# Effectiveness of Guided Imagery in Reducing Examination Anxiety among Secondary School Students in South India

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## ABSTRACT

*Objective:* To assess the effectiveness of guided imaginary techniques on examination anxiety among the school adolescent's. *Methods:* The sample consisted of 60 students (30 were in control group and 30 were in experimental group) aged 14 to 16 years studying in class IX and X at matriculation schools in Madurai. The examination anxiety was measured using Test Anxiety Questionnaire. *Results:* Of the 30 control group students, 63% had unhealthy anxiety in pretest and in post test it was 70%, whereas in experimental group, among the 30 students, 57% had unhealthy anxiety in pretest but in post test it was 0%, there is no unhealthy anxiety. There was a significant difference seen between control group and experimental group after teaching the imagery techniques. (Mean score in control group - 34.93, in experimental group - 17.83, P < 0.000). *Conclusion:* The results indicate that guided imagery technique is effective in reducing the examination anxiety among school students. And it will help to reduce anxiety of students at all levels of examination to perform good in their academic especially in board examination. Further research may help in guide policy on education to improve the teaching methodology allowing the students to control the anxiety on exam.

*Keywords: Test Anxiety, Guided imagery, Secondary School, Adolescents.*

**A**nxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes.[1] Anxiety can cause difficulty in concentration and prevent us from recalling material that we have learned.[2]  A student who is experiencing test anxiety may do poorly on an exam even if he or she knows the material better than a classmate who is able to control anxiety.[3] American test anxiety association identified, test anxiety in school-aged children as a serious educational problem in today's society. School-related stress is the most prevalent, untreated cause of academic failure in our schools. In a class room of 25 students, between one to three

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students are of high risk for developing stress-related problems which would probably interfere with learning.[4]

Anxiety is one of the most common psychological disorders in school-aged children and adolescent's worldwide.[5] The prevalence rates range from 4.0% to 25.0%, with an average rate of 8.0%.[6] Early Indian studies reported prevalence rates of psychiatric disorders among children ranging from 2.6 to 35.6 per cent.[4] Anxiety among students and their parents has been reported to be on the rise in India, especially among those facing board certification examinations.[7]

Exam Anxiety is a common phenomenon negatively affecting the academic, emotional, personal and social lives of almost 20% students across nationalities including India.[5] Test anxious students score poor grades/marks and have poor mental health in comparison to others. It may be fatal at times. There are reports of deliberate self-harm and suicide by students highlighting the need for timely intervention.[8] Exam anxiety can also be labeled as anticipatory anxiety, situational anxiety or evaluation anxiety. Some anxiety is normal and often helpful to stay mentally and physically alert.[9]

Guided imagery therapy is a cognitive behavioral technique in which under the guided instructions a client is guided in imagining a relaxing scene or series of experiences.[10] It is a gentle powerful technique more often used to promote relaxation and to provide therapeutic benefits. It involves the conscious use of imagination to create positive images in order to bring about healthful changes.[11] Numerous clinical observations suggest, it will be effective in helping individuals learn or modify behaviour such as learning to relax, changing and controlling their negative emotions in response to a particular situations, event or belief, preparing themselves for positive changes.[10]

Therefore, the aim of the present study was to assess the effectiveness of guided imagery relaxation technique in reducing examination anxiety among Secondary School Students.

## METHODS

The quasi experimental study was conducted with the convenience sample of 60 students studying in class IX and X standard aged of 14-16 from Ruby Matriculation Higher Secondary School and HDI Jain Matriculation Higher Secondary School, Madurai, Tamil Nadu, India, over the period of 2 months in 2012. The students who willing to participate and understand Tamil and English language were included, among the 60 students, 30 were in experimental group and 30 were in control group.

*Semi-structure interview:*

A semi structure questionnaire was used to collect the demographic profile, which includes age, gender, standard of studying, family monthly income, job of parents, parental expectations, Religion, relaxation technique, sleeping hours, psychological support and previous failure.

*Test anxiety questionnaire:*

It was developed by Nist and Diehl (1990) to determine level of student' test anxiety, it was consisted of ten items. The questionnaire items have 5 points Likert- like format with the following coding: Never (1), Rarely (2), Sometimes (3), Often (4), and Always (5). Total Scores was range from 10 – 50. Score ranged from 10 to 19 low students' test anxiety. Score ranged from 20 to 35 moderate students' test anxiety. Score ranged from 36 to 50 high students' test anxiety.[12]

*Procedure:*

The researcher underwent the training of guided imagery technique in Valliammal Institution, Madurai, Tamilnadu, for formal certificate programme. Followed by official permission was obtained from the authorities of concerned School to conduct this study. The investigator initially established rapport with the exam going students, followed by each individual student was informed about the purpose of the study and confidentiality was promised and ensured. Informed consent was obtained from each individual. The students had the freedom to leave the study by his/ her wish without assigning any reason. The Ruby school students were selected as experimental whereas the HDI Jain Matriculation Higher Secondary School as control group. Demographic profile and Test Anxiety Questionnaire were administered to assess the Examination Anxiety for both groups and the Guided Imagery Technique was taught only to the experimental group students about twenty minutes daily for fourteen days. The post test was conducted after one week of the technique on the second day of examination for the both groups and the collected data were entered into the excel sheet. The data was analysed by using descriptive and inferential statistics.

Ethical clearance was obtained from dissertation committee of the C.S.I Jeyaraj Annapackiam College of Nursing in madurai.

## RESULTS

The **table 1** shows the students demographical profile of both control and experimental group. Mostly near to equal distribution of age, sex, and standard in both the control and experimental group. In both the groups, most of the fathers are working as a private employee and also most of the mothers were house wife. Most of the students are coming from the urban area and their family type was nuclear family in maximum number of students. Twenty-two (37%) students family income was less than 8000 INR, 21 (35%) were in between 8000 – 15000 INR and the rest of their family income was above 15000 INR.

*Table 1: Demographic profile of 60 students*

| Demographic variables | | Control (n=30) | Experimental (n=30) |
|---|---|---|---|
| Age | 14-15 years | 18 (60%) | 21 (70%) |
| | 15-16 years | 12 (40%) | 9 (30%) |
| Sex | Male | 14 (47%) | 15 (50%) |
| | Female | 16 (53%) | 15 (50%) |
| Standard of studying | 9th Standard | 15 (50%) | 13 (43%) |
| | 10th Standard | 15 (50%) | 17 (57%) |
| Father's occupation | Government employee | 6 (20%) | 3 (10%) |
| | Private employee | 18 (60%) | 15 (50%) |
| | Business | 6 (20%) | 12 (40%) |
| Mothers occupation | Government employee | 1 (3%) | 2 (7%) |
| | Private employee | 6 (20%) | 5 (17%) |
| | House wife | 22 (77%) | 23 (76%) |
| Place of residence | Urban | 20 (67%) | 27 (90%) |
| | Semi-urban | 4 (13%) | 1 (3%) |
| | Rural | 6 (20%) | 2 (7%) |
| Family type | Nuclear family | 18 (60%) | 22 (73%) |
| | Joint family | 10 (33%) | 6 (20%) |
| | Extended family | 2 (7%) | 2 (7%) |
| Family income per month | <Rs.8000 | 13 (43%) | 9 (30%) |
| | Rs.8000-15000 | 8 (27%) | 13 (43%) |
| | >Rs.15000 | 9 (30%) | 8 (27%) |

*Table 2: Detail of student attitude and parental expectation*

| Demographic variables | | Control (n=30) | Experimental (n=30) |
|---|---|---|---|
| Attending relaxation technique | Yes | 10 (33%) | 6 (20%) |
| | No | 20 (67%) | 24 (80%) |
| Parental expectation for high scores | Yes | 23 (77%) | 21 (70%) |
| | No | 7 (23%) | 9 (30%) |
| Peer group competition | Present | 22 (73%) | 24 (80%) |
| | Absent | 8 (27%) | 6 (20%) |
| Previous failure | Yes | 8 (27%) | 11 (37%) |
| | No | 22 (73%) | 19 (63%) |
| Any Psychological support | Yes | 28 (93%) | 28 (93%) |
| | No | 2 (7%) | 2 (7%) |
| Sleeping time at night before exam | ≤6 hours | 18 (60%) | 14 (47%) |
| | > 6 hours | 12 (40%) | 16 (53%) |
| Read only at the time of examination | Yes | 14 (47%) | 13 (43%) |
| | No | 16 (53%) | 17 (57%) |

Among the control group students, only 10(33%) students are attended the relaxation techniques, 23(77%) of their parents expectation is high in scoring marks and 22(73%) students were had peer group competition. There is no previous failure in 22 (73%) students, 28 (93%) students are getting psychological support, 18 (60%) were sleeping less than or equal to 6 hours at night before exam, and 16 (53%) students are regularly reading. Whereas in experimental group, only 6 (20%) students are attend the relaxation techniques, 21(70%) of their parents expectation is high in scoring marks and 24 (80%) students were had peer group competition. There is no previous failure in 19 (63%) students, 28(93%) students are getting psychological support, 16 (53%) were sleeping greater than 6 hours at night before exam, and 17(57%) students are regularly reading (**Table 2**).

*Table 3: Level of anxiety of the 60 students*

| Level of anxiety | Control group | | | | Experimental group | | | |
|---|---|---|---|---|---|---|---|---|
| | Pre | | Post | | Pre | | Post | |
| | f | % | F | % | f | % | F | % |
| **No Anxiety (10 -19)** | 2 | 7% | 0 | 0% | 0 | 0% | 22 | 73% |
| **Healthy Anxiety(20 – 35)** | 9 | 30% | 9 | 30% | 13 | 43% | 8 | 27% |
| **Unhealthy Anxiety (>35)** | 19 | 63% | 21 | 70% | 17 | 57% | 0 | 0% |

Of the 30 control group students, 19(63%) had unhealthy anxiety, 9(30%) had healthy anxiety and 2(7%) had no anxiety in pretest. In posttest 21(70%) had unhealthy anxiety, 9(30%) had healthy anxiety and no one had no anxiety. Whereas in experimental group, among the 30 students, 17(57%) had unhealthy anxiety, 13(43%) had healthy anxiety and no one had no anxiety in pre test, but in posttest after the intervention 22(73%) had no anxiety, 8(27%) had healthy anxiety and no one had unhealthy anxiety.

*Table 4: Significant of control group and experimental group*

| Paired 't' test | | | | |
|---|---|---|---|---|
| **Control Group** | **Mean** | **SD** | **'t' value** | **p-value** |
| Pre Test | 34 | 7.27 | 1.721 | 0.096 |
| Post Test | 34.93 | 5.71 | | |
| **Experimental Group** | **Mean** | **SD** | **'t' value** | **p-value** |
| Pre Test | 33 | 6.06 | 10.383 | 0.000** |
| Post Test | 17.83 | 3.86 | | |
| **Unpaired 't' test** | | | | |
| | **Mean** | **SD** | **'t' value** | **p-value** |
| **Control Group** | 34.93 | 5.71 | 11.594 | 0.000** |
| **Experimental Group** | 17.83 | 3.86 | | |

**Paired 't' test in control group:** The examination anxiety pretest mean score is 34.00 (SD=7.27) and posttest mean score is 34.93(SD=5.71), and the 't' test value is 1.721(P > 0.096) is not significant.

**Paired 't' test in experimental group:** The examination anxiety pretest mean score is 33.00 (SD=6.06) and posttest mean score is 17.83 (SD=3.86) and the 't' test value is 10.383(P < 0.000) which is highly significant.

**Unpaired 't' test for control and experimental group**: The examination anxiety post test mean score in control group is 34.93(SD=5.71), in experimental group the posttest mean score is 17.83(SD=3.86) and the 't' test value is 11.594 (P < 0.000) which is highly significant.

## DISCUSSION

Teaching guided imagery to children as a first line of defense against the start of worry and anxiety. Teaching this mindful practice would allow children to gain control of ruminating thoughts, help them learn to relax at an early age, and teach them to manage stress throughout life. Learning to practice these techniques at an early age as a lifelong practice may be worth a pound of prevention against the onset of anxiety and stress that manifest in adulthood.[13]

In this study, in pretest, 57% had unhealthy anxiety, 43% had healthy anxiety, but in posttest 73% students don't have anxiety, remaining 27% also had healthy anxiety in experimental group, because it was improved–by guided imagery techniques, In control group on pretest 63% had unhealthy anxiety, 30% had healthy anxiety and 7% had no anxiety but the unhealthy anxiety was 70%  in post test it shows worsen, 30% had healthy anxiety, and there is no reduction in anxiety on exam. Similarly Senthil KR et.al (2011) reported that, in pretest 65% of students had unhealthy anxiety and 35% had healthy anxiety in experimental group and 60% had unhealthy anxiety and 40% had healthy anxiety in control group. In posttest 25% of students had healthy anxiety and 75% had no anxiety in experimental group and 60% had unhealthy anxiety and40% had healthy anxiety in control group.[14]

In experimental group, the exam anxiety mean score was reduced after guided imagery techniques ( pre test-33, post test-17.83) but in control group there is no  change in  mean score (pre test-34, post test-34.93). There was a significant difference seen in experimental group before and after guided imaginary techniques (t value-10.383 & p-value-0.000***), whereas in control group, there is no significant difference seen in pre and post tests (t value-1.721 & p-value-0.096)). This reveals that guided imagery technique is effective in reducing the examination anxiety among school students. Similarly Usha et.al (2011), reported that, for experimental group the reduction in anxiety (75% had no anxiety and 25% had healthy anxiety) after 14 days intervention training was statistically significant, where as anxiety level was same to control group.[15]

The above findings revealed that the guided imagery technique has the significant effect in reducing the examination anxiety.

Further results indicate that, there is no significant association between the level of anxiety and selected demographic variables among control group and experimental groups, such as age, sex, standard of studying, parents occupation, religion, place of residence, type of family, relaxation technique, parental expectation, peer competition, previous failure, psychological support, sleeping hours before the exam & reading habits before the exam.

## CONCLUSION

The results indicate that guided imagery technique is effective in reducing the examination anxiety among school students. And also it will help to reduce anxiety of students at all levels of examination to perform good in their academic especially in board examination which is conducted by state and central government. Further research may help guide policy on education to improve the teaching methodology allowing the students to control the anxiety on exam.

*Contribution of Each Author*
Mrs. Suganya P involved in study conceptualization and design, preparing the semi structural questionnaires, getting approval and ethical clearance, data collection, and preparation of the manuscript.

Mr. Pitchaimani G involved in analysis and interpretation of data and preparation of the manuscript.

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