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Comparative study of pre-competitive anxiety between university level badminton and table tennis players

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Abstract

The primary purpose was to compare pre competitive anxiety of male badminton and table tennis players. For fulfilling the purpose, a total of twenty (N=20) male racket sports players with their age ranging between 17 to 23 years were selected. Further the total subjects were divided into 10 subjects each from badminton and table tennis sports practices. The subjects were selected from the study centre of Lakshmbai National Institute of Physical Education, Gwalior. In order to measure the pre competitive anxiety level, questionnaires, namely, Illinois self-evaluation Inventory and Sports competition anxiety test (SCAT) were implemented on racket sports players and used as the tool for data collection. In order to analyze the data collected descriptive statistics such as mean, standard deviation and comparative statistics of multivariate analysis of variance was employed and was tested at 0.05 level of significance. The results obtained revealed that the value of Wilks' lambda (0.773) was found to be insignificant at 0.05 level of significance ($p=0.555$). The insignificant value of Manova depicted that pre-competitive anxiety was at similar levels when compared between the male badminton and table tennis sports players.

Keywords: Pre-competitive anxiety, descriptive statistics, multivariate analysis of variance

Introduction

According to Browne and Mahoney, sports anxiety is the ability of applying psychological principles to all levels of sports and physical activity for skill development. The emotional response of anxiety differs in intensity and alters over time. Physiological and psychological calmness and quietude indicate the absenteeism of anxiety response. Reasonable levels of anxiety involve uneasiness, nervousness, fear and tightness. Extremely high levels of anxiety may induce intense feelings of fear, disastrous thoughts, and high levels of physiological provocation. The temporary level of anxiety experienced by an individual is known as state anxiety.

Anxiety is a state of painful uneasiness relating to estimated illness. The uneasiness caused by anxiety involves fear. Anxiety is a response to a veiled and particular danger which may be unconscious or unrecognized. Many rather common 'fears' in children and adults are phobias which involve a projection to an external object or situation or simply some kind of internal disturbance. To face anxiety an individual should learn to cope with his own internal condition. He be supported to help understand himself and attain a degree of self-acceptance that empowers him to be free.

It is evident that several situational factors are interrelated with individual's experience of anxiety prior to competition. Studies have examined about young athletes' experiencing anxiety during competition getting affected by specific situational factors that convoy or occur within a particular competition. Lowe and McGrath's studied the effects of game and its criticality on arousal during competition. Game criticality indicated the importance of the game itself. It also meant function of the ranking the importance of the instantaneous situation within the game and as also took into account several game related factors such as the difference in score between the two teams, the number of outs, and the inning of play, the number and location of base runners. The investigators took the physiological measures as well for better understanding of anxiety and arousal. The results revealed greater game criticality on players' arousal than did situation criticality. Lowe and McGrath concluded on a note that the importance of the total game situation may be a greater factor of arousal than specific events within the situation.

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The present study was designed to survey the pre competitive anxiety between male badminton and table tennis university levelled players.

Methods

Selection of Subjects

For this study a total of twenty (N=20) university levelled male racket sports players with their age ranging between 17 to 23 years from the study centres of Lakshmbai National Institute of Physical Education, Gwalior were selected. Further the total subjects were divided into 10 subjects each from badminton and table tennis.

Selection of Variable

The variable selected for this comparative study between badminton and table tennis players was pre-competitive anxiety, questionnaires were implemented on racket sports players as the tool for data collection. Two questionnaires were administered on the subjects namely, Illiniois self-evaluation Inventory and Sports competition anxiety test (SCAT).

- **Illiniois Self-Evaluation Inventory:** was used to measure competitive anxiety. This scale was developed by Marten et.al (1990) and is called the Competitive State Anxiety Inventory-2 (CSAI-2). The CSAI-2 is an inventory designed to measure existing states of anxiety in a competitive situation based on three subfactors such

as-Cognitive Anxiety, Somatic Anxiety, Self-Confidence.

- **Sports Competition Anxiety Test (SCAT):** The Sport Competition Anxiety Test (Martens, 1977), commonly known as just the SCAT test, is a self-reporting questionnaire about anxiety. The SCAT analyses an athlete's responses to a series of statements in two forms (Y1 & Y2) about how they feel in a competitive situation. From the results it is possible to determine a measure of their level of anxiety.

Statistical Technique

In order to analyze the data collected, descriptive statistics such as mean, standard deviation and comparative statistics to analyze the variable of anxiety multivariate analysis of variance (MANOVA) was employed and it was tested at 0.05 level of significance.

Results

The interpretation of data and discussion of findings of the total twenty male (N = 20) racket sports players where further the players were divided into 10 players in each group, viz., badminton (N=10) and table tennis (N=10) respectively were investigated on the basis of the psychological variable of subfactors of pre competitive anxiety. The descriptive statistics and the multivariate analysis have been presented in the following tables.

Table 1: Descriptive Statistics on Pre-Competitive Anxiety between Badminton and Table Tennis Players

	Sports Groups	Mean	Std. Deviation	N
Cognitive Anxiety	Badminton	20.30	5.73	10
	Table Tennis	20.80	4.94	10
	Total	20.55	5.21	20
Somatic Anxiety	Badminton	18.40	4.42	10
	Table Tennis	18.70	3.30	10
	Total	18.55	3.80	20
Self Confidence	Badminton	30.20	5.75	10
	Table Tennis	28.90	6.75	10
	Total	29.55	6.14	20
SCAT_Y1	Badminton	39.00	12.32	10
	Table Tennis	38.60	7.57	10
	Total	38.80	9.95	20
SCAT_Y2	Badminton	37.80	8.77	10
	Table Tennis	44.20	7.94	10
	Total	41.00	8.78	20

Table 1, indicated the mean and SD of psychological factor of pre-competitive anxiety between badminton and table tennis players. The total mean and SD in pre-competitive anxiety sub-factors of cognitive anxiety, somatic anxiety, self-confidence, SCAT-Y1 & SCAT -Y2 between badminton and table tennis players are 20.55 ± 5.21 , 18.55 ± 3.80 , 29.55 ± 6.14 , 38.80 ± 9.95 , 41.00 ± 8.78 respectively.

The mean and SD in sub-factor of cognitive anxiety of male badminton and table tennis sports players are 20.30 ± 5.73 & 20.80 ± 4.94 respectively. The mean and SD in sub-factor of somatic anxiety of male badminton and table tennis sports players are 18.40 ± 4.42 & 18.70 ± 3.30 respectively. The mean and SD in sub-factor of self-confidence of male badminton and table tennis sports players are 30.20 ± 5.75 & 28.90 ± 6.75 respectively. The mean and SD in sub-factor of SCAT- Y1 of male badminton and table tennis sports players are 39.00 ± 12.32 & 38.60 ± 7.57 respectively. The mean and SD in sub-factor of SCAT- Y2 of male badminton and table tennis sports players are 37.80 ± 8.77 & 44.20 ± 7.94 respectively. The graphical representation of mean scores of

the sub factors of pre-competitive anxiety is presented in figure 1.

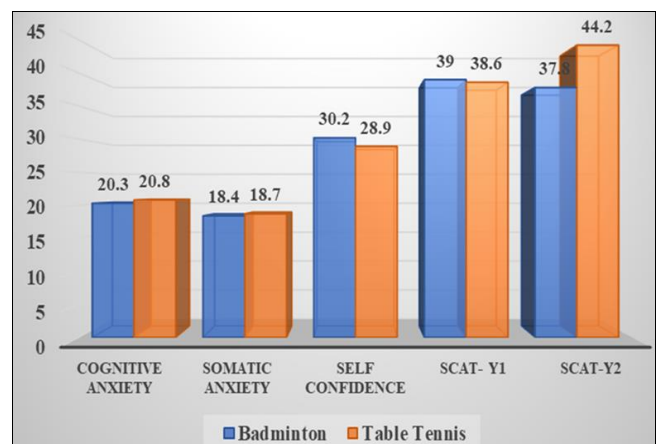


Fig 1: Means Scores of Pre-Competitive Anxiety Subfactors of Badminton & Table Tennis Sports Players

Table 2: Multivariate Analysis on Pre-Competitive Anxiety between Badminton and Table Tennis Players

	Value	F	Hypothesis df	Error df	Sig.
Pillai's trace	.227	.821 ^a	5.000	14.000	.555
Wilks' lambda	.773	.821 ^a	5.000	14.000	.555
Hotelling's trace	.293	.821 ^a	5.000	14.000	.555
Roy's largest root	.293	.821 ^a	5.000	14.000	.555

Each F tests the multivariate effect of Sports Groups. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Table 2 represented multivariate analysis on pre-competitive anxiety between badminton and table tennis players. Though there are four multivariate tests, the value of Wilks' lambda was considered. The value of Wilks' lambda (0.773) was found to be insignificant at 0.05 level of significance ($p=0.555$). Since the multivariate analysis was found insignificant no further analysis was done. The insignificant value of MANOVA depicted that the sub factors of pre-competitive anxiety was at similar levels when compared between the male badminton and table tennis sports players.

Discussion of findings

The multivariate analysis was found to be insignificant in the sub factors of pre-competitive anxiety between badminton and table tennis players as the value of Wilks' lambda (0.773) was found to be insignificant at 0.05 level of significance ($p=0.555$) throwing light upon that in the sub factors of pre-competitive anxiety the male badminton and table tennis sports players were at similar levels when compared. The findings of the present study were in consonance with the study conducted by Sil (2015) ^[5] comparing fear of competition between the 62 national-level male and female national level basketball players. It was concluded that there was no difference in competitive anxiety nationally between male and female basketball players. As also in a study by Klavora (1975) ^[4] who attempted to study optimal pre-competitive state anxiety of football players on 4 level of football competition: Junior High School, Senior High School, Alberta Junior and University. This study too revealed no significant differences in optimal pre-competitive state anxiety at the competitive levels as it was found out in this study. Though the literature directs towards the conclusion that anxiety varies when compared between various groups or condition, which was completely diverse with the findings of the study as because of the reason may be that in this present study the sample size selected was too less to generalize the fact that the anxiety level should be or not similar in the racket sports players of badminton and table tennis. A reason for obtaining this kind of result was that the players in the institution from where the data was collected participate in various activities and play the sports interchangeably sometimes.

Conclusion

The conclusions drawn on the basis of obtained results on the psychological variables of pre-competitive anxiety was that the multivariate analysis was found to be insignificant in the sub factors of pre-competitive anxiety between badminton and table tennis players as the value of Wilks' lambda (0.773) was found to be insignificant ($p=0.555$). The insignificant value of MANOVA revealed that the male badminton and table tennis sports players was at similar levels when compared on the sub factors of pre-competitive anxiety.

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