

Role of Jacobson's Progressive Muscle Relaxation Technique in Managing Anxiety Among Grade 10 Students

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Abstract: Board examinations can be an important source of academic pressure for secondary-school students, and anxiety may interfere with concentration, confidence, sleep, and examination preparation. Brief, low-cost relaxation strategies such as Jacobson's progressive muscle relaxation may be suitable for school settings. **Objective:** The present study examined the effect of a one-month Jacobson's progressive muscle relaxation technique on reduction of anxiety among Grade 10 students preparing for board examinations. **Methods:** Sixty Grade 10 students from a semi-English-medium private school were included, comprising 30 boys and 30 girls. Students were randomly allocated to an experimental group (n=30; 15 boys and 15 girls) and a control group (n=30; 15 boys and 15 girls). Anxiety was assessed using the Beck Anxiety Inventory (BAI), a standardized self-report measures of anxiety symptoms. The experimental group received Jacobson's progressive muscle relaxation technique for one month, whereas the control group did not receive any kind of intervention. **Results:** Following the intervention, the experimental group demonstrated lower anxiety levels (M=20.80, SD=12.79) than the control group (M=29.43, SD=12.06) **Conclusion:** The findings support the potential usefulness of Jacobson's progressive muscle relaxation technique for reducing anxiety among students preparing for board examinations.

Keywords: Jacobson's Progressive Muscle Relaxation Technique ; Anxiety; Grade 10 Students; Board Examination; Beck Anxiety Inventory.

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I. INTRODUCTION

Adolescence is a developmental period in which academic, social, and personal demands can contribute to emotional distress. For students approaching high-stakes board examinations, concerns about performance, preparation, expectations, and future educational opportunities may contribute to anxiety. Grade 10 students are vulnerable to anxiety due to high expectations, elevated anxiety levels during this phase can affect academic achievement, emotional well-being and overall adjustment to their school life.

School-based approaches that are brief, inexpensive, and easy to teach may therefore be useful as supportive strategies during examination preparation.

Jacobson's Progressive Muscle Relaxation (JPMR) is a well-established behavioral technique aimed at reducing anxiety, it is done by systematically attention towards the body parts and tensing and relaxing major muscle group.

Because of bodily awareness and producing relaxation, JPMR helps individuals manage physiological symptoms of anxiety.

In behaviour therapy, Jacobson progressive muscle relaxation technique is the easiest one to be learnt and applied. This technique reduces stress and gives a state of relaxation. This technique was developed by Dr Edmund Jacobson in 1930, In Jacobson's Progressive Muscle Relaxation (JPMR), different muscle groups are systematically contracted for approximately 5–7 seconds and then released for 20–30 seconds. The exercise progresses gradually from the feet toward the head. Throughout the practice, the individual pays close attention to the contrasting sensations experienced during muscle tension and relaxation. The primary aim of JPMR is to develop greater awareness of the physical sensations associated with relaxation and to help the individual recognize and experience a state of reduced muscular tension.

➤ Significance of the Study

Although examination anxiety is a practical concern for schools, students may have limited access to structured psychological support. A relaxation technique can potentially be incorporated into the school day without requiring specialized equipment. The present study therefore focuses on whether one month of Jacobson's progressive muscle relaxation technique is associated with lower anxiety levels among Grade 10 students preparing for board examinations.

➤ Statement of the problem

To determine the role of Jacobson's progressive muscle relaxation technique in reduction of anxiety among Grade 10 students preparing for board examinations.

➤ Objectives

- To examine the role of Jacobson's progressive muscle relaxation technique as a feasible school-based strategy for examination-related anxiety.

➤ Hypothesis

There will be a significant reduction in anxiety levels among 10th grade students preparing for examination who received the Jacobson's progressive muscle relaxation compare to those who do not receive the intervention.

➤ Variables

- Independent Variable (IV)
✓ Jacobson's progressive muscle relaxation
- Dependent Variable (DV)
✓ Anxiety

II. LITERATURE REVIEW

Vani Sudheer, K. P. Naachimuthu (2022), in their study on 30 young post pandemic female JPMR proved effective in reducing State Anxiety than Trait anxiety According to Mrs. Priya Gangadharan, Mrs. Amna Hussian Madani progressive muscle relaxation technique is helpful in reducing depression, anxiety and stress in nursing students. Mohammad Iqbal BA 1 and J Venkatachalam 2 (2025) A study involving college students found that Jacobson's Progressive Muscle Relaxation (JPMR) was effective in alleviating test anxiety. Students who received the JPMR intervention demonstrated a significantly greater reduction in test anxiety compared with those in the control group. Febu Elizabeth Joy, Tessy Treasa Jose & Asha K. Nayak (2014) Study revealed that social anxiety among adolescents is reduced by JPMR Toussaint L, et al. (2021)

Research indicates that various relaxation methods, including Jacobson's Progressive Muscle Relaxation (JPMR), may contribute to lower stress levels, promote a greater sense of relaxation, and support overall psychological well-being.

III. METHODOLOGY

➤ Research Design

The research adopted an experimental design involving two groups: one group received the intervention, while the other served as the control group. Anxiety was assessed using the Beck Anxiety Inventory, with assessment conducted before and after the intervention period. Students were randomly assigned to the two study groups.

➤ Setting

The study was conducted in a semi-English-medium private school among Grade 10 students preparing for board examinations from the population of Chhatrapati Sambhaji Nagar

➤ Participants and Sample

The sample consisted of 60 Grade 10 students appearing for board examinations: 30 boys and 30 girls. Students were randomly assigned to an experimental group of 30 students (15 boys and 15 girls) and a control group of 30 students (15 boys and 15 girls)

Table 1: Distribution of Sample

Group	Total	Boys	Girls
Experimental	30	15	15
Control	30	15	15
Total	60	30	30

➤ Tool

Anxiety was measured using a standardized anxiety scale Beck Anxiety Inventory suitable for college students. The Beck Anxiety Inventory (Beck and Steer, 1993) (BAI) is a self-reported assessment tool consisting of 21 items which evaluate the intensity of physical and cognitive anxiety symptoms over the past week, with scores ranging from 0 to 63 indicating levels of anxiety from minimal to severe. The reliability coefficient is 0.92. The test-retest reliability is 0.75.

➤ Procedure

Students from Grade 10 were selected for the study. Rapport was established and after students consent they were taken for experimental group and control group.

Both groups were initially assessed for anxiety. The experimental group was then administered Jacobson's Progressive Muscle Relaxation over a specified intervention period i.e. one month 20 minutes each day. The control group did not receives any psychological intervention. After completion of the intervention, anxiety levels were reassessed.

➤ Statistical Analysis

The mean and standard deviation were determined for each of the two groups. Comparative analysis was conducted to examine differences in anxiety levels between the experimental and control groups.

Paired t test was used to find out the significance difference between the mean pre-test and mean post test scores.

IV. RESULT AND DISCUSSION

The descriptive statistics revealed the following post-test anxiety scores:

Table 2: Group Comparison

Group	N	Mean	SD	t value	df	p
Experimental Group	30	20.80	12.79	-2.69	58	< .01
Control Group	30	29.43	12.06			

The students who received Jacobson's Progressive Muscle Relaxation (JPMR) showed lower average anxiety scores than those in the control group, suggesting that JPMR may be effective in alleviating anxiety among Grade 10 students.

➤ Discussion

To assess the impact of Jacobson's Progressive Muscle Relaxation on anxiety, an independent-samples t-test was performed to determine whether there was a significant difference in post-test anxiety scores between the experimental and control groups.

The results indicated a statistically significant difference in anxiety levels between the two groups. The experimental group ($M = 20.80$, $SD = 12.79$, $N = 30$) reported significantly lower anxiety scores than the control group ($M = 29.43$, $SD = 12.06$, $N = 30$), $t(58) = -2.69$, $p < .01$.

This finding supports the research hypothesis and suggests that Jacobson's Progressive Muscle Relaxation is effective in reducing anxiety among Grade 10 students during their examination preparation days.

Thus, findings of the present study indicate that Jacobson's Progressive Muscle Relaxation significantly reduces anxiety during. The lower anxiety levels observed in the experimental group may be attributed to improved physiological relaxation and reduced muscular tension achieved through JPMR practice. These findings are consistent with behavioral theories emphasizing the role of relaxation techniques in anxiety management.

Current results are supported by the study by Mohammad Ikbal BA and J Venkatachalam studies result which suggest that JPMR is an effective technique for anxiety, anxiety management in academic settings.

Vani Sudheer, K. P. Naachimuthu (2022), in their study on post pandemic female JPMR proved effective in reducing State Anxiety support the current statistical results

Mrs. Priya Gangadharan, Mrs. Amna Hussian Madani The findings of the previous study suggested that Progressive Muscle Relaxation (PMR) is an effective intervention for reducing depression, anxiety, and stress among nursing students. The present study supports these findings, as the experimental group recorded a lower mean anxiety score than the control group, indicating the potential effectiveness of the intervention.

V. CONCLUSION

The study concludes that Jacobson's Progressive Muscle Relaxation is an effective intervention for reducing anxiety among Grade 10 students during their examination preparation period. Incorporating relaxation-based interventions within school's orientation program or student support programs can promote better mental health and academic functioning.

➤ Implications

Highlights the importance of early psychological intervention for Grade 10 students. Supports the integration of relaxation techniques in high school and higher education institutions.

➤ Limitations

The sample size was limited to 60 students. The study was confined to Grade 10 semi-english medium students. Long-term effects of the intervention were not assessed.

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