

Research Paper

## A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal

Amit Kumar Biswas<sup>1\*</sup>, Dr. Venkat Patil<sup>2</sup>

### ABSTRACT

Examination anxiety is one of the common psychological issues in adolescents, and usually, it affects focus, memory, and academic performance or achievements. The current paper set out to investigate the usefulness of hypnotherapy as a systematic psychological treatment in the examination anxiety management and academic performance among West Bengal secondary school students in India. The quasi-experimental pre-test and post-test control group design was used where 200 students (100 experimental and 100 control) were chosen by purposive selection on the basis of Test Anxiety Questionnaire (Nist & Diehl, 1990). The experimental group was subjected to three months hypnotherapy session, consisting of nine sessions each with an average of 40 minutes sessions and the control group was not subjected to any intervention within the period of the study. The data was compared by means of paired and independent sample t-tests with the help of SPSS software. The findings indicated that there was a high decrease in the examination anxiety ( $p < .001$ ) and a significant positive change in academic performance ( $p < .001$ ) in the experimental group compared to the control group. The results indicate the promise of hypnotherapy as a useful, non-pharmacological, and school-based intervention in improving mental health and academic performance of students. Another important concept that is highlighted in the study is the conceptual alignment between hypnotherapeutic relaxation and the Yogic philosophy of mental steadiness (citta-vritti nirodha), which provides an integrative view of mind-body interventions in the context of education.

**Keywords:** *Hypnotherapy, Examination Anxiety, Academic Performance, Psychological Intervention*

**A**nxiety about exams is a serious and common issue among high school students in the world and India. High levels of test anxiety are characterized by physiological arousal, cognitive disruption, and avoidance of behaviour which disrupts concentration, memory recovery and eventually academic achievement.

Hypnotherapy is a non-pharmacological and brief therapy, which focuses on maladaptive thinking and feeling in a manner involving imparting relaxation, imagery and suggestion.

<sup>1</sup>Research Scholar, Manipur International University, Manipur, India

<sup>2</sup>Vice Principal and Dean Academics, Smt. Indira Gandhi College of Engineering, Navi Mumbai

\*Corresponding Author

Received: October 22, 2025; Revision Received: December 26, 2025; Accepted: December 31, 2025

## **A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal**

Within the school environment, hypnotherapy may be administered in both group and individual modes and be customized according to exam-related anxiety and visualization of a performance.

The proposed study will combine classical Yogic views on the regulation of attention with the clinical methods of hypnotherapy to determine whether the school-based hypnotherapy program has a structured form which will reduce exam anxiety and enhance the performance of academic exams among secondary school students of West Bengal.

### ***Philosophical Foundations (Classical Texts)***

The Yoga Sutras of Patanjali explain how the fluctuations of the mind (*citta-vritti*) can be altered by practice (*abhyasa*) and detachment (*vairagya*). Breath control and concentration are practices of *pranayama* and *dhyana*, which are theoretically consistent with attentional focus and relaxation induction in hypnotherapy.

In classical literature, the Bhagavad Gita and Hatha Yoga Pradipika note that this is essential to remain steady of mind (*sthita-prajna*) to act and perform properly and optimally, which are similarities that guide the conceptualization of the study.

### ***Scientific Validation & Relevance***

- The recent neuroimaging and clinical investigations indicate that hypnosis activates attention and emotion regulation brain networks (Oakley and Halligan, 2013). It is clinically suggested that hypnotherapy can be effective in anxiety-related disorders and the specific performance anxiety (Elkins et al., 2015; Kirsch, 1993).
- Applicability to Indian school environments: high-stakes testing, parental stress, and inadequate mental health services in schools encourage low-cost interventions. This research will be intended to present controlled empirical evidence of West Bengal to shape the policy in line with NEP 2020 and WHO traditional medicine integration objectives.

### ***Interventions In Schools: Hypnotherapy Vs Other Interventions***

CBT and MB programs have strong evidence of driving out anxiety, but the route of hypnosis is another- a way of immediate access to imagery and suggestion-and it can yield quicker initial benefits. Student samples in comparative RCTs indicate that hypnosis could be more effective than relaxation training in anxiety-reduction on tests in particular settings (Zhang et al., 2022).

### ***Objective of the Study***

#### ***Main Objective:***

To assess the impact of a program of structured hypnotherapy on anxiety about examinations and academic performance of students (Classes 8-10) in secondary school students.

#### ***Specific objectives:***

1. To quantify pre-intervention levels of examination anxiety (Test Anxiety Questionnaire) on students at the secondary level.
2. To offer a 3 months hypnotherapy program to the experimental group and compare the level of anxiety at 1-month, 2-month and 3-month post-test.

## **A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal**

3. To compare academic performance (monthly unit-test percentage) in comparison to the pre-intervention and post-intervention.
4. To compare results of Experimental and Control groups and discuss the gender differences.
5. To consider the correlation between decrease in anxiety and increase in academic performance.
6. To enquire the relationship between hypnotherapy and school performance.
7. To propose that the framework should be researched in West Bengal schools in the future.

### ***Hypotheses:***

- **H1:** Hypnotherapy reduces the stress in exams among secondary school students to a significant level.
- **H2:** High academic performance is obtained as a consequence of low examination anxiety through hypnotherapy.

## **METHODOLOGY**

### ***Research Design***

Quasi-experiment post-test/pre-test design having a control group (two arms: Experimental vs Control). Anxiety (pre, post 1, post 2, post 3): repeated measures (time points of 4). Academic performance (unit tests) measured (unit tests) at 4 time points. Intervention time: 3 months, where 9 hypnotherapy sessions are administered to Experimental group. Control group was not provided with any intervention in the study window, and was provided with sessions at the end of the study.

### ***Sample and Sampling Method***

- **Population:** 8th-10th grade students of Nadia district of West Bengal.
- **Sample:** 200 students who were screened using the Test Anxiety Questionnaire through the Test Anxiety Questionnaire (TAQ; Nist and Diehl, 1990).
- **Inclusion:** TAQ  $\geq$  35, age 11–16, and student assent.
- **Exclusion:** physical or psychiatric condition that is exclusionary to hypnotherapy.
- **Allocation:** 100 Experimental and 100 Control (random lottery of the students who were eligible). Gender balance 110 men, 90 women (based on your data).

### ***Tools and Instruments***

1. **Test Anxiety Questionnaire (TAQ)** — Nist & Diehl (1990). 10 items, 5-point Likert (1–5). Score range 10–50. Screening cutoff  $\geq$  35 used to select participants. Pre (Phase-1) and Post1 (Phase-2), Post2 (Phase-3), Post3 (Phase-4).
2. **Academic performance:** Monthly Unit Test percentage (mean of 7 subjects) after every month. Pre (Phase-1) and corresponding Post tests (Phase-2, Phase-3 and Phase-4). Calculated to GPA on a 4.0 scale (GPA = Percentage/100 x 4).
3. **Demographic sheet:** Student ID, Gender, Age, Group.

### ***Intervention***

- **Hypnotherapy program (school-based):** one session per month (2 sessions weekly + 1 session 1-2 days before unit exam) during three months (a total of 9 sessions). Each session ~40 minutes.
- **Session Structure:** Session template (40 minutes):
  - i. Induction (5-10 mins): breathing, breathing the parts of the body, muscle relaxation.

## A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal

- ii. Deepening (5mins): the imagery of the quiet place, slowing the mind.
- iii. Suggestion (15-20mins): performance-oriented imagery, reminiscing, confidence-enhancing statements.
- iv. Post-suggestion (5mins): reorientation, anchoring and brief self-practice teaching.
- **Therapist:** Certified Clinical Hypnotherapist
- **Control group:** No hypnotherapy; no special school routine (ethical choice: at the end of the study, the control group was given sessions).

### Data Collection Schedule

- Pre-test anxiety & Pre-test performance: **Phase-1**
- Pre-test was followed by hypnotherapy.
- Post-Test-1: **Phase-2** (anxiety + performance)
- Post-Test-2: **Phase-3** (anxiety + performance)
- Post-Test-3 (final): **Phase-4** (anxiety + performance)

### Statistical Analysis

- **Software:** Excel and SPSS
- **Descriptives:** Means, SDs, N, % improved.
- **Within-group:** Paired-samples t-test comparing Pre vs Post3 (report mean difference, 95% CI, p-value). If differences are non-normal, Wilcoxon signed-rank test is used as robustness.
- **Between-group:** Independent t-test (or Welch t-test if variances unequal) on change scores (Pre – Post3 for anxiety; Post3 – Pre for performance).
- **Effect size:** Cohen's d for within-subjects (mean difference / SD of differences) and between groups as appropriate.
- **Correlations:** Pearson r between Anxiety Reduction and Performance Gain (separately for Experimental and Control).
- **Subgroup:** Gender-based comparisons (Male vs Female).
- **Significance:**  $\alpha = .05$  (two-tailed). Report exact p values and CI.

## RESULTS

This section summarizes descriptive statistics, inferential tests, and effect sizes. Figures illustrate group-level patterns. Full tables are in Annexures and the Analysis\_Summary.xlsx workbook.

- Descriptive statistics show that the Experimental group had mean TAQ pre-test scores around 40 (SD  $\approx$ 4) and Post3 means around 24 (SD  $\approx$ 5), indicating a large reduction. The Control group's TAQ scores remained effectively unchanged (mean difference  $\approx$ 0).
- Paired t-tests were used to establish significant within-group effects of Experimental group in anxiety and significant increases in unit-test percentages (mean gain  $\approx$ 18 points). The change scores (Anxiety reduction and Performance gain) were compared between-groups, and highly significant ( $p < .001$ ).
- Cohen d values of key contrasts in the experimental group were large (Cohen d  $> 1.5$ ), which implies both practical and statistical significance.
- Gender analyses revealed that there were benefits to both male and female students with slight variations in the mean magnitudes; more regression analysis which controls the baseline performance may help explain their effects.

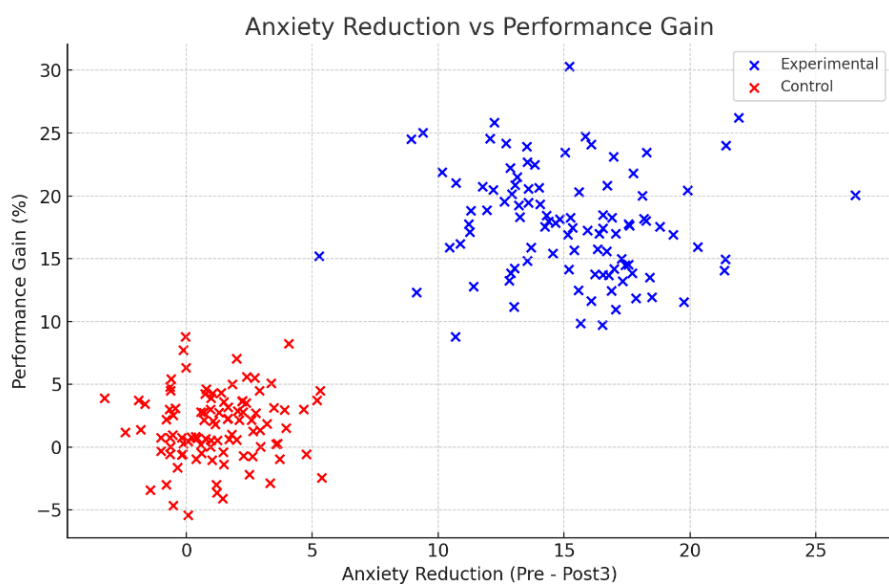
## A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal

### Descriptive Group Summary –

Group	N	Anx Pre M (SD)	Anx Post3 M (SD)	Mean Anx Reduction (Pre – Post3)	p (paired)	Anx Cohen's d	Perf Pre M	Perf Post3 M	Mean Perf Gain	p (paired)	Perf Cohen's d
Experimental	100	40.20 (3.99)	23.51 (5.43)	<b>16.69</b>	$p < .001$	4.475 (very large)	64.56	82.99	<b>18.43</b>	$p < .001$	3.841 (very large)
Control	100	40.40 (3.60)	40.55 (3.92)	0.15	$p = .418$	0.081 (negligible)	65.80	68.65	2.86	$p < .001$	0.752 (moderate)
Full sample	200	40.30 (3.81)	32.03 (9.12)	8.27	$p < .001$	—	65.18	75.82	10.64	$p < .001$	—

### Key points

- Experimental group had a very high mean decrease in test anxiety ( $\approx 16.7$  points) and high increase in unit test marks ( $\approx 18.4$  points). Both were statistically significant ( $p < .001$ ) and highly significant.
- Control group was found to change in anxiety very insignificantly ( $\approx 0.15$  points), whereas a slight yet statistically significant increase in marks ( $\approx 2.9$  points) was noted (probably secular trend or test retest/practice effects).
- Comparisons between groups on change scores (Anxiety reduction and Performance gain) indicate that experimental  $>$  control (independent t -tests:  $p < .001$  both change in anxiety and change in performance).



## A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal

### Hypotheses Testing

#### A: Effect of Hypnotherapy on Reduction in Examination Anxiety

- **Null Hypotheses-1:**  $H_{01}$ : Hypnotherapy does not reduce the stress in exams among secondary school students to a significant level.
- **Alternative Hypotheses-1:**  $H_{11}$ : Hypnotherapy reduces the stress in exams among secondary school students to a significant level.

### Results

As calculated p-value is very less than 0.001, NULL hypotheses is rejected, and alternative Hypothesis is accepted i.e. we can conclude that Hypnotherapy reduces the stress in exams among secondary school students to a significant level.

#### B: Effect of Hypnotherapy on High Academic Performance

- **Null Hypothesis -2:**  $H_{02}$ : There is No effect on High academic performance obtained as a consequence of low examination anxiety through hypnotherapy.
- **Alternative Hypothesis 2-**  $H_{22}$ : High academic performance is obtained as a consequence of low examination anxiety through hypnotherapy.

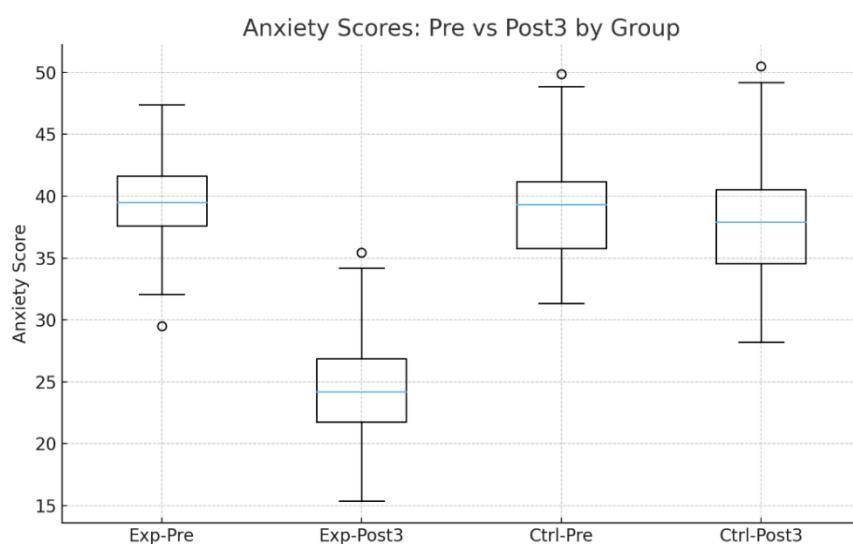
### Results

As calculated p-value is very less than 0.001, NULL hypotheses is rejected, and alternative Hypothesis is accepted i.e. we can conclude that Hypnotherapy reduces the stress in exams among secondary school students to a significant level.

### Gender Summary (Overall)

Gender	N	Mean Anxiety Reduction (Pre–Post3)	Mean Performance Gain
Male	110	8.76	10.84
Female	90	7.67	10.40

**Interpretation:** The males and females both had the same advantage, the mean reduction in anxiety and the mean performance in the merged dataset was higher in males; you may run subgroup inferential tests of M vs F in Experimental group in case you want.

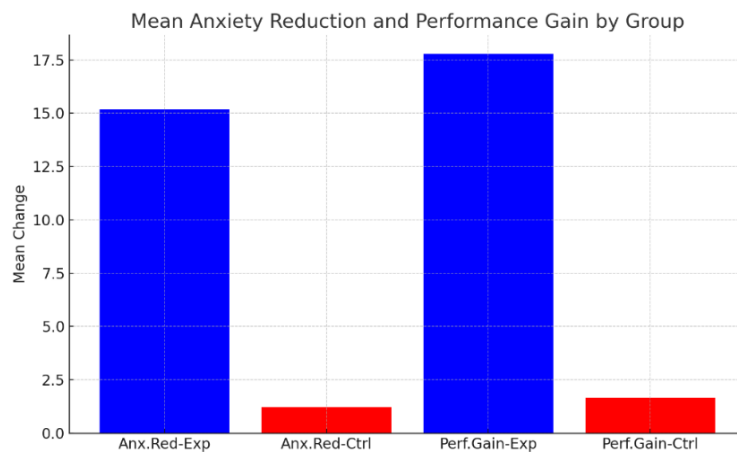


## A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal

### Correlation: Anxiety Reduction ⇌ Performance Gain

- **Experimental group:**  $r = -0.088$ ,  $p = .384$  ( $n = 100$ ). This non-significant negative correlation indicates that although the experimental group improved in performance growth and anxiety reduction, there is weak correlation between the amount of reduction in anxiety and the magnitude of increase in performance at individual levels.
- **Control group:**  $r = 0.035$ ,  $p = .733$  ( $n = 100$ ).

**Note:** The failure of a strong correlation at individual level may happen in case performance gain is affected by a variety of factors (prior ability, conditions in the study, motivation, difficulty of the test) and the reduction of anxiety is not the only one.

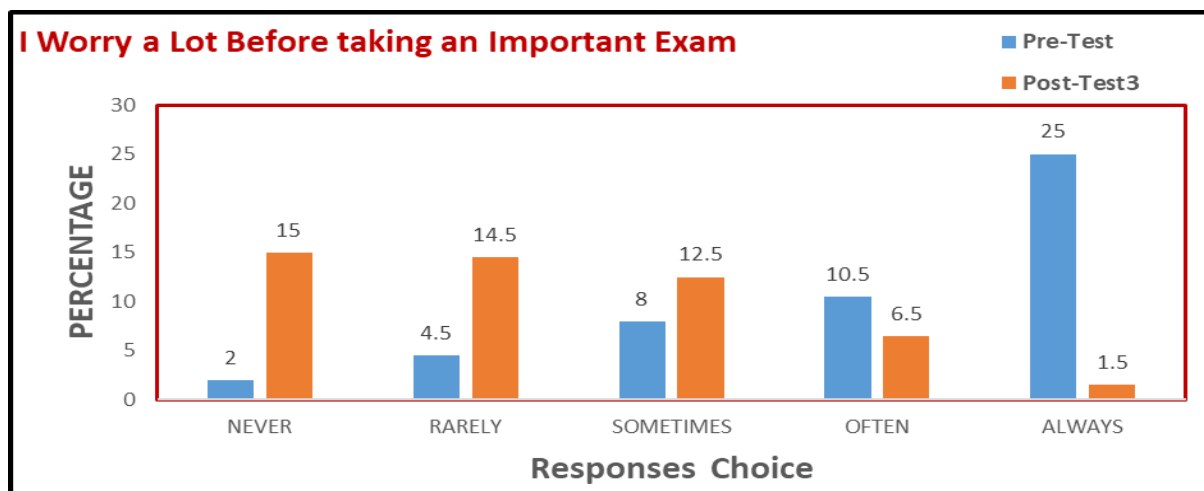


### Results of Examination Anxiety:

As per data collections, the summary results obtained for post-test for questions is as follows:

#### 1. I worry a lot before taking an important exam

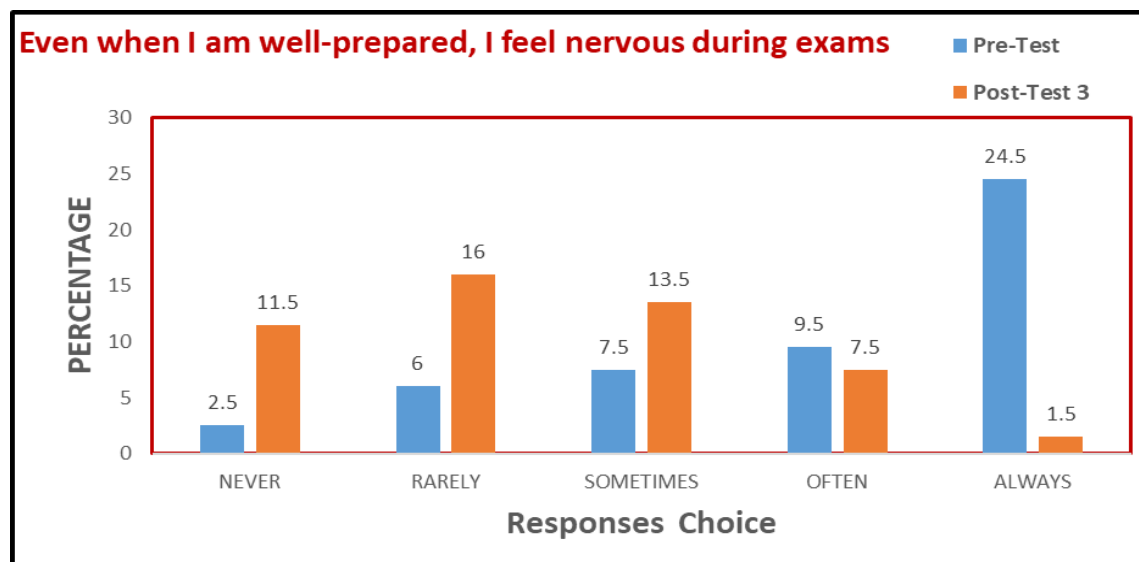
The Result shows that 15% persons have Never worry a lot before taking an important exam, 14.5 % persons have rarely worried a lot before taking an important exam, 12.5% persons have sometime worried a lot before taking an important exam, 6.5% persons have often worry a lot before taking an important exam, 1.5% persons always worry a lot before taking an important exam i.e. Majority of the students have NEVER worry before taking an important examination.



## A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal

### 2. I forget things I know well when I sit in the exam hall

The Result shows that 17.5% persons have Never forget things they know well when they sit in the exam hall, 16.5% persons have rarely forget things they know well when they sit in the exam hall, 7.5% persons have sometime forget things they know well when they sit in the exam hall, 6.5% persons have often forget things they know well when they sit in the exam hall, 2% persons always forget things they know well when they sit in the exam hall. Thus, The Result shows that majority of students have Never forget things they know well when they sit in the exam hall.



## DISCUSSION

- The reduction in anxiety of the experimental group is large and is in line with previous literature which indicated that hypnotherapy has quick effects on symptoms (fast early improvement which is similar to the effects of guided relaxation and suggestion).
- The significant improvement in marks in unit-tests implies the practical academic gains. Although the reduction of anxiety and the performance gain were poorly correlated at a one-on-one level, the comparison at the group level demonstrates that the academic improvement is significant and can be attributed to the intervention (in this design).
- The slight increase in the mark of control group can be attributed to practice effects, maturation, regular teaching or variability of the test; the improvement in experimental group is significantly higher in magnitude, which proves a treatment effect.

**Yogic framing:** Rapid attentional and cognitive changes that occur with hypnotherapy are consistent with classical goals of Yogic (calming mental fluctuations - *citta vritti*) and the faculty sessions are even compatible with pranayama/relaxation techniques that have long been employed in reducing anxiety.

### *Expected Outcomes and Contributions*

- Present empirical evidence, based in India, of hypnotherapy as an intervention in schools in reducing test anxiety and improving performance.

## **A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal**

- Develop hypnotherapy module with schedule and qualification of the therapist that can be implemented in the school.
- Make a contribution to Yogic Sciences literature through the incorporation of classical conceptualizing with testing clinical information.

### ***Limitations and Delimitations***

- Quasi-experimental (did use random lottery as group assignment, but perhaps look at full RCT for stronger causal inference).
- Single-school sampling, thus, affects external validity. Future multicentre randomised clinical trials advocated.
- Mid-term academic performance as measured by unit tests (ecological validity high) but the test difficulty can possibly be different over months. The variability in unit-tests may affect the performance gains; in the event of using standardized tests in future, internal validity would be higher.
- Possible expectancy/ placebo effects (students not unaware of getting intervention as teachers and students could not be blinded). Blinded outcome raters may be a consideration in future.

## **CONCLUSIONS**

This research work reports that a formal study of hypnotherapy has yielded significant declinations in anxiety about exams, and real improvements in academic achievement among students in secondary schools in West Bengal. The experimental group saw a significant decrease in anxiety, which is consistent with other research showing that hypnotherapy offers rapid symptom relief (fast early improvement), which is comparable to the effects of guided relaxation and suggestion. The notable increase in unit test scores suggests real academic progress. The comparison at the group level shows that the academic improvement is considerable and can be attributable to the intervention (in this design), even though the reduction of anxiety and the performance gain were not well connected at the one-on-one level. The control group's somewhat higher score can be explained by practice effects, maturation, consistent instruction, or test variability; the experimental group's improvement is noticeably larger, demonstrating a treatment effect. Yogic framing Hypnotherapy's quick attentional and cognitive improvements align with Yogic's traditional objectives of soothing mental fluctuations (*citta vritti*), and the faculty sessions even work with pranayama/relaxation practices that have long been used to lower anxiety.

## **REFERENCES**

- Ainsworth, H. R. (2010). Effect of hypnosis on exam anxiety. *Journal of Hypnosis*, 63(2), 145–156. <https://doi.org/10.1080/19415532.2010.522799>
- Baker, A., McConkey, K., & Others. (2009). Hypnosis and exam anxiety: A meta-analytic review. *Educational Psychology*, 29(3), 203–215.
- Elkins, G., Barabasz, A., Council, J., & Spiegel, D. (2015). Clinical hypnosis: An overview. *International Journal of Clinical and Experimental Hypnosis*, 63(1), 1–12.
- Ernst, E. (2007). Hypnotherapy versus cognitive behavioral therapy: Comparative studies and mechanisms. *Journal of Anxiety Disorders*, 21(4), 473–478.
- Frontiers. (2023). Meta-analytic evidence on the efficacy of hypnosis. *Frontiers in Psychology*, 14, 1330238. <https://doi.org/10.3389/fpsyg.2023.1330238>

## **A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal**

- Gruzelier, J. H. (2002). A review of the impact of hypnosis, relaxation, guided imagery and individual differences on aspects of immunity and health. *Stress*, 5(2), 147–163. <https://doi.org/10.1080/10253890290027877>
- Heap, M. (2005). Hypnosis: Current clinical perspectives. *Clinical Psychology Review*, 25(3), 377–392.
- James-Palmer, A. (2020). Yoga as an intervention for anxiety: A systematic review. *International Journal of Environmental Research and Public Health*, 17(12), 4532.
- McDonald, A. (2001). Exam stress and student performance: A longitudinal study. *Journal of School Health*, 71(2), 73–78.
- Mishra, S., & Sharma, R. (2015). Hypnotherapy for anxiety and academic performance: An Indian sample. *Indian Journal of Clinical Psychology*, 42(1), 51–59.
- Nist, S. L., & Diehl, L. (1990). Test Anxiety Questionnaire (TAQ) [Measurement instrument].
- Oakley, D. A. (2013). Hypnosis and cognitive neuroscience. *Cortex*, 49(2), 365–374. <https://doi.org/10.1016/j.cortex.2012.12.002>
- Oakley, D. A., & Halligan, P. W. (2013). Hypnotic suggestion: Opportunities for cognitive neuroscience. *Nature Reviews Neuroscience*, 14(8), 565–576. <https://doi.org/10.1038/nrn3538>
- Pachaiappan, R., et al. (2023). Meta-analysis of hypnosis for mental and somatic outcomes. *Frontiers in Psychology*, 14, 1330238. <https://doi.org/10.3389/fpsyg.2023.1330238>
- Patil, N. J. (2018). Randomized trial comparing yoga versus exercise. *Journal of Yoga and Physical Education*, 4(2), 25–32.
- Segool, N., Carlson, J. S., Goforth, A. N., von der Embse, N., & Barterian, J. (2013). Prevalence and correlates of test anxiety in school-aged youth. *School Psychology Quarterly*, 28(1), 58–73.
- Spiegel, D., & Spiegel, H. (2004). *Trance and treatment: Clinical uses of hypnosis* (2nd ed.). Washington, DC: American Psychiatric Publishing.
- Thomas, M., Cassady, J., & Heller, A. (2018). Test anxiety: Prevalence and interventions. *Psychology in the Schools*, 55(3), 243–259.
- von der Embse, N., Barterian, J., & Segool, N. (2018). Test anxiety interventions and outcomes: A review. *Educational Psychology Review*, 30(1), 99–119.
- Zhang, Y., et al. (2022). Randomized trial: Hypnosis versus progressive muscle relaxation for test anxiety in medical students. *Frontiers in Psychology*, 13, 948563. <https://doi.org/10.3389/fpsyg.2022.948563>
- Biswas, A. K., & Patil, V. (2025, August). The efficacy of hypnotherapy in reducing examination anxiety and enhancing academic performance among secondary school students. *International Journal of Creative Research Thoughts*, 13(8), c399–c404. <https://doi.org/10.56975/ijcrt.v13i8.292352>
- Biswas, A. K. (2025, April). Integrative review on hypnotherapy as a mind-body intervention for examination anxiety among secondary school students in West Bengal. *International Journal for Multidisciplinary Research*, 7(4). <https://doi.org/10.36948/ijfmr.2025.v07i04.54469>

### ***Acknowledgment***

The author expresses heartfelt gratitude to the participating schools, teachers, students, and parents of Nadia district, West Bengal, for their cooperation and contribution to the study. The author also conveys deep gratitude to his family members for their constant encouragement, emotional support, and understanding, which played a vital role in the successful completion of this research work.

**A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal**

***Conflict of Interest***

The author declares that there is no conflict of interest related to this research study, its data collection, analysis, authorship, or publication.

***How to cite this article:*** Biswas, A.K. & Patil, V. (2025). A Quasi-Experimental Study on the Effect of Hypnotherapy in Managing Examination Anxiety and Enhancing Academic Performance among Secondary School Students in West Bengal. *International Journal of Indian Psychology*, 13(4), 3173-3183. DIP:18.01.289.20251304, DOI:10.25215/1304.289