



## **AN ANALYSIS OF PSYCHOLOGICAL CHARACTERISTICS OF SHOOTERS IN MAHARASHTRA STATE**

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### **ABSTRACT**

*Scientific improvement has also had an impact on physical education and sport, which are fundamental parts of schooling. The main aim of the study is to analyse psychological characteristics of shooters in Maharashtra state. The current research was involving 150 rifle shooters from Maharashtra. Players were divided into three groups based on their objectives: district (50), state (50), and national (50) rifle shooting players. The current study is a situational study, which means that the investigator does not have to change any of the variables that were previously included. Sportsmen may now give good performances due to the inclusion of new scientifically validated training methods and methods of executing sport workouts such as sports technique and tactics, enhanced sports gear and equipments, and other components and circumstances of the sports training system. Result of the study is shows that the national rifle shooter players are more outgoing than state and district rifle shooter players. State rifle shooting players are more outgoing than district rifle shooting players.*

*Keywords: Rifle and Pistol Shooters, psychological aspects, Maharashtra National, State & District Players*

### **INTRODUCTION**

Shooting is a target sport that comprises Rifle, Pistol, Trap, Skeet, and Running Target events for both men & women. They all use different guns and ammo. There are 15 events in the Olympics, including seven for women & eight for men. The shooting competitions are grouped into four categories:

Rifle shooting began as a modification of the marksmanship abilities formerly employed by archers and was adopted by hunters and the military. During late nineteenth & early twentieth century, it evolved into a civilian sport with international competition. The following sections outline the road that was taken from early beginnings to sport that is recognized today, including events, significant regulating organizations, and some of major manufacturers of small-bore rifles & equipment.

Social psychology emerged in United States at turn of twentieth century. The earliest published study in this field was Norman Triplett's experiment on phenomena of social facilitation in 1898. During 1930s, several Gestalt psychologists, most notably Kurt Lewin, escaped Nazi Germany to United States. They were essential in distinguishing the science from

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the dominant behavioral and psychoanalytic schools at the time, and social psychology has always carried on their concerns in perception and cognition. During this time period, the most widely investigated themes were attitudes and small group phenomena. During WWII, social psychologists researched persuasion & propaganda for United States military. Following war, scholars grew interested in a wide range of societal concerns, including gender inequality & racial discrimination. The Stanley Milgram shock tests on loyalty to authority were the most prominent, informative, and disputed of them all. There was a surge of interest in new themes in the 1960s, such as cognitive dissonance, bystander intervention, & violence. However, by 1970s, social psychology in America had reached a tipping point. There was fierce debate about ethics of laboratory experiments, whether attitudes truly affected behavior, & how much science could be done in a cultural environment. This was also moment when a radical situational approach called into question importance of self & personality in psychology.

Shooting sports have grown in popularity in India, with over 2,700 competitors competing in 2013 national championships. In comparison, most countries' national championships would draw only a few hundred contestants at most. The Indian shooting team's results have improved substantially over last decade, transforming country into one of world's leading forces in shooting.

In shooting, India won gold and silver medals at Commonwealth Games in 2006 & 2010, an Olympic silver medal in 2004 Olympic Games, its first individual gold medal at 2008 Olympic Games, & silver & bronze medals at 2012 Olympics. There is little doubt that India has emerged as a shooting powerhouse, and it seems prepared to climb much higher in the future years.

In this paper, we will look at some of psychological aspects that have led to Indian shooters' worldwide success. Both writers have offered psychological assistance to the Indian shooting squad at various times and have seen firsthand the development that has been accomplished. They have also worked for many years with foreign shooters from Australia, Italy, United Kingdom, Ireland, Iran, Malaysia, & Singapore. We document assistance given to Indian shooting squad & analyze the psychological elements that impact shooting performance. To add credibility to these experiences, we have faithfully copied shooters' own perspectives, in their own words when feasible, to describe psychology of sport shooting.

## **REVIEW OF RELATED LITERATURE**

Bal et al. (2001) investigated the substantial variations in accomplishment motivation & locus of control among individual & team sports participants. When the various characteristics are applied to different groups of individuals, the findings show that they differ in type and scope in terms of accomplishment motivation, but they are same in terms of locus of control.

McKelvie and colleagues (2003) The Eysenck Personality Inventory was completed by two groups (n = 86) of university athletes (contact, no contact) and two matched groups (n = 86)

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of non-athletes (Eysenck & Eysenck, 1968). Extraversion did not differ substantially b/w athletes & non-athletes, or b/w contact & non-contact athletes, although it was greater in athletes when compared to American college standards. Athletes scored much lower than non-athletes on neuroticism. Because neither extraversion nor neuroticism grew over time, these findings support gravitational hypothesis that people with higher extraversion & lower neuroticism are drawn to university athletics.

Pukhraj Singh (2013) conducted a study to compare college and university level archers and shooters in terms of psychological variable self-concept. Forty (N=40) male inter-college level archers and shooters players were chosen for this purpose. They were then separated into two groups of N = 20 each (i.e., N1=20; N2=20 for inter-college). To achieve the study's aims, the purposive sampling approach was applied. After being briefed about the study's purpose and methodology, all subjects provided their consent and volunteered to participate in it. To establish the significant differences between inter-college male archers and shooters, the students' t -test was used for independent date, & the unpaired t-test was utilized for date analyses. The threshold of significance was established at 0.05 to test hypothesis.

Amte Snehal Shekhar and Mistry Hetal M (2014) investigate the influence of pranayama on rifle shooter performance by assessing factors such as breath holding duration, lung functional capacity, and shooting performance. The study found that all five variables, shooting performance (in mm), BHT, PEFR, RR, and PR, improved significantly with p values of 3.62E-05, 2.78E-07, 1.31E-09, 0.013, and 3.40E-04, respectively. As a result, it can be stated that pranayama is effective for improving rifle shooter performance & should be incorporated in their training regimen.

Zvonko Peliha, Marcos Michaelides, and Dave Collins (2018) investigate the present status of empirical research, theoretical reasons, & the practical significance of chosen physical fitness metrics in Olympic clay target & allied shooting disciplines. It is difficult to provide clear suggestions based on the known information on the relevance of physical fitness characteristics in Olympic clay target shooting disciplines. Postural stability & prolonged QE duration, as well as a certain amount of strength, appear to be important to effective performance in other shooting disciplines. This research gap indicates need to increase & broaden sport's knowledge base.

Anshul Singh Thapa (2019) compares female pistol shooters from Delhi and Patiala in terms of self-confidence and shooting effectiveness. Materials and Procedures: The research included 100 female shooters ranging in age from 18 to 25 years. All topics chosen for sample competed at the national or international level, & fifty players were chosen from Dashmesh Rifle Club, Badal, District Mukatsar Sahib (Punjab), & fifty players were chosen from Dr. Karni Singh Shooting Range, Delhi (UT). The conclusion indicates that female national pistol shooters from Punjab & female national pistol shooters from Delhi had comparable levels of self-confidence & shooting efficiency in match performance & shooting efficiency in single series.

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Shooting is regarded as one of the activities that may be pursued by anybody, regardless of age or gender, for both professional and recreational purposes.

Daniel Mon-López and colleagues (2020) compare gender & RAE performance in precision shooting contests. The study's findings are as follows: (1) men outperform women in pistol performance, despite the fact that RAE is not associated with shooting score in any case; (2) men and women performed equally in the overall analysis, but their performances differed depending on category & event, with no RAE influence.

Dr. Kamleshkumar P Patel (2021) investigated the effect of specific pranayama on Rifle/Pistol shooting athletes' breath holding ability. The t-test was used for statistical analysis, & significance of the result was determined at 0.05 levels. There was a difference b/w experimental group's pre-test mean & post-test mean after pranayama instruction. A considerable variation in subject performance was discovered.

Thorsten Stein, Sina Spancken, Hannah Steingrebe, and Thorsten Stein (2021) define and summarise performance determinants in air rifle & small-bore shooting. To compete at national level in air rifle shooting, a highly developed aiming method is required in order to get a high shot score. We were unable to make evidence-based decisions in elite-level air rifle athletes & small-bore shooting due to a lack of data. To validate or reject current findings, future research should look at potential performance determinants in both air rifle & small-bore shooting, particularly with elite athletes. In future research, more detailed analyses should be utilised to investigate many processes associated with different performance indicators.

According to Chris Englert et al. (2021), long-term self-control investment is frequently associated with lower levels of perceived self-control strength (i.e., subjective estimate of how much mental effort one is capable of investing in a given task) & impaired performance in a variety of sports-related domains. According to our predictions, Bayesian linear mixed effect models revealed that shooting performance in both conditions remained rather stable over time, & conditions also did not differ significantly in their perceived levels of self-control strength. These findings, in contrast to resource-based theories of self-control, reject the concept of a finite self-control resource, as previous acts of self-control had no effect on subsequent shooting performance among elite athletes.

The study's goal, according to Ms. Pooja Pal and Pushpendra Purashwani (2021), was to compare selected psychological characteristics b/w male & female shooters. A key aspect in shooting success is psychological parameters, which are combined with physical and physiological ones. 30 shooters, 15 males & 15 females, ages 15 to 21, with state level participation, were chosen for research. The study's two psychological variables were stress & anxiety. The Sports Competition Anxiety Test (SCAT) was used to assess anxiety, while Perceived Stress Scale (PSS) was utilized to assess stress. The study employed the Independent t Test, with threshold of significance set at 0.05. The results show that there was no significant difference in stress and anxiety levels between male and female shooters.

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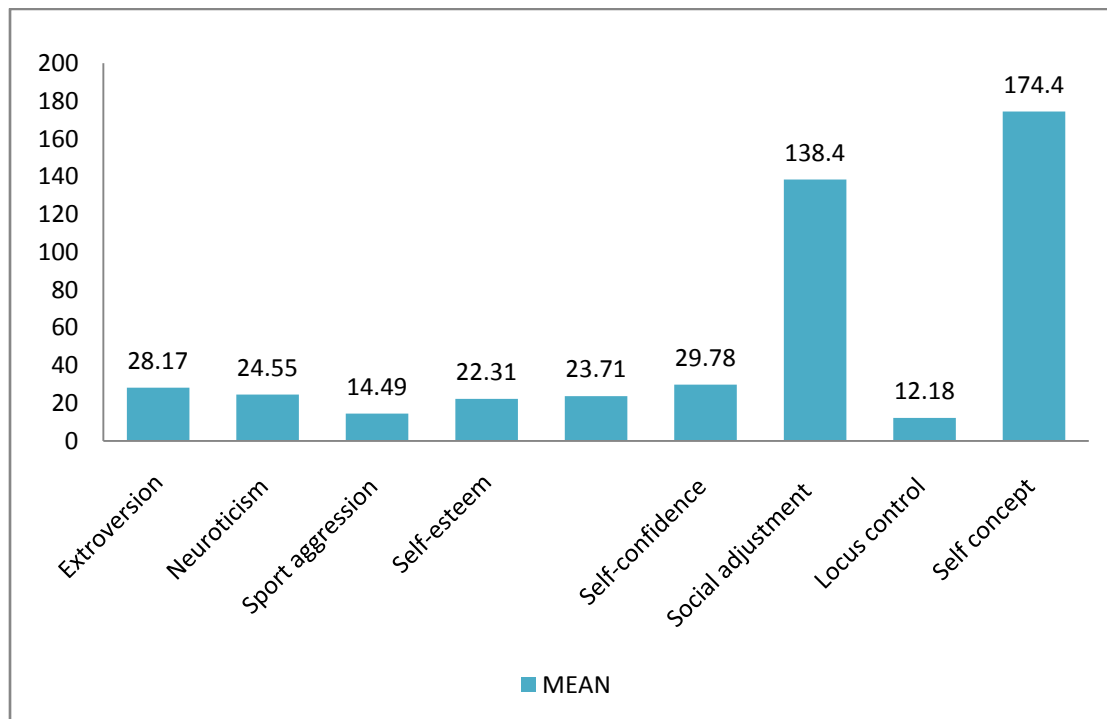
**DATA ANALYSIS**

**ANALYSIS OF PSYCHOLOGICAL DATA OF DISTRICT RIFLE SHOOTING PLAYERS**

Table 1 displays the results of several tests in the form of descriptive data such as mean and standard deviation in the case of district players.

**TABLE 10 MEAN SCORES AND STANDARD DEVIATION OF DISTRICT RIFLE SHOOTING PLAYERS ON VARIOUS PSYCHOLOGICAL VARIABLES (N=50)**

S.NO.	VARIABLES	MEAN	S.D.
1	Extroversion	28.17	1.7
2	Neuroticism	24.55	2.69
3	Sport aggression	14.49	3.15
4	Self-esteem	22.31	3.11
5	Sports achievement motivation	23.71	3.28
6	Self-confidence	29.78	6.20
7	Social adjustment	138.40	14.6
8	Locus control	12.18	3.49
9	Self concept	174.40	13.83



**FIGURE 1 MEAN SCORES AND STANDARD DEVIATION OF DISTRICT RIFLE SHOOTING PLAYERS ON VARIOUS PSYCHOLOGICAL VARIABLES (N=50)**

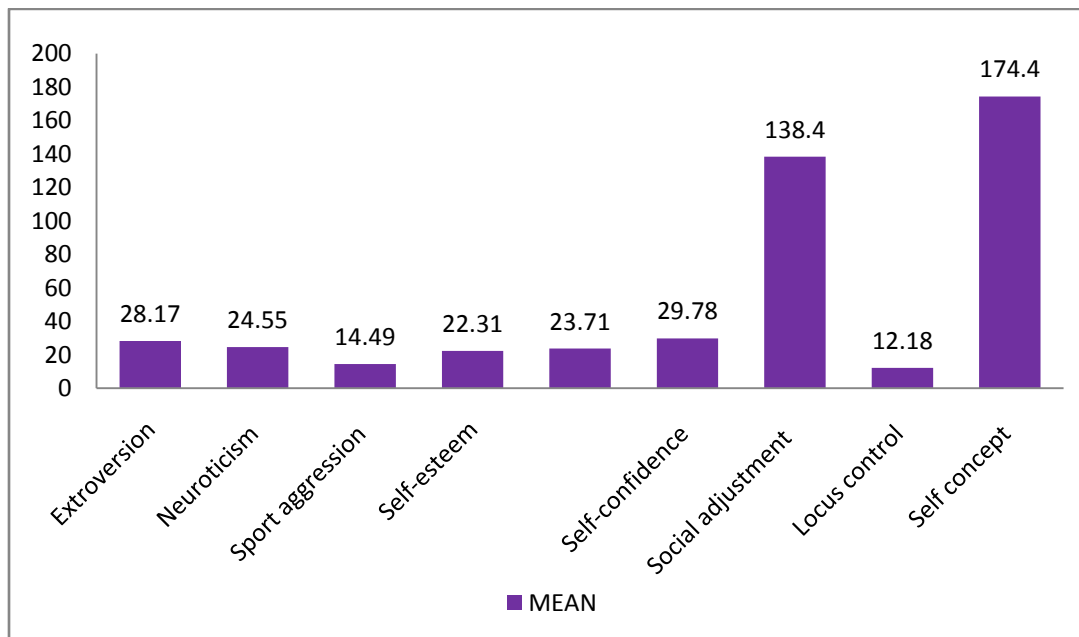
According to Table 1, the mean score of district school rifle shooting players in sports extroversion is  $28.17 \pm 1.7$ , neuroticism is  $24.55 \pm 2.69$ , sports aggression is  $14.49 \pm 3.15$ , self-esteem is  $22.31 \pm 3.11$ , sports achievement motivation is  $23.71 \pm 2.8$ , self-confidence is  $29.78 \pm 6.20$ , social adjustment is  $138.40 \pm 14.6$ , locus of control is  $12.18 \pm 3.49$ , and self concept is  $174.40 \pm 13.83$ .

**ANALYSIS OF PSYCHOLOGICAL DATA OF STATE RIFLE SHOOTING PLAYERS**

Table 2 displays the results of several tests in the form of descriptive statistics such as mean and standard deviation in the case of state players.

**TABLE 2 MEAN SCORES AND STANDARD DEVIATION OF STATE RIFLE SHOOTING PLAYERS ON VARIOUS PSYCHOLOGICAL VARIABLES (N=50)**

S.NO.	VARIABLES	MEAN	S.D.
1	Extroversion	30.43	2.26
2	Neuroticism	22.79	2.34
3	Sport aggression	17.59	2.77
4	Self-esteem	24.68	4.63
5	Sports achievement motivation	24.84	4.78
6	Self-confidence	24.78	4.72
7	Social adjustment	150.10	19.59
8	Locus control	10.43	2.67
9	Self concept	182.78	21.65



**FIGURE 2 MEAN SCORES AND STANDARD DEVIATION OF STATE RIFLE SHOOTING PLAYERS ON VARIOUS PSYCHOLOGICAL VARIABLES (N=50)**



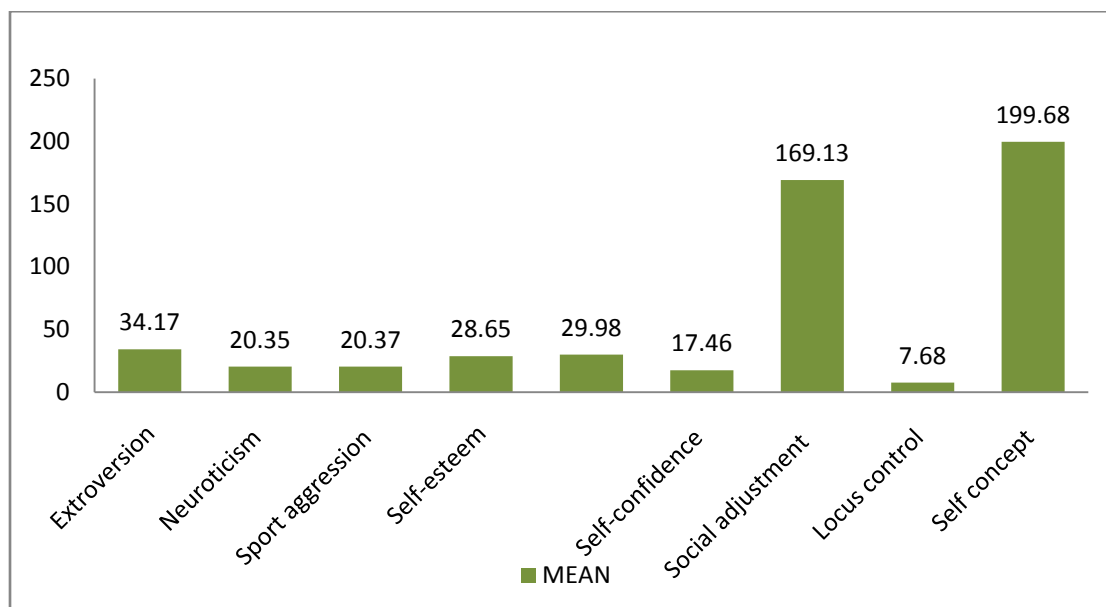
According to Table 2, the mean score of district school rifle shooting players in sports extroversion is  $30.43 \pm 2.26$ , neuroticism is  $22.79 \pm 2.34$ , sports aggression is  $17.59 \pm 2.77$ , self-esteem is  $24.68 \pm 4.63$ , sports achievement motivation is  $24.84 \pm 4.78$ , self-confidence is  $24.78 \pm 4.72$ , social adjustment is  $150.10 \pm 19.59$ , locus of control is  $10.43 \pm 2.67$ , and self concept is  $182.78 \pm 21.65$ .

### **ANALYSIS OF PSYCHOLOGICAL DATA OF NATIONAL RIFLE SHOOTING PLAYERS**

Table 3 displays the results of several tests in the form of descriptive statistics such as mean and standard deviation in the case of national players.

**TABLE 3 MEAN SCORES AND STANDARD DEVIATION OF NATIONAL RIFLE SHOOTING PLAYERS ON VARIOUS PSYCHOLOGICAL VARIABLES (N=50)**

S.NO.	VARIABLES	MEAN	S.D.
1	Extroversion	34.17	3.84
2	Neuroticism	20.35	2.40
3	Sport aggression	20.37	2.23
4	Self-esteem	28.65	2.89
5	Sports achievement motivation	29.98	4.93
6	Self-confidence	17.46	4.72
7	Social adjustment	169.13	23.82
8	Locus control	7.68	2.06
9	Self concept	199.68	18.46



**FIGURE 3 MEAN SCORES AND STANDARD DEVIATION OF NATIONAL RIFLE SHOOTING PLAYERS ON VARIOUS PSYCHOLOGICAL VARIABLES (N=50)**



The mean score of district school rifle shooting players in sports extroversion is  $34.17 \pm 3.84$ , neuroticism is  $20.35 \pm 2.40$ , sports aggression is  $20.37 \pm 2.23$ , self-esteem is  $28.65 \pm 2.89$ , sports achievement motivation is  $29.98 \pm 4.93$ , self-confidence is  $17.46 \pm 4.72$ , social adjustment is  $169.13 \pm 23.82$ , locus of control is  $7.68 \pm 2.06$ , and self concept is  $199.68 \pm 18.43$ , as shown in Table 3.

The significance of mean difference among national (N=50), state (N=50), and district (N=50) rifle shooter participants on each psychological dimension was determined using one way analysis of variance (F-ratio). The Post-Hoc Least Significant Difference test was performed to measure the significance of the difference between ordered paired means at the 0.05 level.

## CONCLUSIONS

National rifle shooter players are more outgoing than state and district rifle shooter players. State rifle shooting players are more outgoing than District rifle shooting players. In terms of neuroticism, district rifle shooting players are more emotionally stable than state and national rifle shooting players. Neuroticism is reported to be average among state and national athletes. National rifles shooting players were more athletic than state and district rifles shooting players. Rifle shooting players at the state and district levels are aggressive in sports. National rifle shooting players had stronger self-esteem than district rifle shooting players. State rifle shooters had stronger self-esteem than district rifle shooters.

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