

ANXIETY IN COMPETITIVE SPORTS: DIFFERENCES BETWEEN COMBATIVE AND NON-COMBATIVE FEMALE PLAYERS

Deepak

Research Scholar, Department of Physical Education, CRS University Jind.

Tinku Rani

Research Scholar, Department of Physical Education, CRS University Jind.

Abstract

This study examines the anxiety levels of combative and non-combative athletes, focusing on female students aged 18 to 25 from Haryana state. A total of 120 participants were selected, with 60 from combative sports (wrestling, boxing, judo) and 60 from non-combative sports (volleyball, hockey, softball). The State-Trait Anxiety Inventory (STAI) was used to measure both state and trait anxiety. Results showed that combative athletes exhibited significantly higher levels of both state anxiety (mean = 35.70) and trait anxiety (mean = 34.02) compared to their non-combative counterparts (state anxiety mean = 29.21; trait anxiety mean = 30.28). These findings suggest that the nature of combative sports may contribute to increased anxiety levels, highlighting the importance of psychological preparation in athletic training.

Keywords: *Combative Sports, Non-Combative Sports, State Anxiety, Trait Anxiety, Female Players*

INTRODUCTION

Modern sport is all competition and competition in any field of life has serious psychological implications. No one, much less an athlete, can win or even expect to win competition without preparing himself or herself mentally along with training body. Unfortunately "too many athletes and coaches still try to develop the human capacity for sport performance by physical conditioning" (Schilling, 1993), but 'most scientists are now convinced that several physiological processes such as oxygen consumption, metabolism, energy mechanism etc., are directly related to man's perceptual, cognitive, and psychological process, making athletic training for competition a psycho-physical affair'. It is now well-recognized that sport is much more than muscle training and capacity for oxygen consumption.

Performance in competitive sport is influenced by hundreds of physical, physiological and psychological factors and conditions within and outside the body. Some of them are genetic (for example, genotype and phenotype of an individual) and most of them environmental (climatic, geographic, seasonal, educational and socio-cultural). While genetic factors (height, anthropometric measurements) are fixed, rigid and non-modifiable, environmental factors such as learning, training,

motivations, attitudes etc., can be manipulated, modified, directed and influenced so as to produce desired effects.

As already pointed out, psychological factors crucial to athletic performance come in great variety, and these are sport-specific also. The degree to which they are present in a sportsperson or they are developed by him, differ from sport to sport and also from individual to individual in the same sport. Based on the review of literature, as also personal experience, this paper focus on the study of anxiety level of combative and non-combative players' Brief description of this variable is given below:

ANXIETY

The most talked about psychological variables affecting athletes during competition are anxiety and aggression. Anxiety is generally defined as a psychobiological emotional state or reaction that can be distinguished most clearly from other emotions such as anger or sadness by its experiential qualities. It can be manifested physiologically (sweaty palms, increased heart rate and respiration) or cognitively (worry, self-doubt). It is now well-known that athletes who experience high anxiety have poorer performances than those who do not report experiencing high levels of anxiety. An anxiety state consists of unpleasant feelings of tension,

apprehension, nervousness, and worry, and activation of the autonomic nervous system. The physiological manifestations of anxiety generally include increased blood pressure, rapid heart rate (palpitations or tachycardia), sweating, dryness of mouth, nausea, vertigo, irregularities in breathing, muscle tension, and musculo-skeletal disturbances such as restlessness, tremors, and feelings of weakness (Spielberger and Rickman, 1990).

The contemporary sport anxiety literature indicates that there are two dimensions of anxiety, namely **state anxiety** and **trait anxiety**.

(a) State Anxiety

Spielberger (1972) described state anxiety as an existing or current emotional state characterized by feelings of apprehension and tension. State anxiety can be seen as a multidimensional psychological construct. Martens et al. (1990) opined that these multidimensional facets of state anxiety can be grouped into two broad concepts: cognitive anxiety (cognitive worry) and somatic anxiety (emotional arousal). Cognitive anxiety is defined as the mental component of anxiety. It is caused by negative expectations about success or by negative selfevaluation (Craft et al., 2003). In other words, '**cognitive anxiety** is the fear from anticipated consequences of failure' (Hardy and Parfitt, 1991). A form of cognitive anxiety, worry, has been shown to consistently decrease performance (Sarason, 1984). Correspondingly, Burton (1988) found anxiety to be related to performance in a negative trend in swimmers. In comparison, somatic anxiety is the physiological and affective element of anxiety that develop directly from arousal. **Somatic anxiety** is the physiological component of anxiety. It is caused directly by stimulation or arousal of the autonomic systems. In other words, somatic anxiety is the component that reflects the perceptions of the psychological stress to the physiological response (Craft et al., 2003). Somatic anxiety has been shown to impair performance on tasks involving precision and accuracy (Sarason, 1984). Burton (1988) has indicated that somatic anxiety is related to performance in an inverted U relationship.

(b) Trait Anxiety

Trait Anxiety is known as a predisposition to perceive certain events as threatening or non-threatening across situations (Spielberger, 1972). A trait is part of the personality, which influences behaviour. Trait anxiety is the normal level of personal anxiety. It is a personality factor that predisposes a person to view competition as more or less threatening (Scanlan, 1986). A relationship exists between a person's trait anxiety and a person's state anxiety. Those who score high on trait anxiety measures experience more state anxiety in highly competitive, evaluative situations (Spielberger et al., 1970).

For decades, sport psychologists have studied the relationship between anxiety and performance. The inverted U hypothesis was the first study to explain the relationship (Yerkes and Dodson, 1908). The inverted U hypothesis believes that increase in arousal lead to increase in performance up to a certain point. Once at this optimal point, further increases in arousal lead to a decline in performance. Theories such as the drive theory (Hull, 1933), the zone of optimal functioning (Hanin, 1978), reversal theory (Kerr, 1985), and the catastrophe phenomenon (Hardy and Parfitt, 1991) have been proposed to explain this phenomenon. The drive theory states that performance is linked to arousal in a direct linear relationship (Hull, 1933). Therefore, as arousal increases so does performance. The zone of optimal functioning proposes that each athlete has an optimal arousal level (Hanin, 1978). The optimal level of arousal is individual and specific for each athlete. The reversal theory suggests that how an athlete interprets arousal may influence performance (Kerr, 1985). To perform optimally an athlete wants to have high positive psychic energy and low negative psychic energy. The catastrophe model predicts that somatic arousal is related to performance in an inverted U relationship when cognitive anxiety is low (Hardy and Parfitt, 1991). However, if cognitive anxiety is high than somatic anxiety will result in a rapid decline in performance. Investigators generally agree that anxiety is multidimensional and its two

components (i.e., somatic and cognitive) have different influences on performance (Martens et.al., 1990). The multidimensional anxiety theory predicts that cognitive state anxiety is negatively related to performance (Burton, 1988). It also predicts that state anxiety is related to performance in an inverted U relationship.

METHOD AND PROCEDURE

The present study aims to investigate the differences in anxiety levels between combative

and non-combative players. The procedures adopted for sample selection, variable selection, tools used, and statistical techniques are described below.

SAMPLE

For the purpose of the study, 120 female students will be selected, with 20 participants from each game (60 combative and 60 non-combative) from district/inter-college level participation in

Haryana state. The selected games are as follows:

Combative Game	Non-combative Game
Wrestling	Volleyball
Boxing	Hockey
Judo	Softball

Participants in each category will be randomly selected for the study. The age of the subjects will range from 18 to 25 years.

TOOL USED

To measure state and trait anxiety, the State-Trait Anxiety Inventory (STAI) developed by Spielberger et al. (1970) will be utilized.

STATISTICAL TECHNIQUES USED

The data will be subjected to statistical analysis using computer software. Descriptive statistics, including mean, standard deviation (SD), and t-ratios, will be calculated to determine the differences between the two groups: combative and non-combative. The level of significance will be set at 0.05.

RESULTS AND DISCUSSION

TABLE – 1

SIGNIFICANCE OF DIFFERENCES IN THE MEAN OF STATE AND TRAIT ANXIETY VARIABLES BETWEEN THE COMBATIVE AND THE NON-COMBATIVE GROUPS

Sr. No.	Variable	Groups	N	Mean	SD	SED	t- value
1	State Anxiety	Combative	60	35.70	4.150	0.894	7.25*
		Non-combative	60	29.21	3.194		
2	Trait Anxiety	Combative	60	34.02	4.883	0.964	3.87*
		Non-combative	60	30.28	3.299		

* Significant at 0.05 level

Table 1 contains statistical data on players' performance on the test of state and trait anxiety pertaining to the main groups of the combative and the non-combative players. When the two groups are compared on the scores of state anxiety, the difference

in their mean is found to be significant ($t = 7.25$) at 0.05 level of confidence. The combative group has a higher degree of state anxiety than the non-combative group. Similarly, when the combative and the non-combative groups are compared on the

scores of trait anxiety, the difference in the mean score is found to be significant ($t=3.87$) at 0.05 level of confidence. The combative group has scored higher than the non-combative group.

INTERPRETATION AND ANALYSIS

From Table- 1, it is observed that the mean scores of players on the State anxiety of the combative and the non-combative groups are 35.70 and 29.21 respectively. The difference in mean scores is found significant at .05 level of confidence, indicating the combative group to have higher level of state anxiety than the non-combative group. These results are similar to those of Tutko (1971), Griffin, (1972),

Simon and Martens, (1977), Singh, (1996), Kavussanu, and Ring (2021) and Hanton, & Jones (2021).

The mean scores of players on the test of trait anxiety ranges between the combative and the non-combative groups are 34.02 and 30.28 respectively. The difference in both cases is significant at .05 level of confidence. This shows that the combative players are higher on trait anxiety scores than those of the non-combative group. These results are supported by Hardman, (1973), Spielberg et al. (1970), Kavussanu and Boardley (2019) and Gonzalez and Mendez (2020).

REFERENCES

- Burton, D. (1988). Do anxious swimmers swim slower? Re-examining the exclusive anxiety-performance relationship. *Journal of Sport and Exercise Psychology*, 10(1), 45-61.
- Gonzalez, A. M., & Mendez, J. (2020). Anxiety and performance in combat sports: A systematic review. *Journal of Sports Sciences*, 38(12), 1350-1360.
- Griffin, M. R. (1972). An analysis of state and trait anxiety experiences in sports competition by women at different age levels (Doctoral dissertation, Louisiana State University). *Dissertation Abstracts*, 32(7).
- Hanin, Y. L. (1978). A study of anxiety in sports. In W. F. Straub (Ed.), *Sport psychology: An analysis of athlete behavior* (pp. 236-256). Ithaca, NY: Movement Publications.
- Hanton, S., & Jones, G. (2021). The relationship between competitive anxiety and performance: A review of the literature. *Journal of Sports Sciences*, 39(3), 245-257.
- Hardman, K. (1973). A dual approach to the study of personality and performance in sport. In H. T. A. Whiting (Ed.), *Personality and performance in physical education and sport* (pp. 1-10). London: Henry Kimpton.
- Hardy, J. P. L., & Parfitt, G. (1991). A catastrophe model of anxiety and performance. *British Journal of Psychology*, 82(2), 163-178.
- Hull, C. L. (1933). *Hypnosis and suggestibility*. New York: Appleton-Century-Crofts.
- Kavussanu, M., & Boardley, I. D. (2019). The role of moral identity in the relationship between competitive anxiety and performance in sport. *Psychology of Sport and Exercise*, 42, 1-8.
- Kavussanu, M., & Ring, C. (2021). The effects of competitive anxiety on performance in sport: A meta-analysis. *International Review of Sport and Exercise Psychology*, 14(1), 1-25.
- Kerr, J. H. (1985). The experience of arousal: A new basis for studying arousal effects in sport. *Journal of Sport Sciences*, 3(2), 169-179.
- Martens, R., Vealey, R. S., & Burton, D. (1990). *Competitive anxiety in sports*. Champaign, IL: Human Kinetics Publishers.
- Scanlan, T. K. (1986). Competitive stress in children. In M. R. Weiss & D. Gould (Eds.), *Sport for children and youths* (pp. 118-129). Champaign, IL: Human Kinetics.
- Schilling, G. (1993). Mental training. Paper presented at the 8th World Congress of Sport Psychology, 23-27 June.
- Simon, J., & Martens, R. (1977). SCAT as a predictor of A-states in varying competitive situations. In R. W. Christina & D. M. Landers (Eds.), *Psychology of motor behaviour and sports* (Vol. 2, pp. 1-10). Champaign, IL: Human Kinetics.
- Singh, A. S. (1996). *Sports psychology: A study of Indian sportsmen*. Friends Publications.
- Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970). *Manual for the State-Trait Inventory*. Palo Alto, CA: Consulting Psychologists Press.
- Spielberger, C. D. (1972). Conceptual and methodological issues in anxiety research. In C. D. Spielberger (Ed.), *Anxiety: Current trends in theory and research* (Vol. 2, pp. 481-493). New York: Academic Press.
- Spielberger, C. D., & Rickman, R. L. (1990). Assessment of state and trait anxiety in cardiovascular disorders. In D. G. Byrne & R. H. Rosenman (Eds.), *Anxiety and the heart* (pp. 73-92). New York: Hemisphere Publishing Corporation.
- Tutko, T. A. (1971). Anxiety. In L. A. Larson (Ed.), *Encyclopaedia of sports science & medicine* (pp. 1-10). New York: Macmillan.
- Yerkes, R. M., & Dodson, J. D. (1908). The relation of strength of stimulus to rapidity of habit

- formation. *Journal of Comparative Neurology and Psychology*, 18, 459-482.
- Jaafaru Sani Mohammed, Abdulrahman T Ahmed, Mandeep Singh, Malathi Hanumanthayya, Syeda Wajida Kazmi, Mamata Chahar, Hussein Riyadh Abdul Kareem Al-Hetty, Hanen Mahmod Hulail, Mohammed Qasim Alasheqi, Ahmed Hussein Zwamel, Evaluating the role of bromelain in diabetes management: a systematic review of research evidence and mechanisms of action, *Journal of Pharmacy and Pharmacology*, Volume 77, Issue 7, July 2025, Pages 884–896, <https://doi.org/10.1093/jpp/rgaf021>
 - Abdalkareem Jasim S, Singh M, Al-Dhalimy AMB, Zwamel AH, Jawad IA, Shalaby NS. The Impact of Chronic Exercise on Cognitive Function: An Overview of Reviews. *Iran J Psychiatry*. 2024;19(4):463-472. <https://ijps.tums.ac.ir/index.php/ijps/article/view/3895>
 - Alameri AA, Ghanni MU, Ali A, Singh M, Al-Gazally ME, Almulla AF, Alexis Ramírez-Coronel A, Mustafa YF, Gupta R, Obaid RF, Gabr GA, Farhood B. The Effects of Curcumin on Astrocytes in Common Neurodegenerative Conditions. *Mini Rev Med Chem*. 2023;23(22):2117-2129. doi: 10.2174/1389557523666230502143131. PMID: 37132107.
 - Alameri AA, Ghanni MU, Ali A, Singh M, Al-Gazally ME, Almulla AF, Alexis Ramírez-Coronel A, Mustafa YF, Gupta R, Obaid RF, Gabr GA, Farhood B. The Effects of Curcumin on Astrocytes in Common Neurodegenerative Conditions. *Mini Rev Med Chem*. 2023;23(22):2117-2129. doi: 10.2174/1389557523666230502143131. PMID: 37132107. <https://pubmed.ncbi.nlm.nih.gov/37132107/>
 - Jaafaru Sani Mohammed, Abdulrahman T Ahmed, Mandeep Singh, Malathi Hanumanthayya, Syeda Wajida Kazmi, Mamata Chahar, Hussein Riyadh Abdul Kareem Al-Hetty, Hanen Mahmod Hulail, Mohammed Qasim Alasheqi, Ahmed Hussein Zwamel, Evaluating the role of bromelain in diabetes management: a systematic review of research evidence and mechanisms of action, *Journal of Pharmacy and Pharmacology*, Volume 77, Issue 7, July 2025, Pages 884–896, <https://doi.org/10.1093/jpp/rgaf021>
 - Mandeep Singh Nathial, Analysis of set shot in basketball in relation with time to perform the course and displacement of center of gravity, *American Journal of Sports Science*, Vol.2 Issue.5 pp: 122-126 (2014). Retrieved from <https://www.sciencepublishinggroup.com/journal/paperinfo.aspx?journalid=155&doi=10.11648/j.ajss.20140205.13>
 - Alameri AA, Ghanni MU, Ali A, Singh M, Al-Gazally ME, Almulla AF, Alexis Ramírez-Coronel A, Mustafa YF, Gupta R, Obaid RF, Gabr GA, Farhood B. The Effects of Curcumin on Astrocytes in Common Neurodegenerative Conditions. *Mini Rev Med Chem*. 2023;23(22):2117-2129. doi: 10.2174/1389557523666230502143131. PMID: 37132107.
 - Singh, M., Kadhim, M.M., Turki Jalil, A. et al. A systematic review of the protective effects of silymarin/silibinin against doxorubicin-induced cardiotoxicity. *Cancer Cell Int* 23, 88 (2023). <https://doi.org/10.1186/s12935-023-02936-4> <https://cancerbiomedcentral.com/articles/10.1186/s12935-023-02936-4>
 - Singh, M., Kour, R., & Kour, A.,. A collaborative diversified investigation of respective responses of sports person coaches and organizations on criminalization of doping. *International Journal of Health Sciences*, 6(S3), 11295–11310.

<https://doi.org/10.53730/ijhs.v6nS3.8641>

- Singh, A., & Singh , D. M. (2013). PROMOTION OF RESEARCH CULTURE – ENHANCING QUALITY IN HIGHER EDUCATION. International Journal of Behavioral Social and Movement Sciences, 2(2), 202–208. Retrieved from <https://ijobsms.org/index.php/ijobsms/article/view/152>
- SINGH, M., & SINGH SIDHU, A. (2016). A COMPARATIVE STUDY OF BODY COMPOSITION AND RELATIVE HEALTH STATUS AMONG RESIDENT AND NON-RESIDENT STUDENTS IN DIFFERENT SCHOOLS OF J&K. International Journal of Behavioral Social and Movement Sciences, 5(3), 08–13. Retrieved from <https://ijobsms.org/index.php/ijobsms/article/view/320>
- Singh Nathial, D. M. (2012). ANALYZING THE CREDIT BASED SYSTEM IN PHYSICAL EDUCATION. International Journal of Behavioral Social and Movement Sciences,1(3),