

Relationship of Total Competitive State Anxiety with Sprinters Performance



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Abstract

The purpose of the study was to determine the relationship between total competitive state anxiety and sprinters performance. To achieve the purpose 30 participants of final sprint events of all India intervarsity athletic meet held at Guntoor, Andhra Pradesh were selected. The age of the subjects was ranged between 19 to 25 years. Questionnaire by Rainer Marten (CSAI-2) was used to collect data about level of pre-competition anxiety. The CSAI-2 was scored by computing a separate total for each of the three sub-scales (cognitive, somatic anxiety and self-confidence.) with high score, ranging from a low of 9 to high of 36. The collected data was analysed by using Pearson's Product Moment Correlation. The result of the study shown that total competitive state anxiety ($r=0.578$) was significantly related with the performance at 0.05 level of significance, since obtain value of co-efficient correlation is greater than the tabulated value ($r=0.361$). It is concluded that total competitive state anxiety is having positive relationship with the performance of sprinters.

Keywords: Anxiety, Competitive, Performance and CSAI-2.

Introduction

Modern competitive sports of today demands more emphasis on the training of psychological aspects of sports. The high level performance seen in competitive sports is nothing but a perfect optimum harmonious relationship between one's psychological preparedness and technical preparation. Cognitive process can affect the athlete's skill performance regardless of whether they are the beginner, intermediate or advanced state of learning. These processes are imagery, memory, attention, anticipation and perception of skill. These are more related to the athlete's perceived ability. It is believed that superior athletic performance has been fitted from knowledge about the psychology and bio-mechanics of human motor activity. However many coaches and psychologist throughout the world believe that the future records will be broken primarily because of increased attention to psychological parameters of human personality.

Speed plays a vital role in all games and sports but plays a very dominant role for sprinters to give performance. He must possess acceleration speed, speed of movement and reaction time. Even though these four components, of speed affect the performance of sprinters yet the contribution made by reaction time to enhance speed performance is still not very certain. There is no doubt regarding the contribution of acceleration speed, sprinting speed & speed of movement to bring about better performance on the part of sprinters. Therefore to attain optimum performance in activities where the speed is the main factor, acceleration speed, sprinting speed, speed of movement and reaction time should be woven together.

"It is believed that superior athletic performance has been fitted, from knowledge about the psychology and bio-mechanics of human motor activity. However many coaches and psychologists throughout the world believe that future records will be broken primarily because of increased attention to psychological parameters of human personality".¹

Confidence is a quality found in many aspects of society. Therefore, confidence isn't a stranger to sports, when it can be associated with qualities like mental toughness, poise, grit, belief, courage, and heart. These qualities are descriptive verbs that are constantly used when describing someone who is successful. Recent research has shown that success has affected the level of confidence and confidence can affect success. Elite athletes have revealed that confidence affects their performance through their thoughts, behaviours, and feelings. Levy, Nicholls, and Polman (2010) found that subjective performance and

confidence were statistically significant and positively correlated. The world of sport recognizes the importance that confidence has on success (Vealey & Chase, 2008). Athletes are constantly evaluated on the level of confidence they have in their abilities to perform. Coaches, fans, and media constantly discuss confidence when talking about the ability to win. Confidence can affect performance when our efficacy expectation is strong and our abilities are clearly developed. Self-confidence is a term known to more than sport, influencing Vealey (1986) to coin the term "sport-confidence.

Performance in sports is no longer dependent on physiological well being of the athlete. It is well established by now that there are numerous psychological factors which effect & improve sports performance like, individual differences among the athletes, personality, intelligence, attitude, motivating, aggression, mental imagery, group dynamics etc. All these factors may affect the sports performance in both, positive and negative way.

The effect of anxiety on performance dependence directly on the type of task considered. In most cases a heightened arousal state has been found to facilitate simple performance. On the other hand as anxiety reaches a certain level a breakdown of psychological and physiological integrative mechanism is often seen to occur resulting in less efficient performance in more complex tasks. Anxiety has a temporal relationship to performance. In general, anxiety level increases prior to dangerous situation until they become relatively high just before it is encountered. During performance anxiety is often lessened. Since, the individual must concentrate on his own action rather than on his internalized fear.

Jones, Swain and Cole conducted study on university athletes and found that in case of cognitive anxiety males shown no changes across time though females shown a progressive increase as the competition is near. Males and females showed the same patterning in somatic anxiety with increase occurring on the day of competition. Self-confidence scores revealed a reduction in self-confidence neared in both gender but there was greater decrease in females then males.

Mathes, H. & Mathes, S. investigated "gymnastic pre-competitive state anxiety and self confidence level of the high school athletes. The findings show that the cognitive anxiety, somatic anxiety and self confidence level are different according to the performance level but not affected by experience or by difficulty of schedule. Surprisingly anxiety was highest and self confidence lowest, prior to the dual meet rather than prior to the district championship".

Hall, Kerr and Mathews employed Smith's (1996) model of performance-related anxiety to examine linked between perfectionism, achievement goals, the temporal patterning of multidimensional state anxiety on 119 high school runners. Instruments assessed achievement goals (Roberts & Balague, 1998), perfectionism (Frost, Marten, Lahart, & Rosenblate, 1990) on 4 occasions prior to a cross-country meet. Hierarchical regression analysis

indicated that overall perfectionism was a consistent, significant predictor of cognitive anxiety. Perceived ability was a consistent predictor of confidence, and ego and task goals contributed to the prediction of cognitive anxiety and confidence, respectively. The findings help further develop Smith's (1996) model and suggest that the appraisal process underlying multidimensional state anxiety is influenced by individual differences in a number of achievement-related constructs.

L.L.Craft, T.M.Magyar, B.J.Becker & D.L.Feltz (2003) examined "anxiety while considering subcomponents of anxiety, i.e. cognitive anxiety, somatic anxiety and self confidence. CSAI-2 was used to collect data. Findings have been inconsistent with some suggests separate relationships with performance and others fail to track any relationship between the anxiety and performance. This meta-analysis investigated the effect as measured by CSAI-2 on athlete performance. The multivariate meta-analytic techniques were used to examine interdependency between three subscales. Relationships appeared weak among three subscales and performance. The strong and consistent relationship with performance shown by self-confidence".

U.Bhagat (2016) conducted studies "On Estimation of competitive state anxiety among sprinters, jumpers and throwers inter- university female athletes. 60 female athletes (sprinters-20, jumpers-20, and throwers-20) and their age was ranged between 18 to 25 years were selected as subjects to collect data. To check pre-competitive anxiety the CSAI-2 questionnaire consists of three dimensions (cognitive anxiety, somatic anxiety, and self confidence) was used. The data was analysed by using SPSS technique. ANOVA was used to find difference in the mean of each group for selected variables. Post-hoc test (LSD test) was used for further detail. The significance level was kept at 0.05 level. The Finding shown significant differences with regard to somatic State anxiety among sprinters, jumpers and throwers Inter University female athletes".

H.W.Grobbelaar, K.R.Duthie & E.R.Fanton (2018) investigated "the effect of a group multimodal anxiety management programme on the intensity and direction of anxiety and self confidence among amateur golfers. The modified CSAI-2 was used to collect data at the interval of 6 weeks, 10 minutes before 2 competitive rounds of golf. Total 16 golf male participants were randomly equally distributed in two groups; experimental and control groups. The experimental group underwent 560 minutes group sessions on breathing control, imagery, muscle relaxation, positive appraisal and affirmations. Sessions on the driving range and practice green were integrated with stopping and reappraising negative thoughts into pre-competition and pre-shot routines.. Repeated majors two-way ANOVA indicated a time X groups interaction effect for cognitive anxiety direction ($F_{1,12}=5.740, p=0.034$). Self confidence was observed to be less facilitative towards their performance than earlier ($p=0.050, d=0.85$) in control

group. Indeed the sense did not change for the experimental groups. The planned schedule enhanced cognitive anxiety direction and prevented changes in self-confidence direction, therefore demonstrating its efficacy".

Walid Selmi & Sonia Sahli (2018) investigated the effects of repeated sprint training on somatic anxiety, cognitive anxiety, self confidence rating of perceived exertion and repeated sprint ability indicators in elite young soccer players. After RST-G showed a very significant ($p < 0.000$) increase in RSA total time performance relative to control. Despite the faster sprint pace, the RPE also decrease significantly ($p < 0.005$) in RST-G, and their self confidence was significantly greater ($p < 0.01$) while the cognitive ($p < 0.01$) and somatic ($p < 0.000$) component of their anxiety state decreased. When practiced regularly, shot bouts of sprint exercises improve anaerobic performance associated with a reduction in anxiety state and an increase in SC which may probably competitive performance.

Y.Srivastava, S.Y.Bhat & S.A.Chat (2019) reported that high level of anxiety may be detrimental to performance. It is important to identify situations that are likely to cause high label of anxiety. The purpose of this study was to determine if anxiety level differs between postgraduate and undergraduate students. 100 students were selected as samples from post graduate ($n=50$) and under graduate ($n=50$) to check the anxiety level of subject sport competition anxiety test was used. The results of the SCAT were first sorted by anxiety category (Low, Average and High). Within the parameters of this study, post graduate students shown high level of anxiety and under graduate students shown average level of anxiety.

Statement of the Problem

The purpose of the study was to investigate the relationship between total competitive state anxiety and sprinters performance.

Delimitations

1. The study was delimited to male sprinters who took part in All India Inter University Athletic meet, which was held at Guntoor (Nagarjuna University) Andhra Pradesh.
2. The study was also delimited to assess pre-competition anxiety level by Competitive State Anxiety Inventory – 2 (CSAI-2).
3. The study was further delimited to 30 sprinters of All India Inter University Athletic meet 2004.

Limitations

1. Questionnaire research had its limitations, with biasness that might have come into the mind of the subjects at the time of responding to the statements in questionnaire.
2. The study was conducted in natural competitive situation.

Significance of the study

The research scholar on the basis of the available literature and his own understanding regarding the problem an insight into the process occurring during performance, total competitive state anxiety is just important to know:-

1. The degree at which total competitive state anxiety could have facilitating or debilitating effect on sprinters performance.
2. Coaches can work with total competitive state anxiety variables for enhancing the sprinters performance.
3. For assessment of a player whether he can become a sprinter or not, can be very well known through this test.

Hypothesis

On the basis of the knowledge reflected by the available literature, research findings, and the scholar's own understanding of the problem, it was hypothesized that there may not be significant relationship between total competitive state anxiety and sprinters performance.

Procedure

Selection of subject

Thirty participants of final sprint events of all India Inter- University Athletic Meet were selected, which was held at Guntoor, Andhra Pradesh. The age of the subjects was ranged between 19 to 25 years.

Selection of Questionnaire and Procedure

The Competitive State Anxiety Inventory-2 by Rainer Marten was selected for the study because it is a sports specific anxiety test. Further it assesses competitive anxiety on the basis of three dimensions i.e. cognitive anxiety, somatic anxiety and self confidence.

Purpose

To find out the level of Pre- competition anxiety.

Procedure

The CSAI-2 was scored by computing a separate total for each of the three sub-scales with high score, ranging from a low of 9 to high of 36. When Higher the score the greater the cognitive or somatic anxiety as well as greater the state self-confidence. No. of total score for the inventory was computed.

The cognitive state sub-scale was scored for totalling the responses for the following 9 items 1, 4, 7, 10, 13, 16, 19, 22 and 25. The somatic state sub-scale was scored by adding the responses to the following items 2, 5, 8, 11, 14, 17, 20, 23, 26; and state self-confidence sub-scale was scored by adding the following items 3, 6, 9, 12, 15, 18, 21, 24 and 27. Scoring for items is reversed in calculating the score for the somatic and cognitive anxiety and self-confidence.

Directions

A number of direction preceded before the questionnaire was to be filled – in by the respondents and are as given below:

1. Read each statement and then circle the appropriate number to the right now at this moment.
2. There is no right wrong answer.
3. Do not spend too much time on any one statement, but choose answer, which describes your feelings right now.

Scoring

The responses of each statement of score as follows-

S. No.	Response	Scoring
1.	Not at all	4 points
2.	Somewhat	3 points
3.	Moderately	2 points
4.	Very much so	1 point

Administration of Questionnaire

The test was administered on the subjects before one hour of the competition. The subjects were assembled in a group; clear instructions were given that all the items in the Questionnaire must be attempted.

Sprinters performance

Total time clocked by the finalist of sprinting events was considered as the score of sprinters performance. It was obtained from the organisers.

Statistical Procedure

To determine the relationship between self-confidence and the performance of male sprinters of Inter University participants, the Pearson's Product Moment Correlation was employed. The level of confidence was set at 0.05 level.

Findings**Relationship of Total Competitive State Anxiety to Sprinter's Performance**

The results obtained from the analysis of data in table shown that the attribution variable i.e. Total competitive state anxiety ($r = 0.578$) was significantly related with the performance at 0.05 level of significance, since the obtained value of co-efficient correlation is greater than the Tabulated value ($r = 0.361$).

Discussion of Finding

Total competitive state anxiety has shown a positive relationship with the sprinters performance probably on account of positive relationship of somatic anxiety ($r = 0.712$) self –confidence ($r = 0.559$) with the performance of sprinters and makes them cognizant about his positive abilities or may be because it is the basic pre-requisite for giving his best performance in sprints. They could have very well diluted the effect of cognitive anxiety ($r = 0.224$).

Discussion of Hypothesis

On the basis of the finding the hypothesis stated early that there may not be significant relationship between Total competitive state anxiety and sprinters performance is rejected.

The hypothesis is rejected for the relationship of Total competitive state anxiety to sprinters performance.

Conclusion

Total competitive state anxiety was having impact on performance.

Recommendations

On the basis of conclusion drawn the following recommendations have been made-

1. It is recommended to conduct a similar study on female sprinters participating at different levels of competition.
2. It is recommended to conduct a similar study on male/female national and international sprinters.
3. It is recommended to conduct a similar study in different games and sports.

References

- Ajit singh charag, "Relationship of cognitive state anxiety with sprinters performance", *Online International Interdisciplinary Research Journal*, 08(01), (Jan-Feb-2018), 243-246.
- Berger, Bonnie G., Owen and David R. "Anxiety, Reduction with Swimming, Relationships between Exercise and State, Trait, and Somatic Anxiety". *International Journal of Sport Psychology*, 18 (1987) : 286.
- B. Mcgrane, S. Belton, D. Powell and J. Issartel, "The relationship between fundamental movements skill proficiency and Physical self-confidence among adolescent", *Journal of Sports sciences* 35 (17), (2017), 1709-1714.
- Cratty, Bryant J. *Psychology and Physical Activity*, (Englewood Cliffs N.J. : Prentice Hall Inc. Co. 1968).
- Collins, David and Smith. Nickolas "Anxiety and Arousal Effects During sport performance". *Journal of Sport and Exercise Psychology* 17 (1995) : S 11.
- Dunn. John G.H. and Dunn, Janice Causgrove "Relationships among the Sport Competition Anxiety Test, the Sport Anxiety Scale and the Collegiate Hockey Worry Scale." *Journal of Applied Psychology* 13.
- Edwards, Tara and Hardy, Lew "The Interactive Effects of intensity and Direction of Cognitive and Somatic Anxiety and Self-confidence Upon performance," *Journal of Sport and Exercise Psychology*, 18(1996) : 296.
- Harger. Gregory J. And Raglin, John S. "Correspondence Between Actual and Recalled pre-competition Anxiety in Collegiate Track and Field Athletes," *Journal of Sport and Exercise Psychology* 18(1996) : 64.
- Howard, K. Hall; K. Alistair W. And Julie Matthews, "Pre-competitive Anxiety in Sports: The Contribution of Achievement Goals and Perfectionism," *Journal of Sport & Exercise Psychology* 20(1998):
- Howard K. Hall, Alistair W. Kerr, and Julie Matthews, "Precompetitive Anxiety in Sports: The Contribution of Achievement Goal and Perfectionism." *Journal of Sport & Exercise Psychology*, 20 (1998) : 194
- H.W.Grobbelaar, K.R.Duthie & E.R.Fanton, "Effect of a group multimodal anxiety management programme on competitive state anxiety and self-confidence of amateur golfers", *South African Journal for Research in Sport, Physical Educaatio and Recreation*, 40(2), (2018), 69-80.
- Jones, Graham; Swain. Austin and cale Andrew "Gender Differences in pre—competition Temporal Patterning and Antecedents of Anxiety and self confidence," *Journal of Sport & Exercise Psychology* 13 (1991):
- Kamlesh, M.L. *Psychology in Physical Education and Sports, Third Edition* (Metropolitan Book Co. Pvt. Ltd., New Delhi 1998).
- L.L.Craft, T.M.Magyar, B.J.Becker & D.L.Feltz, "The relationship between the competitive state

anxiety inventory-2 and sport performance: A meta- analysis", *Journal of sports & exercise psychology*,25,(2003),44-65.

Martin, Jeffrey J. And Gill, Diane L. "The Relationship among Competitive Orientation, Sport-Confidence, Self-Efficacy, Anxiety and Performance." *Journal of Sport & Exercise Psychology* 13(991): 149.

Matheson, H., & Mathes, S., "Influence of Performance Setting Experience and Difficulty of routine on Pre-Competition Anxiety and Self Confidence of High School Female Gymnasts", *Perceptual and Motor Skills*, 72, 1099-1105, *Sports Psychologist digest Journal of Sports & Exercise Psychology*, 14 (1992) : 231.

Skinner, Benjiman R., "The Relationship Between Confidence and Performance Throughout a Competitive Season" (2013). *All Graduate Plan B and other Reports*. 285. <https://digitalcommons.usu.edu/gradreports/285>

U.Bhagat, "Estimation of competitive state anxiety among sprinters, jumpers and throwers inter-university female athletes", *International Journal of Physical Education, Sports and Health*, 3 (5), (2016), 70-72.

Walid Selmi & Sonia Sahli, "Self confidence and affect Reponses to short term sprint interval training", *Physiology and behaviour*, 188 (2018), 42-47.

Y.Srivastava, S.Y.Bhat & S.A.Chat, "Comparison the level of anxiety between uder graduate and post graduate students", "Researcher", 11(2), (2019), 4-6.

Footnotes

1. Bryant J. Cratty, "Psychology and the Superior Athlete" (London : Mac-Millan Company Ltd., 1983) P.5.