

STUDY ON SELECTED PSYCHOLOGICAL VARIABLES IN RELATION TO SHOOTING PERFORMANCE OF NATIONAL PISTOL SHOOTERS

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Abstract

The present study was conducted to assess the relationship between Shooting performance in relation to Concentration and sports competitive Anxiety of female pistol shooters. The study was conducted on 50 female shooters and their age ranged 18 to 25 years. All subjects, who have been selected for sampling, participated in National or International level competitions. Data collection had completed during national games held at Dr. Kari Singh Shooting Range Tughlakabad, Delhi. Concentration ability of female pistol shooters investigated by using Letter cancellation task, which has developed by Sanjay Kumar and Shirley Telles 2009. Sports competitive anxiety was calculated by SCAT questionnaire developed by R. Martens, R. S. Vealey and D. Burton (1990). For the purpose of Statistical analysis Correlation test was used to assess the relationship of Concentration and Shooting performance of female National pistol shooters. The results after analyzing the data suggest that the variables have significant relationship on the shooting match performance of Female Shooting players.

Keywords: Pistol shooting, Cognitive Anxiety of Sports Competitive Anxiety, Somatic Anxiety of Sports Competitive Anxiety, Concentration, Shooting National Match performance.

INTRODUCTION:

Pistol Shooting sports are enjoyed by an enormous number of participants around the world. Indian shooters have been representing our country on International platform. As shooting is a focused task, if a shooter has the ability to concentrate, s/he will be able to attain high level. Our Indian shooters had participated in Olympic games 2024, Manu Bhaker won Bronze in Individual 10 meter Pistol shooting. In mixed 10 meter air pistol shooting event Sarabjot Singh and Manu Bhaker won Bronze medal. After the Olympic games, Manu Bhaker and Sarabjot Singh had thrown the light on the importance of concentration and stable mind to achieve desired score in shooting event. They both talk about Concentration and stability of mind. They talk about the way both the players had done meditation, yoga, breathing exercises, music therapies to develop their concentration and lower anxiety level. This study emphasized on concentration and sports competitive anxiety. The Sports competitive anxiety scale divides into three sub variables: cognitive anxiety, somatic anxiety and related component self-confidence. Present scenario

competitions are taking place under four orders; rifle, pistol, shotgun and running target. In the present day situation, the shooting sport in India has increased worldwide acknowledgment. Indian shooters have marked their essence and gained success in an international level competition including Olympic Games, Commonwealth Games, SAF Games and Asian Games. Some of the outstanding Indian shooters received the most honorable awards, including Rajiv Gandhi Khel Ratna Award, Arjuna Award, for outstanding performance in sports. The first target gun was made during the 40's of the 18th century. Thus the gun shooting was increasing its scope and entered the field of sports. Different countries had different names of shooting sports such as "shooting", "hunting", "the hunt" and "the chase" etc. Rifle shooting has not gained wide popularity like pistol shooting. There were many reasons of less popularity of rifle shooting such as cost expense and restriction involved in it. Competitive shooting with such weapons probably dates from 1770 AD when sword was being superseded. The beginning of shooting in India can be followed back to the medieval period, when Indians used to practice

the game as bows and arrows in the form of archery. During the 16th century, guns were introduced to the game, which was primarily used for hunting. Shooting sports competitions were held right from the 11th century, although the game was viewed as royal, bound to the Maharajas of the royal states of India. In 1860 National Rifle Association was formed and Shooting as a sport was first organized in Britain. In the first modern Olympic Games held in 1896, shooting was part of it and has been there since then. In order to make competition fairer, competitors compete within their own event. Concentration is one of the most cited aspects to affect shooting performance. Most of the time, it can be seen in the shooting sports when an individual is concentrated single mindedly on the target, s/he turn sporting capability into superior shooting performance. Successfully completed skill always generates concentrate and person take attempt something slightly more challenging.

Objective of the study

- To assess the relationship of Concentration in relation to Shooting performance of National Pistol shooters.
- To assess the relationship of Cognitive Anxiety variable of Sports competitive anxiety in relation to Shooting performance of National Pistol shooters.
- To assess the relationship of Somatic Anxiety variable of Sports competitive anxiety in relation to Shooting performance of National Pistol shooters.
- To assess the relationship of Self Confidence variable of Sports competitive anxiety in relation to Shooting performance of National Pistol shooters.

Hypothesis:

- There is no relationship between Concentration and Shooting performance of National pistol level shooters.
- There is no relationship between Cognitive Anxiety variable of Sports

competitive anxiety and Shooting performance of National Pistol shooters.

- There is no relationship between Somatic Anxiety variable of Sports competitive anxiety and Shooting performance of National Pistol shooters.
- There is no relationship between Self Confidence variable of Sports competitive anxiety and Shooting performance of National Pistol shooters.

Delimitation:

- The study was delimited to female National level shooters.
- The study was delimited to the event of shooting 10 Meter Air Pistol.
- The study was delimited to age group of 18 to 25 years.
- The study was delimited to National games.
- The study was delimited to the following variables:
 - i. Concentration
 - ii. Sports competitive anxiety
 - iii. Shooting performance

Limitations of the study

- Factors such as personal life, diet, daily routine etc of players will be beyond the control of the researcher, which is considered as limitations of the study.
- Concentration task and sports competitive anxiety questionnaire have its own limitation as such biasness that might have crept into the subjects while responding on this account was considered as limitation of the study.

Methodology:

The female pistol shooters numbering about 50 have been selected as a subject for the conduct of present study. All the female shooters are in the age group of 18-25 years, who have participated at national level. Data collection had completed during national games held at Dr. Kari Singh Shooting Range Tughlakabad, Delhi. Concentration ability of female pistol shooters had investigated by using Letter cancellation task, which has developed by

Sanjay Kumar and Shirley Telles 2009. SCAT questionnaire developed by R. Martens, R. S. Vealey and D. Burton (1990). Shooting performance of pistol shooting investigated by used 60 bullets hit in the shooting target. Shooter's match performance had counted during their national games match score. Pistol Shooters (10M) were selected for the sample and data gathered from 50 players selected

from Punjab and UTs. For the purpose of Statistical analysis Correlation test was used to assess the relationship of Concentration and Shooting performance of female National pistol shooters. Following steps have been taken in procedure for tool for measurement of Shooting performance and Concentration variables in materials & methodology.

Sr. No.	Variable	Tool used	Developed by
1	Concentration	Letter cancellation task	Sanjay Kumar and Shirley Telles 2009.
2	Sports Competitive Anxiety	SCAT questionnaire	R. Martens, R. S. Vealey and D. Burton (1990).
3	Shooting performance	10 meter air pistol shooting match Performance (60 shots hit on the target) during National Games 2024	Criteria Given by National Rifle Association of India (NRAI) in NRAI match book

Results:

Table - 1
Descriptive Statistics of Female Pistol Shooters on Concentration in relation to Shooting Performance

Variables	N	Mean	Std. Deviation	r-value
Concentration	50	41.34	3.38	0.87**
Shooting Performance	50	567.28	3.29	

It can be seen from the *table 1* that the mean score of the female pistol shooters of on concentration is 41.34 with standard deviation of 3.38. The mean value of Shooting performance is 567.28 with the standard deviation of 3.29. It has been depicts that the relationship between Concentration and Shooting performance of the female pistol shooters, r-value 0.87** is significant which indicates that the relationship observed in the sample is highly correlated with each other.

Table - 2
Descriptive Statistics of Female Pistol Shooters on Cognitive anxiety of Sports Competitive Anxiety in relation to Shooting Performance

Variables	N	Mean	Std. Deviation	r-value
Cognitive anxiety of Sports Competitive Anxiety	50	22.86	3.29	-0.87**
Shooting Match Performance	50	567.28	5.71	

It can be seen from the *table 2* that the mean score of the female pistol shooters of on Cognitive Anxiety is 22.86 with standard deviation of 3.29. The mean value of Shooting performance is 567.28 with the standard deviation of 5.71. It has been depicts that the relationship between Cognitive Anxiety and Shooting performance of the female pistol shooters, r-value -0.87** is significant which indicates that the relationship observed in the sample is highly negatively correlated with each other.

Shooter experienced low anxiety they may performed excellent in match. Anxiety affects shooting performance negatively.

Table -3
Descriptive Statistics of Female Pistol Shooters on Somatic Anxiety of Sports Competitive Anxiety in relation to Shooting Performance

Variables	N	Mean	Std. Deviation	r-value
Somatic Anxiety of Sports Competitive Anxiety	50	23.4	3.47	-0.88**
Shooting Match Performance	50	567.28	5.71	

It can be seen from the *table 3* that the mean score of the female pistol shooters of on Somatic Anxiety is 23.4 with standard deviation of 3.47. The mean value of Shooting performance is 567.28 with the standard deviation of 5.71. It has been depicts that the relationship between Somatic Anxiety and Shooting performance of the female pistol shooters, r-value -0.88** is significant which indicates that the relationship observed in the sample is highly negatively correlated with each other. Shooter experienced low anxiety they may performed excellent in match. Anxiety affects shooting performance negatively. Higher an anxiety leads lower score.

Table - 4
Descriptive Statistics of Female Pistol Shooters on Self Confidence of Sports Competitive Anxiety in relation to Shooting Performance

Variables	N	Mean	Std. Deviation	r-value
Self Confidence	50	28.16	7.40	0.63**
Shooting Match Performance	50	567.28	5.71	

It can be seen from the *table 4* that the mean score of the female pistol shooters of on Self Confidence of Sports competitive anxiety is 28.16 with standard deviation of 7.40. The mean value of Shooting performance is 567.28 with the standard deviation of 5.71. It has been depicts that the relationship between Self Confidence of Sports competitive anxiety and Shooting performance of the female pistol shooters, r-value 0.63* is significant positive relationship which indicates that the relationship observed in the sample is positively correlated with each other. Shooter experienced confident they may performed excellent in match.

FINDINGS:

On the basis of the analysis of data the investigator found the following findings: Shooting match performance had positively correlated with Concentration and Self confidence variable of Sports competitive anxiety. **Ahammer, Lacknar& Voigt** while supporting the present findings also revealed

the positive relationship of Self confidence on performance of cross country, skiing and rifle shooting. They found that the less confident athletes are the worse their performance is on the shooting range. **Poonam (2022) M.D. University Rohatak** supporting the results of Sports Competitive Anxiety(Cognitive and Somatic) , strong relationship found between sports performance and competitive anxiety which means higher the sports performance will have higher capacity to deal the anxiety. Furthermore, competitive anxiety and academic performance also have significant relationship which means more competitive anxiety lowering the sports performance as well as academics. Moreover significant and positive relationship was found between sports performance and academic performance among shuttlers, which means better performance in badminton increase better grading in academics. On the other hand, male badminton and mean score of academics in competitive anxiety which means badminton

player can cope up with competitive anxiety well in comparison with academics. Since the hypothesis of the study was non- directional therefore two tailed were used to reject or accept the null hypothesis. Results of the study support the existing set of knowledge i.e. the hypothesis formulated against the existing theory were rejected in the present study; therefore the occurrence of type 1 error and type II error has not been observed.

CONCLUSION:

The finding of the study is concluded as under on the basis of Correlation analysis applied. On the basis of the analysis of data the investigator found the following findings: Concentration and Shooting performance of the female pistol shooters had significant

which indicates that the relationship observed in the sample is highly correlated with each other. Shooters had cancelled many letters they have higher level of concentration. On the other hand if shooter took more time to cancel less letters which means she has lower level of concentration. Shooting match performance and Self confidence variable of Sports competitive anxiety positively correlated. Cognitive and Somatic Anxiety variable of Sports Competitive Anxiety had negatively correlated with shooting match performance. Shooter experienced low anxiety they may performed excellent in match. Anxiety affects shooting performance negatively. Higher an anxiety leads lower score.

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