

Sequential Changes in Somatic and Cognitive Anxiety among Indian Swimmers

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Abstract

The present study was conducted to compare the pre competition Periodical Changes of somatic and cognitive anxiety among. 30 male Swimmers participated in All India intervarsity championship were selected as subjects for the study. The age of the students ranged from 18 to 24 years. The questionnaire used was consist of short form of CSAI-2 by (Cox, Russel and Robb) for measuring somatic and cognitive anxiety, the questionnaire were administered to subjects at different time durations prior to competition .i.e. two weeks, one week, two days, one day, two hours and thirty minutes prior two competition. The statistical tool used for this study was one way analysis of variance (f-ratio) further, to find out the paired mean difference LSD post hoc test was used. The statistical findings pertaining to the somatic anxiety of Swimmers increased from a low level at two weeks prior to competition to a significantly high value just thirty minutes prior to competition .Similarly in., the case of cognitive anxiety of Swimmers, it gradually increases- 'when approaches closer to the time of competition.

KEYWORDS: Somatic Anxiety, Cognitive Anxiety, Periodical Changes

Introduction

Today performance in sports not only demands systematic training to develop Physical, Physiological variable and technical aspect of sports but also demands training and consideration of psychological characteristics for success in this field. The recent researches reveal that besides physical fitness, technique and tactical training, success in sports to a considerable extent depends upon the personality of sports person the relationship between. Anxiety and spots performances have attracted much researcher attention over the past few years and researchers have tried to classify this relationship by advancing several models and theories. The purpose of this study was to compare the pre-competition Periodical changes of somatic and cognitive anxiety among Indian male swimmers

Material and Methods

Selection of Subject:

Thirty male swimmers participated in all India intervarsity competitions were selected as subjects for the study. The average age of the subjects was 21 years ranging between 18 to 24 years.

Test Protocol:

The questionnaire used was consists of short form of CSAI-2 for measuring somatic and cognitive anxiety developed by (cox, russel & Robb.) The questionnaires were administered to subjects at different time durations prior to competition i.e. two weeks, one week, two days, one day, two hours and thirty minutes prior to competition.

Statistical Analysis:

Firstly the descriptive statistics was used to show the magnitude of somatic and cognitive Anxiety performance, which involves mean and standard deviation. Secondly to see the significance of difference, if any between means of Somatic and Cognitive anxiety, the One-way analysis of variance (f ratio) was used as statistical tool to find out the significance of difference of means. The level of significance was set at .05 level of significance. Further, to find out the paired mean difference, Post hoc test LSD was used.

Table-1
Means and standard Deviations of Somatic Anxiety at Different Time Durations Prior to competition among Swimmers

Game	Two Weeks	One Week	Two Days	One Day	Two Hrs.	Thirty Min.
	M SD	M SD	M SD	M SD	M SD	M SD
Swimming	5.25+1.6	6.63+2.46	7.16+1.98	9.56+1.83	10.67+2.69	12+3.98

Result:

Table 1 shows the means and standard deviation of swimmers increased from initial value of (5.26) two weeks prior to competition to final value of (13) thirty minute prior to competition. It is evident from table 1 that there is gradual increase in the level of somatic anxiety as the athlete approaches closer to the time of competition.

The results pertaining to the significant difference between the means of somatic anxiety of swimmers at various time durations prior to competition is presented in table 2.

Table-2
Significant Differences of Paired Means of Cognitive Anxiety at Different Time Durations Prior to competition of Swimmers

Two Weeks	One Weeks	Two Weeks	One day	Two Hrs.	Thirty Min.	Mean Difference
7.33	10.56					3.23*
7.33		9.8				2.47*
7.33			11			3.67*
7.33				13.6		6.27*
7.33					15.96	8.63*
	10.56	9.8				0.76
	10.56		11			0.44
	10.56			13.6		3.04*
	10.56				15.96	5.4*
		9.8	11			1.2
		9.8		13.6		3.8*
		9.8			15.96	6.16*
			11	13.6		2.6*

	11	15.96	4.96*
	13.6	15.96	2.36*

Significant, C.D. 05(174) = 1.62

Result:

Table 6 reveals that there is significant difference between the consecutive paired means of cognitive anxiety of swimmers at two weeks and one week prior to competition (3.23), one days and two hours prior to competition (2.6) and two hours and thirty minutes prior to completion (2.36).

It can be seen from the table 6 that cognitive anxiety of the swimmers suddenly increased one week prior to competition (10.56) and then came down two days prior to competition (9.8) ad after that it gradually increased as swimmer approached near to the time of competition. The lowest cognitive anxiety was observed two weeks prior to competition (7.33) and the highest was observed thirty minutes to competition (15.96). The highest significant paired mean difference was recorded between the performances of cognitive anxiety between two weeks and thirty minutes prior to competition (8.63) and the lowest significant paired mean difference was recorded between the performances of cognitive anxiety at two hours and thirty minutes prior to competition (2.36).

Findings:

Statistical findings pertaining to self-confidence, somatic anxiety revealed

1. The somatic anxiety of Swimmers increased from a low level 5.26 at two weeks prior to competition to a significantly high value 13 just thirty minutes prior to competition
2. Similarly, in the case of Cognitive anxiety of Swimmers it ncreased from a low value of 7.33 to a significantly high value of 15.96 when the athlete approaches closer to the time of competition.

Discussion:

Temporal variation in terms of fluctuating anxiety level before competition is considered unavoidable phenomenon as it is inherent constituent factor of competition. Desire to perform or win becomes ultimate motive that directs and energizes behavior of sportsmen and ultimately motive to succeed leads to generation as well as perception of threat. Fourteen days prior to competition, the level of somatic or cognitive anxiety were found to be below.

Table-3

Significant Differences of Somatic Anxiety of Swimmers at Different Time Durations Prior to competition

Source of Variation	Degree of Freedom	Sum of Squares	Means of sum of Squares	F-ratio
Between the group measurent	5	1245.51	249.10	36.79*
Within the group	174	1179.04	6.77	

error

*Significant, F.05 (5.174)-2.27

It is evident from the table 2 that the calculated value of F-ratio (36.79) in relation to somatic anxiety was much higher than the tabulated f-value (2.27) at .05 level of significance with (5.174) degree of freedom. It shows that there is significant difference between the mean values of somatic anxiety at different time durations prior to competition.

To find out the paired mean differences, the LSD Post Hoc test was used and the findings pertaining to this have been presented in table 4.

Table-4
Significant Differences of Paired Means of Somatic Anxiety at Different Time Durations Prior to Competition of Swimmers

Tow Weeks	One Weeks	Tow Weeks	One day	Two Hrs.	Thirty Min.	Mean Difference
5.26	6.63					1.37*
5.26		7.16				1.9*
5.26			9.56			4.3*
5.26				10.67		5.41*
5.26					13	7.74*
	6.63	7.16				0.53
	6.63		9.56			2.93*
	6.63			10.67		4.04*
	6.63				13	6.37*
		7.16	9.56			2.4*
		7.16		10.67		3.51*
		7.16			13	5.84*
			9.56	10.67		1.11
			9.56		13	3.44*
				10.67	13	2.33*

Significant, C.D. 05 (174) = 1.32

Table 3 reveals that there is significant difference between the consecutive paired means of somatic anxiety of swimmers at two weeks and one week prior to competition (1.37), two and one days to competition (2.4) and two hours and thirty minutes prior to completion (2.33).

It can be seen from the table 3 that somatic anxiety of the swimmers gradually increased as the player approaches near to the time of competition. The lowest somatic anxiety was observed two weeks prior to competition (5.26) and the highest was observed thirty minutes prior to competition (13). The highest significant paired mean difference was recorded between the performances of somatic anxiety of two weeks and thirty minutes prior to competition (7.74) and the lowest significant paired mean difference was recorded between the performances of somatic anxiety at two weeks and one week to competition

(1.37).

Table-5
Means and Standard Deviations of Cognitive Anxiety at Different Time Durations

Game	Two weeks		One Week		Two Days	One Day	Two Hrs.		Thirty Min.			
	M	SD	M	SD	M SD	M SD	M	SD	M	SD		
Swimming	7.33	+2.14	10.56	+3.71	9.8	+2.35	11	+3.09	13.6	+3.37	15.96	+3.79

Table 5 shows the means and standard deviation of swimmers raised from initial value of (7.33) two weeks prior to competition to final high value of (15.96) thirty minutes prior to competition. It is evident from table 2 that there is gradual increase in the level of cognitive anxiety as the time of competition comes closer.

Findings pertaining to the significant difference of Somatic anxiety at different time durations prior to competition for swimmers have been presented in table 5

Table- 6
Significance of Difference of Cognitive Anxiety of Swimmers at Different Time Durations Prior to Competition

Source of Variation	Degree of Freedom	Sum of Squares	Means of Sum of Squares	F-ratio
Among Means	5	1369.32	273.86	26.79*
Within Means	174	1779	10.22	

*Significant, $F_{.05}(5,174) = 2.27$

It is evident from the table 6 that the calculated value of F-ratio (26.79) in relation to cognitive anxiety is much higher than the tabulated f-value (2.27) at .05 level of significance with (5.174) degree of freedom. It shows that there is significant difference between the means of cognitive anxiety at Swimmers at different time durations prior to competition.

To find out the paired mean differences, the LSD Post Hoc test was used and the findings pertaining to this have been presented in table 6.

Average level, this might be due to the fact that, as a standard practice the coaching camps specifically for the university competition starts only at ten days

prior to the competition and it is only during training camp player starts visualizing various aspects of competition and state of his preparedness. That's why as the training camp progress and competition come closer, temporal variation starts with exhibition of constant and drastic increase in anxiety and decrease in self confidence.

REFERENCES

- Bakker, F.C H.T.A whiting & H.. Vander Brug, Sport Psychology: Concepts and Applications (Chichester: Wiley, 1990).
- Burton, Martens R.,D Vealey, R.S. Bump, L.A Smith, D.E. (in Press), The Competitive State Anxiety Inventory-2 (CSAI—2), In D. Burton & R. Vealey (Eds) Competitive Anxiety Campaign, IL: Human Kinetics (1990).
- Cratty, Bryant J., Psychology and Physical Activity (Englewood Cliffs, N.J. Prentice Hall Inc. 1968).
- Marten, R., D, Burton, R.S. Vealey, L.A. Bump & D.E. Smith (In Press). The Competitive State Anxiety Inventory-2 (CSAI-2). In D. Burton & R. Vealey (Eds.) Competitive Anxiety. Champaign, IL Human Kinetics.
- Martens, R., R.S. Vealey, & D. Burton, Competitive Anxiety in Sport, (Champaign, IL, England: Human Kinetics Publishers, 1995).
- Becker, B.L. Craft, D. Feltz, & T. Magyar, “The Relationship Between the Competitive State Anxiety Inventory-2 and Sports Performnace: A meta Analysis” Journal of Sport & Exercise Psychology 25, 1(2003).
- Cox R.H, Russel W.D. & Robb. M. “Development of a CSAI-2 short form for Assessing Competitive State Anxiety During and Immediately Prior to Competition “Journals of Sports Behaviour, Vol 21, No 1, 1994
- Finkenberg. M.E. and et. Al, “Cognitive and Somatic State Anxiety and Self-Confidence in Cheerleading Competition Perceptual Motor Skill, 75, (3) Part-I (Dec. 1992).