation level on higher side. So, it was proved that motivation level is significant. Thus, it was concluded that the motivation level at University level team Game was found significant.

Table 4

Parameters		Sum of Squares	Df	Mean Square	F	Sig.
Anxiety	Between Groups	50531.93	10.00	5053.19	0.59	0.77
	Within Groups	34027.00	4.00	8506.75		
	Total	84558.93	14.00			
Aggression	Between Groups	84081.93	10.00	8408.19	0.84	0.62
	Within Groups	39805.00	4.00	9951.25		
	Total	123886.93	14.00			
Motivation	Between Groups	16236.93	10.00	1623.69	1.62	0.34
	Within Groups	4010.00	4.00	1002.50		
	Total	20246.93	14.00			

Results and Discussions showing the National level Team Game:

Results and discussions showing among National level Team game in relation to their psychological factors are presented in Table

Table 5: Showing the Mean values, SD, 't' value and p value among National level Team game

Sl.No	Subjects	N	Mean	SD	t-value	P-value
1.	Anxiety	100	283.47	151.50	7.25	0.00
2.	Aggression	100	230.27	115.92	7.69	0.00
3.	Motivation	100	450.53	48.95	35.65	0.00
4	Achievement Motivation	100	445.07	60.43	28.52	0.00

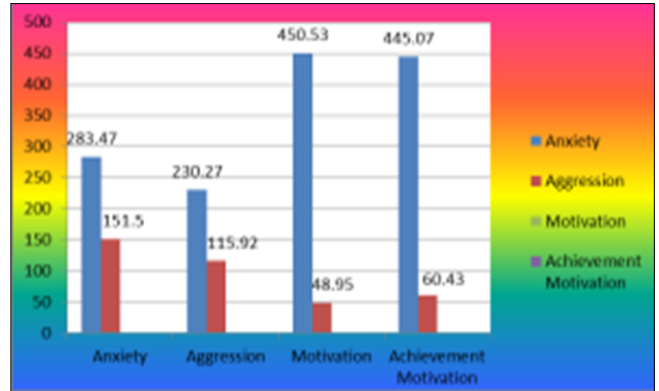


Fig 5

The results presented in the table reveal the scores on National level Team game in relation to their psychological factors. The results of Anxiety (Mean – 283.47, SD – 151.50), Aggression (Mean 230.27, SD- 115.92), Motivation (Mean- 450.53, SD- 48.95) and Achievement motivation (Mean-445.07, SD-60.43) The p-values of all the segments of National level team game presented in the table are found significant at 0.01 level but the t value of National at motivation level on higher side. So, it was proved that motivation level is significant. Thus, it was concluded that the motivation level at National level team Game was found significant.

Table 6

Parameters		Sum of Squares	df	Mean Square	F	Sig.
Anxiety	Between Groups	188223.73	10.00	18822.37	0.57	0.79
	Within Groups	133116.00	4.00	33279.00		
	Total	321339.73	14.00			
Aggression	Between Groups	91004.27	10.00	9100.43	0.37	0.91
	Within Groups	97130.67	4.00	24282.67		
	Total	188134.93	14.00			
Motivation	Between Groups	24759.07	10.00	2475.91	1.13	0.49
	Within Groups	8788.67	4.00	2197.17		
	Total	33547.73	14.00			

Results and Discussions showing the Inter Collegiate level Individual Game

Results and discussions showing among Inter collegiate level Individual game in relation to their psychological factors are presented in Table

Table 7: Showing the Mean values, SD, 't' value and p-value among Inter collegiate level Individual game

Sl.No	Subjects	N	Mean	SD	t-value	P-value
1.	Anxiety	100	271.73	63.13	16.67	0.00
2.	Aggression	100	249.87	82.92	11.67	0.00
3.	Motivation	100	422.40	27.29	59.95	0.00
4	Achievement Motivation	100	419.73	36.82	44.15	0.00

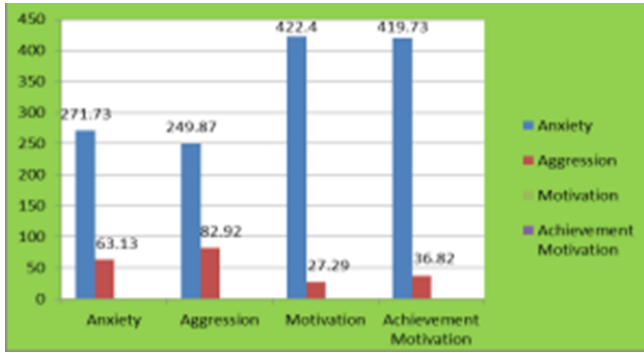


Fig 6

The results presented in the table reveal the scores on Inter collegiate level Individual game in relation to their psychological factors. The results of Anxiety (Mean – 271.73,), Aggression (Mean-249.87, SD- 82.92), Motivation (Mean- 422.40, SD- 27.29) and Achievement motivation (Mean-419.73, SD-36.82) The p-values of all the segments of Inter Collegiate level individual game presented in the table are found significant at 0.01 level but the t-value of inter college level at motivation level on higher side. So, it was proved that motivation level is more significant than other psychological factors. Thus, it was concluded that the motivation level at Inter Collegiate individual Game was found significant.

Table 8

ANOVA on Inter collegiate Individual Game						
Parameters		Sum of Squares	df	Mean Square	F	Sig.
Anxiety	Between Groups	40140.93	11.00	3649.18	0.70	.713
	Within Groups	15658.00	3.00	5219.33		
	Total	55798.93	14.00			
Aggression	Between Groups	60225.73	11.00	5475.07	0.46	.854
	Within Groups	36034.00	3.00	12011.33		
	Total	96259.73	14.00			
Motivation	Between Groups	7811.60	11.00	710.15	0.82	.654
	Within Groups	2614.00	3.00	871.33		
	Total	10425.60	14.00			

Results and Discussions showing the University level Individual Game

Results and discussions showing among University level Individual game in relation to their psychological factors are presented in Table

Table 9: Showing the Mean values, SD, 't' value and p-value among University level Individual game

Sl.No	Subjects	N	Mean	SD	t-value	P-value
1.	Anxiety	100	250.67	74.63	13.01	0.00
2.	Aggression	100	232.93	95.56	9.44	0.00
3.	Motivation	100	443.73	32.59	52.73	0.00
4	Achievement Motivation	100	443.73	44.42	38.69	0.00

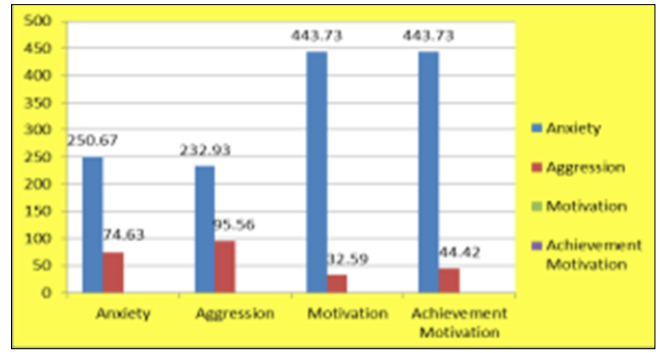


Fig 7

The results presented in the table reveal the scores on University level Individual game in relation to their psychological factors. The results of Anxiety (Mean – 250.67, SD – 74.63), Aggression (Mean 232.93, SD- 95.56), Motivation (Mean- 443.73, SD- 32.59) and Achievement motivation (Mean-443.73, SD-44.42)

The p-values of all the segments of University level individual game presented in the table are found significant at 0.01 level but the t-value of University level at motivation level on higher side. So, it was proved that motivation level and achievement motivation levels are significant. Thus, it was concluded that the motivation and achievement motivation levels at University individual Game was found significant.

Table 10

ANOVA on University Level Individual Game						
Parameters		Sum of Squares	df	Mean Square	F	Sig.
Anxiety	Between Groups	41656.67	10.00	4165.67	0.46	0.86
	Within Groups	36316.67	4.00	9079.17		
	Total	77973.33	14.00			
Aggression	Between Groups	60426.27	10.00	6042.63	0.36	0.91
	Within Groups	67404.67	4.00	16851.17		
	Total	127830.93	14.00			
Motivation	Between Groups	10082.27	10.00	1008.23	0.84	0.63
	Within Groups	4788.67	4.00	1197.17		
	Total	14870.93	14.00			

Results and Discussions showing the National Level Individual Game

Results and discussions showing among National Level Individual game in relation to their psychological factors are presented in Table

Table 11: Showing the Mean values, SD, 't' value and p-value among National level Individual game

Sl.No	Subjects	N	Mean	SD	t-value	P-value
1.	Anxiety	100	283.87	148.83	7.39	0.00
2.	Aggression	100	231.07	111.45	8.03	0.00
3.	Motivation	100	451.87	54.39	32.17	0.00
4	Achievement Motivation	100	448.27	64.32	26.99	0.00

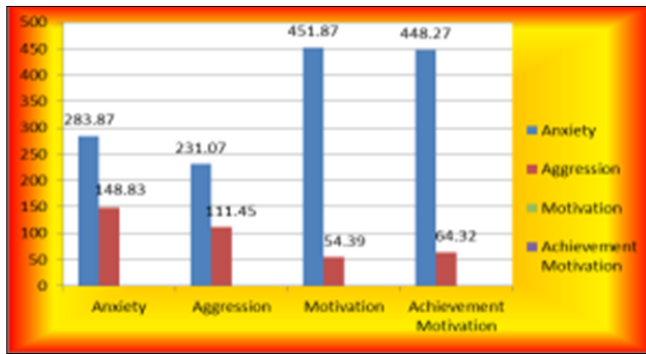


Fig 8

The results presented in the table reveal the scores on national level Individual game in relation to their psychological factors. The results of Anxiety (Mean – 283.87, SD – 148.83), Aggression (Mean-231.07, SD-111.45), Motivation (Mean- 451.87, SD- 54.39) and Achievement motivation (Mean-448.27, SD-64.32).The p-values of all the segments of National level individual game presented in the table are found significant at 0.01 level but the t value of National level at motivation level on higher side. So, it was proved that motivation level is significant. Thus, it was concluded that the motivation level at National individual Game was found significant.

Table 12

ANOVA on National Level Individual Game						
Parameters		Sum of Squares	df	Mean Square	F	Sig.
Anxiety	Between Groups	159539.73	10.00	15953.97	0.42	0.88
	Within Groups	150576.00	4.00	37644.00		
	Total	310115.73	14.00			
Aggression	Between Groups	118108.93	10.00	11810.89	0.85	0.62
	Within Groups	55778.00	4.00	13944.50		
	Total	173886.93	14.00			
Motivation	Between Groups	29935.07	10.00	2993.51	1.04	0.53
	Within Groups	11484.67	4.00	2871.17		
	Total	41419.73	14.00			

The following Conclusions were drawn from the study under report:

1. It was concluded that no significant difference was found between athletes of Inter collegiate Individual Game and Inter collegiate Team Game events in relation to their Anxiety levels
2. It was concluded that a significant difference was found between athletes of Inter Collegiate Individual Game and University Team Game in relation to their Anxiety levels
3. It was concluded that no significant difference was found between Inter Collegiate Individual Game and National Team Game of Anxiety.
4. It was concluded that no significant difference was found between University Individual Game and Inter Collegiate Team Game of Anxiety.
5. It was concluded that significant difference was found between University Individual Game and University Team Game of Anxiety.

6. It was concluded that no significant difference was found between University Individual Game and National Team Game of Anxiety.
7. It was concluded that no significant difference was found between National Individual Game and Inter collegiate Team Game of Anxiety.
8. It was concluded that no significant difference was found between National Individual Game and University Team Game of Anxiety.
9. It was concluded that no significant difference was found between National Individual Game and National Team Game of Anxiety.
10. It was concluded that no significant difference was found between Inter Collegiate Individual Game and Inter collegiate Team Game of Aggression.
11. It was concluded that no significant difference was found between Inter collegiate Individual Game and University Team Game of Aggression.
12. It was concluded that significant difference was found between Inter Collegiate Individual Game and National Team Game of Aggression.
13. It was concluded that significant difference was found between University Individual Game and Inter collegiate Team Game of Aggression.
14. It was concluded that no significant difference was found between University Individual Game and University Team Game of Aggression.
15. It was concluded that no significant difference was found between University Individual Game and National Team Game of Aggression.
16. It was concluded that significant difference was found between National Individual Game and Inter collegiate Team Game of Aggression.
17. It was concluded that no significant difference was found between National Individual Game and University Team Game of Aggression.
18. It was concluded that no significant difference was found between National Individual Game and National Team Game of Aggression.
19. It was concluded that significant difference was found between Inter collegiate Individual Game and Inter collegiate Team Game of Motivation.
20. It was concluded that significant difference was found between Inter collegiate Individual Game and University Team Game of Motivation
21. It was concluded that significant difference was found between Inter collegiate Individual Game and National Team Game of Motivation.
22. It was concluded that significant difference was found between University Individual Game and Inter collegiate Team Game of Motivation.
23. It was concluded that no significant difference was found between University Individual Game and University Team Game of Motivation.
24. It was concluded that no significant difference was found between University Individual Game and National Team Game of Motivation.
25. It was concluded that significant difference was found between National Individual Game and Inter collegiate Team Game of Motivation.
26. It was concluded that significant difference was found between National Individual Game and University Team Game of Motivation.

27. It was concluded that no significant difference was found between National Individual Game and National Team Game of Motivation.
 28. It was concluded that significant difference was found between Inter collegiate Individual Game and Inter collegiate Team Game of Achievement Motivation.
 29. It was concluded that significant difference was found between Inter collegiate Individual Game and University Team Game of Achievement Motivation.
 30. It was concluded that significant difference was found between Inter collegiate Individual Game and National Team Game of Achievement Motivation.
 31. It was concluded that significant difference was found between University Individual Game and Inter collegiate Team Game of Achievement Motivation.
 32. It was concluded that significant difference was found between University Individual Game and University Team Game of Achievement Motivation.
 33. It was concluded that no significant difference was found between University Individual Game and National Team Game of Achievement Motivation.
 34. It was concluded that significant difference was found between National Individual Game and Inter collegiate Team Game of Achievement Motivation.
 35. It was concluded that no significant difference was found between National Individual Game and University Team Game of Achievement Motivation.
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Conclusion

Original contribution to be highlighted

The present study under report was a significant contribution by the researcher in the field of sports and games. The pioneering study was attempted in exercise psychology, was a deeper probe on the selected psychological variables. The negative emotions i.e., anxiety and aggression were proved to be scientifically low in order, for women athletes as the intensity and the frequency level of the competition is increased. Low anxiety and medium level of aggression was found at inter collegiate level. Subsequently, the medium level was recorded for university players and high level anxiety was placed for National athletes. On the other hand, the striking feature of the study has yielded highly significant sports for achievement motivation followed by the intrinsic and extrinsic motivation. Hence, it was evident that the topical significance was placed in order in descending manner i.e. National, University and Inter collegiate among women athletes in Hyderabad resulted into the rank card of the tested psychological variables, wherein achievement motivation was the top scorer next to that motivation and followed by aggression & Anxiety. So, the study attempted has tested hypothetically, the results and concluded that psychology in sports will play a significant role in the ultimate result of the game.

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