

IMPACT OF YOGIC EXERCISES ON PSYCHOLOGICAL PERFORMANCE OF RIFLE AND PISTOL SHOOTERS

Vijay Vasant Patil, Research Scholar, Swami Vivekanand University, Sagar, MP
Dr. Nisar Hussain, Professor, Swami Vivekanand University, Sagar, MP

ABSTRACT

The study's goal is to determine the "impact of Yogic exercises on psychological performance of rifle and pistol shooters". To accomplish this goal, 90 shooters ranging in age from 18 to 40 years were used. The chosen participants were split into two equal groups of 90, one experimental group 45 and one control group 45. The research study concluded that 15 weeks of yogic Practice training improves social maturity, self-confidence, stress, anxiety, and depression performance. The statement of the research hypothesis for women agrees with the results, so the hypothesis was accepted. When compared to its counterpart, the yoga group experimental group had a beneficial influence on socio-psychological characteristics such as anxiety and also when compared to the control group, there is a beneficial effect of yoga practice in cultivating and growing social mature behavior within the experimental group.

Keywords: Yoga, pistol and rifle shooters, agility, flexibility, speed & balance.

INTRODUCTION

Yoga is a spiritual discipline that is based on a very delicate science that focuses on bringing the mind & body into harmony. Yoga derives from Sanskrit word 'Yuj,' which meaning 'to link, yoke, or unite.' Yoga's goal is to achieve Self-realization and to overcome all types of pain. Yoga's key goals will be to promote freedom in all aspects of life, as well as health & peace. Yoga is a discipline that seers have practised since ancient times to develop spine & joint flexibility, keep muscles flexible & youthful, increase artery circulation, & strengthen internal organs. However, yoga is much more than that. Yoga has been shown to help improve mind-body connection, give mental tranquillity and relaxation, boost self-confidence, build self-discipline and self-resolve, decrease stress and anxiety, & increase vitality & energy throughout body. Yoga Nidra & visualisation can assist you in developing a skill or reinforcing a new pattern of behaviour or beliefs. "Purification of memory or reinforcing prior excellence by recalling it repeatedly adds greatly to skill perfection." Meditation and chanting can also help to relieve stress and anxiety, as well as generate the mental serenity and poise required for peak performance.

In research, yoga has been proven to shorten reaction time. It implies that Yoga has an effect on central nervous system and that reducing response time may be accomplished by enhancing cognitive abilities, sensory abilities, and motor skills. The central nervous system advantages of yoga training may be related to greater attention & ability to ignore &/or block extraneous stimuli, resulting in less distractibility. As a consequence, mental fatigue is minimised and the performance quotient improves. As a result, there is an urgent need to examine effects of yogic practises on shooter performance, & purpose of this study is to evaluate impact of a yogic practises programme on performance of rifle or pistol shooters.

Yoga is a science of healthy living that works when it is practised on a regular basis. It has an impact on person's physical, mental, emotional, psychic, & spiritual components. Yoga is derived from Sanskrit word yuj, which meaning "union" or "oneness." Yoga is a spiritual art form that considers the mind, body, & soul of man. To cleanse and strengthen the body, many approaches must be employed. To become a yoga adept, mind must be purified of all impurities, & soul must turn inside. While study cleanses mind, surrender leads soul to God. Yoga asanas (postures) & breathing address physical body, but their impact on brain has an impact on mind as well.

Shooting is regarded as one of the activities that may be pursued by anybody, regardless of age or gender, for recreational or professional purposes. Shooting sports are competitive sports that involve competency tests (accuracy & speed) with various types of weapons such as firearms & air guns.

In 1896, French aristocrat Baron Pierre de Coubertin organized first modern Olympic Games in Athens, Greece, featuring nine sports. Shooting sports are classified according to the type of firearm or target utilized. This fact undoubtedly influenced the introduction of five shooting sports in the 1896 Olympics. Shooting events have been included in every Olympic Games since then. The Olympic Games continue to give the best public relations opportunities for shooting sports. Shooting sports are popular among people all around the world due to its lengthy history and widespread appeal. The activities have been updated several times throughout the years to stay up with technology and societal norms. Competitions are now held in four disciplines: rifle, pistol, shotgun, and running target. Participation has steadily increased over time. In 1896, just four countries competed in shooting sports; in 1992, 83 countries gathered on the firing lines in Barcelona. Shooting has usually drawn the third-largest number of participating nations of any Olympic event.

Shooting in India may be dated back to medieval period, when Indians used to practice game as archery. Firearms were brought to the game around the 16th century, and they were mostly utilized for hunting. Shooting tournaments were conducted as early as the 11th century, albeit the game was deemed regal and was exclusive to the Maharajas of India's princely realms.

Shooting requires a high level of psychological fitness, as well as technical proficiency (Antal and Shankar, 1994). Many research have been conducted to study the physical elements that cause the participant's sway or tremor and how it might be reduced to enhance shooting accuracy. The importance of vision for shooting entails depending less on this signal for balance, resulting in compensating through subconscious postural mechanisms based on proprioceptive & vestibular information, such as decreased sweating and more suitable anticipatory brain activity (Tremayne and Barry, 2001).

To achieve precision when shooting the target, the shooting game demands intense attention. The purpose of this study was to look at pistol shooting and how psychological factors impact the precision with which a target may be shot. Pistol shooting is a static activity that necessitates precise control of body segments & posture in order to align rear sight aperture and foresight via proprioceptive input & gaze fixation on target directly or b/w target and weapon, boosting shot precision (Mononen et al., 2007).

The influence of shooter experience has also been widely examined, mostly for rifle shooting, probably because to its use in army. There is virtually less literature on pistol shooting compared to rifle shooting. We explored pistol shooting and many psychophysiological aspects that influence shooting performance in this study. While earlier research has looked at both psychological and physiological aspects of shooting performance, this is first to look at how Music Therapy (MT) & Meditation (M) affect Heart Rate Variability (HRV) & Salivary Cortisol (SC) in professional shooters.

PRE-COMPETITION STRESS IN SPORTS

The term "stress" is most commonly used to describe an unpleasant emotional state or circumstance characterised by subjective feelings of tension, anxiety, & concern. It is sometimes referred to as pre-competition tension or concern in sports. Millions of individuals participate in competitive sports each year. Many athletes experience anxiety or stress while participating in these activities, which manifests in a variety of ways, including fear of failure, fear of societal consequences, & worry about not living up to expectations; research has shown that different types of stress or anxiety influence enjoyment, performance, interactions with teammates, coaches, and officials, and injury disposition. In addition, research has demonstrated that anxiety has a negative effect on these sports outcomes (Terry and Slade, 1995).

Anyone who has played or watched sports has likely observed individuals who "peak" during competition and others who falter or "choke" under same competitive settings. Because stress may impair athletic performance, study into how athletes cope with sport-related stress has been recognised for its practical as well as theoretical value (Smith et al., 1998). Athletes may be affected by stress in ways other than athletic performance. Some people quit sports because they find fierce competition frustrating rather than fun (Gould et al., 1987). Athletes who find competitive situations unpleasant or anxiety-inducing, according to sports medical practitioners & athletic trainers, are more prone to injury &/or take longer to return to exercise following injury.

Smith and colleagues (1998) created a model of sports performance anxiety. A key component of the athlete's strategy is their cognitive appraisal of demands, resources, ramifications, & personal significance of consequences. A negative evaluation of these attributes may make athlete feel unprepared or ill-equipped to deal with the demands of scenario, as well as fearful of consequences of a bad performance. Athletes feel more worried as a result of these emotions. A lack of attention to crucial aspects of effective competition, such as mental preparation, may leave athlete feeling underprepared, heightening anxiety.

Athletes who compete in sports should prepare to face significant physical and psychological challenges on a regular basis. To attain performance success and satisfaction, athletes must employ not only their technical & tactical ability, but also cognitive & behavioural coping skills (Crocker et al., 1988).

Furthermore, Stephen (2009) proposed that, prior to competing, sport performers encounter more performance-related stressors than those originating from the organisation; these findings highlight the importance of taking into account all of demands faced by athletes when planning & implementing interventions to manage competition stress.

Anxiety before a competition is a common problem for athletes of all levels and sports. Its impact on performance has been studied both in & out of context of sport, including test anxiety research (Liebert and Morris, 1967) and contemporary anxiety studies with athletes (Chamberlain and Hale, 2007; Kais and Raudsepp, 2005; Swain and Jones, 1996). Despite a significant corpus of studies on pre-competition anxiety, we still don't fully grasp its link to performance.

Prior to practise, anxiety, anger, or wrath (related or unrelated to sports activity) may result in sentiments such as "I'm too anxious to practise," leading to the decision to skip practise. Avoidant behaviour is an example of rule-governed behaviour because it is directly governed by cognitive response to emotion of anxiety (a personal rule established by individual) rather than a choice of action consistent with valued goal of improving performance, competing in athletics, & enjoying the process of athletic participation.

Sport is a competitive arena in which talent is publicly tested, critiqued, and judged. Athletes who wish to enjoy and perform in sports must learn to manage the stress and expectations of competition. Basketball (Madden et al., 2004), figure skating (Scanlan et al., 1989), collegiate baseball (Anshel and Marisi, 1978), golf (Cohn, 1990), & wrestling have all been investigated to determine what causes stress (Gould et al., 1988). Athletes have identified several sources of acute stress in team activities, including unpleasant comments from peers, fans, and coaches, causing discomfort or injury, making a physical or mental error, receiving "bad" calls from an official, and adverse reactions from coaches. receiving is included.

Modern life is full with difficulties, deadlines, disappointments, stress, and expectations that have become so routine for many individuals that they have become a way life. Stress does not have to be a bad thing. It may help individuals perform under pressure & inspire them to achieve their best in small doses, but when one is always in emergency mode, the mind & body suffer. If you're constantly stressed and overwhelmed, it's time to take action to restore equilibrium to your nervous system. You may protect yourself by learning to recognise the signs and symptoms of stress and taking efforts to lessen its negative repercussions.

Psychological consistency is commonly viewed as critical for good team sports performance (Ranglin and Morris, 1994). In today's sports environment, there is more tension before and during competition. Anxiety and stress impair sportspeople's focus and performance (Solberg and Berglund, 1996).

YOGA AND PSYCHOLOGICAL DEVELOPMENT

The philosophical approach of yoga psychology is based on samkhya philosophy. The Yoga Sutras of Patanjali, Upanishads, and other ancient scriptures This viewpoint recognizes that we are a meaning-creating species. This philosophical approach allows us to discover hope in the midst of disaster. The simple act of making mentions may transform a horrifying event into an opportunity to learn how to bear uncomfortable emotions. strengthen connections and start connecting with the hour song relationships that surround the challenge in this method is that there may be a mistaken notion that what we do doesn't matter if we just believe the appropriate things

Yoga provides significant psychological advantages to its practitioners. Yoga has an impact on both the body and the psyche. It has an effect on the tissues both locally and centrally. Asanas activate nerves, blood, lymph, endocrine organs, and the neuron plexus by flexing and expanding

the tissues locally. Local compression of specific structures affects the entire body. Pranayama and meditation, on the other hand, appear to begin in the centre and then spread outward.

Yoga is well renowned for its ability to generate relaxation and, as a result, is one of finest antidotes to stress. This is most likely accomplished by neuron endocrine actions. Many studies show that yoga can influence the brain, increasing alpha wave activity in the frontal lobes, indicating relaxation of thought processes, increasing theta wave activity, indicating enhanced creativity, imagery, and insight, and generally synchronising, harmonising, and integrating brain functioning. Some research findings indicate a link between yoga and psychological issues such as anxiety (Swami Sathyananda Saraswathi 1984). Stress-related psychological problems can be efficiently addressed by yoga, according to new research. The study, which was published in *Medical Hypotheses*, discovered that the activity can help those suffering from melancholy, anxiety, heart illness, & high blood pressure.

Yoga promotes physical and psychological health, as well as agility, balance, and stress management in secondary school students. Cognitive ability It also decreases anxiety and depression. It also boosts self-esteem, social skills, happiness, somatic and kinesthetic awareness, and self-actualization. Another common definition of self-confidence emphasises on assertiveness, or the ability to achieve what you want. This is about standing up for oneself, having presence, or personal strength, to see oneself as equal to others and acting accordingly.

STATEMENT OF THE PROBLEM

The study's goal was to determine "impact of Yogic exercises on psychological performance of rifle and pistol shooters".

OBJECTIVES OF THE STUDY

- To learn about the impact of yoga exercise on psychological characteristics in rifle and pistol shooters.
- To probe the Interrelation relation between among yogic Practice on psychological variables of Rifle and Pistol Shooters.

HYPOTHESIS

- It was expected that 15 weeks of yoga practice instruction would boost self-esteem.
- It was expected that 15 weeks of yoga practice would reduce stress.
- It was expected that 15 weeks of yoga practice would reduce depression.
- It was expected that 15 weeks of yoga practice would reduce anxiety.
- It was expected that 15 weeks of yoga practice instruction would result in increased social maturity.

LITERATURE REVIEW

Dr. Ram Kalap Tiwari (2015) investigates effects of Yoga activities on focus & memory of high school students. The study was conducted one month before the high schools graduation ceremony. The stress scale ratings of 200 high schools student (112 high stress students & 88 low stress students) were used to choose the participants. Students were assigned to one of two groups: experimental or control. A pre-test was administered to both groups to examine their

attention and memory focus. For four weeks, experimental groups were given yoga activities that included Pranayama, prayer, and a value orientation programme. Focus, attention, and memory were tested again in experimental & control groups. The findings suggested that experimental group produced and displayed stronger attention and memory concentration. Based on these findings, it has been suggested that Yoga practises & exercises become a regular part of high school curriculum.

Dr. A. Gunalan (2016) investigates the impact of yoga practices and yogic practices mixed with physical workouts on selected psychological variables such as anxiety, anger, & achievement motivation. The investigator chose 60 Kanchipuram schoolboys and put them into three groups: yoga practices, combined physical workouts and yogic practices, and control. The results demonstrated that yogic practices group, combined physical exercises & yogic practices group, & yogic practices group greatly increased the achievement motivation of the school boys. It was determined that yogic practices, in addition to normal physical workouts, can be applied among schoolboys.

Young, Sook, Yook, and Soo-Jin Kang (2017) evaluated the psychological features of teenagers after a physical activity intervention integrating a new sport & mindfulness yoga. With a two-group longitudinal design, the study used a pre- & post-test. The eight-week intervention was voluntary for 46 primary school students (25 males and 21 females; Mage = 10.98, 1SD = 0.39). Before and after the session, self-esteem, resilience, & happiness were measured. A new sport & mindful yoga connected to psychological features are part of the solution. New sports featured kin ball and other sports activities, while mindful yoga programme covered adequate breathing & Hatha yoga 1 and 2. During the 8-week intervention, the experimental group's self-esteem ($F = 3.47, p = .049$), resilience ($F = 9.72, p = .003$), & happiness ($F = 31.61, p = .001$) considerably improved. This study found that when it comes to physical activity promotion planning and implementation, both physical activity and mindfulness yoga have an impact on psychological aspects.

Arun Kumar and M.K. Muchhal (2017) evaluated effect of yoga practises on academic stress & its components, namely academic frustration, academic conflict, academic pressure, & academic anxiety, in secondary school pupils. Three was rejected in favour of finding that yogic practises benefited in the decrease of academic stress from pre-test to post-test level among students in Experimental group as compared to Control group ratio for the mean lowered scores. Entries in Table 2-t-ratation for mean reduced academic stress scores b/w Experimental & Control groups were deemed significant at 0.01 level of confidence ($t=9.905$). As a consequence, H_2 was rejected since Experimental group students who were exposed to yogic practises performed worse academically.

Shyam Sundar Rath, M.D. (2017) The psychological impact of a physical activity intervention combining a new sport & mindfulness yoga For years, people have debated whether yoga is a science, an art, or a philosophy. Many experts believe that it is both an art and a science. Yoga is a remarkable blend of science and art, as well as one of six orthodox schools of Indian philosophy, according to a very thorough investigation supported by strong evidence. The name "yoga" is derived from Sanskrit word "Yuj," which means "unity." This is connection of individual soul with supernatural or global soul. Yoga has been practiced as an Indian philosophy for hundreds of years to connect the individual self with the divine, universal soul, or cosmic awareness.

Malik, Dinkar (2017) The psychological impact of a physical activity intervention combining a new sport & mindfulness yoga. Yoga is India's national heritage. Pranayama (breathing exercises) has been performed for ages in India. There is currently insufficient study to give evidence for the structural and functional changes that may occur in central nervous system as a result of pranayama practice. As a result, it is worthwhile to investigate influence of Anulom Vilom Pranayama on human behavior & health. According to our findings, Pranayama regenerates dead cells, allowing us to gain the ability to heal ourselves. It also relaxes the body and mind deeply, enhances the neurological and respiratory systems, increases attention, and decreases stress, depression, and hypertension. Furthermore, combining Anulom Vilom Pranayama with meditation and a restricted diet may aid in heart control. This research will serve to raise public awareness about the value of yoga training.

Bharat Kumar Kasturi and Guru Deo (2018) seek to look at the psycho-physiological changes that occur in obese college students when they practise forced right nostril breathing & certain yogasanas. 321 female respondents aged 18-25 years old were recruited with informed permission from Priyanka degree college in Hyderabad, Telangana, India for this study. BMI was estimated using established procedures and an algorithm based on height and weight in the pre-post design. For 10 minutes four times a day, the children were taught forced right nostril breathing as well as other yogasanas. The assessments were conducted both before and after the intervention. Six days per week, the intervention consisted of forced right nostril breathing & a few asanas. According to the study, forceful right nostril breathing and particular yogasanas reduce physiological risk factors. These yogic practises are effective in conquering obesity-related difficulties and creating positive psychological changes in obese people.

Vivek Shanu Pawar (2018) investigates the benefits of yoga on anxiety among rifle shooters. The major goal of study was to determine the effects of yoga on anxiety among rifle shooting participants. There were two groups studied: experimental and control. The experimental group consisted of 25 rifle shooters, while the control group consisted of 25 other rifle shooters. Only experimental group received the training program. The individuals varied in age from 14 to 18 years old. Data was gathered through several exams administered to respondents. Athletes' anxiety is assessed with the Sport Competition Anxiety Test (SCAT) According to the study's findings, there were no significant impacts of yoga on health-related physical fitness on Anxiety in either the experimental or control groups.

Charak Singh Ajay et al. (2018) investigate impact of a six-week yoga program on the aggressiveness of state-level air pistol shooters. The goal of this study was to see if a six-week yoga exercises program affected aggressiveness of state level air pistol shooters. Sixty male air pistol shooters aged 14 to 18 years were chosen as the study's subjects, & their pre-test was administered through questionnaire. Then, out of sixty samples, thirty people with a high level of aggressiveness were placed in an experimental group and given six weeks of yoga training, while remaining thirty participants were placed in a control group. Following end of a six-week yoga program, a post-test was administered using same questionnaire. Physical aggressiveness had a computed 't' value of 14.057, Verbal aggression had a value of 7.751, Anger scale had a value of 10.562, Hostility had a value of 8.750, and Indirect aggression had a value of 6.804. At the 0.05 level, all estimated values for corresponding aggressiveness components were determined to be statistically significant (p=0.001). Based on the findings, a six-week yoga practice was successful in reducing the hostility of state level air pistol shooters.

Dr. Franklin Shaju and Jeganathan Arumugam (2019) determine relationship b/w anxiety & core muscle stability in the performance of rifle shooters. Target shooting is a sport that requires both fine muscular control & endurance. Although target shooting does not engage the heart and lungs as much as running, the muscles utilised by a shooter can become as depleted of oxygen as the muscles of a runner, therefore the shooter must be physically fit in all aspects. Anxiety, according to medical definition, is a state characterised by psychological & bodily symptoms caused by concern over a perceived threat. The trunk area, which comprises the abdomen and back extensors, is referred to as the core. A cross-sectional research of 60 rifle shooters was conducted to assess anxiety, core muscle strength, and association with performance score. There is no correlation between anxiety & core muscle stability in rifle shooter performance. There is no association b/w anxiety and core stability in rifle shooter performance, according to findings of this study.

Virginia Lemay et al. (2019) study the influence of a six-week yoga & meditation intervention on college students' stress perception, anxiety levels, & mindfulness abilities. The participants in the study range in age from 19 to 23 years. There were thirteen female participants & four male ones. Nine of students were pursuing a doctorate in pharmacy. while other eight were in different academic programmes. Anxiety and stress levels in students fell dramatically, while overall awareness rose significantly. The changes in categorical data on the BAI and PSS from pre- to post-intervention were considerable, with no kids rating "high" on the post-intervention measure for stress or anxiety

Olsson, E., and M. S. Laaksonen (2021) Examine the major technical components for air pistol shooting and their ability to explain air pistol shooting performance. Using principal component analysis, the five most essential technical components were determined as aiming duration, hold stability, aiming accuracy, rigging cleanliness, and triggering timing. Four of five components (excluding aiming time) were associated with shooting score ($r = .48$ -.74; $p < 0.05$). Aiming accuracy was determined to be the most critical element, followed by trigger time and hold stability, accounting for 75-78 percent of variance in shooting score in two stepwise multiple regression studies. As a result, when performing testing and training, coaches and athletes should keep these considerations in mind.

Vahid Sobhani et al. (2022) investigate the variations in anthropometric, physiological, and psychological factors among female air-pistol shooters based on sport level. In this study, 15 female pistol shooters took part, including seven top Iranian national shooters & eight non-elite shooters. The parameters investigated were classified into 3 types: anthropometric, physiological, & psychological. Elite shooters exhibited higher levels of dynamic balance (Y-test), upper body strength (sit-ups), and intrinsic drive than non-elite shooters, as well as a lower resting heart rate. Anthropometric factors, anxiety, and coping abilities showed no differences. To improve performance, shooters' training regimens should include physiological and psychological activities.

D. Mon-López et al. (2022) investigate the technical aspects influencing handgun performance. One elite-level shooter was analysed in six contests ($n = 360$ shots) during season before the Olympic classification European championship. The SCATT optoelectronic system was used to measure aiming point trajectories. Aiming time, grip stability, aiming accuracy, trigger cleanliness, and shooting delta were the six performance criteria. The data was examined using principal component analysis, multiple regressions, Pearson correlations, & ANOVAs. While aiming accuracy appears to be related to performance, we conclude that most important technical element is cleanliness of triggering; additionally, while stability of hold does not appear to be a

determining factor of score, it may be a general prerequisite for elite-level air pistol shooters to achieve high levels of performance.

Karaduman et al. (2022) investigate the association b/w shooting performance, respiratory muscle strength, & pulmonary function in police cadets, as well as variations in respiratory capacity based on shooting performance categories. 167 police cadets were recruited in a controlled environment to measure their respiratory muscle strength, pulmonary function, & shooting skill. Maximum inspiratory pressure (MIP), maximum expiratory pressure (MEP), forced expiratory volume in one second (FEV₁), forced vital capacity (FVC), slow vital capacity (SVC), and pistol shooting scores were all measured. MIP ($r = 0.33$) and MEP ($r = 0.45$) exhibited a somewhat positive relationship with shooting score. FVC ($r = 0.25$), FEV₁ ($r = 0.26$), SVC ($r = 0.26$) ($p < 0.001$), & MVV ($r = 0.21$) were all marginally related to shooting score ($p < 0.05$). MIP, MEP, FVC, FEV₁, SVC, and MVV differed between shooting performance groups ($p < 0.001$, $p < 0.05$). The findings suggest that outstanding police shooting competence may require robust respiratory muscles and superior pulmonary function.

In recent decades, Ramakant Tripathy and Dr. Brahmananda Nayak's (2022) effect and yogic practises in games and sports have been evaluated. The relevance of the research was that yogic practises and training are thought to be useful in enhancing the athletes' physiological and psychological balances. Yoga has an essential role in treating asthma, diabetes, hypertension, & respiratory issues. Some yoga has both preventative and curative properties. Yoga may help people transform their lives for the better. Yoga can help to address physical imbalances and allow the mind and body to work together more effectively. Yoga asana practise helps to strengthen muscles, ease physical tension, and improve attention and concentration. Yoga helps to strengthen and balance the limbs. Standing postures help with balance and muscular flexibility. After a tough game, yogic practise might help players rest and recharge their energy. It also promotes calm, clear thinking, even in situations requiring speedy responses. Yoga stretches & strengthens all of body's muscles while also calming the mind and spirit.

Lata et al.(2022) explore the effect of meditation, pranayama, & yoga on mental health of female medical students in their first year. The ages (years) ($p = 0.07$), height (cm) ($p = 0.98$), & weight (kg) ($p = 0.26$) of participants were comparable between groups. Anxiety, hopelessness, and rage all dropped significantly in all three intervention groups after six weeks. There was a further decline after twelve weeks of meditation, pranayama, and yoga. The yoga group had the most impact. All forms of therapies increased people's sense of well-being. However, when compared to pranayama and yoga, meditation was determined to have the highest degree of well-being. In compared to pranayama and meditation, a yoga programme is more helpful in improving students' mental health.

RESEARCH METHODOLOGY

The study's goal is to determine the "impact of Yogic exercises on psychological performance of Rifle and Pistol Shooters". To accomplish this goal, 90 shooters ranging in age from 18 to 40 years were used. The chosen participants were be split into two equal groups of 90, one experimental group 45 and one control group 45. The experimental group received yogic practise training in selected asanas and pranayama, as well as meditation. The training time for the current study were randomly divided into two equal groups of 30 shooters each, dubbed the experimental group and the control group for yoga. 15 weeks, 6 days each week, for 90 minutes. The experimental group were receive yoga instruction. Except for their regular physical education

sessions, the control group were barred from participating in any of the training programmes. The variables used for the study are-

INDEPENDENT VARIABLES: selected yoga practices such as Standingasanas, Sitting Asanas, Supine Asanas Praline Asanas, Pranayama, Meditation

DEPENDENT VARIABLES- Psychological Variables (Social Maturity, Self- Confidence, Stress, Anxiety, Depression).

The data were collected from groups on psychological variables to determine the improvement in socio-psychological performance after 15 weeks of yogic practise training. The statistical procedures were used to determine the significant development in psychological performance between the two groups. by doing an analysis of covariance (ANCOVA). The statistical technique was conducted out using the SPSS 21.0 software packages.

DATA ANALYSIS

Table 1 analysis of covariance performance self confidence of rifle and pistol shooters

Variable	Test		Experimental Group	Control group	Sum of the Square	Df	Mean square	F – ratio
Self Confidence	Pretest	Mean	27.63	27.28	3.67	1	3.67	.26
		SD	3.75	3.74	1656.12	89	14.03	
	Posttest	Mean	31.65	29.27	170.41	1	170.41	15.40
		SD	3.08	3.55	1305.38	89	11.06	
	Adjusted post test	Mean	30.46	27.46	132.11	1	132.11	68.28
		SD	2.13	2.46	226.38	88	1.94	

*Indicates significance $\alpha=.05$ Table value =3.92

The experimental and control groups' pre-test mean values for self-confidence are 27.63 and 27.28, respectively. The F ratio equals.26. This demonstrates that there is no statistical difference in self-confidence before beginning yoga practice instruction between the experimental and control groups. It may be concluded that the random selection of subjects for the two groups was successful. The post-test mean self-confidence ratings for the experimental and control groups are 31.65 and 29.27, respectively. 15.40 is the F ratio. The corrected post test mean values for the experimental and control groups are 30.46 and 27.46, respectively. The F ratio stands at 68.28. The study's findings show that computed values are higher than table values in post-test and adjusted post-test. The self-confidence performance after the exam is higher than the self-confidence performance before the test. On self-confidence, there is a substantial difference between the experimental and control groups. Figure 1 depicts the Self-Confidence performance.

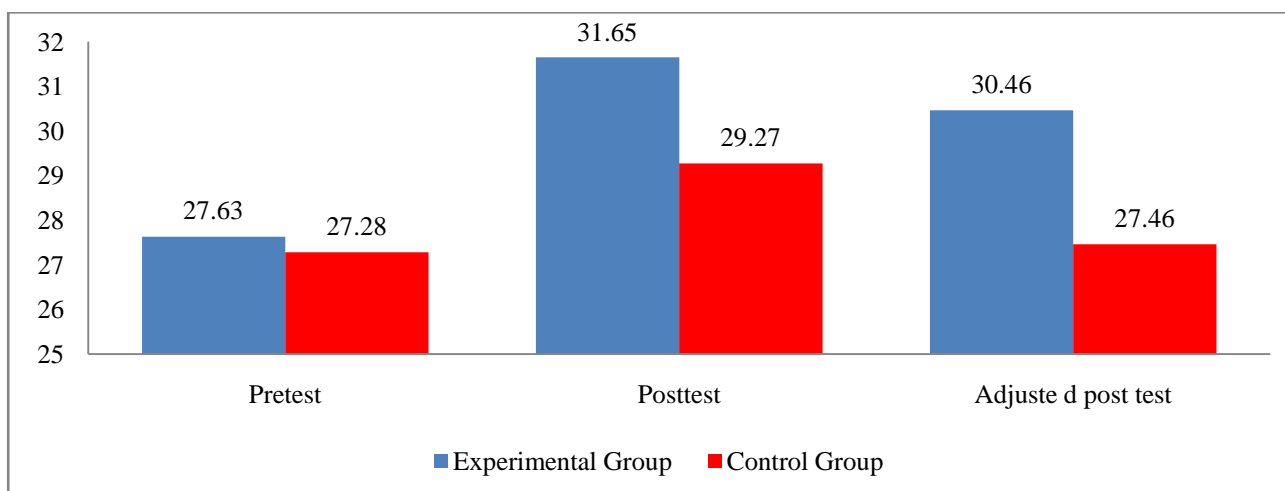


Figure 1 pre test, post test and adjusted post test performance of self confidence

Figure 1 shows that the post test values of the Experimental group and the adjusted post test considerably improved the performance of Self Confidence, and that the post test values of Self Confidence were greater than the pre test values as a result of 15 weeks of yogic Practice training. The control group's pre and post test Self Confidence performance showed no change. The hypothesis was developed on the basis of the reasoning that regular participation in yoga activities and socio-psychological variables Self Confidence, increase in the body and mind to test the hypothesis the 15 week training was imparted and data was collected pre and post session, the 't' test proved significant difference between sample group, thus the null hypothesis was rejected, and alternative hypothesis was accepted.

Table 2 analysis of covariance performance stress of rifle and pistol shooters

Variable	Test		Experimental group	Control group	Sum of The square	Df	Mean square	F – ratio
Stress	Pretest	Mean	57.50	57.08	5.21	1	5.21	.07
		Sd	11.08	4.91	8669.58	89	73.47	
	Posttest	Mean	50.97	40.16	3507.85	1	3507.84	39.72*
		Sd	10.74	7.83	10420.58	89	88.31	
	Adjusted Post test	Mean	57.29	45.56	132.11	1	132.11	68.28*
		Sd	3.26	3.01	226.38	88	1.94	

*Indicates significance $\alpha=.05$ Table value = 3.92

Stress pre-test mean values for the experimental and control groups are 57.50 and 57.08, respectively. The F ratio equals .07. This demonstrates that there is no statistical difference in stress levels between the experimental and control groups prior to the start of yoga practice instruction. It may be concluded that the random selection of subjects for the two groups was successful. The post-test mean stress levels for the experimental and control groups are 50.97 and 40.16, respectively. 39.72 is the F ratio. The corrected post test mean values for the experimental and control groups are 57.29 and 45.56, respectively. The F ratio stands at 68.28. The study's findings show that computed values are higher than table values in post-test and adjusted post-test. The stress performance after the exam is greater than the stress performance before the test. On Stress, there is a substantial difference between the Experimental and Control groups. Figure 2 displays the Stress performance.

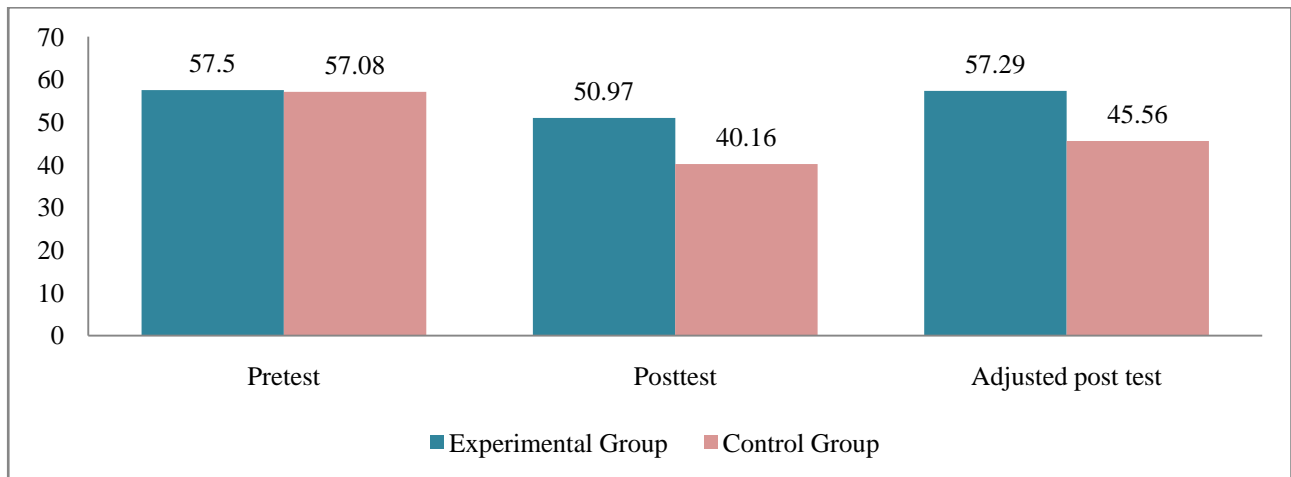


Figure 2 pre test, post test and adjusted post test performance of stress

According to Figure 2, the post test values of the Experimental group and the adjusted post test considerably decreased the performance of Stress, and the post test values of Stress were greater than the pre test values owing to 15 weeks of yoga practice training. The pre- and post-test performance of the control group in Stress showed no change. The hypothesis was formulated on the reasoning that regular involvement in yoga activities and socio-psychological variables stress, decrease in the body and mind to test the hypothesis, the 15 week training was imparted and data was collected pre and post session, the 't' test proved significant difference between sample group, thus the null hypothesis was rejected, and alternative hypothesis as accepted this result

Table 3 analysis of covariance performance depression of rifle and pistol shooters

Variable	Test		Experiment al group	Control group	Sum of The square	Df	Mean square	F – ratio
Depression	Pretest	Mean	42.50	41.60	24.30	1	24.30	.85
		Sd	5.44	5.25	3373.40	89	28.59	
	Posttest	Mean	37.35	32.50	705.67	1	705.67	14.34*
		Sd	6.80	7.22	5806.65	89	49.21	
	Adjusted post test	Mean	34.93	42.05	672.44	1	672.44	13.64*
		Sd	6.24	7.12	5766.18	88	49.28	

*Indicates significance $\alpha=.05$ Table value =3.92

The pre-test mean depression scores for the experimental and control groups are 42.50 and 41.60, respectively. The F ratio equals.85. This demonstrates that there is no statistical difference in depression agility between the experimental and control groups prior to the start of yoga practice instruction. It may be concluded that the random selection of subjects for the two groups was successful. The post-test mean depression levels for the experimental and control groups are 37.35 and 32.50, respectively. 14.34 is the F ratio. The corrected post test mean values for the experimental and control groups are 34.93 and 42.05. 13.64 is the F ratio. The study's findings show that computed values are higher than table values in post-test and adjusted post-test. The Depression performance after the exam is higher than the Depression performance before the test. On Depression, there is a substantial difference between the experimental and control groups. Figure 3 depicts the Depression performance.

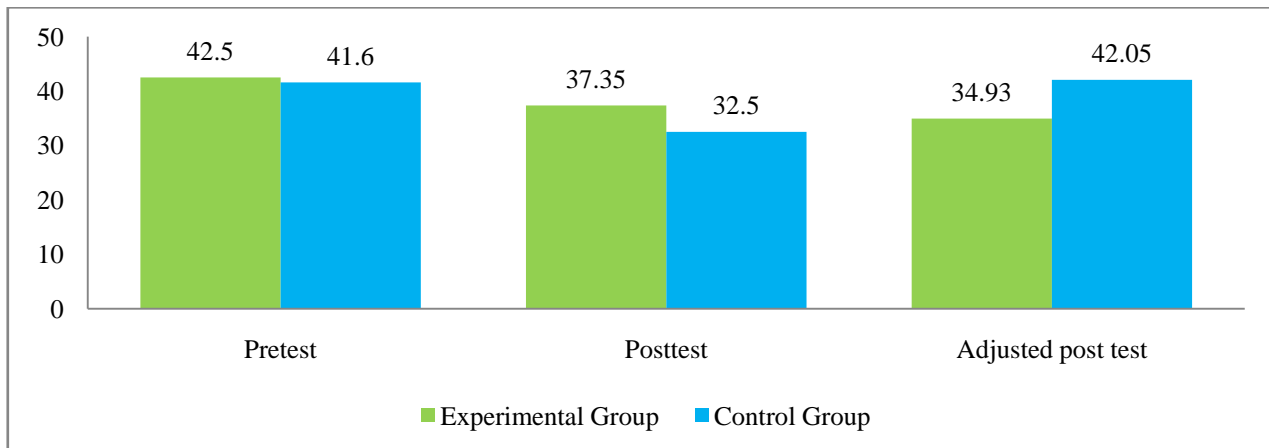


Figure 3 pre test, post test and adjusted post test performance of depression

The above figure 3 shows that the post test values of the Experimental group and the adjusted post test greatly reduced the performance of Depression, and that the post test values of Depression were greater than the pre test values as a result of 15 weeks of yoga practice training. Depression demonstrates no improvement in the control group's before and post test performance. The hypothesis was developed on the basis of the reasoning that regular participation in yoga activities and socio-psychological variables Depression, decrease in the body and mind to test the hypothesis, the 15 week training was imparted and data was collected pre and post session, the 't' test proved significant difference between sample group, thus the null hypothesis was rejected, and alternative hypothesis was accepted this results might be due to effect of yoga Practice training on Depression variables of experimental group.

Table 4 analysis of covariance of performance of anxiety of rifle and pistol shooters

Variable	Test		Experiment al group	Control group	Sum of The square	Df	Mean square	F – ratio
Anxiety	Pretest	Mean	44.58	42.67	110.21	1	110.21	2.57
		SD	5.39	7.53	5063.92	89	42.91	
	Posttest	Mean	40.52	35.20	848.01	1	848.01	8.17
		SD	11.45	8.750	12248.58	89	103.80	
	Adjusted post test	Mean	30.46	27.46	132.11	1	132.11	68.28
		SD	5.23	4.56	226.38	88	1.93	

*Indicates significance, $\alpha=.05$, Table value =3.92

The pre-test mean anxiety scores for the experimental and control groups are 44.58 and 42.67, respectively. The F ratio is 2.57, indicating that there is no statistical difference between the experimental and control groups in terms of anxiety before beginning yoga practice instruction. It may be concluded that the random selection of subjects for the two groups was successful. The post-test mean anxiety scores for the experimental and control groups are 40.52 and 35.20, respectively. The F ratio is 8.17, and the corrected post test means for the experimental and control groups are 30.46 and 27.46, respectively. F ratio is 68.28. The study's findings show that computed values are higher than table values in post-test and adjusted post-test. The Anxiety performance after the exam is higher than the Anxiety performance before the test. On Anxiety, there is a

substantial difference between the Experimental and Control groups. Figure 4 depicts the performance of Anxiety.

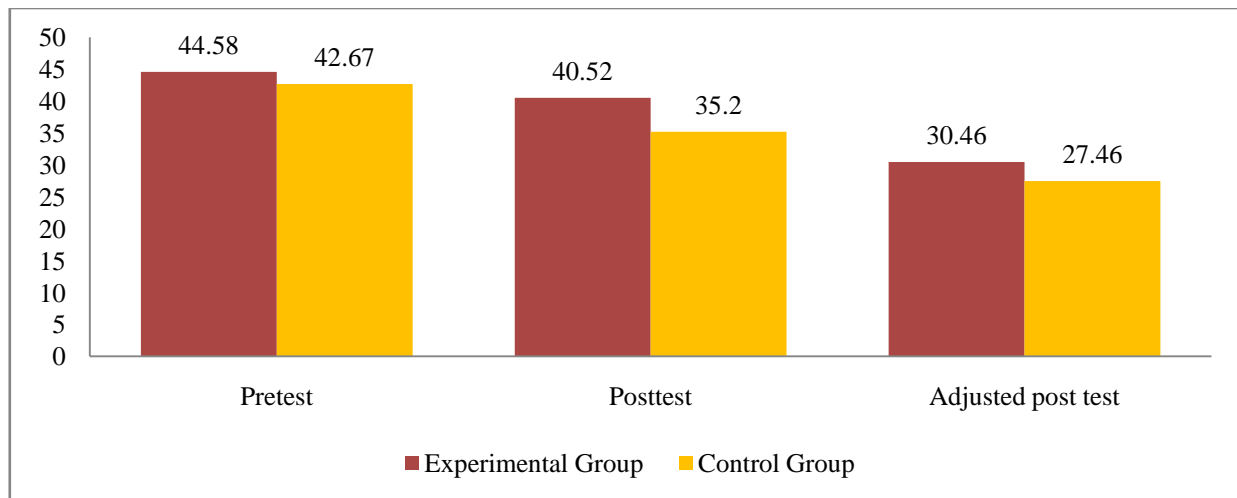


Figure 4 pre test, post test and adjusted post test performance of anxiety

The above figure 4 shows that the post test values of the experimental group and adjusted post test significantly decrease the performance of anxiety, and that the post test values of anxiety were higher than the pre test values due to 15 weeks of yogic Practice training, whereas the pre test and post test performance anxiety of the control group shows no improvement. The hypothesis was developed on the basis of the reasoning that regular participation in yoga activities and socio-psychological variables anxiety, decrease in the body and mind to test the hypothesis the 15 week training was imparted and data was collected pre and post session, the 't' test proved significant difference between sample group, thus the null hypothesis was rejected, and alternative hypothesis was accepted this research.

Table 5 analysis of covariance of performance of social maturity of rifle and pistol shooters

Variable	Test		Experime ntal group	Control group	Sum of The square	Df	Mean square	F –ratio
Social maturity	Pretest	Mean	254.08	246.75	1613.33	1	1613.33	.60
		SD	47.17	55.77	314821.80	89	2667.98	
	Posttest	Mean	309.83	248.42	113160.20	1	113160.00	28.83
		SD	66.21	58.88	463204.90	89	3925.46	
	Adjusted post test	Mean	279.13	250.42	105648.20	1	105648.00	27.99
		SD	57.96	62.45	441587.00	88	3774.24	

*Indicates significance $\alpha=.05$ Table value =3.92

The Experimental and Control groups' pre-test mean values for Social Maturity are 254.08 and 246.75, respectively. The F ratio is .60, indicating that there is no statistical difference between the experimental and control groups in terms of social maturity prior to the start of yoga practice instruction. It may be concluded that the random selection of subjects for the two groups was successful. The experimental and control groups' post-test mean values for Social Maturity Agility are 309.83 and 248.42, respectively. 28.83 is the F ratio. The corrected post test mean values for

the experimental and control groups are 279.13 and 250.42, respectively. 27.99 is the F ratio. The study's findings show that computed values are higher than table values in post-test and adjusted post-test. The Social Maturity performance after the exam is higher than the Social Maturity performance before the test. On Social Maturity, there is a substantial difference between the Experimental and Control groups. Figure 5 depicts the Social Maturity performance.

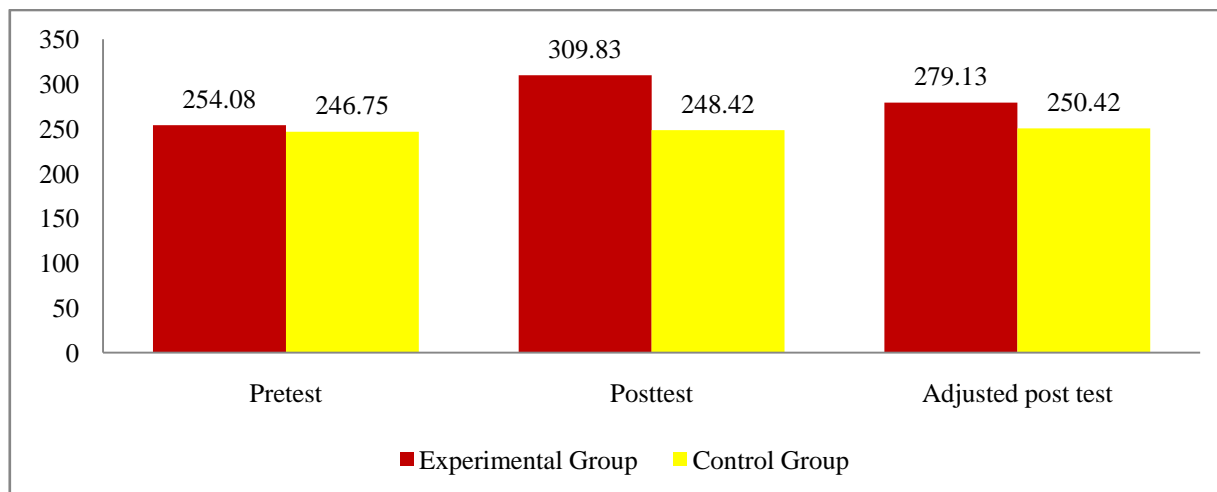


Figure 5 pre test, post test and adjusted post test performance of social maturity

According to Figure 5, the post test values of the Experimental group and the adjusted post test considerably improved the performance of Social Maturity, and the post test values of Social Maturity were higher than the pre test values as a result of 15 weeks of yogic Practice training. The control group's before and post test Social Maturity performance showed no change. The hypothesis was developed on the basis of the reasoning that regular participation in yoga activities and socio-psychological variables Social Maturity, increase in the body and mind to test the hypothesis the 15 week training was imparted and data was collected pre and post session, the 't' test proved significant difference between sample group, thus the null hypothesis was rejected, and alternative hypothesis as a result.

CONCLUSIONS

When compared to the control group, psychological and yogic practices had a favorable influence on growing and developing self-confidence behavior in the experimental group. There is a beneficial effect of 15 weeks of yogic Practice instruction on releasing and managing stress behavior in the yogic Practice experimental group as compared to their counterpart. There is a beneficial effect of 15 weeks of yogic Practice instruction on releasing and managing depressed behavior in the yogic Practice experimental group as compared to their counterpart. When compared to its counterpart, the yoga group experimental group had a beneficial influence on psychological characteristics such as anxiety. When compared to the control group, there is a beneficial effect of yoga practice in cultivating and growing social mature behavior within the experimental group. The research hypothesis stated that 15 weeks of yogic Practice training improves social maturity, self-confidence, stress, anxiety, and depression performance. The statement of the research hypothesis for women agrees with the results, so the hypothesis was accepted.

REFERENCES

1. Antal L. and Shankar R. (1994) Theory and Methodology of Training, Pistol Shooting. *Psychonomic Bulletin & Review*, 14(2), 243-248.
2. Tremayne, P. and Barry, R. J. (2001) Elite pistol shooters: Physiological patterning of best vs. worst shots. *International Journal of Psychophysiology*, 41: 19–29.
3. Mononen K, Konttinen N, Viitasalo J, Era P. (2007) Relationships between postural balance, rifle stability and shooting accuracy among novice rifle shooters. *Scand J Med Sci Sports*, 17:180–5.
4. Terry, P. C. and Slade, A. (1995) Discriminate effectiveness of psychological state measures in predicting performance outcome in karate competition. *Perceptual and Motor Skills*, 81(1): 275-286.
5. Smith. R. E., Smoll, F. L., Weichinan, S. A. (1998) Measurement of trait anxiety in sport. In J. L Duda (Ed.), *Advances in Sport and Exercise Psychology Measurement*, pp.105-128.
6. Crocker, R. R. E, Alderman, R. B., Smith, M. R. (1988) Cognitive-affective stress management training with high performance youth volleyball players: Effects on affect, cognition, and performance. *Journal of Sport and Exercise Psychology*, 10:448-460.
7. Stephen D Mellalieu, Richard Neil, Sheldon Hanton, David Fletcher. (2009) Competition stress in sport performers: Stressors experienced in the competition environment. *J Sports Sci.*, 27(7):729-44.
8. Chamberlain, S. T. and Hale, B. D. (2007) Competitive state anxiety and self-confidence: Intensity and direction as relative predictors of performance on a golf putting task. *Anxiety, Stress, and Coping*, 20(2): 197-207.
9. Kais, K. and Raudsepp, L. (2005) Intensity and direction of competitive state anxiety, selfconfidence and athletic performance. *Kinesiology*, 37: 13-20.
10. Swain, A. and Jones, G. (1996) Explaining performance variance: The relative contribution of intensity and direction dimensions of competitive state anxiety. *Anxiety, Stress, and Coping*, 9: 1-18.
11. Madden, Summers. and Brown. (2004) Coping behavior and susceptibility to choking. *Journal of sports Behavior*, 2: 7-23.
12. Scanlan, Ravizza. and Stein. (1989) An in-depth study of Former Elite Figure Skaters: II. sources of enjoyment. *Journal of Sport & Exercise Psychology* 11(1): 65 - 83.
13. Liebert, R. M. and Morris, L. W. (1967) Cognitive and emotional components of test anxiety. *Psychological Reports*, 20(3): 975-978.
14. Anshel M. H. and Marisi D. Q. (1978) Effect of music and rhythm on physical performance. *The Research Quarterly*, 49(2): 109-113.
15. Cohn, P. J. (1990) An exploratory study on sources of stress and athlete burnout in youth golf. *The Sport Psychologist*, 4(2): 95-106.
16. Gould, Eklund and Jackson. (1988) U.S. Olympic wrestling excellence: I. mental preparation, precompetitive cognition, and affect, *The Sport Psychologist*, 6(4): 358 - 382.
17. Scanlan, Ravizza. and Stein. (1989) An in-depth study of Former Elite Figure Skaters: II. sources of enjoyment. *Journal of Sport & Exercise Psychology* 11(1): 65 - 83.
18. Solberg, E. E. and Berglund, K A. (1996) The effect of meditation on shooting performance. *British Journal of Sports Medicine*, 30(4):342-346.

19. Dr. Ram Kalap Tiwari (2015) "Benefits of Yoga Practices on High school student's memory and concentration in relation to Examination stress", *International Journal of Yoga and Allied Sciences* (ISSN: 2278 – 5159) Volume: 4, Issue: 2; July- Dec 2015.
20. Gunalan. A. (2016). Effect of Yogic Practices and its Combination with Physical Exercises on Achievement Motivation. *International Journal of Recent Research and Applied Studies*, 3, 3(15), pp 61-63.
21. Young, Sook, Yook, Soo-Jin Kang (2017) "Effects of physical activity intervention combining a new sport and mindfulness yoga on psychological characteristics in adolescents", *International Journal of Sport and Exercise Psychology*, Volume - 15, Issue - 2, Pages 109-117, <https://doi.org/10.1080/1612197X.2015.1069878>.
22. Arun Kumar & M.K. Muchhal, (2017) "Effect of Yogic exercise on Academic Stress of Secondary level students", *Yoga Mimansa*, Vol. XLI, No. 2, pp. 32-40.
23. Dr. Shyam Sundar Rath (20017) Diet and nutrition their relations to weight control. *Int J Physiol Nutr Phys Educ* 2017;2(1):93-95.
24. Dinkar Malik (2017) Impact of 6 weeks training of anulom vilom pranayama with meditation by having controlled diet on mental health, blood pressure and blood glucose in healthy volunteers. *International Journal of Yoga, Physiotherapy and Physical Education*, Volume 2, Issue 4, 2017, Pages 14-18.
25. Bharat Kumar Kasturi and Guru Deo (2018) "Efficacy of forced right nostril breathing and selected yogasanas on female obese college students", May 2018 *Journal of Complementary and Integrative Medicine* 15(3), DOI:10.1515/jcim-2017-0070.
1. Vivek Shanu Pawar (2018) "Effects of Yoga on Anxiety on Rifle Shooting Players", *Aayushi International Interdisciplinary Research Journal (AIIRJ)* Vol - V Issue-I JANUARY 2018 ISSN 2349-638x.
26. Charak Singh Ajay et al. (2018) "To study the effect of six week yogic activities program on the aggression of state level air pistol shooters", *International Journal of Physiology, Nutrition and Physical Education* 2018; 3(2): 492-494.
27. Jeganathan Arumugam and Dr. franklin Shaju (2019) "To Determine the Relationship between Anxiety and Core Muscle Stability in Rifle Shooters Performance", VOLUME-6, ISSUE-2, E ISSN 2348 –1269.
28. Virginia Lemay et al. (2019) "Impact of a Yoga and Meditation Intervention on Students' Stress and Anxiety Levels", *Am J Pharm Educ.* 2019 Jun; 83(5): 7001, doi: 10.5688/ajpe7001.
29. Olsson, E. & Laaksonen, M. S. (2021) Key technical components for air 426 pistol shooting performance. *International Journal of Performance Analysis in Sport*, 21(3): 348-360. 428 <https://doi.org/10.1080/24748668.2021.1891820>.
30. Vahid Sobhani et al. (2022) "Anthropometric, Physiological, and Psychological Variables That Determine the Elite Pistol Performance of Women", *Int J Environ Res Public Health.* 2022 Jan 19;19(3):1102. doi: 10.3390/ijerph19031102.
31. Mon-López D, et al. (2022) Optoelectronic analysis of technical factors and performance of elite-level air pistol shooting. *PLoS ONE* 17(1): e0262276. <https://doi.org/10.1371/journal.pone.0262276>.
32. Karaduman et al. (2022) Pistol Shooting Performance Correlates with Respiratory Muscle Strength and Pulmonary Function in Police Cadets. *Sustainability* 2022, 14, 7515. <https://doi.org/10.3390/su14127515>.

33. Ramakant Tripathy and Dr. Brahmananda Nayak (2022) "Impact and effect of yogic practices in game and sports: Review of researches in last decades", *International Journal of Physical Education, Sports and Health*; 9(1): 15-18.
34. Lata et al. (2022) Effect of Practicing Meditation, Pranayama, and Yoga on the Mental Health of Female Undergraduate Medical Students: An Interventional Study. *Cureus* 14(9): e28915. doi:10.7759/cureus.28915.