



# A STUDY TO ASSESS THE EFFECTIVENESS OF JACOBSON PROGRESSIVE MUSCLE RELAXATION TECHNIQUE ON REDUCTION OF SOCIAL ANXIETY AMONG SCHOOL CHILDREN IN A SELECTED URBAN SCHOOL AT BENGALURU

**Rahul Negi**  
**Assistant Professor**  
**AVK College Of Nursing**

## INTRODUCTION:

Each child grows and develops at his or her own rate. School-age period between six to twelve years is a time of relatively slow and steady growth. And it is the period of development of expected physical, emotional, and mental abilities of children<sup>1</sup>. A very important part of growing up is the ability to interact and socialize with others. During the school-age years, there will be a transition in the child as he/she moves from playing alone to having multiple friends and social groups<sup>2</sup>. It is the period of development of initiativeness, competence, and confidence among children. School age begins with the entrance into the wider sphere of influence represented by school environment.<sup>1</sup>

School plays a crucial and formative role in the development of the child. And problems encountered in the school system may be manifested mainly as scholastic backwardness, and consequent emotion and conduct disturbances which in turn cause a drop in scholastic performance. The coping styles of disturbed children are those of avoidance and escape<sup>4</sup>.

A small amount of anxiety is normal in the developing child, especially among adolescents and teens. Some teenagers develop exaggerated and usually inexplicable fears called phobias that centre on specific objects or situations that can limit their activities.<sup>2</sup>

## NEED FOR THE STUDY:

Several studies have revealed an increase in school avoidance in middle-school or junior high years<sup>6</sup>. Children with social phobia frequently avoid social situations, most commonly those involving interactions with others or situations. Some of the feared situations include meeting new children, speaking in the class, talking to authority figures such as Principal, giving presentations and performing in front of others<sup>7</sup>. Physiological symptoms include dry mouth, difficulty in swallowing, palpitation, headaches, tremors, and insomnia. The psychological manifestations are irritability, restlessness, and more social anxiety.

According to the world population status, 1.2 billion children are belonging to the school age<sup>8</sup>. Government of India's population status shows that children belonging to the school age form 20% of the population<sup>9</sup>. The current population status of Karnataka is 6,11,30,704. Among these 1,02,48,090 are school children<sup>10</sup>. Anxiety disorders are the most

prevalent emotional disorder experienced by 10%-20% of children around the world. The mean onset of social phobia is 10 to 13 years<sup>7</sup>. Epidemiological surveys have shown that females are around one-and-a-half to two times more likely to have anxiety disorder than males. Cross-cultural studies have reached prevalence rates with conservative rates at 5% of the population<sup>7</sup>. In India, lifetime prevalence estimates for social phobia vary greatly and range from 0.4 to 20.4%.<sup>4</sup>

A comparative study was conducted in Kolkata, India, to determine the prevalence of anxiety among high school students on the basis of gender, school type, social strata, and perception of quality time with parents. The sample comprised 460 adolescents [220 boys and 240 girls] aged 13-17 years selected via multistage sampling technique. Data was collected using a self-report semi-structured questionnaire and a standardised psychological test. The State-Trait Anxiety Inventory Scale showed that anxiety was prevalent in 20% boys and 17.9% of girls. Students from Bengal medium schools were more anxious than those from English medium schools. Middle class students were more anxious than high and low socioeconomic group. Students with working mothers were found to be more anxious. Hence, the researcher concluded that there is prevalence of childhood anxiety which has a negative effect on children's social, emotional, and academic success.

Several child and adolescent anxiety treatment programmes are now available. They include relaxation techniques which require little effort and may be used at any time.<sup>19</sup> Relaxation techniques include a number of practices such as progressive relaxation, guided imagery, biofeedback, self-hypnosis, and deep breathing exercises. Progressive relaxation is also called Jacobson's Progressive Muscle Relaxation. This relaxation method focuses on tightening and relaxing each muscle group. The goal is to consciously produce the body's natural relaxation response, characterized by slower breathing, lower blood pressure, and a feeling of calm and wellbeing. Techniques involving relaxation are widely used by people to reduce anxiety and cope with stress-related problems<sup>13</sup>. Since Jacobson's Progressive Muscle Relaxation is found to be an effective method in relieving anxiety and not being widely used among school children, the researcher found that there is a need to assess the effectiveness of this method.

An experimental study was conducted in Bangalore city, among a group of students in a Personality Development Course Camp to assess the efficacy of integrated approach of Jacobson's Progressive Muscle Relaxation technique for anxiety in normal students. The sample comprised 60 students in the age group of 13-17 years selected randomly. Another set of 60 students from a school at Jamshedpur undergoing a day camp was considered as the control group. A psychological questionnaire method and anxiety rating scale were used. The result showed that there was reduced level of anxiety at 13.69% in the experimental group as compared to students of control group of 6.61% rise in anxiety level. The researcher concluded that progressive relaxation technique played a positive role in reducing the anxiety among the experimental group.

In reference to the above mentioned literature, the investigator realized the importance of Jacobson's Progressive Relaxation Technique in reducing the anxiety among school children.

## **HYPOTHESES**

The hypotheses are tested at the 0.05 level of significance.

**H<sub>1</sub>:** There will be significant difference between the mean post-test social anxiety score and mean pre-test social anxiety score of the experimental group.

**H<sub>2</sub>:** There will be significant difference between the mean social anxiety score of experimental group and control group.

**H<sub>3</sub>:** There will be significant association between the pre-test social anxiety score and selected demographic variables.

## **CONCEPTUAL FRAMEWORK BASED ON MODEL:**

The relationship between research and theory is undeniable. A Research without theory results in discrete information or data which does not add to the accumulated knowledge of the discipline. Theory guides the research process, forms the research questions, aids in design, analysis and interpretation. To effectively build knowledge to

research, process should be developed within some theoretical structure that facilitates analysis and interpretation of findings.

A framework is the conceptual underpinning of the study. In a study based on theory the framework is referred to as the theoretical framework; in a study that has its roots in a specific conceptual model, the framework is often called the conceptual framework. Conceptual framework refers to the interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme.

The conceptual framework of present study effectiveness of guided imagery relaxation technique in social anxiety activity among School going children is based on Betty Newman's Health Care system model. Betty Newman focuses on social anxiety and social anxiety reduction.

- **Basic structure/ central core:** Common client survival factors in unique individual characteristics representing basic system energy resources. The basic structure, or central core, is made up of the basic survival factors that are common to the species.

In this study, basic structure is the students who are studying in tenth standard of BGHS school both male and female students.

- **Flexible line of defence:** A protective, accordion like mechanism that surrounds and protects the normal line of defence from invasion by social anxiety.

- **Normal line of resistance:** It represents what the client has become over time, or the usual state of wellness. It is considered dynamic because it can expand or contract over time.

In this study, normal line of resistance is the School going children's basic resistance capacity or how the School going children can be able overcome the social anxiety full situations successfully.

- **Line of resistance:** The series of concentric circles that surrounds the basic structure. Protection factors activate when social anxiety or have penetrated the normal line of defense, causing a reaction symptomatology.

In this study, line of resistance is the, how much the individual can be able to resist the social anxiety situation without any mental social anxiety.

- **Social anxiety:** Environmental factors, Intra (emotions, feelings), inter (role expectation), and extra personal that have potential for disrupting system stability.

In this study, social anxieties are the examination social anxiety and pubertal changes of tenth standard adolescence.

- **Primary prevention:** Primary prevention occurs before the system reacts to social anxiety.

In this study, primary prevention was not undertaken by the School going children.

- **Secondary prevention:** Secondary prevention occurs after the system reacts to social anxiety and is provided in terms of existing system.

In this study, researcher administrated anxiety Scale and identified the students those who are experiencing social anxiety and provided guided imagery relaxation technique to increase the social anxiety among School going children.

- **Tertiary prevention:** Tertiary prevention occurs after the system has been treated through secondary prevention strategies.

In this study, tertiary prevention was not undertaken by the School going children.

- **Reactions:** Reactions are the individual's response to the social anxiety situations.

- **Interventions:** Interventions are the methods to treat the affected object.

In this study, the individual exposed to the Jacobson Progressive Muscle Relaxation technique to reduce social anxiety.

- **Evaluation:** Evaluation is to determine whether equilibrium is restored and a steady state maintained.

In this study, the evaluator conducts a post-test to know the level of social anxiety among School going children.<sup>12</sup>

## OBJECTIVE OF THE STUDY:

- Determine the social anxiety among school age children in the experimental and control group using modified Anxiety Scale.
- Evaluate the effectiveness of Jacobson Progressive Muscle Relaxation technique on social anxiety activity in the experimental group using the same modified Anxiety Scale.



- Find association between social anxieties among school age children and selected demographic variables.

## METHODOLOGY:

### RESEARCH APPROACH:

This chapter deals with type of research approach used in the setting of the study. According to Polit and Hungler the classical approach for the conduct of evaluation research consists of four broad phases.<sup>11</sup>

- ✓ Determining the objective of the programme
- ✓ Developing a means for measuring the attainment of these objectives
- ✓ Data collection and interpreting data in terms of the objective
- ✓ In the analysis of data the difference of initial and terminal measurements represent the effect of the independent Variable.

In view of the nature of the problem under study and to accomplish the objectives of the study, an evaluative approach was found to be appropriate to describe the effectiveness of Jacobson Progressive Muscle Relaxation technique to decrease the social anxiety among School going children in selected high schools in Bengaluru.

### RESEARCH DESIGN:

The purpose of a design is to achieve a greater control and thus improve validity of the study in examining the research problem. Design has been developed by researchers to meet unique research needs as they emerged.<sup>11</sup>

In view of the nature of the problem and to accomplish the objectives of the study, Quasi- experimental i.e., with pre-test post-test control group design was adopted for the present study. Pre-test post-test experimental design judges the effects of the Jacobson Progressive Muscle Relaxation technique by the difference between the pre-test and post-test score by comparing with control group.

### POPULATION:

Population is defined as the entire aggregation of cases that meet a designated set of criteria (Polit and Hungler, 1999). School going children who are studying in tenth standard in selected high schools at Bengaluru constitute the target population for the study.<sup>14</sup>

### SAMPLING:

**Sampling technique:** According to Polit and Hungler, sample is subset of a population selected to appropriate in a research study. It is the process of selecting a portion of the population to represent the entire population of the study. The sample for the present study consisted of 60 School going children (30 in experimental and 30 in control group) in Bangalore. The purposive sampling was used.<sup>11</sup>

**Sample Size:** The study originated with a sample of 60 School going children(30 in experimental and 30 in control group) as a sample size for explicating the to assess the effectiveness of Jacobson Progressive Muscle Relaxation technique on social anxiety activity in the experimental group using the same modified Anxiety Scale among School going children.

### SAMPLING CRITERIA:<sup>22</sup>

#### Inclusion criteria

- School going children who are having moderate to severe social anxiety.
- School going children who are willing to participate.
- School going children those who are present on that day.

#### Exclusion criteria

- School going children who had previous exposure to any relaxation techniques.

- School going children who have respiratory or spinal problems

### DATA COLLECTION TECHNIQUE:

Methods of data collection include development of tool, testing of validity and reliability and data collection procedure. The instrument selected in research should be as far as possible the vehicle that would best obtain data for drawing conclusions, which are pertinent for the study.<sup>16</sup>

- Student's anxiety Scale was selected as appropriate method of data collection for the study and a good deal of information could be obtained by administering modified Anxiety Scale to the students

### DEVELOPMENT OF THE TOOL:

The investigator developed the questionnaire tool used in nursing research: principle and methods, corrections were made by experts. The instrument used for data collection was modified Anxiety Scale to assess the effectiveness of Jacobson Progressive Muscle Relaxation technique to decrease the social anxiety among School going children.

The tool consisted of two parts:

**Part I:** It includes questions on demographic profile of the subjects.

**Part II:** It includes tool to assess the severity of social anxiety among School going children. This is a 5 point scale with 30 items. The minimum score is 30 and maximum score is 150.

### Score interpretation:

In order to achieve the objectives of the study opinion from the statistician, guide and experts was taken to categorize the sample according to their level of social anxiety.

- 30-52 social anxiety score were considered as mild social anxiety
- 53-104 were considered as moderate
- 105-150 as severe social anxiety.

### Development of checklist for the validation of effectiveness of Jacobson Progressive Muscle Relaxation technique

A checklist was prepared to validate **Jacobson Progressive Muscle Relaxation** based on certain criteria. The criteria for validation of Jacobson Progressive Muscle Relaxation included the following aspects:

- Formulation of objectives
- Selection of the content
- Organization of the content
- Presentation of content
- Feasibility and practicability
- Accuracy, relevance, appropriateness and degree of agreement.

### RESULTS:

A result is the final consequence of a sequence of actions or events expressed qualitatively or quantitatively. Reaching no result can mean that the research actions are inefficient, ineffective, meaningless or flawed. Analysis is the process of breaking a complex topic or substance into smaller parts to gain a better understanding of it. In order to achieve the

research results the collected data must be processed and analyzed in some orderly coherent fashion so that patterns and relationship can be discerned.<sup>16</sup> This chapter deals with the analysis and interpretation of the data collected from School going children i.e., 30 in each experimental and 30 control group in accordance with the objectives of the study.

### Plan for data analysis

The term analysis refers to a number of closely related operations, which are performed with the purpose of summarizing the collected data and organizing the data in such a manner that they answer the research questions. Data collected was analyzed by using descriptive and inferential statistics.

### Descriptive Statistics

- Frequency and percentage distributions to analyze demographic data of subjects.
- Mean and standard deviation to analyze the level of social anxiety before and after administration of Jacobson Progressive Muscle Relaxation technique

### Inferential Statistics

- Paired t' test was used to assess the effectiveness of Jacobson Progressive Muscle Relaxation technique among school going children (Experimental group). Unpaired t' test was used to assess the effectiveness of Jacobson Progressive Muscle Relaxation technique among school going children (control group).
- Chi square test was used to associate the pre-test level knowledge of with the selected demographic variables of the staff nurses.

### Part I: Description of demographic characteristics of the sample.

Data shows that all the participants 100% are from 7th to 8th standard both in experimental and control group. Highest (86.6% in experimental group and 83.3% in control group) were females. Most (50% in experimental 53.3% in control group) were from Hindu religion. Most (73.3% in control group and 66.6% in experimental group) of School going children were belongs to nuclear family. Most (50% in experimental group and 46.6% in control group) of the samples were first child in the family. Majority (50% in experimental and 40% in control group) of the samples were from family income of rupees 5001– 10000. Highest (90% in experimental and 93.3% in control group) of the School going children are living with parents.

### Part II: Level of social anxiety among School going children in experimental and control group

This part deals with assessment of existing social anxiety. Level of social anxiety can be assessed by using anxiety Scale. Assessment of level of social anxiety among School going children in experimental and control group Level of social anxiety was assessed by using modified students anxiety Scale and was analysed using descriptive statistics as presented in Table 1.

**Table1: Frequency and percentage distribution of level of social anxiety among School going children in experimental and control group.**

n=30

Level of social anxiety	Experimental group		Control group	
	Frequency	Percentage	Frequency	Percentage
Mild	4	13.3	5	16.6
Moderate	16	53.3	15	50.0
Severe	10	33.4	10	33.4

Data in the Table 1 shows that most (53.3% in experimental group and 50% in control group) of the School going children are having moderate social anxiety whereas lowest (33.4% in both experimental and control group) were having severe social anxiety.

**Part III: Effectiveness of Jacobson Progressive Muscle Relaxation technique on social anxiety.****Section A: Comparison of level of social anxiety with pre-test and post-test score of experimental group.****Table 2: Frequency and percentage distribution of the sample according to the level of social anxiety in experimental group based on pre-test and post-test**

**n=30**

Level of social anxiety	Experimental group		Control group	
	Frequency	Percentage	Frequency	Percentage
Mild	4	13.3	20	66.7
Moderate	16	53.3	10	33.3
Severe	10	33.4	0	0.0

Data in the Table 2 shows that 33.4% of the adolescence had severe social anxiety in the pre-test whereas no social anxiety in the post-test. It is observed that 53.3% of the adolescence has moderate social anxiety in pre-test whereas in post-test 33.3% of them has moderate social anxiety and 13.3% of the sample had mild social anxiety in pre-test whereas 66.7% of the sample in post-test had mild social anxiety.

**Section B: Range, mean, median, mean score, mean difference, SD and 't' value of pre-test and post-test social anxiety scores of experimental group****Table 3:**

**n=30**

Test	Range of score	Mean	Median	SD	Mean difference	't' value
Pre-test	62-106	53.67	70.0	17.56	12	13.05
Post-test	40-67	43.70	50.3	13.70		

The data shows that in the experimental group the mean post- test score ( $43.7 \pm 13.7$ ) are less than that of mean pre- test score ( $53.67 \pm 17.56$ ). The calculated t value ( $t_{29} = 13.05$ ) is greater than the table value ( $t_{29} = 2.045$ ) at 0.05 level of significance. There is no significant association between the pre-test social anxiety score and selected demographic variables

**Section C: Comparison of post –test social anxiety scores of adolescence in experimental and control group****Table 4: Frequency and Percentage distribution of sample according to the posttest social anxiety scores in experimental and control group.**

**N=60**

Level of social anxiety	Experimental group		Control group	
	Frequency	Percentage	Frequency	Percentage
Mild	20	66.7	6	20.0
Moderate	10	33.3	14	46.6
Severe	0	0.0	10	33.4



Data in Table 4 shows that in the post-test of experimental group 66.7% had mild social anxiety 33.3% had moderate social anxiety and no one had severe social anxiety whereas in the control group 20% of the adolescence had mild social anxiety 46.6% had moderate social anxiety and 33.4% had severe social anxiety.

#### Section D: Mean, SD, mean difference and ‘t’ value of post-test score in experimental group and control group

**Table 5:**

**N=60**

Group	Mean score	SD	Mean difference	‘t’ value
Experimental group	43.70	17.56	13.45	3.2
Control group	57.13	18.40		

Data in Table 5 shows that the mean post-test social anxiety score ( $43.7 \pm 17.56$ ) in experimental group is lower than the mean pre-test score ( $57.13 \pm 18.4$ ) in control group after Jacobson Progressive Muscle Relaxation technique. The calculated t value ( $t_{58}=3.2$ ) is greater than the table t value ( $t_{58}=1.96$ ) at 0.05 level of significance. Hence the null hypothesis was rejected. This shows guided imagery relaxation technique was effective in social anxiety activity among adolescence.

### Main findings of the study:

#### 1. Demographic characteristics of the study:

- All the participants are studying in the tenth standard.
- Highest (86.6% in experimental group and 83.3% in control group) were females.
- Most (50% in experimental, 53.3% in control group) were from Hindu religion.
- Most (73.3% in control group and 66.6% in experimental group) of School going children were belongs to nuclear family.
- Most (50% in experimental group and 46.6% in control group) of the samples were first child in the family.
- Majority (50% in experimental and 40% in control group) of the samples were from family income of rupees 5001–10000.
- Highest (90% in experimental and 93.3% in control group) of the School going children are living with parents

#### 2. Level of social anxiety among School going children

- Most (53.3% in experimental group and 50% in control group) of the School going children are having moderate social anxiety whereas lowest (33.4% in both experimental and control group) were having severe social anxiety.

#### 3. Effectiveness of Jacobson Progressive Muscle Relaxation technique

- In experimental group (33.4%) of the adolescence had severe social anxiety in the pre- test whereas no social anxiety in the post-test. It is observed that 53.3% of the adolescence has moderate social anxiety in pre-test whereas in post-test 33.3% of them has moderate social anxiety and 13.3% of the sample had mild social anxiety in pre-test whereas 66.7% of the sample in post-test had mild social anxiety.
- In the control group 20% of the adolescence had mild social anxiety 46.6% had moderate social anxiety and 33.4% had severe social anxiety.

#### 4. Association between pre-test social anxiety scores and demographic variables

- There was no significant association found between the demographic variables and School going children social anxiety. So the null hypothesis was accepted.

### CONCLUSION

The following conclusions were drawn on the basis of the present study to assess the effectiveness of effectiveness of Jacobson Progressive Muscle Relaxation technique for social anxiety activity among School going children in selected urban high schools in Bengaluru that most (53.3% in experimental group and 50% in control group) of the School going children are having moderate social anxiety whereas lowest (33.4% in both experimental and control group) were having



severe social anxiety. There is a significant difference between the mean post-test social anxiety score and mean pre-test social anxiety score of the experimental group after the intervention of Jacobson Progressive Muscle Relaxation technique and there was no significant association found between the demographic variables and School going children social anxiety. This section brings about the limitations of the study into practice. The findings of the study have several implications on nursing practice, nursing administration, nursing education and nursing research.

From this study, it could be concluded that by administering Jacobson Progressive Muscle Relaxation technique among

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