

Review Article

Psychological characteristics of male university athletes

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Abstract

The purpose of the study was to investigate and compare the psychological characteristics of University male athletes. A sample of 80 male athletes of Volleyball (n=15), Basketball (n=15), Football (n=25) and Cricket (n=25) filled out questionnaire measures assessing their psychological competencies at their different level of participation. The Athletic Coping Skills Inventory-28 prepared and developed by Smith et al. 1995 was used to measure the psychological characteristics in the form of personal coping resources of university athletes. To assess the psychological characteristics of University male athletes of different games, the means, standard deviations, t-ratios and Analysis of Variance (ANOVA) were computed. The level of significant was set at .05 levels. The results of research study showed that University male athletes of different team games and levels as whole had similarity on seven dimensions of psychological characteristics i.e. Coping with adversity, Peaking under pressure, Goal setting and mental Preparation, Concentration, Freedom from worry, Confidence and achievement motivation, and Coach-ability. Inter-university and All India level male athletes expressed significance difference on Goal setting and mental Preparation only. The results also showed that Basketball players apparently are not free from worry about disappointing a coach or parent and teammates in next time. Finally, the results highlight the importance of psychological competencies for the team games players at their different level of participation.

Key words: *psychological competencies, team games players*

Introduction

In the modern age of scientific knowledge, man is making rapid progress in all walks of life including that of sports and games. The progress in sports and games may be attributed to the scientific investigations for the better performance of sportsmen and sportswomen, improved scientific and specific training methods and also to the better understanding of the human organism (Simon 1964).

Today, it is important for the physical education coaches as well as athletes to recognize the vital Part that science of psychology plays in the field of physical education and sports. It is binding on the physical educators, coaches and sports persons to have knowledge of Psychology in general and sport psychology in particular.

The psychological preparation on the basis of psychological characteristics of the sport, the competition conditions and the personality structure (profile) of the sportsmen, is planned and carried out with the aim of enabling the sportsman to be in an optimum psychic state at the time of competition so that he can achieve the maximum possible performance.

Success in athletics seems to be dependent in part on psychological status and traits. The use of an athlete's personality profile, in concern with knowledge of their past experience, coach's rating, anatomic and physiological characteristics and so one can enhance the accuracy of prediction in a number of sports (Morgan, 1986).

Cognitive and general psychological abilities such as intelligence, personality characteristics, concentration, reaction time, motivation, will power, anticipation etc. play a pre-dominant role in various sports activities (Puni, 1980).

Many research delineating psychological characteristics of exemplary sport participants may allow identification of the strengths and weaknesses of individual athletes, and ultimately, with strategic interventions, facilitate performance enhancement.

The researchers specified five psychological characteristics that are important in the sport of gymnastics. The five critical areas studied were self-concept, emotional set, achievement motivation, concentration, and anxiety. (Rushall & Fox, 1980).

First of all, the inclusion of sports psychology was much more important to the Eastern European countries. Secondly, the approach to sports psychology is different. Sport psychologists in the USA work directly with the athletes, whereas, the Eastern Europeans believed that the coach should be the sport psychologist. In other words, the job of the sport psychologist is to help educate the coach. Furthermore, coaches in the former GDR completed a thorough training program that included extensive education in Sports Psychology. In western countries, coaches are seldom required to have formal training or to work closely with sport science practitioners or researchers (Roberts and Kimiecik (1989).

Anxiety has been the psychological factor most commonly linked to these sporting injuries, and there are reports of a high frequency of injuries in gymnastics. Elite gymnasts were found to have the highest anxiety level when compared to elite athletes from eight different sports. Little attention has been paid to the relationship of anxiety and injury in gymnastics (Kolt & Kirkby, 1994).

While coaches are experts in the identification of physical attributes needed for success, they may lack the ability to identify psychological skills (Humara, 2005).

Players of different levels of play might display differences among the various psychological factors. Also, it was believed that identifying the psychological factors that influence soccer performance could provide important information to improve the athlete's preparation for the game, influence the occurrence of injuries and lead to intervention methods to improve fair play (Junge et. al. 2000).

The mental skills are most important for the athlete to develop in order to enhance and optimize their coping skills. One concern that Baltzell had, however, was the lack of correlation between Coping and the Coping with Adversity subscale in the ACSI-28. Baltzell asserts that these two scales should be more closely related since theoretically, those athletes who cope effectively would also cope with adversity (Baltzell, 1999).

Review of Related Literature

Mace and Carroll (1989) investigated that stress inoculation training was effective in minimizing performance deterioration. Normally, competitive stress and the associated increases in anxiety result in considerable disruption of skill performance. Hayashi (1998) reported that gymnast with higher anxiety and low abilities to cope with adversity are more likely to discontinue gymnastics training and a gymnast with support from family and friends were more likely to continue, became successful in their sport. Kerr and Pos (1994) demonstrated a difference in the psychological mood experience between high level and low level competitive gymnasts both in the training setting as well as the competition setting. Martin, Spieler. et. al showed that there was a significant difference between starters and non-starters for age, high school size, and coping with adversity, that predicted starting status 79.6% of the time Christiansen (2000) studied important correlate of successful golf performance in a study by using the ACSI-28 involving golfers participating in the Pacific-10 Golf Championships.

The total Coping Skills score from the ACSI-28 was significantly correlated with overall stroke average for men and women, Baltzell (1999) told that coping was positively and significantly related to athletic coping skills. Coping correlated well with three of the ACSI-28 subscales: Confidence, Goal setting, and mental preparation. The Junge's study clarified that the psychological characteristics of players who did not talk or listen to an opponent during a game were almost the opposite of those who did. Players, who refrained from verbal interaction with the opponent more often prepared mentally for the game, and coped better with adversity than the players who talked or listened to an opponent during the game.]Steven B. Waples, (2003) revealed that there was a significant difference in the Personal Resources Score (PCR) between the elite gymnast and all other levels.

Methodology

Participants

The general population consisted of male competitive athletes of Guru Ghasidas University Bilaspur drawn from Inter-University and All India level athletes belonging to Volleyball, Basketball, Football and Cricket. Initially, 100 athletes agreed to participate, however, the surveys from twenty were never received, resulting in an 80 % (n = 80) A purposive sampling technique was used in selecting athletes for obtaining subjects. The basis for athletes selection was two-fold: (a) Inter-university level athletes belongs to Basketball and Volleyball team games (b) All India level athletes belongs to Football and Cricket team games. Participants' mean age was 24.05 ± 1.47. Please refer to Table I for a summary of the respondents. Participants'

TABLE 1 Summary of Respondents

Level Questionnaires Response Percentage of Provided original Sample

Level	Questionnaires	Response	Percentage of Provided	original Sample
Interuniversity level	40	30	72.00%	
All India Level	60	50	83.33%	

Measure

Athletic Coping Skills Inventory--28.

Psychological competencies were assessed using a modified version of Smith, Schutz, Smoll, and Ptacek's (1995) Athletic Coping Skills Inventory-28. This measure requires athletes to respond on a 4-point scale (0 = *almost never*, 1 = *sometimes*, 2 = *often*, 3 = *almost always*) to 28 items regarding psychological skills. Higher scores indicated higher perceived competence. Smith et al. (1995) found support for a 7-factor model: 1) Coping with Adversity (e.g., "When things are going badly, I tell myself to keep calm, and this works for me"), 2) Peaking under Pressure (e.g., "To me, pressure situations are challenges that I welcome"), 3) Goal Setting/Mental Preparation (e.g., "I set my own performance goals for each practice"), 4) Concentration (e.g., "When I'm playing tennis, I can focus my attention and block out distractions"), 5) Freedom from Worry (e.g., "I worry quite a bit about what others think of my performance"), 6) Confidence and Achievement Motivation (e.g., "I don't have to be pushed to practice or play hard: I give 100%," "I feel confident that I will play well"), and 7) Coach-ability (e.g., "If a coach/instructor criticizes me, I correct the mistake without getting upset about it"). Each factor consisted of four items.

Procedure

A packet containing a two-page questionnaire was provided to the 100 athletes of Guru Ghasidas university, Bilaspur (C.G.), who have taken part in Inter-university and All India inter-university level competitions of Basketball, Volleyball, Football and Cricket. At the top of the first page subjects were instructed to fill out a brief demographic summary. The categories included age, game, gender, and participation level. All 28 statements were formatted on a four point Likert type scale with response choices being "Almost Never", "Sometimes", "Often", and "Almost Always". A cover letter, which explained the nature and purpose of the study, along with instructions as to how to complete and return the questionnaire was included in the packet. The assessment packages were collected after a week from the respondents.

The questionnaire is psychometrically sound and has substantial support in the literature as a valid assessment tool, which will ensure the most valid results. When using a questionnaire is the number of responses returned to the researcher relative to the number provided. The design and appearance of the cover letter, and the questionnaire, encouraged the thoughtful participation of the subjects, and, providing return envelopes ensured a high percentage of successfully returned questionnaires. The fact that 80 out of 100 athletes (80.00 %) surveyed successfully returned the completed materials was gratifying.

Statistical Analysis of Data Overview

To assess the psychological characteristics of Inter-university and All India level athletes of different games, means and standard deviations were computed. The t-ratios (Clarke & Clarke, 1970) were computed to find out the differences between Inter-university and All India level players on eight dimensions of psychological characteristics. One way Analysis of F-ratio (Clarke & Clarke, 1972)¹⁰ find out the significance of differences between means of players on various factors of psychological characteristics.. Wherever the F-ratio was found significant, Test of post-hoc (Sheehan, 1971) was applied to find out the difference between ordered paired means. The level of significant was set at .05 level

Results of the study

To assess the psychological characteristics on seven dimensions for Inter University and All India level male players of Different team games, means and standard deviations were computed and data pertaining to this have been presented in table 2.

Table 2
Descriptive statistics of eight dimensions of psychological characteristics separately of all india and inter-university levels male players

S. No. Psychological Characteristics	Interuniversity level (N=30)		All India level (N=50)	
	M	SD	M	SD
1 Coping with Adversity	7.53	2.24	7.04	1.81
2 Peaking under Pressure	7.63	2.49	7.34	2.40
3. Goal Setting and Mental Preparation	8.57	2.33	8.32	2.45
4. Concentration	6.37	1.89	6.92	2.40
5. Freedom from Worry	5.63	2.42	6.12	2.84
6. Confidence and Achievement Motivation	8.43	2.58	7.72	2.70
7. Coach-ability	7.27	2.11	7.34	2.09

The mean scores of seven dimensions of psychological characteristics as preferred by inter University and all India levels male players belonging to different team games (Volleyball, Basketball, Football, and Cricket) have been depicted in figure 2 to 3

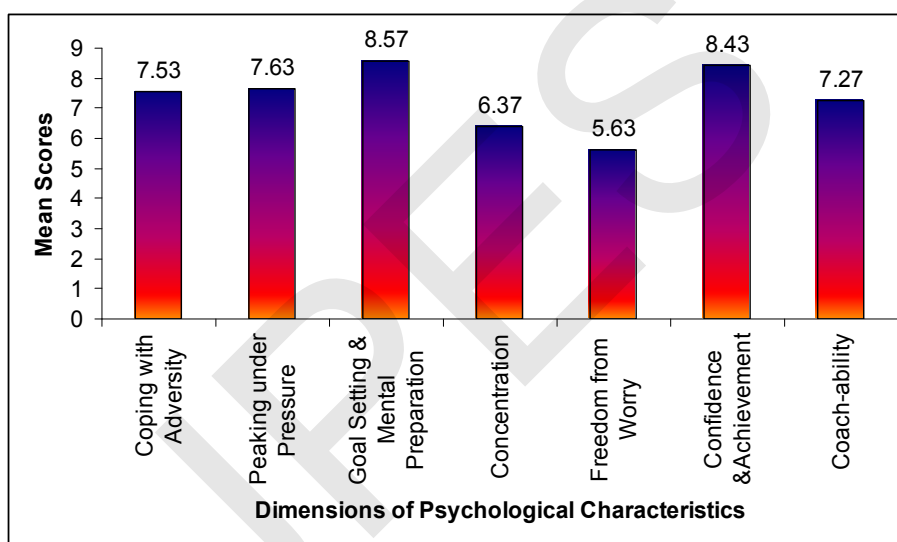


Fig. 2: Mean scores on seven dimensions of psychological characteristics of interuniversity levels male players.

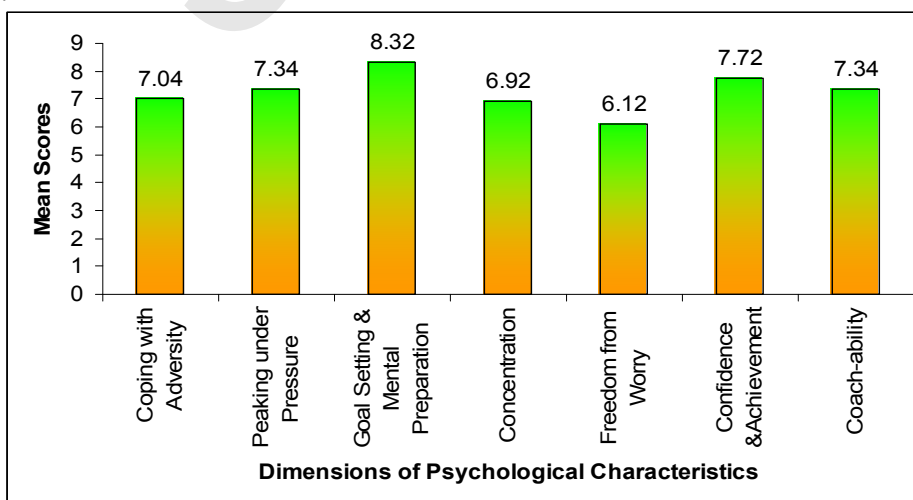


Fig. 3: Mean scores on seven dimensions of psychological characteristics of all india levels male players.

Table 3
Univariate analysis of seven dimensions of psychological characteristics of different team games participated at different levels

S.No.	Dimensions	Source of Variance	df	Sum of Square	Mean Squares	F-Value
1.	Coping with Adversity	Between Groups	3	21.82	7.27	1.21
		Within Group	76	458.13	6.03	
2.	Peaking Under Pressure	Between Groups	3	7.93	2.64	0.40
		Within Group	76	502.05	6.60	
3	Goal Setting and Mental Preparation	Between Groups	3	39.89	13.29	2.23
		Within Group	76	453.49	5.97	
4.	Concentration	Between Groups	3	17.05	5.69	1.72
		Within Group	76	385.33	5.07	
5.	Freedom from Worry	Between Groups	3	31.75	10.59	1.45
		Within Group	76	554.93	7.30	
6	Confidence and Achievement Motivation	Between Groups	3	10.29	3.43	0.46
		Within Group	76	564.09	7.43	
7.	Coach-ability	Between Groups	3	3.61	1.21	0.26
		Within Group	76	349.57	4.60	

Insignificant at .05 level

From table 3 , the results of ANOVA showed that there were no statistically significant differences among male players of different team games in their seven dimensions of psychological characteristics, as the obtained F-values of 1.21, 0.40 , 2.23 , 1.72 , 1.45, .46, and .26 respectively were not higher than the required $F_{.05}(3, 76) = 2.74$.

Table 4
Analysis of variance of seven dimensions of psychological characteristics of interuniversity level male players

S.No.	Dimensions	Source of Variance	df	Sum of Square	Mean Squares	F-Value
1.	Coping with Adversity	Between Groups	1	13.33	13.33	2.17
		Within Group	28	172.13	6.15	
2.	Peaking Under Pressure	Between Groups	1	.533	.533	0.09
		Within Group	28	163.33	5.83	
3	Goal Setting and Mental Preparation	Between Groups	1	.033	.033	0.01
		Within Group	28	1.91.33	6.83	

4. Concentration	Between Groups	1	1.63	1.63	0.43
	Within Group	28	105.33	3.76	
5. Freedom from Worry	Between Groups	1	17.63	17.63	3.09
	Within Group	28	159.33	5.69	
6 Confidence and Achievement Motivation	Between Groups	1	.033	.033	0.005
	Within Group	28	199.33	7.11	
7. Coach-ability	Between Groups	1	.133	133	0.03
	Within Group	28	133.73	4.77	

Insignificant at .05 level

From table 4, it is Evident that no significant differences existed among male players of Basketball and Volleyball team games in their seven dimensions of psychological characteristics, as the obtained F – values of 2.17, .09, .01, .43, 3.09, .005 and .03 were lesser than the required $F_{.05}(1,28) = 4.20$.

Table 5
Analysis of variance of seven dimensions of psychological characteristics of all india level male players

S.No.	Dimensions	Source of Variance	df	Sum of Square	Mean Squares	F-Value
1. Coping with Adversity		Between Groups	1	3.92	3.92	0.66
		Within Group	48	286.00	5.96	
2. Peaking Under Pressure		Between Groups	1	0.50	0.50	0.07
		Within Group	48	338.72	7.06	
3 Goal Setting and Mental Preparation		Between Groups	1	38.72	38.72	7.09*
		Within Group	48	262.16	5.46	
4. Concentration		Between Groups	1	09.68	9.68	1.66
		Within Group	48	280.00	5.83	
5. Freedom from Worry		Between Groups	1	09.68	9.68	1.18
		Within Group	48	395.00	8.24	
6 Confidence and Achievement Motivation		Between Groups	1	0.72	0.72	0.09
		Within Group	48	365.36	7.61	
7. Coach-ability		Between Groups	1	03.38	3.38	0.75
		Within Group	48	215.84	4.49	

*Significant at .05 level

It is evident from table 5, that the All India level male players of Football and Cricket team games differ significantly in the psychological characteristic only on goal setting and mental preparation dimension, as the obtained F – values of 7.09 was higher than the required $F_{.05}(1,48) = 4.03$ to be significant. The rest of the dimensions were statistically insignificant, as the obtained F-Values of .66, .07, 1.66, 1.18, .09, and 0.75 respectively were less than $F_{.05}(1, 48) = 4.03$.

Table 6
Significance of difference between mean scores of inter- university and all india levels team games male players on seven dimensions of psychological characteristics

S.No.	Psychological Characteristics	Levels	Mean	MD	σ DM	t-ratio
1.	Coping with Adversity	Interuniversity	7.53		.462	
		All India	7.04	0.49	.344	0.04
2	Peaking Under Pressure	Interuniversity	6.73		.434	
		All India	7.34	0.61	.372	0.86
3.	Goal Setting and Mental Preparation	Interuniversity	8.57		.469	
		All India	8.32		.350	2.72*
4	Concentration	Interuniversity	6.37		.351	
		All India	6.92	0.55	.344	0.91
5.	Freedom From Worry	Interuniversity	5.63		.451	
		All India	6.12	0.49	.407	0.81
6	Confidence and Achievement Motivation	Interuniversity	8.43		.479	
		All India	7.72	0.71	.387	1.15
7	Coach-ability	Interuniversity	7.27		.392	
		All India	7.34	0.07	.299	0.14

*Significant at .05 level,

It is evident from table 6, that there was a statistically significant difference between Inter-university and All India level team games male players in the psychological characteristic only on goal setting and mental preparation, as the obtained t-value of 2.72 was higher than the requires t.05 (78)=1.99. The psychological Characteristics on rest of the dimensions were statistically insignificant as the obtained t-values of .04, .86, .91, .81, 1.15, and .14 respectively were less than the required t .05 (78) =1.99 to be significant.

Table 7
Descriptive statistics of seven dimensions of psychological characteristics of male players of different team games

S. No.	Psychological Characteristics	Basketball Players (N=15)		Volleyball Players (N=15)		Football Players (N=25)		Cricket Players (N=25)	
		M	SD	M	SD	M	SD	M	SD
1	Coping with Adversity	8.20	2.51	6.87	2.44	7.32	2.61	6.76	2.26
2	Peaking Under Pressure	6.87	2.26	6.60	2.55	7.24	2.82	7.44	2.48
3.	Goal Setting And Mental Preparation	8.60	2.44	8.53	2.77	9.20	2.12	7.44	2.53
4.	Concentration	6.60	2.06	6.13	1.81	7.36	2.53	6.48	2.29
5.	Freedom from Worry	6.40	2.13	4.87	2.61	5.68	3.09	6.56	2.63
6.	Confidence and Achievement Motivation	8.47	2.92	8.40	2.38	7.84	2.44	7.60	3.04
7.	Coach-ability	7.20	2.33	7.33	2.02	7.08	2.06	7.60	2.17

The mean scores of seven dimension of psychological characteristics as preferred by inter University and all India levels male players belonging to different team games (Volleyball , Basketball , Football , and Cricket) have been depicted in figure 4 to 9.

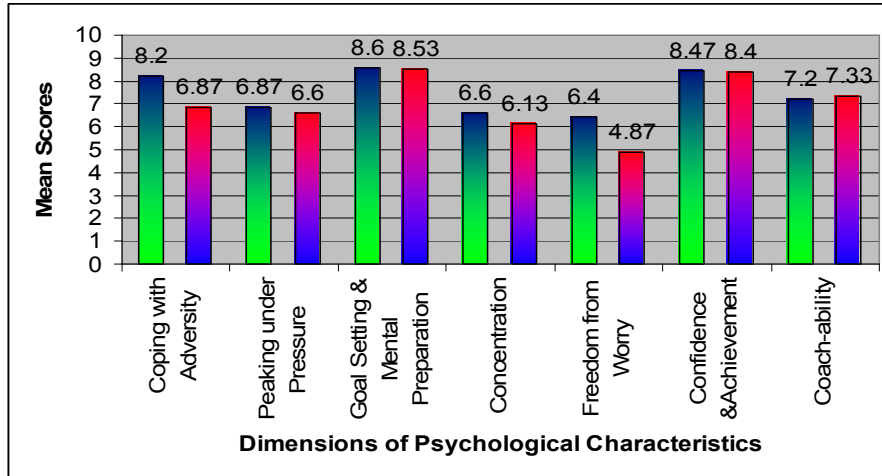


Fig. 4: Mean scores on seven dimensions of psychological characteristics of inter-university levels basketball and volleyball male players.

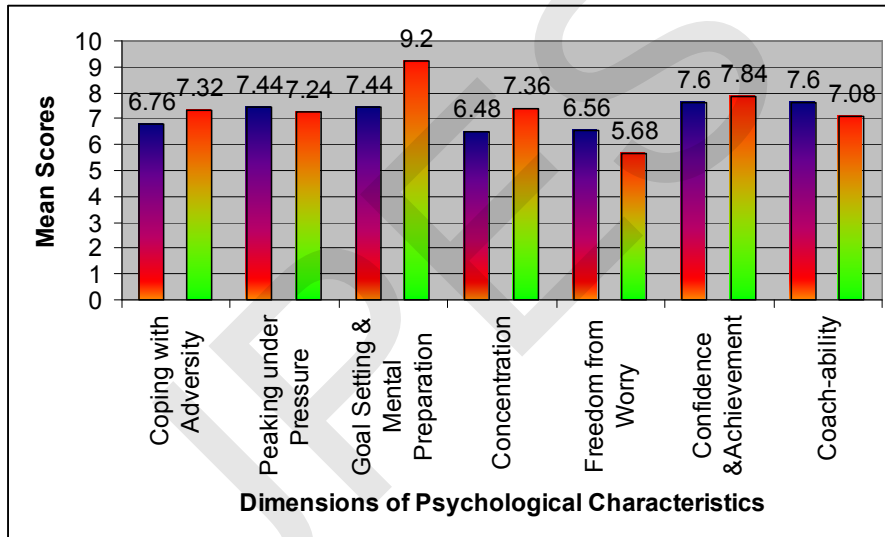


Fig. 5: Mean scores on seven dimensions of psychological characteristics of all India levels football and cricket male players

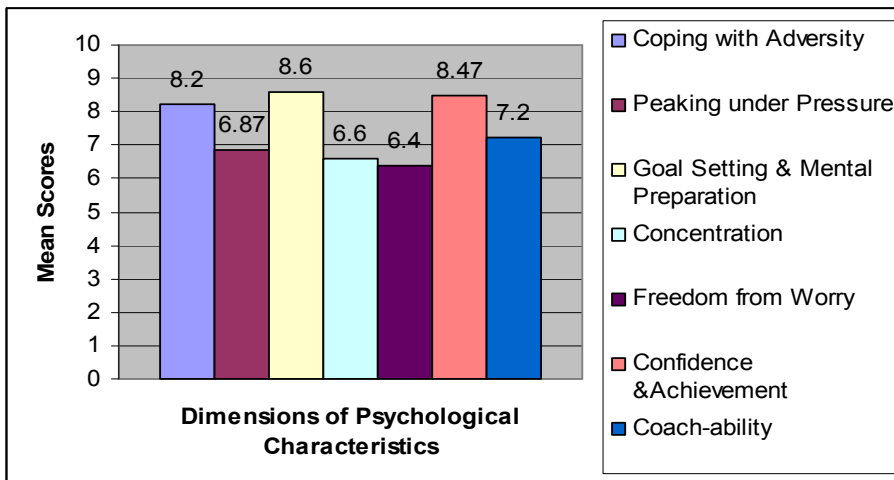


Fig. 6: Mean scores on seven dimensions of psychological characteristics of inter-university levels basketball male players.

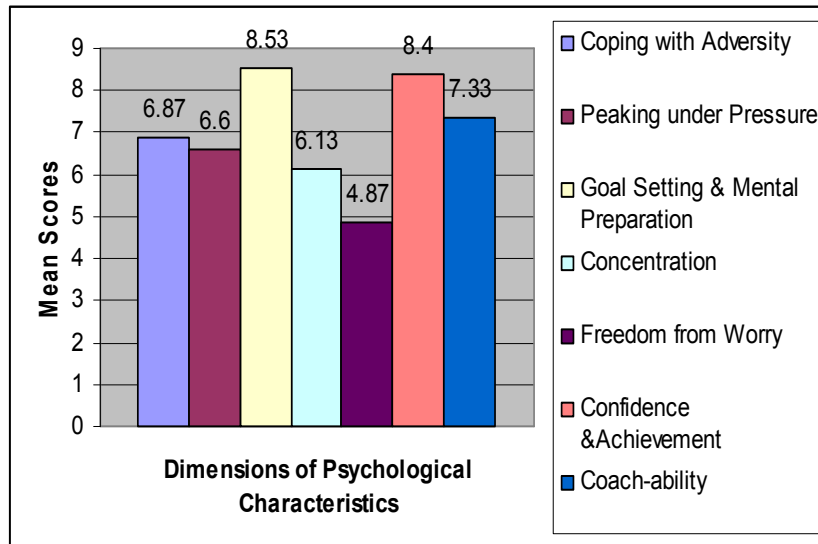


Fig.7: Mean scores on seven dimensions of psychological characteristics of inter-university levels volleyball male players.

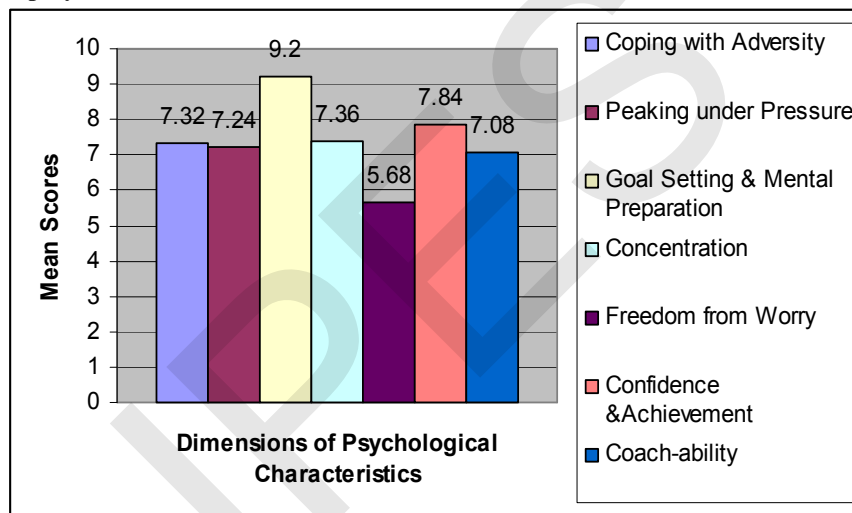


Fig.8: Mean scores on seven dimensions of psychological characteristics of all India levels football male players

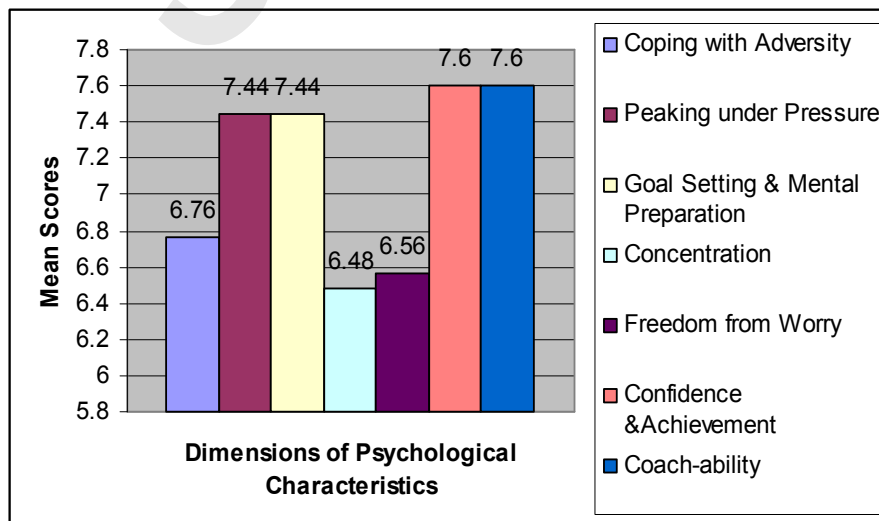


Fig. 9 : Mean scores on seven dimensions of psychological characteristics of all India levels cricket male players.

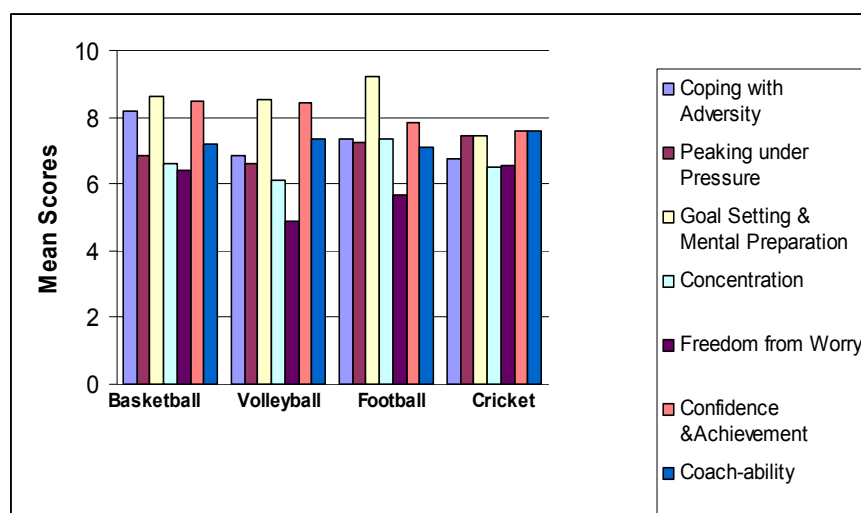


Fig. 11: Mean scores on seven dimensions of psychological characteristics of basketball, volleyball, football, and cricket male players.

Table 8
Significance of difference between mean scores of basketball and volleyball male players in seven dimensions of psychological characteristics

S. No.	Dimensions	Players	Mean	MD	σ DM	t-ratio
1.	Coping with Adversity	Basketball	8.20	1.33	0.96	1.37
		Volleyball	6.87			
2.	Peaking Under Pressure	Basketball	6.86	0.26	0.79	0.33
		Volleyball	6.60			
3.	Goal Setting and Mental Preparation	Basketball	8.60	0.06	1.01	0.06
		Volleyball	8.53			
4.	Concentration	Basketball	6.60	0.47	0.69	0.67
		Volleyball	6.13			
5.	Freedom from Worry	Basketball	6.40	1.60	0.73	2.19*
		Volleyball	4.80			
6.	Confidence and Achievement Motivation	Basketball	8.46	0.06	0.91	0.07
		Volleyball	8.40			
7.	Coach-ability	Basketball	7.20	0.13	0.78	0.17
		Volleyball	7.33			

*Significant at .05 level

It is evident from table 8, that there was a statistically significant difference between Inter-university level Basketball and Volleyball male players in the characteristic only on freedom from worry, as the obtained t-

value of 2.19 was higher than the requires $t_{.05}(28)=2.05$. The psychological Characteristics on rest of the dimensions were statistically insignificant as the obtained t-values of 1.37, .33, .06, .67, .07, and .17 respectively were less than the required $t_{.05}(28)=2.05$ to be significant.

TABLE 9
Significance of difference between mean scores of football and cricket male players in seven dimensions of psychological characteristics

S. No.	Dimensions	Players	Mean	MD	σ DM	t-ratio
1.	Coping with Adversity	Football	7.32	0.56	0.61	0.91
		Cricket	6.76			
2.	Peaking Under Pressure	Football	7.24	0.20	0.57	0.34
		Cricket	7.44			
3.	Goal Setting and Mental Preparation	Football	9.20	1.76	0.65	2.68*
		Cricket	7.44			
4.	Concentration	Football	7.36	0.89	0.68	1.28
		Cricket	6.47			
5.	Freedom from Worry	Football	5.68	0.88	0.83	1.05
		Cricket	6.56			
6.	Confidence and Achievement Motivation	Football	7.84	0.24	0.78	0.31
		Cricket	7.60			
7.	Coach-ability	Football	7.08	0.52	0.59	0.88
		Cricket	7.60			

*Significant at .05 level

It is evident from table 9, that there was a statistically significant difference between Inter-university level Basketball and Volleyball male players in the psychological characteristic only on freedom from worry, as the obtained t-value of 2.68 was higher than the requires $t_{.05}(48)=2.01$. The psychological Characteristics on rest of the dimensions were statistically insignificant as the obtained t-values of .91, .34, 1.28, 1.05, .07, and .17 respectively were less than the required $t_{.05}(48)=2.01$ to be significant

Discussion of findings

The univariate analysis of variance with participation levels of male players of different team games as independent factors and seven dimensions of psychological characteristics as set of dependent variable showed that there was no significant difference existing among the levels and different team games players in their seven dimensions of psychological characteristics. This may be due to homogeneity of the sample in term of confidence, achievement motivation, competition anxiety, concentration, mental preparation and accept challenges during play and follow the instruction of coach without any criticism.

To see whether inter-university level male players on seven dimensions of psychological characteristics produced insignificant univariate analysis of variance. This similarity in personality structure of same level competition may be attributed to the possible similarity of game style, attitude and competition orientation of male players participated at inter-university level.

In case of All India level male players of team games, they were found significantly differ in goal setting and mental preparation dimension of psychological characteristics. This may be due to difference in setting specific performance goal, planning, and mental setup for the competition as well as the difference in nature of game play.

When inter-university and All India level male players of team games as whole were compared together on the seven dimensions of psychological characteristics, they had no significant differences in all dimensions except goal setting and mental preparation only. Which may also be due to variations in setting the specific goal, plan and psychological preparation for the competition?

The inter-university Basketball and Volleyball male players were compared together on seven dimensions of personal coping resources, they had no significant differences in all the dimensions of psychological characteristics except freedom from worry dimension. Which may be due to pressure putting on him by worrying about poor performance of making mistakes during performing task.

The All India level Football and Cricket male players were compared together on seven dimensions of personal coping resources, they had a significant difference in their goal setting and mental preparation dimension of psychological characteristics only. Which showed that both game players preferred equally in rest of the dimensions of personal coping resources? This variation may be due to differences in nature of game play, strategy and technique played by the players.

Conclusions

Within the limitations of the present study, the following conclusions are enumerated:

University male athletes of different team games and levels as whole had similarity on seven dimensions of psychological characteristics i.e. Coping with adversity, Peaking under pressure, Goal setting and mental Preparation, Concentration, Freedom from worry, Confidence and achievement motivation, and Coachability.

Male athletes of all level as whole exhibited significance difference only on Goal setting and mental Preparation dimension of psychological characteristics but had similarity in rest of the dimensions.

Inter-university and All India level male athletes expressed significance difference on Goal setting and mental Preparation also only but had similar psychological make-up in rest of the dimensions.

Basketball players of interuniversity level scored more on freedom from worry dimension than their counter part. It means Basketball players apparently are not free from worry about disappointing a coach or parent and teammates in next time.

Football players of All India level scored more on Goal setting and mental Preparation dimension of A. C. S.I-28. Which indicates that they are more prompt to set and attain goals in comparison of Cricket players.

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