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Influence of anxiety (CSAI-2D) during competition on Indian athletes performance

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Abstract

The purpose of the study was to assess the effects of Competitive State Anxiety at intensity and directional interpretation of athletes' during competition. The total thirty eight (38) athletes were selected to measure the correlation between 3x2x2 variables of Competitive State Anxiety Inventory-2D (Modified version) at one weak difference with the help of Pearson's Product Moment Correlation. The responses on Competitive state anxiety questionnaire in Hindi and English language given by athletes, which assess sub-scales (Cognitive Anxiety, Somatic Anxiety and Self-confidence).

This study revealed that Anxiety influenced the athletes' performance during competition. The competitive state anxiety examined on International and National Level Indian athletes from Athletics discipline which proves that the anxiety can be facilitative and debilitating the performance of athletes' with the help of statistical techniques Descriptive and Pearson's Correlation. The statistical analysis defines the Reliability of Competitive State Anxiety Inventory-2D (modified version) on Indian population. The Pearson's Product Moment Correlation method used with Test-Retest to measures the significant relationship between all 3x2 variables of state anxiety scale at Intensity level of athlete anxiety during competition which reflects low and high anxiety in athletes' and Perception of these anxiety symptoms which reflects facilitative and debilitating responses of anxiety on the performance of athletes'. These competitive state anxiety measures with Cognitive state anxiety, Somatic state anxiety and Self-confidence.

According to the results and finding of present study, it is recommended that coaches must be used mental skills training program in their training session for coping with anxiety during training and creating a facilitative approaches in performance with relations of anxiety. These positive approach with anxiety helps to athlete for improving their performance during competition and training both and to achieve the significance approaches in performance.

Keywords: Modified CSAI -2 scale, athletics, Indian athletes, national and international level

Introduction

Sport competition has become important in today's society and extremely high expectations are placed on competing athletes regardless of competitors' capacities, reasons for participation and skill levels. An inherent aspect of competitive athletics is the need for players to meet the demands of competition and to perform well under pressure (Craft, L.L., *et. al.*; 2003) ^[1].

Anxiety or arousal increases from drowsiness to alertness, there is a progressive increase in performance levels. On the other hand, when arousal continues to increase beyond alertness to over-excitement, the performance levels decrease significantly.

Anxiety is not directed or construed correctly, athletes lose control and performance levels when increase in performance has been the foundation need of what dreamed by all athletes to stand out in their respective sports. Athletes train hard to help their skills and faculty's regardless of the time they take to fulfill this (Parnabas, V.A., *et. al.*; 2009) ^[4]. When anxiety is not managed or explained correctly, athletes lose control and their performance levels decrease (Weinberg, *et. al.*; 2010 - Raglin, J.S., *et. al.*; 2000) ^[7, 5]. It is not possible that fatigue and anxiety are synonym with sport across different cultures with the kind of stress present in each society.

Competitive anxiety has been one of the most important in sports. Athletes deal with anxiety which are goal-setting, breath control, imagery, positive self-talk, focus on the present,

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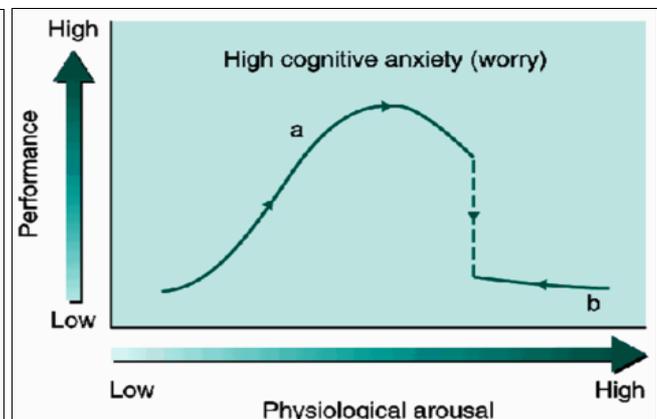
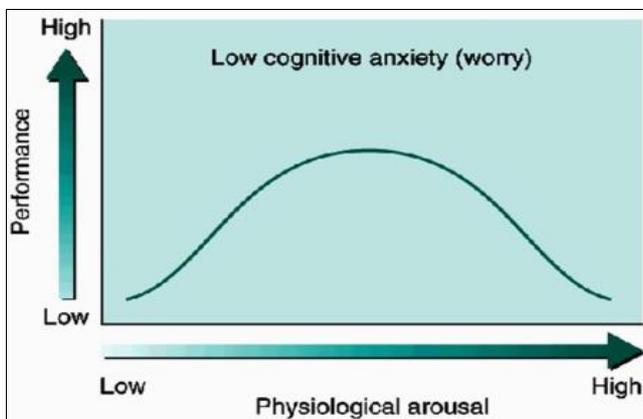
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progressive relaxation, biofeedback, etc. with the help of coping strategies. These are the environmental demands which are causing of imbalanced situations of arousal or stress and these abilities are required to fulfill the expectations of competition demands. The influence of competitive anxiety upon performance has received considerable attention. It is often assumed that anxiety during competition that is, a negative emotional state characterized by feelings of nervousness, worry, apprehension and bodily arousal – has beneficial or detrimental effects upon sport performance (Weinberg & Gould, 1995)^[6].

Anxiety has a negative influence on balance parameters and these parameters can be measured with catastrophe theory of Hardy. Catastrophe theory (Hardy, 1990)^[3], significantly influence the level of cognitive anxiety and interfere with the performance outcome. This theory states that performance is influenced by physiological arousal and cognitive anxiety. In a state of low cognitive anxiety, the relationship between physiological arousal and performance will be an inverted U. In a state of high cognitive anxiety, on the other hand, the relationship will be a catastrophe. This means that after

reaching the optimal level of physiological arousal, performance will decrease dramatically (catastrophe). As a consequence, it is cognitive anxiety that prescribes the influence of physiological arousal on athletic performance. In other words it stated that physiological arousal should only be negatively related to performance when the level of cognitive anxiety is high. In this theory, it is clear that the relationship between anxiety and performance is dynamic and may change within a few seconds. To capture these temporal dynamics of competitive anxiety, continuous measurement of anxiety during performance is necessary.

Arousal is the key issue in sport psychology. Specifically, physical and technical performance depends on the level of performer's arousal. However, arousal is determined by psychological processes such as emotions, which, in turn, depend on higher cognitive functions like thoughts. Arousal reflects general physical and psychological activity. For example, coma is a pathologically low state of arousal whereas agitation is an extremely high arousal. Usually, people are somewhere in between of those two extremes.



There are several theories as to how arousal affects performance

- 1) Drive Reduction Theory states a linear positive relationship between arousal and performance. This means that at low levels of arousal, performance is low whereas it increases in line with an increase in arousal.
- 2) Inverted U hypothesis proposes a relationship between arousal and performance in a symmetrical inverted U. Increases in arousal will result in the increase of performance, up to a point (optimal arousal) beyond which further arousal is dysfunctional to the outcome of performance.
- 3) Multidimensional Anxiety Theory demonstrates that when someone has anxious thoughts he/she will have poorer performance. This theory distinguishes between somatic and cognitive anxiety: Cognitive anxiety represents the mental component of anxiety and is caused by negative expectations about success or about negative self-evaluation. Thus, cognitive anxiety is worrying and negative thoughts. Somatic anxiety reflects physiological elements of the anxiety that develops directly from autonomic arousal. This is perceived as 'butterflies' in the stomach, tense muscles, sweating and nausea.
- 4) Catastrophe Model (Fazer & Hardy, 1988) suggests that as long as there are lower thoughts of anxiety, then performance will be best at a medium level of physical arousal. If there is a high level of anxious thoughts (worry), performance will be better at a medium level of

physical arousal but will suddenly drop off and become very poor.

- 5) Individual Zones of Optimal Functioning (IZOF) takes into account that people have different levels of anxiety and arousal that are unique in making them perform at their best. Some people perform their best with low anxiety, some with a medium amount and others with a high amount.

Competitive State Anxiety Inventory-2D scale of John & Swain which is modified in 1995, they assessed firstly, the anxiety of athletes during competition with intensity level of scale and secondly assessed the perception of these anxiety of athlete with directional level of scale.

Objective

1. To establish the Reliability of the CSAI-2D (Modified version) subscales.

Hypothesis

1. There have been a high reliability of Hindi language translated to CSAI-2D (Modified version) with 3x2x2 variables.
2. There have been significant correlation among the selected 3 sub-scales of Competitive state Anxiety of selected Athletes at Intensity level and directional level interpretation with the help of English and Hindi language.

Procedure and Methods

Participants

The Indian elite level athletes (N=38) of age from 17 years to 26 years were selected for the present study. At the time of collection of the data the subjects were attending Junior Indian National coaching camp of Athletics at coaching center of Sports Authority of India at Sonapat, Haryana, India and IIIrd Lusofonia Games 2014 coaching camp of Athletics at Goa, India. All data will be collected with the help of Indian athletics team coach Mr. Wazir Singh.

Instrument

A standardized questionnaire CSAI-2D (Modified version of CSAI-2) developed by John and Swain in 1995 was used to evaluate the extent of selected state anxiety of athlete's. The CSAI-2D was translated in Hindi language with help of the expert and again checked by the other two experts. The questionnaire examined competitive state anxiety in 6 sub-scales (3x2x2 sub-scales): Cognitive State Anxiety, Somatic State Anxiety and Self-Confidence at intensity and directional level both.

Statistical Method

As per the objective of the study selected statistical techniques use in this study were descriptive statistics, and

Pearson's Product Moment Correlation to measured relationship between competitive anxiety variables to assessed the effect of anxiety on sports performance of Indian athletes and establish the Reliability of the CSAI-2D (modified version) on Indian athletes.

Results

As depicted and evident in the table no.-1, the descriptive result of competitive state anxiety of athletes' performance (vide Table no. 1). The descriptive values (Mean±SD) of anxiety were measured on intensity and directional level interpretation on Cognitive State Anxiety, Somatic State Anxiety and Self-Confidence of athlete's. Mean and SD value of athletes at Intensity level are 18.26 ± 5.44 (test) & 19.71 ± 5.73 (Retest) value of cognitive state anxiety, 14.92 ± 3.99 (test) & 16.84 ± 4.78 (Retest) value of somatic state anxiety, 28.05 ± 3.78 (test) & 27.26 ± 4.90 (Retest) value of self-confidence, and at Directional level Mean and SD value are -.63 ± 11.12 (test) & 1.58 ± 11.65 (Retest) value of cognitive state anxiety, -5.45 ± 9.57 (test) & -2.92 ± 8.93 (Retest) value of somatic state anxiety, 14.29 ± 5.48 (test) & 14.53 ± 5.69 (Retest) value of self-confidence with Test-Retest of Competitive state Anxiety Inventory-2D scale.

Table 1: Descriptive Results in Relation to Competitive State Anxiety (3x2 Variables)

S. No.	Variable	N	Test		Re-test	
			Mean	SD	Mean	SD
1.	Cognitive State Anxiety_Intensity	38	18.26	5.44	19.71	5.73
2.	Somatic State Anxiety_Intensity	38	14.92	3.99	16.84	4.78
3.	Self-Confidence_Intensity	38	28.05	3.78	27.26	4.90
4.	Cognitive State Anxiety_Direction	38	-.63	11.12	1.58	11.65
5.	Somatic State Anxiety_Direction	38	-5.45	9.57	-2.92	8.93
6.	Self-Confidence_Direction	38	14.29	5.48	14.53	5.69

Table no.2 states the results of Test-Retest of all variables of competitive anxiety are significantly correlated at 0.01 level and 0.05 level. Variable Self-Confidence at directional interpretation of athletes' anxiety is significantly correlated at 0.05 level and other variables Cognitive State Anxiety,

Somatic State Anxiety & Self-Confidence at intensity interpretation of athletes' and Somatic State Anxiety and Self-Confidence directional interpretation of athletes' are significantly correlated at 0.01 level.

Table 2: Correlation between Test & Retest of Competitive State Anxiety (3x2 Variables)

S. No.	Variables	'r'	p-value
1.	Cognitive State Anxiety_Intensity	.635**	.000
2.	Somatic State Anxiety_Intensity	.607**	.000
3.	Self-Confidence_Intensity	.553**	.000
4.	Cognitive State Anxiety_Direction	.458**	.004
5.	Somatic State Anxiety_Direction	.584**	.000
6.	Self-Confidence_Direction	.337*	.038

** Correlation significant at 0.01 level (2-tailed)

* Correlation significant at 0.05 level (2-tailed)

Discussion

The purpose of the present study was to measure the effect of 3x2 variables of competitive state anxiety at Intensity and directional level Interpretation on Indian Population with the help of CSAI-2D (Modified version) developed by John & Swain, 1995. Through this study, we find out the significant relationship between the Competitive State Anxiety variables on Indian Population, which are helpful in developing facilitative approaches of anxiety on athletes' performance during competition. With the help of Pearson's Product Moment Correlation we found that CSAI-2D (Modified

version) scale is Reliable on Indian Population in relation to performance.

CSAI-2D scale assessed the intensity of cognitive anxiety, somatic anxiety and self-confidence which represents the affect of state anxiety on performance and in other hand directional interpretation represents the affects of these anxiety symptoms which perceived as being facilitative or debilitating to performance.

As per the previous researches on CSAI-2D the result of competitive anxiety scales is significantly effective to find the effects of anxiety on competition and training performance that means anxiety facilitative and debilitating the athlete

performance through cognitive and somatic state anxiety and self-confidence.

“Winning means doing your best and the key to doing your best is correctly understand your goals, strengths and weakness. You can have two athletes of equal skill and physical make up but the one with the stronger mind will usually be the one who will come out on top” (Dr. Andrew Jacobs, 1991)^[2].

Competitive state anxiety inventory 2D scale is helpful to find out the influence of anxiety on athletes' performance and shows the positive score responses which facilitate the performance and negative score responses debilitate the performance of athlete. Further, researcher found with study materials that anxiety affects on the performance of individual. Facilitative and debilitative response of anxiety reflects individual or team performance, but in some cases Intensity interpretation of anxiety reflects high anxiety decreased the performance but the directional interpretation shows the performance of athletes' is facilitative.

To measure the parameters of anxiety we use catastrophe theory model which reflects the influence of anxiety on athletes' performance. This theory states that performance is influenced by physiological arousal and cognitive anxiety. In a state of *low cognitive anxiety*, the relationship between physiological arousal and performance will be an inverted U. In the other hand state of *high cognitive anxiety*, the relationship will be a catastrophe. This means after reaching the optimal level of physiological arousal, performance will decrease dramatically (Catastrophe) and in other hand physiological arousal should only be negatively related to performance when the level of cognitive anxiety is high and dynamic changes occur within a few seconds.

Conclusion

1. According to this study had been found positive relationship between all 3x2 variables of competitive state anxiety scale.
2. Researcher also had been found that the positive and negative relations between variables of competitive anxiety. After referring various study material it influences the anxiety uncertainty regarding goal attainment and coping with the situation which experienced by the athlete's in relation to performance.
3. Anxiety indicated a belief that an athlete can cope with the situation and achieve their goals, with experiencing anxiety of competition.

Suggestions

Anxiety experiences develop directly from “autonomic arousal” these are such a problematic for athlete performance which increases the physiological arousal may accompany other emotions, such as excitement or anger.

These problematic physiological arousals in athlete performance can be controlled and cope with anxiety, and achieve their desired goals with the help of mental skills training. Mental Skills Training program plays an important role to facilitate performance of athletes which are requirement for best performance during sports competition.

According to this study it was found that an athlete's without any mental skills training in their training session use to face many physiological and psychological arousal which creates negative expectancies, self-doubt, increases in heart rate and muscular tension. Changes in physiological and psychological arousal of athletes performance can be controlled with the uses of mental skills training (MST) program in their training

session as it had a high correlation in terms of performance in competition.

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