

Personality Types, Test Anxiety and Test Performance: Personality and Gender Comparison

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Abstract: This paper examined the causes of test anxiety and how it can impair test performance. It found out the relationship between personality types, and gender with the test anxiety. The research questions were about the causes and facilitating personality traits of test anxiety, how it can impair students' performance, gender difference, high achievers and low achievers' differences in experiencing test anxiety, and what techniques can be used to reduce test anxiety. Four system Anxiety Questionnaire and The Personality Type A/B questionnaire with a demographic sheet were used, 300 students 150 males and 150 females from 18 to 30 years of age were conveniently selected in this study. Repeated Measure Research design was used, and three apparent assumptions were made i.e. Type A personality will be more vulnerable to Test Anxiety, there will be a negative relationship between test anxiety and test performance and Females will face more test anxiety before exams as compared to males. Results supported the hypotheses -0.86 r showed a strong negative correlation between anxiety and performance and a significant difference found out by t-test in terms of personality type and gender. For reducing test anxiety healthy family environment, parental education, counseling, positive attitude toward themselves, relaxation techniques, well-managed behavioral patterns and good study habits are very helpful.

Key Words: Test Anxiety, Gender Difference, Students Performance, Personality Type

Introduction Background

This review paper apprises about as to what test anxiety is, what are its causes, who experience test anxiety and what affects it can have on performance and the measure one can take to keep that anxiety under control and use it for constructive manner where it enhances one's performance. Anxiety is when one feels fear and tension and fear, it can say to be a non-productive experience that compels individuals to eliminate, get away from, or overcome the source of anxiety. Anxiety results in increased physiological arousal, impaired cognitive and behavioral performance with feelings of danger and risk which further tends to result in avoidance and escape (Deffenbacher & Suinn, 1982; Lang et al., 1983). It's not necessary that one feel anxious in presence of a specific stimulus, rather anxiety can be felt without stimulus or due to something which does not exist but has a perceived stress value such as kid who has the fear of closet monster specially at night. Test anxiety is also a type of anxiety which we feel during the test or before taking the test. Spielberger and Sarason (1998) defined test anxiety refers to the worrying and feeling anxiety that is experienced during examinations which makes it situation specific.

Test anxiety is one of the many specific forms of anxiety, which causes several physiological and cognitive responses surfaced during testing situations or in similar situations where the person who feels anxious knows that he is being assessed like in interview, test and viva etc. Though it is natural to feel some anxiety when preparing for and taking a test and this amount of positive anxiety keeps you focused, alert and motivated enough to carry out the task more diligently. But for some people, this normal anxiety becomes a negative anxiety and can cause difficulty to carry out the

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task in hand, it can interfere with their capabilities to think, retrieve and plan which further decline their concentration level and performance can get worsen. Severe type of this anxiety can convert to the anxiety disorder if the criterion meets with DSM-IV.

Stress works as a defense mechanism to our body – it prepares us for things which are about to happen around us. So, we should use it as our advantage. This is the stress which compels us to study and prepare well for the test rather than feeling fearful about it. Then we will be better able to control our stress. It has been observed that low achievers experience more test anxiety as compared to high achievers. Whereas female high achievers experience more test anxiety as compared to their male counterparts. In one study Sarason et al. (1958), high-anxious and low-anxious children were given repeated trials in a learning task; they were equated in intelligence test scores before that, the result showed that low-anxious group improved significantly more than the high-anxious. However, too much anxiety can also negatively affect our study and learning. We may have difficulty in learning and remembering what we need to know for the test. Female experience test anxiety more as compare to male, in one study of Hashmat et al. (2008) female students have statistically significant ($p < 0.05$) high levels of anxiety as compared to males, the study showed that having too much course load and longer duration of exams as the major contributors to exam anxiety. Female feel more test anxiety may also be confirmed through the study of Núñez-Peña et al. (2016), in which result showed that female students have higher level of anxiety than male students.

Problem Statement

The present study was designed to determine the relation between personality types, test anxiety and test performance: personality and gender comparison.

Objective

This paper aims to study the phenomenon of personality types, test anxiety and test performance. It also examines the causes of test anxiety and how does it can impair test performance, and it is also an attempt to find the solutions for reducing it.

Research Questions

- (i) What are the main causes of test anxiety?
- (ii) What types of personality traits can contribute to facilitate test anxiety?
- (iii) How does test anxiety impair students' test performance?
- (iv) Is there any difference in experiencing test anxiety between high achievers and low achievers?
- (v) Is there any gender difference in experiencing test anxiety?
- (vi) Which techniques can be used to reduce test anxiety?

Hypotheses

- (i) Type A personality will be more vulnerable to Test Anxiety.
- (ii) There will be a negative relationship between test anxiety and test performance.
- (iii) Females will face more test anxiety before exams as compared to males.

Literature Review

Test anxiety is somewhat related to performance anxiety, in this anxiety we know our performance will be counted and we have pressure to do well. Most of the students forget the answers or solutions during the paper and after time span of test they suddenly remember that it was the solution or answer, oh I missed, and it was just because of test anxiety. Some students are not well prepared for the test because of many reasons but they want to perform well, they pressurize themselves to perform well and can experience anxiety. Test anxiety is a complex phenomenon, we can't target on some specific reasons for this, and there can be multiple causes which can vary with individual to individual. Students can feel uncomfortable with their preparation for various reasons: They may not have prepared well; the content may appear difficult to them; they may suffer from lack of sleep as they may be involved in some other activities

the night before the test. Some students may have poor study habits and don't start study until the end of the time of the test and just before the test or a night before they realize and start cramming, we can say that test anxiety may be a function of poor study habits, errors in time management, failure to properly organize material and cramming the night before the exam. Adjei (2022) found the improper study habits and/or inadequate test-taking skills result in low scores on previous tests which in turns cause high test anxiety on the present one. Another reason which causes high level of test anxiety is where one becomes more conscious as he is being observed, evaluated or assessed by others. One's performance tends to get influence by the perception others hold of him (Levitt, 1980).

In anxiety you are in fight or flight reaction, this ignites a series of compels responses between mind and body to handle the perceived threat — whether real or imagined, it can reveals the physical symptoms such as excessive sweating, a pounding heart, shaking hands, fainting, dry mouth, nausea, rapid breathing or shortness of breath some people may feel stomachache, or a headache; emotional symptoms such as experiencing high amount of fear, pressure, tension, frustration, disappointment, anger, depression, feeling of devastation, uncontrollable crying or laughing, feelings of helplessness etc; behavioral symptoms like showing signs of nervousness like fidgeting, pacing fast, substance / drug abuse, isolation and cognitive symptoms such as too many thoughts, 'going blank', difficulty in attending to things, low concentration and judgmental levels, negative self-talk, feelings of dread, perceive oneself in comparison to others, difficulty in sequencing thoughts in a more logical manner; these symptoms can vary in their intensity. The person will perform low on the test if he has more distracting thoughts and fears or abnormal physiological functions.

Findings of much research showed negative relationship between anxiety level and test performance (DordiNejad et al., 2011; Chin et al., 2017). However, whether test anxiety results in poor test performance or previous poor test performance or non-preparation causes test anxiety is not clear, so the direction of causal relationship is still not established clearly (Anastasi, 1997). MacIntyre & Gardner (1989) used Tobias' (1985) model related to cognitive consequences of anxiety arousal also explains the negative association between performance and anxiety levels. According to Anastasi chronologically high anxiety level has a detrimental effect on intellectual development and on learning of school going children. Sometimes allocated time also impair performance on test for high anxious people like in one study of Mandler and Sarason (1952), participants are instructed to finish the task in a given time period, and this instruction had a beneficial effect on test performance of low-anxious persons, but a deleterious effect on the performance of high-anxious persons. Some researchers observed the test performance under relaxed and anxious states; they found the interaction between testing conditions and such individual characteristics as anxiety level and achievement motivation (Lawrence, 1962; Paul & Erikson, 1964). Findings showed that high-anxious perform better in more comfortable and relaxed conditions and low-anxious performance enhances when the conditions are such which provoke anxiety.

There is a relationship between paternal attachment and child anxiety. Lamb (1980) proposed that father–child attachment affects children's orientation and reactions to different social situations. According to Verschueren (1996) that child–father attachment and child–mother attachment was highly related to an obvious behavior which shows anxiety and symptoms of withdrawal in children. Parental child-rearing practices like punishments and negative reinforcement, and restrictions by parents increases the probability of development of test anxiety in children in contrast to a supportive and positive parental style where child receives encouragement and appreciations results in development of competencies. Peleg-Popko and Dar (2001) demonstrated that highly cohesive family was associated with social anxiety of child and fear of criticism, discouragement and negative evaluation, whereas lacking in family adaptability was associated with fear of strangers. Poor communication in family and lacking in empowerment from family side (especially parents) were related to child test anxiety (Peleg-Popko, 2002).

Parental education and family environment can also increase or decrease the level of test anxiety. Parental support refers to certain parental behaviors aimed to extend help and support to the child in developing general problem-solving skills. Students who take extreme anxiety during exam can be motivated and relaxed through parental feedback and concentration; parents can guide them in terms of their education and preparation for achieving the goals. For the positive and constructive guideline, the parental education and motivator family environment is necessary. Students who have poor study habit can be guided by parents and other family members. But high-anxious students, who don't have



educated parents or this type of facilitating environment, living in hostels, don't have any contact with any guider may experience more test anxiety. They may feel more anxiety because during of preparation some students totally ignore physical activity, we know that exercise is also beneficial for reducing the feeling of stress and depression, and during exam totally ignoring the exercise or walking etc may increase level of anxiety. Improper nutrition or lack of appetite is significantly more common among students during exams especially in female students. Some students especially female stay awakes to study whole night before a test day which can create fatigue and overall exertion and during the test they don't feel fresh or most of the things or concepts don't occur in their mind that they have studied just before some hours and enter in state of anxiety because of not remembering what they have studied. A full night sleep is necessary for refreshing students' mind and helps them enhance their overall test performance.

Classroom environment, including teacher characteristics, also influences student achievement (Danışman et al., [2019](#)). Test environment can be perceived as non-threatening and supportive when examiners are encouraging, and it is very helpful for the students for reducing anxiety and improving test performance. Clear instructions should be provided and should avoid any behavior that can increase examinees' test anxiety. Any kind of comment of examiner is much important for this type of subjects or students, so examiner must be careful in terms of giving any comments. If examiner observes that during the test any examinee get confused, blank out, freezes up or show any sign of test anxiety, he/she should take step to make examinee understand, suggest him/her for deep breathing and other kinds of relaxation technique. Comfortable sitting arrangement should take into account, examiner should not sit face to face rather side by side it can decrease the effect of non-verbal behavior of examiner. Examiner warm and supportive attitude, positive feedback and verbal praise are much important during the tests. Testing environment is also important, every testing should be free from extraneous variables like noise, distraction and any kind of interruption, the comfortability of the environment also contribute to the examinees' comfort level which may contribute to increase or decrease the anxiety.

Physical illness which a person already has, also contribute to increase test anxiety, when people are not physically well, it can affect their cognitions or mental ability to remember and organize material and they experience anxiety because they know they are not doing as they should, and sometimes test anxiety make people get physical or mental illnesses. Because of anxiety they may suffer from headache, stomach and bowel problems, eating disorder, recurrent infection, sleeping disorder and other symptoms of stress. Prior experience may affect too for increasing this anxiety, if any person passed through any stressful situation like accident, death of loved ones, divorce or other stressful events, they may become more sensitive to feel the stress for future outcomes and become more prone to get high level of anxiety. Their coping mechanism to deal with anxiety may have diminished because of their prior experience of severe stress and anxiety.

Personality characteristics or traits also contribute to the outcome for anything. Personality can be defined as a dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognitions, motivations, and behaviors in various situations and according to the Diagnostic and Statistical Manual of the American Psychiatric Association, personality traits are "enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts." Like People who has lower self-esteem may feel extreme test anxiety than those people have high self-esteem, Self-esteem has classically been perceived as a trait of personality which strongly relates to one's mental and emotional health (e.g., Brown, [1998](#)), self-esteem can be termed as person's awareness of his won worth, value or knowledge. having a low self-esteem also paves way to high test anxiety (Peleg, [2009](#)). A student who has otherwise excellent learning and retention skills, often get good grades in class and home assignments, but the same person can suffer test anxiety and experience total failure in recalling what he has learnt and what he is required to reproduce in the examination paper. This all result in low grades in tests.

Other thing is self-efficacy, "the belief in one's capabilities to perform well to achieve their target goal" (Bandura, [1995](#)). If anyone has less self-efficacy, they may have test anxiety even with doing hard work, if a person is not satisfied with their capability to attain any goal, he or she may get disheartened and before or during the test may experience test anxiety. Our emotional reactions and the responses which we give to situations also play an important role in self-

efficacy. Emotional states, moods, stress levels and physical reactions can all influence on person feelings about their personal capabilities in a particular situation. A person who is extremely shy and feels nervous while speaking publicly may have a weak self-efficacy in similar situations, self-efficacy leads to test anxiety or anxiety or stress lead to low self-efficacy, the direction of this relationship is not clearly identified. There are lots of research's findings that showed the negative correlation between them, but the direction was not clear.

In one study of Capa et al. (2001) on college students showed that there was a negative correlation between test anxiety and academic self-efficacy. Another thing is that some people are highly perfectionist; they don't want themselves to make any type of mistake. If these types of people don't get time to study because of any work unexpectedly occur they may feel anxiety. During the test if solution or answer don't occur in their mind their perfectionism makes them feel embarrassed or guilty and they can start experiencing test anxiety if they are not able to answer or after checking they see that their answers are wrong. They should realize that mistakes are part of life, and we learn from our mistakes, these mistakes should take as learning point of view rather as stress or anxiety.

Students with high Test Anxiety tend to have an external locus of control (i.e., feeling or believes that fate/luck or other external forces guide his/her behavior.). There has been plenteous research on the relationship between locus of control and school performance. In a study of Nunn et al. (1986) findings showed a negative relationship between external locus of control and scores on the Iowa Tests of Basic Skills in middle school students. In another research of Tesiny et al. (1980) also found negative correlation between external locus of control orientation with reading achievement and teacher ratings of study habits. Most of the studies of students have shown the positive relationship between higher levels of achievement and higher degrees of internal locus of control. (Auer, 1992; Tanksley, 1993). It has been found that high levels of internal locus of control are even more significant element than intelligence or socioeconomic status. Having irrational thoughts about test and result, negative thinking, criticizing oneself also add to increased test anxiety like low self-esteem and external locus of control.

A healthy mind and body help in reducing the test anxiety or to save their performance from anxiety, students must take care of their general health – exercise regularly, participate in physical games, take rest and enough sleep, and nutritious diets before test — can help keep their mind working at its best. For severe test anxiety which may convert in to phobia or extreme somatic symptoms can be treated by behavioral and mainly systematic desensitization—a process in which the person is exposed to increasing levels of the aversive, anxiety-producing stimulus (here testing environments) and provided training for relaxation techniques, but it may not be beneficial for improving test performance (Allen et al., 1980), counselling and relaxation techniques are much effective for reducing the test anxiety.

Exercise is much more effective to reduce anxiety, stress and depressive symptoms, if people continuously feel that they have severe test anxiety they should start exercise. Exercise is beneficial for physical as well as psychological health and some researchers have found that aerobic exercise is related to improve ability for reasoning. Walking or any other aerobic exercise leads to better circulation of blood and oxygen pumping to the brain, which can help people to think more clearly and hence retention gets better (Studenski & others, 2006). When they are able to think in broad manner, they can become more optimistic which can lead them to realize that taking stress is not the solution. Majority of students have no knowledge regarding reducing negative thinking, exam-taking and anxiety- reduction techniques, for all the family members can be good instructor or they can provide counseling. A student needs to think positively and focus on preparing for the test. Students should take all the time they need to finish the test, even if it is up to the very last minute of the allotted time, they should not stick on one question if the solution is not occurring to their mind. Students should maintain a positive attitude and create a mind-set as they study, think about doing well, not failing, they should respond to the test only as an opportunity to show how much you have learned. High-anxious students who are also high achiever should take the test just to know how your preparation is, they need to simply accept whatever score they get, they can move on and deal with it accordingly, during the test they should focus on positive self-statements such as "I can do this."

There is no reason to be afraid and suffer test anxiety. Once you have given the test and submitted it to the examiner, you should forget about it temporarily and turn to concentrate on next assignments and tests. When the



scored test is returned to you, analyze your performance to see how you could have done better and highlight the areas where you went wrong. Always take an approach to learn from your mistakes and from what you did well and try to apply this knowledge when you take the next exam or test.

Test anxiety is *not* the nervousness which we usually experience in any testing situation. The feeling of nervousness is a normal and acceptable response that nearly every one of us experiences when we are exposed to any evaluating or assessing tasks aptitude and achievement/academic test scores are considered while evaluating applicants for the job or for admission into higher levels of education in colleges/universities. Now extensive testing is being done at every level and the more the important decisions are taken on the basis of these test results, the more a student will be concerned about the results and can feel test anxiety. Consequently, examination stress and test anxiety have become pervasive problems in modern society.

Methodology

Sample

The sample of present study has been taken from various colleges and the universities with the method of convenient sampling. The sample consisted of three hundred students (one hundred and fifty males and one hundred and fifty females) of age range from 18 to 30. The education level ranges from intermediate to Masters. The sample was given a battery of tests including Four system Anxiety Questionnaire and The Personality Type A/B questionnaire with demographic sheet 30 minutes during normal class days, then the same sample was given only Four system Anxiety Questionnaire just before appearing for their final exam.

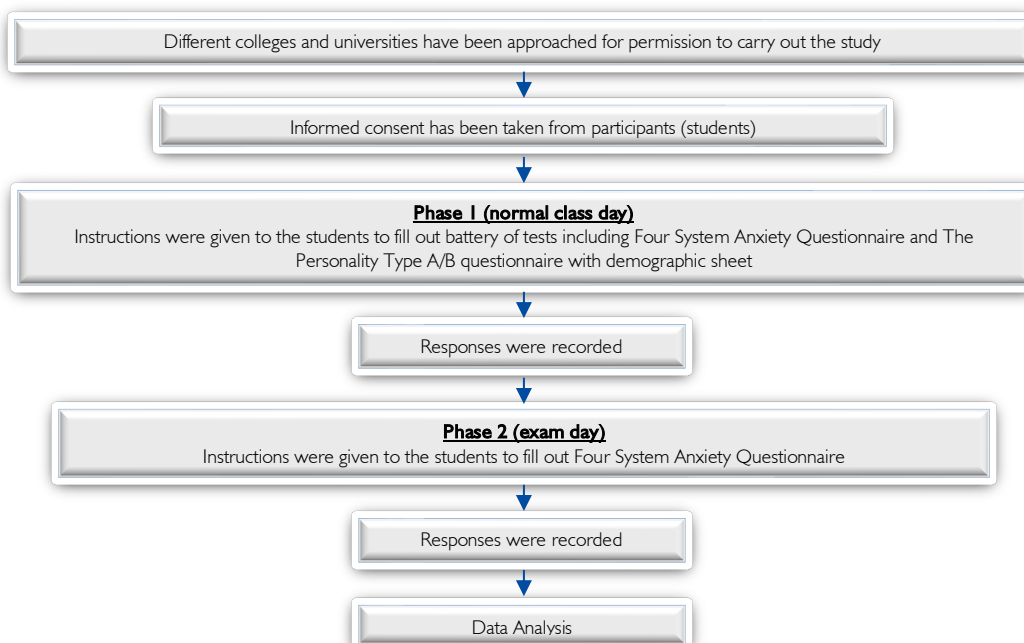
Measures

Four Systems Anxiety Questionnaire: Four Systems Anxiety Questionnaire by Falih Koksal and Kevin Power (1990), University of Sterling. A self-report measure of Somatic, Cognitive, Behavioral & Feeling Components. It reveals satisfactory reliability and validity levels.

The Personality Type A/B Questionnaire: The Personality Type A/B questionnaire is a modified version of the Jenkins Activity Survey (Jenkins et al., 1971). It has been adapted for use with college students. The reliability coefficient of the scale is reported at .78. Type A personality generally refers to hard workers who are often preoccupied with schedules and the speed of their performance. Type B personalities may be more creative, imaginative, and philosophical. The test consists of 30 multiple-choice items. Scores range from 35 to 380. Type A is associated with a high score while Type B is associated with a low score.

Research Design

The Research was conducted in two phases with Repeated Measure Design:



Statistical Analysis

Descriptive Statistics (Mean, Standard Deviation, Frequency)

Inferential Statistics

T-tests: To compare anxiety levels between gender and personality types.

Correlation Analysis: To measure the relationship between anxiety and test performance.

Data Analysis:

Statistical Analysis Results (300 Participants)

Descriptive Statistics: Average Test Anxiety Before Exam: 50.83 (SD = 14.76)

Average Test Anxiety During Exam: 55.99 (SD = 16.05)

Average Test Performance: 49.20 (SD = 19.03)

Test Anxiety increased during exams, confirming the hypothesis.

Gender Differences in Test Anxiety (t-test)

$t = 2.13, p = 0.034 \rightarrow$ Significant difference.

Females had higher test anxiety during exams compared to males.

Personality Type Differences in Test Anxiety (t-test)

$t = -4.02, p < 0.001 \rightarrow$ Highly significant difference.

Type A personalities had significantly higher test anxiety than Type B.

4. Correlation Between Test Anxiety and Test Performance

$r = -0.86, p < 0.001 \rightarrow$ Strong negative correlation.

Higher test anxiety leads to lower test performance.

Analysis and Discussion

Investigation explored that extensive course outline and extended hours of exams are the major contributors to exam anxiety as well as the unorganized pattern of behavior, poor study habits, poor test-taking skills and/or error in time management may facilitate their anxiety during or before the exam. Sometimes external factors like uneducated parents, family environment, allocated times for test or exam, testing environment, physical or psychological problems may worsen this anxiety. Specific personality characteristics may also contribute like low self-esteem, lack of confidence, lack of self-efficacy, highly perfectionism, having external locus of control or self-criticism.

There is inverse relationship between anxiety level and test performance, feelings of tensions or fear because of test anxiety can inversely affect students' concentration or performance in their studies and learning and sometimes this severe anxiety can convert into the anxiety disorder. Performance impairment can be occurred due to physical symptoms (pounding heart, shaking hands, fainting, headache etc), emotional symptoms (feelings of fear and helplessness, tension, disappointment, anger etc), behavioral symptoms (nervousness, substance/drug abuse, isolated/avoidance) and cognitive symptoms (too many thoughts, sudden short episodes of memory loss - 'going blank', difficulty in making judgments and concentrating on tasks, negative self-talk). When a person has full of disturbing thoughts and tensions or abnormal physiological functions, it can increase the possibility that the person will do worse on the test.

We may observe that high achievers experience less test anxiety as compared to low achievers and female high achievers experience more test anxiety as compared to male high achievers. Overall research on gender shows the significant difference and proved that female feel more test anxiety as compared to male.

For reducing the test anxiety positive attitude toward themselves, parental education, counseling and healthy family environment really count. Parental support should help the child acquire general problem-solving strategies. Well managed behavioral patterns including healthy nutritious diet, exercise or walking and proper night sleep are very helpful. For the part of teachers, they should be clear, motivating, and helpful with supportive attitude and should



provide positive feedback and verbal praise. Comfortable sitting arrangements during test, distracter free testing environment and enough time for completing the test also lessen the anxiety of students. If this anxiety becomes a regular pattern for any student after all applicable solutions, they may consult to psychologists or educational experts for this and may take benefits from counseling or relaxation techniques like deep breathing and systematic desensitization etc.

Conclusion

To conclude these results, it can be stated that females experience more test anxiety than males, Type A personalities have significantly higher test anxiety and test anxiety strongly affects performance negatively. Anxiety is an aversive emotional experience that impacts students from all ethnic backgrounds and grade levels and can be occurred due to distracting test environment, some specific personality traits of students, their poor study habits and disorganized behavioral pattern, parents and unhealthy family environment are also contributors of test anxiety. Performance impairment can be occurred due to physical, emotional, behavioral and cognitive symptoms facilitated by test anxiety. High achievers experience less test anxiety as compared to low achievers and female feel more test anxiety as compared to male. To help students learn to manage effectively such anxiety is a challenging task that requires a genuine team effort. Students, parents, teachers and school counselors must all take part actively in reducing test anxiety. As we live in a test-taking society and when students are very anxious during tests, they are less likely to perform up to their academic potential. For reducing test anxiety healthy family environment, parental education, counseling, positive attitude toward themselves, relaxation technique, well managed behavioral patterns and good study habits are very useful.

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