

**EFFECT OF YOGA ON TEST ANXIETY OF SECONDARY  
SCHOOL STUDENTS**

A Dissertation Submitted to the

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In partial fulfillment of the requirements For the Award of the Degree

Of

Master of Education

By

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## **DECLARATION**

I do hereby declare that the dissertation entitled “Effect of Yoga on Test Anxiety of Secondary School Students” Submitted in partial fulfillment of the requirement for the award of the degree of M.Ed. is entirely my original work and all ideas and references have been duly acknowledged. It does not contain any work that has been submitted for the award of any other degree or diploma of any university.

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## CERTIFICATE

This is to certify that Amandeep Kaur has completed her dissertation entitled “EFFECT OF YOGA ON TEST ANXIETY OF SECONDARY SCHOOL STUDENTS” under my guidance and supervision. To the best of my knowledge, the present work is the result of her original investigation and study. No part of the dissertation has been submitted for any other degree or diploma to any other university. The dissertation is fit for submission for the partial fulfillment of the requirements for the award of M.Ed. degree.

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## **ABSTRACT**

*This study was conducted to investigate effect of yoga on test anxiety of secondary school students. Pre experimental design was used to obtain pertinent and precise information. The study enlists the following objectives 1) To study the level of the test anxiety among secondary school students. 2)To analyze the effect of yoga on test anxiety of secondary school students; the hypotheses of the study were formulated as:- 1)There exists no significant effect of yoga on test anxiety of secondary school students. 2)There exists no significant difference between test anxiety of male and female secondary school students. The investigator adopted the experimental method in the present study and 50 Secondary school students were selected through purposive sampling technique from Gov. Sec. school Garhi mahan singh of Jalandhar district. For collection of data Test Anxiety Scale was administered for selection of groups. The selected students were classified into two groups of 25 students in each group; the experimental and control groups. The yoga asana/training technique ran for 2 weeks. Each week had three sessions (3 sessions) of an (1) hours per session. Within the treatment sessions, the experimental treatment group was trained with the help of yoga asana programme training following the six steps model technique by the investigator to reduce test anxiety among students these are:(i)Suryanamaskar,(ii)Sukhasana,(iii)Padamasana,(iv)Dhanurasana,(v)Matsyasana,(vi)Janushirasana,(vii)Hastpadasana,(viii)Adhomukhasana,(ix)Shavasana,(x)Marjariasana,(xi)Paschimottanasana,(xii)Anulon-Vilon and (xii)Pranayama. While practising the yoga training the participants were appropriately instructed by the trainer. For the purpose of drawing out results investigator used statistical techniques mean, standard deviation, and Paired and independent sample t-test. The result of the study revealed that 25 students (50%) are highly anxious about testing situation and nearly 9 (18%) students feel test anxiety to the moderate level and 16 (32%) students have low anxiety in test situation. There exists significant difference between mean scores of pre-test and post-test group of students on test anxiety with mean of post test scores on the higher end. Therefore, yoga has made significant impact in reducing test anxiety of students. There exists significant difference between mean of pre-test and post-test scores of male and female*

*students on test anxiety with mean of post test scores on the higher end for both genders. Therefore, yoga has made significant impact in reducing test anxiety of both male and female students. There exists no significant difference between test anxiety of male and female students before and after yogic intervention. This means that gender has not made any impact on the test anxiety of students before and after yogic intervention.*

**Keywords: Yoga, Test Anxiety, Secondary school students.**

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# CHAPTER-I

## INTRODUCTION

### 1.1 Theoretical Orientation of the Problem

Student achievement has become a hot topic in education today, especially with increased accountability for classroom teachers. The ultimate goal for of education is to improve the ability level of students and prepare them for adulthood. Student achievement measures the amount of academic content a student learns in a determined amount of time. The factors that influence the achievement of students can be broken down into three categories: schools, family and community, and health. Schools are critical when it comes to a student's educational achievement and opportunities. Because of this, it is understandable that schools also have a role in the achievement gap. There are more school factors that have led to and continue the achievement gap. But these three highlight some of the areas where we can begin to make changes. Under the second category of factor may a good and poor family environment. Can enhance or lowers down the achievement of the students respectively. Support of the family, type of family i.e. joint or nuclear, relation between family members, socio-economic status of the family etc. are the important factor that can influence the performance of the students in one or another way. Further health pattern of the students are important in deciding his achievement in education and life poor physical health, study habits, lack of concentration, frustration, anxiety due to poor health status or any other reason influences students achievement. Out of these factors anxiety is a kind of factor that has the capacity of lowering down the achievement of the most brilliant students even. It may arouse due to any kind of tension or poor health conditions.

The ultimate goal of education is the harmonious and progressive development of the child. It can be achieved only when teachers leave certain characteristics and qualities in them. A scholar may properly be devoted to his special subject, but the teacher must always think of subject matter in relation to its value in life and its use for children. The great teacher is concerned with what the pupil can do with subject and how knowledge affects the learners, and not primarily with the mastery of a subject for its own sake. The teacher begins with the innate capacities of the child, his experience in the home and in the

outside world, his physical, moral, and spiritual potentialities, and work with him to develop a person who can meet the problems of life in an intellectual way. Thus the teacher is potentially the integrator of personalities, the counsellor, and guide to learners, the developers of citizens and servant of the state as guardian of the individual.

Every individual in this world is blessed with some unique capabilities, attitudes, potentialities, and interests and such he reacts differently in different situations. The frequent pressure from outside world over the abilities and various human behaviour aspects causes disturbance in the mind of the individual. Searching for the excellence has become the universal expedition. The people who are not able to cope with these challenges of the time, a state of restlessness is created in them.

The word Anxiety has been taken from the Latin word Anxiety which means experience of varying blends of uncertainty, agitation, and threat. Anxiety is a state of mind in response to some stimulus in the environment which brings in the feelings of apprehension for fear. When the person is exposed to the cause of anxiety the next time, the conditioning effect causes a repeat response and the person will try to avoid the cause. Anxiety is a negative state characterized by body symptoms of physical tension. It is a general term for different disorders that create nervousness, fear, apprehension, and worry. There are different type of anxiety namely panic anxiety in which people suffering have feelings of terror that strike suddenly and repeatedly without any warning symptoms include sweating, chest pain, palpitation and a feeling of choking. Second is social anxiety also known as phobia involves overwhelming on a fear of being judged by others or the behaviour which can lead to social embarrassment. Third specific phobia means intense fear of specific object or situations.

Anxiety is a common term for several illnesses that cause nervousness, fear and worry. These ailments affect how we feel and behave and they can manifest real physical symptoms. Slight anxiety is vague and unsettling, while severe anxiety can be extremely upsetting, having a serious impact on daily life. People experience a general state of worry or fear before opposing something challenging such as a test, examination, or interview. These feelings are easily justified and considered typical. Test-anxious students are characterized by a particularly low response threshold for anxiety in evaluative situations,

tending to view evaluative situations, in general, and test situations, in particular, as personally threatening. As a result, they tend to react with threat perceptions, reduced feelings of self-efficacy, self-derogatory cognitions, anticipatory failure attributions, and more intense emotional reactions and arousal at the very first hint of failure

Definition of an anxiety in human rest on the presence of impairment, of a disruption in normal functioning, or the presence of clinically significant distress. Stress is defined as the experience of perceived threat to one's mental, physical, or spiritual well-being, resulting from a series of physiological responses and adaptations. Fear refers to the specific set of emotions that are elicited in an organism when it confronts danger. Virtually anything can trigger fear.

Anxiety is one of the emotional components of human life. Every task performance to an extent is accomplished by some measures of anxiety. Anxiety is regarded as a common psychological problem among human beings with its physical, emotional, and social manifestations. In the view of Patel cited in Nwimo (2006), anxiety is the sensation of feelings, fear, or nervousness. To Okeke (1990), anxiety refers to a state of being uneasy, tensed, or troubled in mind about some uncertain events. The uncertainty of examinations and test taking situations induces test anxiety in students.

Anxiety is more than just feeling stressed or worried. While stress and anxious feelings are a common response to a situation where we feel under pressure, they usually pass once the stressful situation has passed, or 'stressor' is removed.

Anxiety may be caused by a mental condition, a physical condition, the effects of drugs, or a combination of these. The doctor's initial task is to see if your anxiety is caused by a medical condition. In addition to anxiety, common symptoms of panic disorders are palpitations (feeling your heart beat), dizziness, and shortness of breath. These same symptoms also can be caused by coffee (caffeine), amphetamines ("speed" is the street slang for amphetamines when they are not prescribed by a doctor), an overactive thyroid, abnormal heart rhythms, and other heart abnormalities (such as mitral valve prolapse). Generalized anxiety disorder, Phobic disorders and Stress disorders. Anxiety can be reduced by confidence reviewing personal situation and skill Review your personal situation and skills, seeking help of academic counsellors, developing good study habits and strategies,

managing time (dealing with procrastination, distractions, laziness) or organizing material to be studied and learned, following step by step approach to build a strategy and not get overwhelmed by outside pressures, success/failure consequences, peer pressure, competitiveness, etc.

Education is a process of all round development of child which expresses the capabilities and abilities of child. Education provides the opportunity for growth and development. It is a fact that a nation's progress depends upon its students' academic achievements and development. That's why every nation emphasizes students' academic achievements. But now a day's education is becoming the cause of anxiety among students instead of facilitator of their development. The academic achievements of the students are badly affected due to increase in anxiety in the society. There is no denying to the fact that anxiety has increased in the society it not only affects education but also students' personalities which linger throughout their lives.

Anxiety is not a bad thing. It is true that a high level of anxiety interferes with concentration and memory, which are critical for academic success. Without any anxiety, however, most of us would lack the motivation to study for exams, write papers, or do daily homework especially in classes we find boring. A moderate amount of anxiety actually helps academic performance by creating motivation.

Generally anxiety can be a trait anxiety or a state anxiety. Academic anxiety is a type of state anxiety. Academic anxiety is therefore a situation-specific form of anxiety related to the educational contexts. Academic anxiety encompasses not only test anxiety, but also anxiety about certain education subjects in general. For instance, anxiety has been observed in students taking math, reading, science, and foreign language classes (Cassady,2010).

Today, anxiety is a common phenomenon of every day's life. It plays a crucial role in human life because all of us are the victims of anxiety in different ways. Generally, anxiety can either be a trait anxiety or a state anxiety. Trait anxiety is a stable characteristic or trait of the person. State anxiety is one which is aroused by some temporary condition of the environment such as examination, accident, punishment etc. Academic anxiety is a kind of state anxiety which relates to the impending danger from the environment of the

academic institutions including teachers, certain subjects like Mathematics, English etc. (Rohen Meetei,2012).

Anxiety is a normal reaction to certain situations. A small level of anxiety is normal, but severe anxiety can be a serious problem. Academic anxiety can become more detrimental over time. As a student's academic performance suffers, the anxiety level related to certain academic tasks increases (Huberty,2012). Most teachers will have students with social anxiety and/or academic anxiety. Social anxiety can also affect a student's academic performance. If a student has social anxiety, the student might not be able to complete group tasks or might not feel comfortable asking for help in class. Social anxiety can go along with or even lead to academic anxiety. Teaching students' self-regulation can reduce anxiety and increase academic performance (Ader & Erktin,2010).

To talk about reason of anxiety among students an anxiety condition isn't developed or caused by a single factor but a combination of things. A number of other factors play a role, including personality factors, difficult life experiences and physical health.

Further, reduce test anxiety one can use whatever strategies one can plan to personalize success: visualization, logic, talking to your-self, practice, team work, journaling, etc. Viewing the exam as an opportunity to show how much you've studied and to receive a reward for the studying you've done, allowing plenty of time for oneself especially to do things one needs to do before the test and still get there a little early, avoid thinking about that need to cram just before, strive for a relaxed state of concentration. Avoiding any fellow students who have not prepared, who express negativity, who can distract your preparation. A program of exercises to sharpen the mind, get a good night sleep before the exam, taking fresh food in form of fruits or vegetables before exam, meditation, yoga asana are excellent techniques to overcoming test anxiety.

Anxiety plays a very dominant role in human life. There is always a desire of a student to be on the top in the class, which puts a lot of pressure on the student to cause tension and Anxiety. Anxiety is a way which can be said the most intimate experience to a



man. The word Anxiety has been taken from the Latin word *Anxietas* which means experience of varying blends of uncertainty, agitation and threat.

Anxiety refers to the psychological state that occurs when an individual experiences a sense of impending or threatening danger. According to Freud (1936), there are three sources of Anxiety:-

- External world
- The Id
- The Super Ego

Everyone suffers from anxiety in greater or lesser degree from time to time as a result of specific situations for which anxiety is reasonable response. Anxious children display poorer recall than less anxious children and it is believed that the anxiety creates distracting stimulation that deflects attention from relevant incoming information and therefore impairs memory and intellectual abilities. The degree of anxiety associated with intellectual mastery occurs under two conditions – when expectancy of success or failure is moderate and when motivation is high but expectancy of success is low. In the first instance, the child is maximally uncertain about how he will perform on a test and the uncertainty generates anxiety. The child would be much less anxious if he knew definitely he would pass or fail. In the second instance, the child values competence on a particular intellectual task but expects to fail. When there is discrepancy between a valued goal and the expectancy of obtaining that goal anxiety is likely to be generated.

### **TEST ANXIETY**

Test anxiety, sometimes referred to as examination anxiety, It is defined as an unpleasant state characterized by feelings of tension and apprehension, worrisome thoughts and the activation of the autonomic nervous system when the individual faces evaluative achievement-demanding situations (Ergene, 2003). Test anxiety manifests in a variety of forms. Some people exhibit physiological symptoms, such as nausea, dry mouth, sweaty palms, increased heart rate, and shallow/rapid breathing (Lowe et al, 2008), others suffer more from cognitive symptoms including (but not limited to) feelings of helplessness, fear, worry, racing thoughts, and negative self-talk (Supon, 2004). Sometimes students may

score low on a test, not because they do not know the material, rather due to the symptoms of their test anxiety. According to the American Test Anxiety Association (2010), the prevalence of severe test anxiety is evident in approximately 16-20% of high school students. These students suffer from lower test performance, as well as struggle with understanding instructions and other performance anxieties (ATAA, 2010).

Test anxiety may carry some effects that last longer than the test-situation itself. Test anxiety may account for students receiving lower test scores (Hancock, 2001 & Zeidner, (2008). As a result of these lowered scores, student self-esteem may be negatively impacted by internal feelings of shame and incompetence (Rothman, 2004).

With the increased importance of high-stakes testing, it is imperative to investigate methods of easing feelings of test anxiety.

Much of the research investigating test anxiety was conducted between the years 1965 and 1990. Although this research may still be valid, some of the information may be suspect due to the lapse in time. Contemporary research on test anxiety is primarily in the form of theses and dissertations with college students as participants.

Behavioural and cognitive treatments help alleviate symptoms of test anxiety (Ergene, 2003). Having strategies to combat the deleterious effects of test anxiety may not only raise student test scores, but also combat the negative cognitions associated with anxiety provoking testing situations. Training students who suffer from test anxiety to recognize and alleviate their symptoms may increase test scores and decrease the negative side-effects of test anxiety.

When researching the topic of test anxiety, school psychologists must also consider theories of general anxiety due to the relation between theories of general anxiety and test anxiety. Test anxiety is a specific category of anxiety observed in evaluative situations (Friedman & Bendas-Jacob, 1997). In fact, Weems et.al. (2010) found a link between people who suffered from generalized anxiety and those who showed symptoms of test anxiety. The results of this study indicated that students who suffer test anxiety were more likely to suffer from symptoms of other anxiety disorders (e.g. Generalized Anxiety Disorder, Social Phobia, Panic Disorder, and Separation Anxiety) than the non-test anxious group.

Spielberger (1972) distinguished between two different forms of general anxiety: trait and state. The trait-state theory of anxiety is continued to be supported by contemporary researchers (Ergene, 2003; Sena, Lowe, & Lee, 2007; Zeidner, 2008). Trait theory maintains that anxiety is a trait, or a predisposition a person holds for heightened feelings of anxiety. The trait aspect of anxiety could be thought of as a personality characteristic. State anxiety is brought about by a specific event or antecedent that triggers particular anxious behaviours in a person.

Similarly, there are two different types of test anxiety, state test anxiety and trait test anxiety. State test anxiety is anxiety people feel during the test (the test being the antecedent), whereas trait test anxiety is the person's predisposition to the symptoms of test anxiety (Elliot & McGregor, 1999). Factors that determine the severity of reaction are variable in each person and are measured by frequency, duration, and intensity (Elliot & McGregor, 1999). Trait theory suggests that one person may have the predisposition for intense feelings of test anxiety (the trait), whereas another person may have learned to react to tests with anxiety and proceeding a test, he or she will have the state of having anxious feelings.

The symptoms of test anxiety may interfere with the student's ability to recall previously learned material (Hembree, 1988). This is also referred to as cognitive obstruction (Swanson & Howell, 1996). Swanson and Howell (1996) suggested that students learn material when it is originally presented, but when tested on that material, symptoms of test anxiety may hinder their ability to recall the information. People have different reactions to test anxiety. Mild anxiety may result in higher scores while extreme test anxiety is likely to lower score (Swanson & Howell, 1996).

Another theory of test anxiety pertains to test-takers' comfort with their knowledge of the material under evaluation (Hembree, 1988). If a person is not comfortable with his knowledge of the material, then he may start to exhibit the symptoms of test anxiety. These anxious feelings are derived from students' worries of being unprepared or that he will not do well on the test. This theory suggests that test anxiety may be a learned behaviour, as opposed to trait behaviour. In this scenario, a student has learned by prior experiences that if he has not prepared adequately for an exam, then a low test score will be attained. This

raises the student's level of anxiety, thereby enhancing feelings of test-related anxiety.

Current theories suggest a social component to test anxiety. Within the social component of test anxiety, many of the symptoms may be triggered by the environment. For instance, research in the field indicates that feelings of social humiliation may intensify a general feeling of test anxiety (Lowe et al, 2008). Fear of social derogation may be a cause for test anxiety. Students may feel that they will be bullied or ridiculed by other students or their teacher for lowered scores. Certain cultural expectations, such as negative attributions to failure and the importance of success in education often lead to higher levels of test anxiety (Stankov, 2010).

Another component of the social aspect of test anxiety is the family. Achievement-oriented families may influence a student's level of test anxiety. Some students may feel test anxiety due to parental pressure to achieve. Consider family-oriented cultures such as those found in Asia, the social component of test anxiety pertains to the family structure and feelings stemming from students not wanting to shame their families (Bodas & Ollendick, 2005).

Although test anxiety is typically thought of as harmful, research suggests that some students thrive under this anxiety (Martin & Marsh, 2003). These students use their anxiety as a mechanism to promote goals and achievement, rather than become debilitated by the stress. Martin and Marsh (2003) point out that although these students use this anxiety to their advantage, they can be pushed too far, potentially leading to emotional and academic turmoil.

During meta-analysis of 562 studies on test anxiety, Hembree (1988) found many trends in the data. Although this research was conducted over 20 years ago, this study is one of the highly quoted studies in the field of test anxiety research, and there has not been another meta-analysis of test anxiety of this magnitude since. In his study, Hembree found the number of average-ability students with test anxiety was higher, when compared to students considered to have above- or below-average academic ability. Gender analysis indicates females have shown higher levels of test anxiety than males. Another interesting trend from this study is that test anxiety increased through primary school, levelling off in the fifth grade. This rate remained constant for high school, and then dropped again in

college. Another trend is that many students show more symptoms of test anxiety when they feel they are in a highly evaluative environment (Hancock, 2001). These feelings of evaluation may be influenced by the teacher as well as other students.

The term test anxiety encompasses many symptoms, both cognitive and physiological. Leibert and Morris (1967) suggest symptoms of test anxiety can be separated into two major categories; emotionality and worry. A more modern approach refers to emotionality as physiological hyper-arousal (Joiner et al, 1999).

As the name suggests, the “worry” category pertains to cognitive feelings of dread or apprehension over the test and the students’ feelings of how well they perform on tests (Leibert & Morris, 1967). Preoccupations with failure and a general lack of confidence in one’s own ability also fall into this category (Onyeizugbo, 2010; Zeidner, 1998).

Feelings of worry have been negatively correlated with test scores (Morris & Liebert, 1970). Another cognitive aspect of test anxiety is a fear of failure. This is an overwhelming fear a person holds about failing a class or test. These feelings of worry and anxiety can lead to cognitive obstruction, which may lower test scores (Swanson & Howell, 1996).

Physiological hyper-arousal pertains to the body’s reaction to heightened anxiety, as a result of a triggering of the sympathetic nervous system. The sympathetic nervous system governs the fight-or-flight response during which the body prepares for danger (either by fighting or running away). In the case of test anxiety, the sympathetic nervous system is triggered by the perceived threat of the test. The typical physical symptoms of test anxiety are sweaty palms, increased heart rate, and shallow/rapid breathing (Lowe et al, 2008). In some cases, effects such as increased heart rate are present despite a lack of self-reported anxious feelings (Zaripov & Barinova, 2006).

During physiological hyper-arousal, the body also produces an excess of certain hormones. Heightened production of the hormone cortisol has been linked to children who suffer from anxiety disorders (Kallen et al., 2008). Heightened cortisol levels have also been linked to test anxiety in college students (Conneely & Hughes, 2010). In an earlier study, researchers found on days during which there was a test, second grade children were found to have heightened levels of cortisol (Tennes & Kreye, 1985). Sometimes referred to as the

stress hormone, cortisol is a steroid produced in the body when the sympathetic nervous system is triggered by a stressful event. Cortisol is released by the adrenal gland during periods of stress to modulate blood pressure and glucose levels (preparing the body for a stressor). During times of perceived stress, it is common to find a person's cortisol level heightened.

There are many barriers to overcome when a student struggles with test anxiety. Not only do the physiological symptoms (e.g. physiological hyper-arousal) need to be addressed, but also the psychological symptoms (e.g. worry). There are many interventions to help alleviate these detrimental symptoms.

Many schools are moving toward more of a Response to Intervention (RTI) three-tiered approach to academic and behavioural interventions. In this model, interventions are incorporated for students based on the need of the individual student. Interventions can be provided universally or whole class (tier-1), in small group or more intensive (tier-2) or individually or quite intense (tier-3). In the RTI model, students are grouped into tiers based on their need. Just as in any other behavioural intervention, test anxiety interventions can be used in the three-tiered model, in which the student's needed intensity dictates which level of test anxiety intervention is necessary. Teaching professionals and other staff should have test anxiety interventions at their disposal.

There are many effective interventions to help alleviate the symptoms of test anxiety depending on theoretical orientation. The major theoretical categories of interventions previously investigated have been behavioural, cognitive, skill-focused (study skills training), and combinations of these (Neuderth, Jabs, & Schmidtke, 2009). The most widely-used interventions come from behavioural methods, including systematic desensitization, modelling, hypnosis, anxiety management training, and relaxation therapy (Ergene, 2003), as well as cognitive behavioural strategies such as positive self-talk, and breaking down the test into smaller components (Dundas, Wormnes, & Hauge, 2009). These techniques range from relatively un-invasive (e.g., relaxation training) to invasive (e.g., hypnosis).

When working with children and adolescents, one key theme is that the intervention should be as minimally invasive as possible, based on the circumstances of each child.

Although some students need significant interventions to cope with their test anxiety, a majority of students may need a less intense intervention. Some of the less invasive interventions may be given at the class-wide level (tier-1), as well as in a small group (tier-2) or individual (tier-3) setting.

An area of test anxiety intervention that is minimally invasive is relaxation therapy. Relaxation treatments have been found to be moderately effective in reducing test anxiety in students (Ergene, 2003 & Ghiellini, 2009). These interventions train students to replace their anxious behaviours with relaxation techniques in order to assuage their symptoms of anxiety. Interventions that fall into this category include: guided meditation; deep breathing exercises tailored to lessen symptoms of anxiety; muscle relaxation, during which students tense and relax their muscles; and visualization, during which students are guided through visualizing and imagining peaceful scenes (Ergene, 2003; Johnson et al. 2009). Another potential intervention that falls into this category is yoga.

## **YOGA**

Yoga is part of an Indian religion dating back thousands of years. Yoga stems from the Hindu sacred texts, the Vedas. The word yoga can be translated to mean many things, including “union” or “to yoke,” referring to the act of harnessing attention (Feuerstein, 2001). The main focus of traditional yoga is to gain insight into oneself and the world.

There are many disciplines of yoga. In America, yoga is commonly thought of as a form of exercise and flexibility training. According to a 2002 survey, 1% of the US population had used yoga in the 12 months prior to the survey (Birdee et al., 2008). This survey also revealed that the mean age of yoga users was 39, and they were more likely to be Caucasian females. The school of yoga many Americans are familiar with is hatha yoga. This is the more active, physical form of yoga, dealing more with the body and posing. In traditional hatha yoga whole body events are the major focus, during which the yogi is perfecting his or her own body, while still internally striving for enlightenment (Feuerstein, 2001). In the West, we look at yoga as a form of exercise, to strengthen our bodies. This does not mean all American yoga classes have discounted the spiritual aspect, rather the focus of many yoga classes remains in the proper poses and breathing methods.

Recently more people have been exposed to yoga due to video games. A current trend in games has brought different forms of exercise into the video gaming world. One of the most popular of these exercise games is Wii Fit Plus, published by Nintendo. This game incorporates motion sensitive equipment to track the player's progress through multiple fitness-related scenarios. Yoga is one of the core components of this game. During these yoga sessions, the player is guided through different poses by a virtual trainer, who gives the player feedback on the accuracy of his/her posing. During yoga sessions the player stands on a weight-sensitive balance board that tracks his/her movements and weight distribution. Preliminary studies have found that the Wii balance board system is not as accurate as professional equipment used to measure balance and motor abilities, but is useful for general screening purposes (Geronimi, Pouydebat, & Gorce, 2009; Gras, Hummer, & Hine, 2009).

Posing is one of the hallmarks of contemporary American yoga. The different poses, or asana, are designed to strengthen different muscles as well as foster flexibility in those areas. In traditional yoga, people can master asana when they can maintain the pose with no mental effort, meaning the body is working without any effort from the mind, allowing the mind to concentrate on meditation (Coward, 2002).

Accompanying the poses is the breathing method, or pranayama. This is a form of trained breathing meant to open the lungs, relax the body, and clear the mind. The pranayama can be engaged alone, or in conjunction with the asana. There are many forms of pranayama, each with different focuses, similar to the asana.

The focus of hatha yoga is to manipulate the body in order to gain strength, control, and an understanding of the body. Over the years many studies have investigated the potential benefits of yoga practice such as better sleep quality (Vera et al., 2009), improvement in depression and anxiety (Gavin & McBrearty, 2006; Javnbakht, & Ghasemi, 2009; Pilkington, & Richardson, 2005) and even reduce the ravages of cancer (Banerjee et al., 2007). Since yoga is both a mental and physical discipline, research has been conducted into both physiological and psychological aspects of this practice.

Studies have recorded differing physical benefits for those who practised yoga (Gavin & McBrearty, 2006). Yoga is used as a form of exercise, or as a relaxation technique



and their study complementary and alternative medicines. Long, Huntley, and Ernst (2001) found doctors had suggested yoga therapy in cases of headache/migraine, back pain, insomnia, cardiovascular problems, menstrual/premenstrual tension, arthritis/rheumatism, multiple sclerosis, and anxiety/stress. In a survey of American yoga users, many used yoga practice to treat a health condition, the most prevalent being musculoskeletal conditions, mental health conditions, and asthma (Birdee et al., 2008).

A study of pranayama suggests a neuropsychological model may modulate certain aspects of the parasympathetic nervous system (Brown & Gerbarg, 2005 & Gerbarg, 2009). This theory postulates the notion that pranayama may actually train the parasympathetic nervous system when and how to respond. Other research indicates oxygen consumption and breathing patterns may differ with each form of yoga practice (Telles, Reddy, & Nagendra, 2000).

Many studies support yoga's benefits beyond introspection and meditation. Engagement in yoga has been shown to reduce feelings of stress and anxiety in cancer patients during radiation treatments, and even reduced the amount of DNA damage in these patients (Banerjee et al. 2007). Vera and colleagues (2009) found people who practice yoga on a regular basis have higher subjective sleep quality, based on a standardized sleep assessment, than people who do not practice yoga.

Engagement in yoga has also been shown to improve mental disorders, such as depression and anxiety (Gavin & McBrearty, 2006; Javnbakht, 2009; Pilkington, & Richardson, 2005). In their 2007 study, Streeter and colleagues, found a positive correlation between asana yoga practice and gamma-Aminobutyric acid (GABA) levels in the brain. GABA levels play a role in depression, anxiety, and epilepsy. By raising GABA levels in the brain, this study found the effects of disorders involving low levels of GABA were diminished. Another chemical linked with stress and anxiety is cortisol. Cortisol is a stress hormone secreted when the sympathetic nervous system is activated. Hatha yoga sessions have been shown to lower the secretion of cortisol, as well as perceived feelings of stress over time (West, Otte, Geher, Johnson, & Mohr, 2004).

Much of the evidence supporting the use of yoga interventions for mental disorders is in the initial stage, partially because yoga is categorized as an alternative treatment. This

label sometimes attaches a stigma to the treatment. Much evidence supports the use of yoga to alleviate some of the symptoms associated with anxiety disorders, but many people still do not consider yoga to be a justifiable intervention. Since it is considered an alternative treatment, some people do not view it as a viable option for treatment or as a supplement to their current treatment regime. Although yoga started as a form of religion, many Americans do not follow yoga as a religion. Instead they consider it a way to hone the body and mind, or a way to relax and rejuvenate.

Relaxation training has been shown to be an effective intervention for test anxiety (Ergene, 2003; Johnson, 2009; Neurderth, Jabs, & Schmidtke, 2008). Because yoga can be used as a way to clear the mind and relax the body, the use of a yoga intervention for the treatment of test anxiety is a logical alternative. Research already supports the use of yoga therapy for the treatment of anxiety disorders (Banerjee et al. 2007; Javnbakht, & Ghasemi, 2009; Pilkington, & Richardson, 2005). Since test anxiety is a sub-category of anxiety, yoga-based interventions for anxiety should be investigated for their efficacy.

Much of the yoga research focuses on steady participation in yoga, typically between one month and one year. Many people engage in a yoga regimen multiple times a week, with some people engaging in yoga daily. There is poverty of research on brief yoga interventions, as well as a lack of examination of the reasoning behind the lack of research in brief yoga interventions. This gap in the research may call for more research into the efficacy of short-term yoga interventions.

Since there is a lack of research into the effects of yoga on test anxiety, further evidence is needed to support the use of yoga as a viable intervention for test anxiety. The benefits of a brief yoga intervention may reduce the worry and physiological hyper-arousal brought on by test taking or evaluative events. The present study investigates the impact of a brief yoga intervention on student's feelings of test anxiety.

## **Review of Literature**

Jensen et al (2004) examined effect of yoga on ADHD. The results of study indicated that yoga as intervention improved the student attention.

Peck (2005) investigated the effectiveness of yoga among elementary school student. The study indicated that classroom teaching was started before relaxation exercise for 30 minutes.

Javnbakht et al (2009) evaluated the influence of yoga in relieving symptoms of depression and anxiety. The results indicated that prevalence of depression and anxiety decreased by yoga intervention. Women who participated in yoga classes showed a significant decrease in state anxiety ( $p=0.03$ ) and trait anxiety ( $p<0.001$ ).

Cruchon (2009) investigated the benefit of yoga on twenty students. In his studies suggested that integrated the school curriculum. The studies revealed that reduce the anxiety level in the children.

Rezazadeh and Tavakoli (2009) through their research, tried to find out the relationship between gender, academic achievement, years of study and levels of test anxiety. Simple random sampling method was applied to select 110 undergraduate students from the University of Isfahan, Iran. Results of the study revealed that there exists a significant difference in the test anxiety of students. The study also reported that female students have a higher level of test anxiety in comparison to male students.

Mohamadi et al. (2009) researched on test anxiety and its relationship to test score and self-actualization of academic English as a foreign language (EFL). It took into account 100 graduate students from the University of Tehran, Iran. Findings of the study revealed that there exists negative relationship between test anxiety and self-actualization. The study also reported that neither female nor male students tend to higher level of test anxiety.

Rich (2010) investigated yoga therapy integrated with school curriculum to develop the attention spans. Yoga therapy is increased the attention span of elementary school student.

Khalsa et al (2012) evaluated the yoga programme to improve the mental health among secondary school students. The study revealed that yoga participants showed statistically significant differences over time relative to controls on measures of anger control and fatigue/inertia.

White (2012) investigated on reducing stress in primary school girls through yoga. The study showed that self-regulation and self-esteem increased through yoga.

Büssing et al (2012) analysed the review effect of yoga on physical health and mental health. The study suggested that yoga associated with additional positive side effect. That was lined with cost-effective, may be practiced at least in part as a self-care behavioral treatment, provides a life-long behavioural skill, and enhances self-efficacy and self-confidence. Yoga helps us to live better quality of life. Yoga may well be effective as a supportive adjunct to mitigate some medical conditions, but not yet a proven stand-alone, curative treatment.

Sridevi (2012) through her research, tried to find out the relationship between general anxiety, test anxiety and academic achievement of higher secondary students. Simple random sampling method was applied to select 180 secondary school students from Idukki district of Kerala state. Results of the study revealed that there exists a significant difference in the test anxiety and general anxiety of students. The study also reported that rural students are more anxious than urban students in both general and test anxiety. Private aided schools student achieved better than the students of other type of schools.

Steiner (2013) investigated that school children face the problem emotional and behaviour disorder. In his study was provided intervention as yoga. The study showed that children reduced emotional and behaviour disorder problem due to classroom teaching after relaxations training, breathing techniques.

Xiao (2013) conducted a study on academic stress, test anxiety and performance among high school students. Simple random technique was applied to select 450 students from different schools of China. Findings of the study revealed that there exists a positive relationship between the test anxiety and academic stress. However, academic stress is negatively related to academic test performance.

Attri and Neelam (2013) conducted a study on academic anxiety and academic achievement among secondary school students. It took into account 200 students from Mandi district of Himachal Pradesh by using random sampling technique. Findings of the study revealed that there exists a significant difference in the mean scores of academic

anxiety of male and female secondary school students. The study also reported that girls are more academically anxious than boys.

Mohammad (2013) investigated into a study on academic anxiety among private senior secondary school students. It took into account 100 students from Kangra district of Himachal Pradesh by using lottery method of random sampling technique. Findings of the study revealed that there exists a significant difference in the mean scores of academic anxiety of private senior secondary school students. The study also reported that girls are more anxious than boys.

Das et. al. (2014) researched on academic anxiety and academic achievement among secondary level school students. Simple random technique was applied to select 237 students of Malda district of West Bengal. Findings of the study state that there exists a significant difference in the academic anxiety scores of boys and girls. The study also reported that girls are more academically anxious than boys in the field of academics.

Siddiqui and Rehman (2014) conducted a study on academic anxiety among secondary school students in relation to socio economic status, gender and school type. It took into account 222 students of government and private schools from Aligarh city of Uttar Pradesh. Findings of the study reported that there exists a significant difference between private and government school students with regard to their academic anxiety. The study also reported that government school students are more anxious academically than private school students which positively contribute towards better academic performance.

Bihari (2014) investigated into the academic anxiety among secondary school students with respect to gender, habitat and school types. It took into account 114 students from North East Delhi by using simple random technique. Findings of the study reported that there exists no significant difference between the mean scores of boys and girls and rural and urban students of secondary schools with regard to their academic anxiety. The study reported that there exists a significant difference between the mean scores of private and government secondary school students with regard to their academic anxiety. Result

of the study revealed that government school students are more anxious than private school students.

Banga (2015) conducted a study on academic anxiety among private senior secondary school students. It took into account 100 students from Kangra district of Himachal Pradesh by using lottery method of random sampling technique. Findings of the study revealed that there exists a significant difference in the mean scores of academic anxiety of private senior secondary school students. The study also reported that girls are more anxious than boys.

Mahajan (2015) examined on academic anxiety among secondary school students in relation to their parental encouragement. It took into account 120 students from Nurpur Tehsil of Punjab. Findings of the study revealed that gender is not a determining factor in deciding the academic anxiety of students whereas the type of school considerably influences students' anxiety.

Butzer (2015) examined a pilot study the effect of classroom based yoga on cortisol concentrations in children. The results indicated that the effect of intervention on students' cognitive, social, emotional skills. In his study suggested that yoga may be supported stress management and stress behaviour.

Velásquez (2015) examined the yoga program implement in elementary school. Yoga program was implemented in low socio-economic status school. The study showed that paired comparisons of pre-test and post-test scores for anxiety showed that there was a statistically significant decrease in anxiety ( $F(1, 123)=3.87; p < .05$ ), while no significant change in this variable was observed for the control group. Yoga programme reduced the children's anxiety problem. Yoga used as prevent of anxiety, aggression, and depression among elementary school student.

Wand and Hagins (2016) examined the yoga intervention program for urban primary and secondary school. Results indicated that students perceived the benefits of yoga as increased self-regulation, mindfulness, self-esteem, physical conditioning, academic performance, and stress reduction.

Werner-Seidler (2017) analysed the literature review. School-based prevention programs have small effects on depression and anxiety. The significant prevention effect was detected at 6 and 12 month follow up. School-based prevention programs have potential to reduce mental health burden and depression, anxiety.

Chin et al (2017) investigated Test anxiety mediated the influence of negative affect on exam performance.

Leatham (2017) evaluated the impact of anxiety reduction on academic engagement of primary school. All participating students showed high anxiety levels that appeared to be impacting performance on at least one academic task in the classroom. The result of study indicated that classroom intervention program can reduce anxiety and increase academic engagement among primary school.

## **1.2 SIGNIFICANCE OF THE STUDY**

Anxiety among adolescents is very common and natural. Be it about self, career, examination or any other issue, the youths undergo feelings of anxiety at some phase of their lives. Anxiety is associated with substantial negative effect on children's social, emotional, and educational success. Its specific effect includes poor social and coping skills often leading to avoidance of social interaction, loneliness, low self-esteem, perception of social rejection, difficulty in forming friendship and lower achievement (Hudson and Rapee, 2006). Anxiety is considered as a block to an activity. A person who suffers from anxiety may not be able to devote his full energy in the performance of a task. It is, therefore, considered that anxiety interferes with the activity and so learning is impeded. This notion is, however, based on an erroneous understanding of the role of anxiety. In fact, anxiety might deter learning or might also stimulate it. Anxiety is strongly linked with emotional depression. Test anxiety can cause students to rush through tests, so they end up doing poorly on them. It can also cause achievement stress that will continue to follow them on their academic path (Cheek, Bradley, Reynolds, & Coy, 2002). Anxiety can have negative effects on all students. Students with anxiety problems tend to show lower levels of achievement. Anxiety reduction requires the work of students, teachers, and parents. Anxiety has been linked to poor examination performance. High levels of anxiety can

negatively affect working memory (Owens, Stevenson, Hadwin, & Norgate, 2012). Anxiety is also associated with high levels of worry that can affect examination performance. Teachers and parents can learn to recognize the signs of anxiety in students. If teachers and parents help students learn to control anxiety early on, more serious academic problems related to anxiety can be avoided. So, main purpose of this study will be to examine the effect of yoga exercise on test anxiety among secondary school students. So, in this respect the present investigator open a new dimension in the literature of Introduction of yoga in schools, schools are not feeling its need in students life and are not serious about the issue of anxiety among children. From the above review also it is clear that lot of studies have done on yoga, but still dearth of literature is there in determining effects of yoga on secondary school related variable. The finding of the study will be of great significance for the parents, teachers and policy makers to know them deeply and be a participating role of guide for their concern. Finally, this study will help to the society for develop the bright future in terms of healthy persons. This study will also help the school to knowing the benefits of yoga which can reduce student's anxiety related to their academic activities as well as in their daily life.

### **1.3 STATEMENT OF THE PROBLEM**

The present study will be an attempt to study the effect of yogic exercises on test anxiety of secondary school students and is entitled as:-“EFFECT OF YOGA ON TEST ANXIETY OF SECONDARY SCHOOL STUDENTS”.

### **1.4 OPERATIONAL DEFINITIONS OF THE TERM**

#### **Yoga**

Yoga is combination of yogic exercise which is helpful to regulate student's intellectual, socio, and emotional self in test situation. In the present study the following yoga asana has been taken as these are helpful in reducing anxiety and increasing concentration in test situation Suryanamaskar, Padamasana, Sukhasana, Dhanurasana, Matsyasana, Janushirasana, Hastpadasana, Adhomukhasana, Shavasana, Marjariasana, Paschimottanasana, Anulom-vilom, Pranayama.



## **Test Anxiety**

The term “test anxiety,” as a scientific construct, refers to the set of phenomenological, physiological, and behavioral responses that accompany concern about possible negative consequences or failure on an exam or similar evaluative situation (Sieber, O’Neil, & Tobias, 1977).

## **Secondary School Students**

Secondary school students are the students studying in 9th, 10th grade of the school education.

### **1.5 OBJECTIVES OF THE STUDY**

1. To study the level of the test anxiety among secondary school students.
2. To analyze effect of yoga on test anxiety of secondary school students.

### **1.6 HYPOTHESES OF THE STUDY**

1. There exists no significant effect of yoga on test anxiety of secondary school students.
2. There exists no significant difference between test anxiety of male and female secondary school students.

### **1.7 DELIMITATIONS OF THE STUDY**

1. The study was limited to students of grade IX only.
2. The study was limited to district Jalandhar only.

## **CHAPTER-II METHODOLOGY**

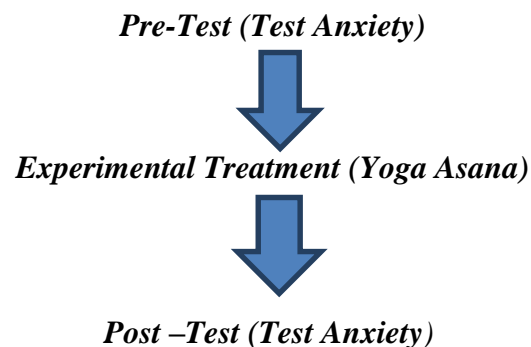
Methodology of research plays a vital role in the field of research. In the planning process of research work, the researcher has to decide about the methods that can be used in solving research problems. It describes the various steps to be adopted by the researcher in solving a research problem, such as manner in which the problem is formulated, the definition of the term, the choice of the subject, for investigation, the validation of the data gathering tools, the collection, analysis, and interpretation of the data and the process of conducting research. In methodology the part of the researcher describes methods and procedure which an investigator adopted for conducting research. It refers to a way, logical plan of solving

a problem. Research methodology is a way to systematically solve the research problem. It is effective way to understand the scientific nature of the research. After selection of the problem and formulation of the hypothesis, there is a need to give a practical shape to the research. It means how to conduct the research work. For any researcher there is a need of proper planning and preparation of appropriate research design. Research design is the blue print of “what is to be done’ and ‘how is to be done”. It is the path which is to be followed by the researcher to reach the target. In a simple language a research design is stated as a plan of action, a plan of collecting and analysing data in an effective way. The ultimate success of a research project greatly depends upon the design of the study. It avoids aimless wandering, save time and economizes the efforts of the researcher.

## **2.1 RESEARCH METHOD**

Keeping in view of the research evidence, objectives and hypothesis experimental method was used in the present study, concerned with conditions or relationship that exists, options that are held, process that are going on, effects that are evident or trends that are developing. The experimental method is a systematic and scientific approach to research in which the researcher manipulates one or more variables and controls and measure any change in other variables.

Pre-test Post-test experimental design was used to conduct the research. Design of the study is as follows:



## **2.2 SAMPLING**

The term population in research is used in broader sense than is its common place meaning as a population of the people, the active group from which the sample has been selected is called the population. That group may consist of persons, objects, attributes,

qualities and behaviour of the people. According to the nature and scope of the research in hand a population should be well defined in term of geographical limits, age, grade, sex, category, socio-economic status, physical attributes and psychosocial behaviour. Population in the present investigation comprised of secondary school students of 9<sup>th</sup> class from Jalandhar district of Punjab.

Sampling refers to the method used to select sample from the population. Sampling is a process of obtaining information about entire population by examining only a part of it. It is done in a way that the individuals represent the larger group from which they were selected. In the present study a sample of 50 students of a secondary school of Jalandhar district of Punjab has been selected using purposive sampling technique.

### **Procedure for treatment**

The procedure for treatment was carried out in three phases. Phase one was the pre-test phase where the Test Anxiety Scale (TAS) was administered to all the samples both experimental and control groups to collect data on their present level of anxiety. The respondents were to indicate their degree of agreement by ticking out one of the options provided; which are, always, often, sometime, rarely and never respectively following in the Test Anxiety Scale (TAS) or Questionnaire. The responses were analyzed to confirm the level of anxiety of the respondents.

Phase two was the treatment phase conducted in 6 sessions. The yoga asana/training technique ran for 2 weeks. Each week had three sessions (3 sessions) of an (1) hours per session. The selected students were classified into two groups of 25 students each; the experimental and control groups. The test group was kept controlled or untrained yoga. Within the treatment sessions, the experimental treatment group was trained with the help of yoga asana programme training following the six steps model technique by the investigator to reduce test anxiety among students these are:-

*(i)Suryanamaskar,(ii)Sukhasana,(iii)Padamasana,(iv)Dhanurasana,(v)Matsyasana,(vi)Janushirasana,(vii)Hastpadasana,(viii)Adhomukhasana,(ix)Shavasana,(x)Marjariasana,(xi)Paschimottanasana,(xii)Anulon-Vilon and (xii)Pranayama.* While practising the yoga training the participants were appropriately instructed by the trainer.

Phase three, was the post treatment phase. This phase was devoted to completing

the test anxiety questionnaire after the treatment sessions. The TAS (post-test) was conducted on the two groups (experimental and control). The responses were appropriately scored and subsequently used in the data analysis. Mean, standard deviation and t-test analyses were employed to determine the results.

This is mainly to determine the effectiveness of the yoga in reducing the student's anxiety level and improving to them for academically.

## **2.5 TOOLS USED**

Tools are the best way to collect the information for research purpose; they are used for collecting views and opinion of the people or sample, their attitude and suggestions. The tool is appropriate for collection of certain type of evidence or information. The researcher has to select the tool by which he/she can collect the data for the study. The tools help to analyse the responses of a sample related variables. In order to collect the data tool was used in the present study.

1. Self-constructed scale of Test Anxiety.
2. Yoga Asana to reduce anxiety in testing situations.

## **2.6 DESCRIPTION OF THE TOOLS**

### **2.6.1. Test Anxiety Scale**

Following steps were followed for preparation of the achievement test in life science.

#### **(a) Planning of the Test**

For the construction of test anxiety scale a literature review of various test and academic anxiety scales was done and it was decided to design a 5-Point Likert scale for measuring the anxiety of secondary school students in test situations.

#### **(b) Construction of Test items**

Keeping in view the dimensions drawn from literature review an initial pool of 46 items was prepared. After the test construction investigator consulted subject expert for finding the content validity of test. After the first editing by subject experts the scale was

considered of 37 items, which was then checked by language experts to modify on the basis of language related errors. The second draft was again given to subject experts for final opinion followed by which some items were modified, some were added and deleted. So, finally a scale of 30 items was constructed to collect the data from sample.

### **Reliability**

Reliability refers to the precision or accuracy of the measurement of the scores. It refers to the consistency of scores or measurement which is reflected in the reproducibility of scores.

The reliability of the Test Anxiety scale was estimated through split-half method. The scale was administered on 168 students of grade XI and X selected randomly from different schools of Jalandhar. Scale was scored and scoring was done item wise for all the respondents. Total score of the all respondents on every item was recorded. The items were divided into two halves using odd-even method and scores were recorded accordingly. Pearson product moment coefficient of correlation was found between the two set of scores which comes out to be 0.56. Further using Spearman Brown Prophecy formula for split half reliability, the reliability of whole test was determined which comes out to be (0.71) reliability. So, reliability of the test anxiety scale was high on the selected sample.

### **Validity**

The validity of a measuring instrument is defined as the property of measure that allows the researcher to say that instrument measures what it tends to measure. Validity refers to the degree to which a test measures what it claims to measure and validity of a test concerns what the test measures and how well it does.

For validating test anxiety scale its face and content validity was determined for which it was given to subject and language experts and on the basis of their opinion content validity of test was established.

**Table 2.6.1. Experts for Content Validity**

| <b>Sr. No.</b> | <b>Name</b> | <b>Area of Expertise</b> | <b>Designation</b> |
|----------------|-------------|--------------------------|--------------------|
|                |             |                          |                    |

|    |                  |   |   |
|----|------------------|---|---|
| 1. | Dr. Nimisha Beri | Subject Expert-Educational Psychology                                 | Associate Professor, Lovely Professional university |
| 2. | Ms. Preeti Bala  | Subject Expert-Educational Psychology; Language Expert-English, Hindi | Assistant Professor, Lovely Professional university |
| 3. | Dr. Ranjan Bala  | Language Expert-English   | Assistant Professor, Lovely Professional university |

### **Administration and Scoring Procedure**

Given below are a set of statements on fear or apprehension in testing situations. Read each statement carefully, understand it and depending upon how you usually feel or is true of you under any five of the experiences given, put a cross mark in the appropriate box corresponding to the number provided against each statement. Do not leave any statement unanswered.

1 indicates –Always

2 indicates –Often

3 indicates – Sometime

4 indicates – Rarely

5 indicates - Never

Please note it is not an academic proficiency test, so you are requested to give true and frank response to every situation. There are no right and wrong answers to these statements. There is no time limit to this test. But try to answer as quickly and honestly as possible. Your responses will be kept confidential and will be used for research purpose only.

Scoring procedure of the scale is very simple. It is a five point rating scale with Always, Often, Sometimes, Rarely and Never options. The subjects have to select any of the option as per their level of agreement and disagreement. All the items in the scale are **positive**, hence the items are scored as 1, 2, 3, 4 and 5 for the responses always. Scoring procedure is given below in the table:

**Table 2.6.2. Scoring Procedure**

|                              |          |          |          |          |          |
|------------------------------|----------|----------|----------|----------|----------|
| <b>5-Points Likert Scale</b> | Always   | Often    | Sometime | Rarely   | Never    |
| <b>Marks</b>                 | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |

### 2.6.2. Yoga Asana

For the present study 13 yoga asana have been selected to give experimental treatment to students. These yoga asana are meant to reduce anxiety and increase concentration of students in learning and testing situation. For two weeks investigator designed 12 modules based on these asana. The detail of these modules is as follows:

#### Module of Yoga Asana or Activities

##### 1<sup>st</sup> Day

| <b>Sr. No</b> | <b>Monday</b> | <b>Repetitions</b> | <b>Timing</b> | <b>Total Time<br/>(in minutes)</b> |
|---------------|---------------|--------------------|---------------|------------------------------------|
| 1.            | Suryanamaskar | 1                  | (5 to 7min)   | 7                                  |
| 2.            | Sukhasana     | 3                  | (3 to 5min)   | 15                                 |
| 3.            | Padamasana    | 3                  | (1to 1:30min) | 4:30                               |

**2<sup>nd</sup> day repetition of the previous day**

| <b>Sr. No</b> | <b>Tuesday</b> | <b>Repetitions</b> | <b>Timing</b> | <b>Total Time<br/>(in minutes)</b> |
|---------------|----------------|--------------------|---------------|------------------------------------|
| 1.            | Suryanamaskar  | 1                  | (5 to 7min)   | 7                                  |
| 2.            | Sukhasana      | 3                  | (3 to 5min)   | 15                                 |
| 3.            | Padamasana     | 3                  | (1to 1:30min) | 4:30                               |

**3<sup>rd</sup> Day**

| <b>Sr. No</b> | <b>Wednesday</b> | <b>Repetitions</b> | <b>Timing</b> | <b>Total Time<br/>(in minutes)</b> |
|---------------|------------------|--------------------|---------------|------------------------------------|
| 1.            | Suryanamaskar    |                    | (5 to 7min)   |                                    |
| 2.            | Dhanurasana      | 3                  | (3 to 5min)   |                                    |
| 3.            | Matsyasana       | 1                  | (1to 1:30min) |                                    |

**4<sup>th</sup> Day repetition of the previous day**

| <b>Sr. No</b> | <b>Thursday</b> | <b>Repetitions</b> | <b>Timing</b> | <b>Total Time<br/>(in minutes)</b> |
|---------------|-----------------|--------------------|---------------|------------------------------------|
| 1.            | Suryanamaskar   |                    | (5 to 7min)   | 7                                  |
| 2.            | Dhanurasana     | 3                  | (3 to 5min)   | 15                                 |
| 3.            | Matsyasana      | 1                  | (1to 1:30min) | 4.30                               |

**5<sup>th</sup> Day**

| <b>Sr. No</b> | <b>Friday</b> | <b>Repetitions</b> | <b>Timing</b> | <b>Total Time<br/>(in minutes)</b> |
|---------------|---------------|--------------------|---------------|------------------------------------|
|---------------|---------------|--------------------|---------------|------------------------------------|



|    |               |   |               |      |
|----|---------------|---|---------------|------|
| 1. | Suryanamaskar | 1 | (5 to 7min)   | 7    |
| 2. | Janushirasana | 3 | (3 to 5min)   | 15   |
| 3. | Hastpadasana  | 3 | (1to 1:30min) | 4:30 |

**6<sup>th</sup> Day repetition of the previous day**

| <b>Sr. No</b> | <b>Saturday</b> | <b>Repetitions</b> | <b>Timing</b> | <b>Total Time<br/>(in minutes)</b> |
|---------------|-----------------|--------------------|---------------|------------------------------------|
| 1.            | Suryanamaskar   | 1                  | (5 to 7min)   | 7                                  |
| 2.            | Janushirasana   | 3                  | (3 to 5min)   | 15                                 |
| 3.            | Hastpadasana    | 3                  | (1to 1:30min) | 4:30                               |

**7<sup>th</sup>Day**

| <b>Sr. No</b> | <b>Monday</b> | <b>Repetitions</b> | <b>Timing</b> | <b>Total Time<br/>(in minutes)</b> |
|---------------|---------------|--------------------|---------------|------------------------------------|
| 1.            | Suryanamaskar | 1                  | (5 to 7min)   | 7                                  |
| 2.            | Adhomukhasana | 3                  | (3 to 5min)   | 15                                 |
| 3.            | Shavasana     | 3                  | (1to 1:30min) | 4:30                               |

**8<sup>th</sup> Day repetition of the previous day**

| <b>Sr. No</b> | <b>Tuesday</b> | <b>Repetitions</b> | <b>Timing</b> | <b>Total Time<br/>(in minutes)</b> |
|---------------|----------------|--------------------|---------------|------------------------------------|
| 1.            | Suryanamaskar  | 1                  | (5 to 7min)   | 7                                  |
| 2.            | Adhomukhasana  | 3                  | (3 to 5min)   | 15                                 |

|    |           |   |               |      |
|----|-----------|---|---------------|------|
| 3. | Shavasana | 3 | (1to 1:30min) | 4:30 |
|----|-----------|---|---------------|------|

### 9<sup>th</sup>Day

| Sr. No | Wednesday         | Repetitions | Timing        | Total Time<br>(in minutes) |
|--------|-------------------|-------------|---------------|----------------------------|
| 1.     | Suryanamaskar     | 1           | (5 to 7min)   | 7                          |
| 2.     | Marjariasana      | 3           | (3 to 5min)   | 15                         |
| 3.     | Paschimottanasana | 3           | (1to 1:30min) | 4:30                       |

### 10<sup>th</sup> Day repetition of the previous day

| Sr. No | Thursday          | Repetitions | Timing           | Total Time<br>(in minutes) |
|--------|-------------------|-------------|------------------|----------------------------|
| 1.     | Suryanamaskar     | 1           | (5 to 7min)      | 7                          |
| 2.     | Marjariasana      | 3           | (3 to 5min)      | 15                         |
| 3.     | Paschimottanasana | 3           | (1to<br>1:30min) | 4:30                       |

### 11<sup>th</sup> Day

| Sr. No | Friday        | Repetitions | Timing        | Total Time<br>(in minutes) |
|--------|---------------|-------------|---------------|----------------------------|
| 1.     | Suryanamaskar | 1           | (5 to 7min)   | 7                          |
| 2.     | Anulom-Vilom  | 3           | (3 to 5min)   | 15                         |
| 3.     | Pranayama     | 3           | (1to 1:30min) | 4:30                       |

## 12<sup>th</sup> Day repetition of the previous day

| Sr. No | Saturday      | Repetitions | Timing        | Total Time<br>(in minutes) |
|--------|---------------|-------------|---------------|----------------------------|
| 1.     | Suryanamaskar | 1           | (5 to 7min)   | 7                          |
| 2.     | Anulom-Vilom  | 3           | (3 to 5min)   | 15                         |
| 3.     | Pranayama     | 3           | (1to 1:30min) | 4:30                       |

## 2.7 PROCEDURE OF DATA COLLECTION

Data collection is essentially an important part of the research process so that the inferences, hypotheses or generalizations, tentatively held may be identified as valid, verifies as correct, or rejected as untenable. In order to collect the requisite data for any research problem the researcher has to sample the population concerned, since it is not possible to encompass the entire population, to device appropriate tools and technique for measuring the attributes concerned, and to administer these tools on the selected sample or samples for collecting the relevant data. The following steps were taken to collect the data for present study:-

### (a) Planning

In planning phase, the researcher prepared scale of test anxiety and plan of yoga asana/activities categorised into asana/activities namely *Suryanamaskar*, *Sukhasana*, *Padamasana*, *Dhanurasana*, *Matsyasana*, *Janushirasana*, *Hastpadasana*, *Adhomukhasana*, *Shavasana*, *Marjariasana*, *Paschimottanasana*. An activity of plan on each module was prepared by using of yoga training. Following activity plan investigator selected the school and took the permission of principal of the school to exercise the yoga asana to 9<sup>th</sup> grade student as a part of research process. A schedule for training 07 specific module of yoga was prepared.

### (b) Execution

On the first day (near to final exams) the investigator administered self-constructed test anxiety scale for measuring the anxiety level among the students regarding their tests or exams. The investigator scored the scales and selected students with lower score for experimental treatment. Selected students were given experimental treatment for two weeks. On the last day of treatment students were given the scale of test anxiety again and results were recorded and analysis in the light of objectives.

## **2.8 STATISTICAL TECHNIQUE**

Statistical technique is a collection of methods which is used to process large amount of report overall trends and data. It is normally used in ascertaining relative performance that involves assumptions about functional relationship. For analysis of data following statistical technique were used:-

1. Descriptive statistics like mean, Median and Standard Deviation were used to study the levels in the Mean/average scores of test anxiety of secondary school students.
2. Paired sample t-test was applied to study the difference between pre-test and post-test scores of test anxiety of secondary school students.
3. Independent sample t-test was applied to compare two samples in pre and post test situations.

## **CHAPTER -III**

### **ANALYSIS AND INTERPRETATION**

The raw scores of any data have no value unless they are analysed and interpreted in a proper way. The generalization and interpretation leads towards conclusions and suggestions. Keeping in view the objectives of the study and their corresponding hypotheses, the data were statistically processed using appropriate design and technique. Hence, after the data has been collected this must be processed and analysed to draw proper inferences. In order to examine the relative effect of Yoga on Test Anxiety of the secondary school students, the data were analysed with the help of statistical techniques like mean, S.D. and t-test.

Present chapter deals with analysis of the data, testing of the hypotheses, and drawing out the results. The result thus obtained has been discussed and interpreted comprehensively. Presentation of this chapter follows the below given sequence:-

3.1. Result Pertaining to the levels of Test Anxiety among Secondary School Students.

3.2. Result Pertaining to the difference in anxiety between pre-test and post-test groups of secondary school students in test situation.

#### **3.1 Result pertaining to the levels of test anxiety among secondary school students.**

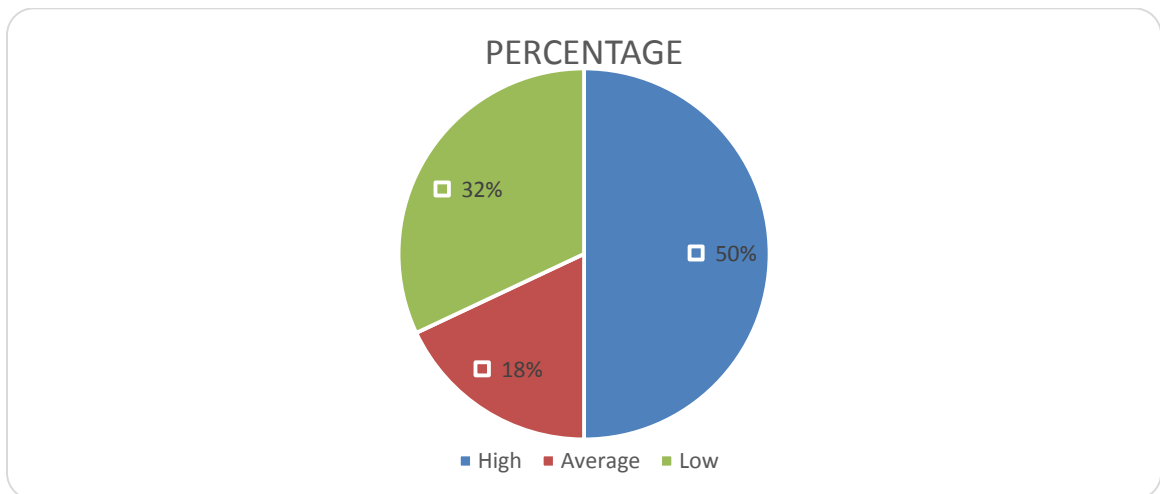
**Objective:-**To study the levels of the test anxiety among secondary school students.

To determine anxiety among secondary school students' data was collected from 50 students before giving the experimental treatment and levels were determined using interpretation table. Results are presented in the table below:-

**Table 3.1-Showing the Percentage wise levels of Anxiety among secondary school students.**

| Sr. No       | Levels of Test Anxiety | Range   | No. Subjects | Percentage  |
|--------------|------------------------|---------|--------------|-------------|
| 1            | High                   | 30-81   | 25           | 50%         |
| 2            | Average                | 82-108  | 9            | 18%         |
| 3            | Low                    | 109-150 | 16           | 32%         |
| <b>Total</b> |                        |         | <b>50</b>    | <b>100%</b> |

From the table 3.1 it is clear that 25 students (50%) are highly anxious about testing situation and nearly 9 (18%) students feel test anxiety to the moderate level. Further it can be seen from the table that 16 (32%) students have low anxiety in test situation. This may be due to the reason that in government schools there is less pressure on the students and so maximum students are feeling low anxiety. Next to it is number of students with high anxiety which may be due to some other factors like home related or personally some students may feel tension is testing situation.



**Pie Chart 3.1- Showing the Percentage wise levels of Anxiety among secondary school students.**

### 3.2 Result Pertaining to the impact of yoga on test anxiety.

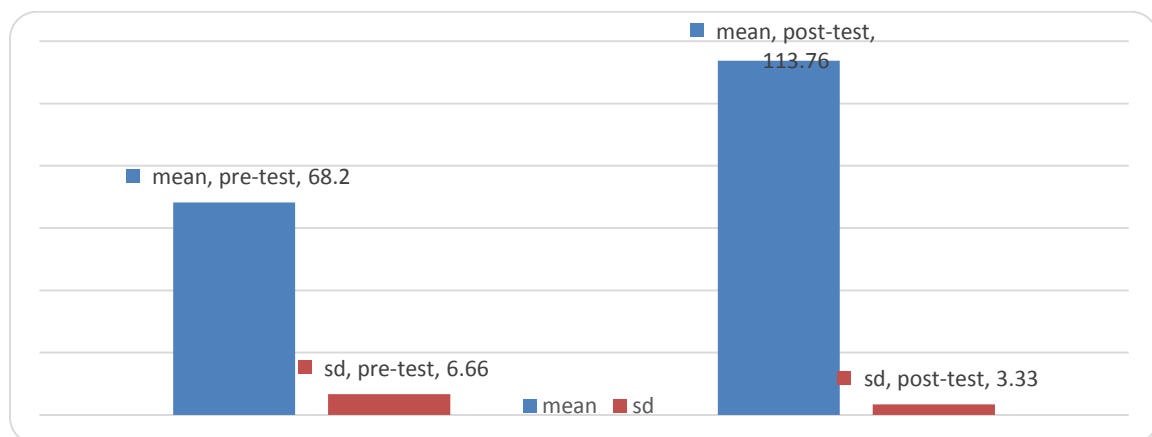
**3.2.1 Ho:-**There exists no significant effect of yoga on test anxiety of secondary school Students.

In order to determine the effect of yoga on test anxiety of students' comparison of pre and post-test scores was made using paired sample t-test. Results are tabulated in the table given below:

**Table 3.2.1 Significance of difference between pre and post-test scores**

| Test      | N  | Mean   | SD   | SEM  | df | 't'           | P-Value      | Remarks            |
|-----------|----|--------|------|------|----|---------------|--------------|--------------------|
| Pre-Test  | 25 | 68.20  | 6.66 | 1.33 | 24 | <b>-63.57</b> | <b>0.000</b> | <b>Significant</b> |
| Post-Test | 25 | 113.76 | 3.33 | 0.67 |    |               |              |                    |

It is clear from table that p-value (0.000) of significance of difference between mean of pre-test and post-test score is less than 0.05 (t-value -63.57, df = 24). So, the null hypothesis that there exists no significant effect of yoga on test anxiety of secondary school students is rejected and hence there exist significant difference between mean of pre-test and post-test scores of students on test anxiety. This means that yogic intervention has made significant impact in reducing the test anxiety of students.



**Graph 3.2.1- Mean and SD in pre and post -test**

Further from graph 3.2 it is clear that mean score of test anxiety after yogic intervention is more in comparison to score on pre-test. These results are supported by Wand and Hagins (2016) examined the yoga intervention program for urban primary and secondary school. Yoga program was determined their perceptions of mental and physical benefits. Results indicated that students perceived the benefits of yoga as increased self-regulation, mindfulness, self-esteem, physical conditioning, academic performance, and stress reduction.

**3.2.2 Ho:-**There exists no significant effect of yoga on test anxiety of male students.

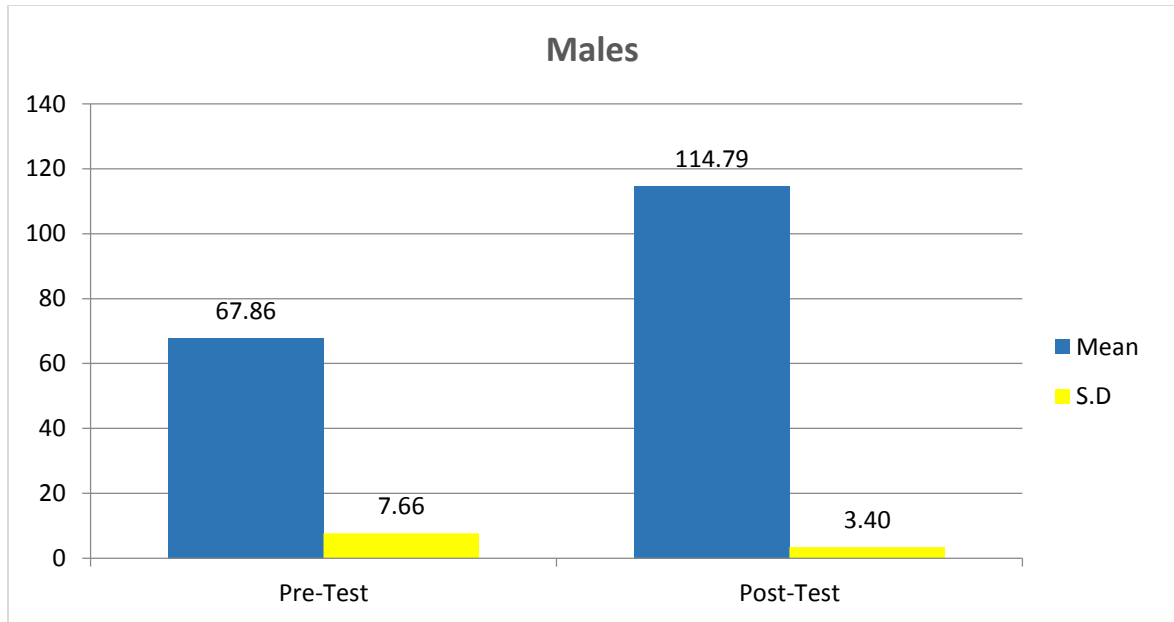
In order to determine the effect of yoga on test anxiety of male students' comparison of pre and post-test scores was made using paired sample t-test. Results are tabulated in the table given below:

**Table 3.2.2 Significance of difference between pre and post-test scores of male students**

| Male Students |    |        |      |      |    |        |         |         |
|---------------|----|--------|------|------|----|--------|---------|---------|
| Test          | N  | Mean   | SD   | SEM  | df | 't'    | P-value | Remarks |
| Pre-Test      | 14 | 67.86  | 7.66 | 2.05 | 13 | -19.46 | 0.000   | Sig.    |
| Post-Test     | 14 | 114.79 | 3.40 | 0.91 |    |        |         |         |

It is clear from table that p-value (0.000) of significance of difference between mean of pre-test and post-test score is less than 0.05 (t-value -19.46, df = 13). So, the null hypothesis that there exists no significant effect of yoga on test anxiety of secondary school male students is rejected and hence there exist significant difference between mean of pre-test and post-test scores of male students on test anxiety. This means that yogic intervention has made significant impact in reducing the test anxiety of male students.





**Graph 3.2.2- Mean and SD of males in pre and post test**

Further from graph 3.2.2 it is clear that mean score of test anxiety after yogic intervention of the male students is more in comparison to their score on pre-test.

**3.2.3 Ho:-**There exists no significant effect of yoga on test anxiety of male students.

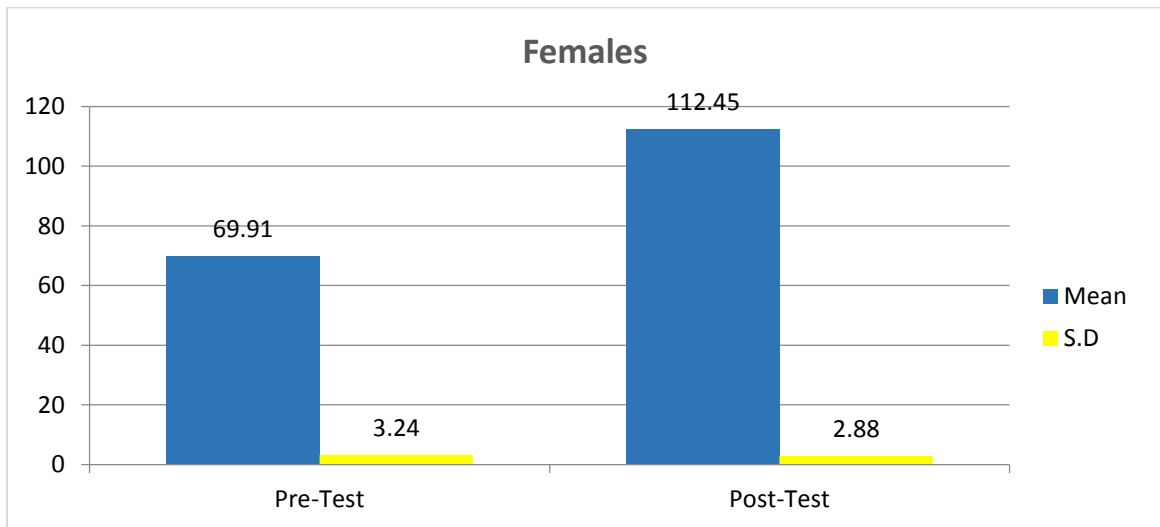
In order to determine the effect of yoga on test anxiety of male students' comparison of pre and post-test scores was made using paired sample t-test. Results are tabulated in the table given below:

**Table 3.2.2 Significance of difference between pre and post-test scores of male students**

| Female Students |    |        |      |      |    |        |         |         |
|-----------------|----|--------|------|------|----|--------|---------|---------|
| Test            | N  | Mean   | SD   | SEM  | df | 't'    | P-value | Remarks |
| Pre-Test        | 11 | 69.91  | 3.24 | 0.98 | 10 | -44.81 | 0.000   | Sig.    |
| Post-Test       | 11 | 112.45 | 2.88 | 0.87 |    |        |         |         |

It is clear from table that p-value (0.000) of significance of difference between mean of pre-test and post-test score is less than 0.05 (t-value -44.81, df = 10). So, the null

hypothesis that there exists no significant effect of yoga on test anxiety of school female students is rejected and hence there exist significant difference between mean of pre-test and post-test scores of female students on test anxiety. This means that yogic intervention has made significant impact in reducing the test anxiety of female students.



**Graph 3.2.3- Mean and SD of female students on pre and post-test**

Further from graph3.2.3 it is clear that mean score of test anxiety after yogic intervention of the female students is more in comparison to score on pre-test. These results are supported by White (2012) investigated reduce stress in primary school girls through yoga. The study showed that self-regulation and self-esteem increased through yoga.

### **3.3 Results pertaining to the difference in test anxiety with respect to gender.**

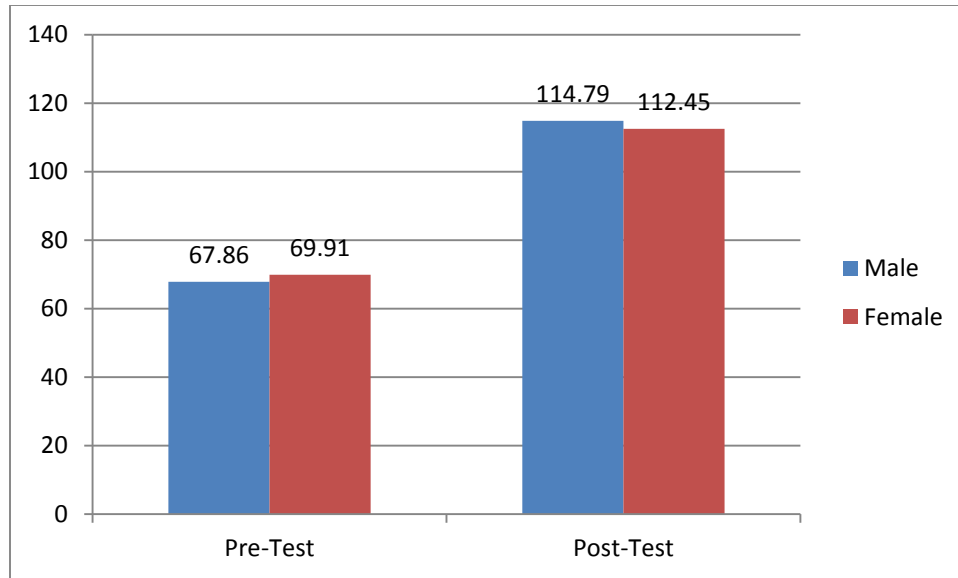
**Ho:-**There exists no significant difference in test anxiety of male and female students before and after yogic intervention.

In order to explore the difference in test anxiety of male and female students' before and yogic intervention independent sample t-test was applied and results are tabulated in the table given below:

**Table 3.3 Significance of difference between pre and post test scores of male and female students**

| Gender           | N  | Mean   | SD   | SEM  | df | 't'   | p-value | Remarks       |
|------------------|----|--------|------|------|----|-------|---------|---------------|
| <b>PRE-TEST</b>  |    |        |      |      |    |       |         |               |
| Male             | 14 | 67.86  | 7.66 | 2.05 | 23 | -0.83 | 0.42    | Insignificant |
| Female           | 11 | 69.91  | 3.24 | 0.98 |    |       |         |               |
| <b>POST-TEST</b> |    |        |      |      |    |       |         |               |
| Male             | 14 | 114.79 | 3.40 | 0.91 | 23 | 1.82  | 0.08    | Insignificant |
| Female           | 11 | 112.45 | 2.88 | 0.87 |    |       |         |               |

It is clear from table 3.3.1 that p-value (0.42; 0.08) of significance of difference in mean of pre-test and post-test scores between male and female students respectively is greater than 0.05. So, the null hypothesis that there exists no significant difference in pre and post-test scores in test anxiety between male and female secondary school students is accepted and hence there exist no significant difference between test anxiety of male and female students before and after yogic intervention. This means that gender has not made any impact on the test anxiety of students before and after yogic intervention. The results are in line with study conducted by Bihari (2014) who investigated into the academic anxiety among secondary school students with respect to gender and reported insignificant difference between the mean scores of boys and girls.



**Graph 3.3 Mean pre and post-test scores of male and female students**

## **CHAPER- IV**

### **CONCLUSION, RECOMMENDATIONS AND SUGGESTIONS**

In the light of interpretation of data, the researcher has to use all care and cautions in formulating conclusions and generalizations. This final step of research demands critical and logical thinking in summarizing the findings of study and compares them with the objectives formulated in the beginning. The researcher should not draw conclusions which are inconsistent among themselves or with external realities. Conclusions are as essential as investigation. They provide a finishing touch and review to the whole of critical work. In the present study the investigator has tries to find out the effect of yoga on test anxiety of secondary school students. On the basis of analyses and interpretation of data, following conclusion can be drawn.

#### **4.1 CONCLUSIONS**

1. 25 students (50%) are highly anxious about testing situation and nearly 9 (18%) students feel test anxiety to the moderate level. Further it can be seen from the table that 16 (32%) students have low anxiety in test situation.
2. There exists significant difference between mean of pre-test and post-test scores of students on test anxiety with mean of post test scores on the higher end. Therefore, yoga has made significant impact in reducing test anxiety of students.
3. There exists significant difference between mean of pre-test and post-test scores of male and female students on test anxiety with mean of post test scores on the higher end for both genders. Therefore, yoga has made significant impact in reducing test anxiety of both male and female students.
4. There exists no significant difference between test anxiety of male and female students before and after yogic intervention. This means that gender has not made any impact on the test anxiety of students before and after yogic intervention.

## **4.2 RECOMMENDATIONS**

The most outstanding characteristic of any research is that it must contribute something new to the development of the concerned field. Based on the findings and conclusions of the study, the following recommendations are put forward:

1. It is recommended that schools should introduce yoga practice in the schools, so that students can easily reduce their anxiety, stress, and frustration.
2. Orientation and refresher courses as well as workshops should be arranged by the colleges of education or university department of education for school teachers to train them about the impact of yoga, so that schools can implement yoga practice in effective manner.
3. School should take the initiative to provide resources required for conducting the yoga at schools.
4. Also heads of the schools should encourage the teachers to use of yoga practice at school as special subjects which can contribute to enhance the achievement of students.
5. Regulatory bodies like NCTE, and educational agencies like NCERT, CBSE, state boards and alike should take actions to make yoga compulsory in schools so as to enhance well-being of the students.

## **4.3 SUGGESTIONS**

Based on the above findings and observations the investigator would like to give the following suggestions:

1. The present study can be carried out with large sample size.
2. The study can be carried out in different cities.
3. The present study was conducted at secondary level only. Study of similar nature can be undertaken under higher secondary level also.
4. The present study effect of yoga can be done on the other variables like academic stress, examination phobia, and academic achievement.
5. The present study was limited to the respondents from Jalandhar district only, so further study may replicate with sample from wide coverage of areas.

6. Treatment period was small due to paucity of time, so, further research can be conducted by increasing the duration of experimental treatment.

## REFERENCES

- Banerjee, B., Vadiraj, H. S., Ram, A., Rao, R., Jayapal, M., Gopinath, K. S., Ramesh, B. S., Rao, N., Kumar, A., Raghuram, N., Hegde, A., Negendra, H. R., & Hande, M. P. (2007). Effects of an integrated yoga program in modulating psychological stress and radiation-induced genotoxin stress in breast cancer patients undergoing radiotherapy. *Integrative Cancer Therapies, 6*(3), 242-250.
- Birdee, G. S., Legedza, A. T., Saper, R. B., Bertisch, S. M., Eisenberg, D. M., & Phillips, R. S. (2008). Characteristics of yoga users: Results of a national survey. *Journal of General Internal Medicine, 23*(10), 1653-1658.
- Brown, R. P. & Gerbarg, P. L. (2005). Sudarshan kriya yogic breathing in the treatment of stress, anxiety and depression: Part I – neurophysiologic model. *The Journal of Alternative and Complementary Medicine, 11*(1), 189-201.
- Brown, R.P. & Gerbarg, P.L. (2009). Yoga breathing, meditation, and longevity. *Annals of New York Academy of Sciences, 1172*, 54-62.
- Butzer, B., Day, D., Potts, A., Ryan, C., Coulombe, S., Davies, B., ... & Khalsa, S. B. S. (2015). Effects of a classroom-based yoga intervention on cortisol and behavior in second-and third-grade students: A pilot study. *Journal of evidence-based complementary & alternative medicine, 20*(1), 41-49.
- Chin, E. C., Williams, M. W., Taylor, J. E., & Harvey, S. T. (2017). The influence of negative affect on test anxiety and academic performance: An examination of the tripartite model of emotions. *Learning and Individual Differences, 54*, 1-8.
- Coward, H. (2002). *Yoga and psychology*. Albany, NY: State University of New York Press.
- Ergene, T. (2003). Effective interventions on test anxiety reduction. *School Psychology International, 24*(3), 313-328.
- Feuerstein, G. (2001). *The yoga tradition*. Prescott, AZ: Hohm Press.
- Gavin, J. & McBrearty, M. (2006). Exploring mind-body modalities. *IDEA Fitness Journal*, June, no pagination.



- Geronimi, M., Pouydebat, E., & Gorce, P. (2009) Nintendo Wii Fit Plus Board used like a tool in biomechanical studies? *Computer Methods in Biomechanics and Biomedical Engineering*, 12(S1), 125.
- Javnbakht, M., Kenari, R. H., & Ghasemi, M. (2009). Effects of yoga on depression and anxiety of women. *Complementary Therapies in Clinical Practice*, 15, 102-104.
- Johnson, C.M., Larson, H.A., Conn, S.R., Estes, L.A., & Ghiellini, A.B. (2009). The impact of relaxation techniques on third grade students' self-perceived levels of test anxiety. Paper based on a program presented at the American Counselling Association Annual Conference and Exposition, Charlotte, NC.
- Khalsa, S. B. S., Hickey-Schultz, L., Cohen, D., Steiner, N., & Cope, S. (2012). Evaluation of the mental health benefits of yoga in a secondary school: a preliminary randomized controlled trial. *The journal of behavioral health services & research*, 39(1), 80-90.
- Leatham, L. (2017). Effects of A Classroom Intervention on Academic Engagement of Elementary School Students with Anxiety.  
<http://digitalcommons.usu.edu/etd/5610/>
- Long, L., Huntley, A., & Ernst, E. (2001). Which complementary and alternative therapies benefit which conditions? A survey of the opinions of 223 professional organizations. *Complementary Therapies in Medicine*, 9, 178-185.
- Lowe, P.A., Lee, S.W., Wittenboe, K. M., Prichard, K.W., Luhr, M.E., Cullinan, C. M., Mildren, B., A., Raad, J., M., Corneilus, R.A., & Janik, M. (2008). The test anxiety inventory for children and adolescents (TAICA): Examination of the psychometric properties of a new multidimensional measure of test anxiety among elementary and secondary students. *Journal of psycho-educational assessment*, 26(3), 215-230.
- Neurderth, S., Jabs, B., & Schmidtke, A. (2008). Strategies for reducing test anxiety and optimizing exam preparation in German university students: a prevention-oriented pilot project of the university of Wurzburg. *Journal of Neural Transmission*, 116, 785-790.

- Pilkington, K., Kirkwood, G., Rampes, H., & Richardson, J. (2005) Yoga for depression: The research evidence. *Journal of Affective Disorders*, 89 (1-3), 13-24.
- Supon, V. (2004). Implementing strategies to assist test-anxious students. *Journal of Instructional Psychology* 31(4), 292-296.
- Telles, S., Reddy, S. K., & Nagendra, H. R. (2000). Oxygen consumption and respiration following two yoga relaxation techniques. *Applied Psychophysiology and Biofeedback*, 25(4), 221-227.
- Velásquez, A. M., López, M. A., Quiñonez, N., & Paba, D. P. (2015). Yoga for the prevention of depression, anxiety, and aggression and the promotion of socio-emotional competencies in school-aged children. *Educational Research and Evaluation*, 21(5-6), 407-421.
- Vera, F. M., Manzaneque, J. M., Maldonado, E. F., Carranque, G. A., Rodriguez, F. M., Blanca, M. J., & Morrell, M. (2009). Subjective sleep quality and hormonal modulation in long-term yoga practitioners. *Biological Psychology*, 81, 164-168.
- Wang, D., & Hagins, M. (2016). Perceived benefits of yoga among urban school students: A qualitative analysis. *Evidence-Based Complementary and Alternative Medicine*, 2016.
- Werner-Seidler, A., Perry, Y., Cascar, A. L., Newby, J. M., & Christensen, H. (2017). School-based depression and anxiety prevention programs for young people: A systematic review and meta-analysis. *Clinical psychology review*, 51, 30-47.
- West, J., Otte, C., Geher, K., Johnson, J., & Mohr, D.C. (2004), Effects of hatha yoga and African dance on perceived stress, affect, and salivary cortisol. *Annals of Behavioral Medicine*, 28(2), 114-118.
- White, L. S. (2012). Reducing stress in school-age girls through mindful yoga. *Journal of Pediatric Health Care*, 26(1), 45-56.

