

A Pre-Experimental Study To Assess The Effectiveness Of Information Booklet Regarding Pomodoro Technique On Stress And Anxiety Among Students In Selected Educational Institutes Of Pune City

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ABSTRACT

Introduction: The Pomodoro technique, developed by Francesco Cirillo, is a time management method using 25-minute focused sessions with short breaks. It is based on attention span and timeboxing principles. This technique reduces procrastination and improves concentration, helping students manage academic tasks effectively.

Aim of the study: To assess the effectiveness of an information booklet on the Pomodoro technique in reducing stress and anxiety among students.

Methodology: A pre-experimental design was used. The sample included 100 first-year BSc and GNM nursing students selected by purposive sampling. Students aged 17 years and above were included. Reliability was 0.996 for stress and 0.997 for anxiety. A pilot study confirmed feasibility.

Results: Pre-test stress was mainly severe (62%) and reduced in post-test (20%) with significant improvement ($t = 14.4, p = 0.000$). Pre-test anxiety was mostly mild (60%) and further reduced in post-test with significant change ($t = 12.6, p = 0.000$). Stress and anxiety showed weak correlation ($r = 0.05$) and no association with demographics. The booklet was effective.

Conclusion: The information booklet on the Pomodoro Technique significantly reduced stress and anxiety among students.

Keywords: Information booklet, Pomodoro technique, Stress, Anxiety, Students.

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INTRODUCTION

The Pomodoro Technique is a straightforward yet powerful approach to managing time. It involves dedicating 25 minutes to uninterrupted, focused work, followed by a short 5-minute break. After completing four such cycles, you take a longer rest of 15 to 30 minutes. The word "Pomodoro" is named after an Italian word tomato. This method was invented by Francesco Cirillo in the late 1980s, during his time as a university student. Struggling to maintain concentration while studying, he turned to a tomato-shaped kitchen timer he found in his kitchen. He began by challenging himself to focus for just a few minutes, gradually experimenting with longer intervals. He tried everything from very short sessions to up to an hour, but found that extended periods made it hard to stay engaged. Eventually, he discovered that 25 minutes struck the perfect balance—long enough to make meaningful progress, but short enough to keep his mind sharp and motivated⁽¹⁾

Given the challenges of prioritization and lack of time management, wherein students were most likely to fail or drop out of an online course due to absence of time in doing academic works, time

management is critical in academic achievement in general must be given importance to defeat the declination of finishing projects and assignment.⁽²⁾

One of time management strategy is referred to as Pomodoro Technique which can be beneficial in accomplishing tasks. The idea behind this technique is to achieve a focused, timed-work session to accomplish a series of tasks that can be done in short intervals, with short breaks in between sessions. Additionally, it is grounded in Self-Regulated Learning theory, which emphasizes the importance of planning, goal setting, self-monitoring, and reflection in academic success. The structured nature encourages learners to develop metacognitive awareness and autonomy over their learning process, which is especially beneficial in demanding fields that require prolonged engagement and strategic study planning.⁽³⁾

NEED OF THE STUDY

Today, countless students, professionals, and even entire organizations turn to the Pomodoro Technique to boost their focus and get more done. Its appeal lies in transforming work into short, timed bursts—typically 25-minute Pomodoro's—that make big projects feel less daunting and help sustain energy

throughout the day.

For students in particular, this method offers a practical way to tackle procrastination, make better use of study time, and build stronger concentration skills. Exploring its effects could reveal how tools like informational guides on the technique influence levels of stress and anxiety. It might also shed light on whether it truly enhances time management abilities in real-world academic settings. ⁽⁴⁾

Schools and workplaces are increasingly looking for proven methods to support better learning and performance. With its promise of improving habits around studying and handling tasks, the Pomodoro Technique deserves closer examination for wider use in education and training programs. More investigation is needed to understand how well it scales up and delivers lasting benefits in structured environments.

The built-in structure of timed intervals makes starting tasks easier and encourages steady progress, which can directly address common challenges like putting things off or feeling mentally drained. In our fast-paced, distraction-filled world—especially for students navigating digital tools and remote learning—validating its real impact across different groups remains important.

Ultimately, delving deeper into the Pomodoro Technique can add valuable insights to our understanding of effective time management strategies, helping people navigate modern demands on attention and productivity with greater ease. ⁽⁵⁾

An article supports the idea that frequent, spaced, and active engagement with material over time leads to superior learning outcomes compared to massed or prolonged unbroken study sessions. Its structured approach to time management not only promotes focused attention and retention but also cultivates self-regulatory habits and mental resilience. These attributes make Pomodoro Technique especially suitable for learning, where students must navigate large volumes of complex material within limited time frames. Therefore, this study aimed to explore and how it can be applied to optimize learning efficiency, engagement, and cognitive outcomes in education. ⁽⁶⁾

AIM OF THE STUDY

To assess the effectiveness of an information booklet regarding Pomodoro Technique among students in selected educational institutes of Pune city.

HYPOTHESIS:

No significant difference in effectiveness of information booklet regarding Pomodoro Technique on the level of stress and anxiety at 0.05 level of significance.

METHODOLOGY:

Research Objectives:

1. To assess the pre-existing level of stress and anxiety among students.

2. To assess the post-test level of stress and anxiety among students after the intervention.
3. To assess the effectiveness of information booklet on stress and anxiety among students after intervention
4. To find the correlation between level of stress and anxiety among students.
5. To associate the findings with selected demographic variables.

Research approach: For this study, a quantitative research methodology was used.

Research design: Pre-experimental research design was adopted for this study. (one group pre-test post-test).

Variable:

- Dependent variable: Knowledge on Pomodoro technique
- Independent variable: Information booklet

Research setting:

Selected educational institutes of Pune city.

Population

Target population: Students aged 17 years and above from the selected educational institutes of Pune city.

Sample: Students between 17 years and above.

Criteria For Sample Selection

Inclusion Criteria:

1. Students currently studying in nursing institutes
2. Students in age group of 17 years and above

Exclusion Criteria:

1. Students absent during data collection.

Sample size: 100

Sampling Technique: Non-Probability Purposive Sampling technique

Data collection tool:

Section I: Demographic Information.

Section II: Perceived Stress Tool

Section III: Zung Self Anxiety Scale

Description Of The Tool:

Section A: Demographic Variables

This section comprises of age, gender, course, place of residence and study hours.

Section B: perceived stress tool

It contains 10 questions which deals with assessing stress level among students.

Section C: Zung self-anxiety scale

It contains 20 questions which deals with assessing level of anxiety among students

Reliability: Reliability was done on 11/10/2025. Ten percent (10 samples) of the entire sample size (100) was taken in order to assess the tool's reliability. Informed consent and tool were shared with the participants and collected after 30 minutes. The reliability of assessment tool was calculated by Split half method. Reliability score for stress was

0.996 and score for anxiety was 0.997 which means tool was reliable.

Pilot study: For pilot study, total 10 participants were taken and assessed with demographic tool and with self-structured questionnaire to evaluate the current study. Instruments for validity, clarity, and applicability which was completed on October 18, 2025. No any problem faced, study was found to be feasible.

RESULTS

Section I: Description of samples based on their demographic characteristics in terms of frequency and percentage

It shows majority 88% of students had age between 17-18years, where 66% are female, in course 57% are from 1st year B. Sc, majority is 63% are in category of day scholar and majority is 85% in 2-4 hours of study hours per day

Section II: Findings related to Pretest and posttest level of stress among students before & after intervention

Table 1: Level of stress (before & after intervention)

Stress	Pretest		Posttest	
	Freq	%	Freq	%
Mild	2	2%	4	4%
Moderate	36	36%	76	76%
Severe	62	62%	20	20%

Table 1: The data depicts prior to intervention, the majority of findings was in severe level of stress with 62% and after the intervention, level of stress reduces to moderate at 76%

Section III: Findings related to the effectiveness of information booklet regarding Pomodoro technique on the level of stress among student after the intervention

Table 2: Paired t-test for the effectiveness of information booklet regarding Pomodoro technique on the level of stress among student after the intervention

N=100

	SD	T	cp-value
Pretest	21.1	14.4	90.900
Posttest	18.3		

Table 2: Researcher applied paired t-test for the effectiveness of information booklet regarding Pomodoro technique on the level of stress

among students after the intervention. Average stress score in pretest was 21.1 which increased to 18.3 in posttest. T-value for this test was 14.4. The p-value was greater than (0.05), there is no evidence against null hypothesis. Average stress score in posttest was significantly less than that in pretest. It is evident that the information booklet regarding pomodoro technique is significantly effective in reducing the stress among students.

Section IV: Analysis related to pretest and posttest level of anxiety among students before & after intervention

Table 3: Level of anxiety (before & after intervention)

Anxiety	Pretest		Posttest	
	Freq	%	Freq	%
Normal	31	31%	45	45%
Mild	60	60%	53	53%
Moderate	9	9%	2	2%
Severe	0	0%	0	0%

Table 3: The data depicts prior to intervention, the majority of findings was in mild level of anxiety with 60% and after the intervention, level of stress remains in mild category with 53%

Section V: Findings related to effectiveness of information booklet regarding Pomodoro technique on the level of anxiety among student after the intervention

Table 4: Paired t-test for the effectiveness of information booklet regarding Pomodoro technique on the level of anxiety among student after the intervention

N=100

	an			cp-value
Pretest	40.2	8.0	12.6	99 0.000
Posttest	37.3			

Table 4: Researcher applied paired t-test for the effectiveness of information booklet regarding Pomodoro technique on the level of anxiety among students after the intervention. Average anxiety score in pretest was 40.2 which

increased to 37.3 in posttest. T-value for this test was 12.6. P value less than 0.05 so null hypothesis is rejected. Average anxiety score in posttest was significantly less than that in pretest. It is evident that the information booklet regarding pomodoro technique is significantly effective in reducing the anxiety among students.

Section VI: Analysis related to scatter

diagram representing correlation between stress and anxiety among students

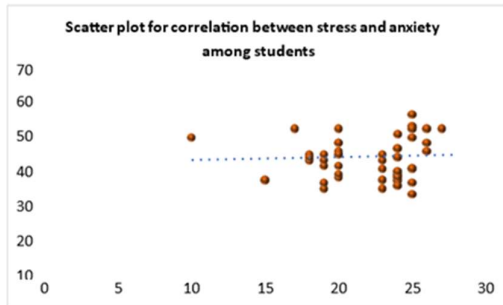


Figure 1: Diagram depict that there is a weak correlation ($r = 0.05$) between stress and anxiety.
Section VII: Analysis of data related to association of findings with demographic variables

Since the p-values corresponding to demographic variables are large (p-values were above 0.05) hence findings did not significantly associate with stress and anxiety.

DISCUSSION

The study concluded that the information booklet on the Pomodoro Technique was effective in reducing stress and anxiety among first-year nursing students. Significant improvement in post-test stress and anxiety scores demonstrated the effectiveness of the booklet, indicating that the Pomodoro Technique is a simple, low-cost, and practical strategy to support students' mental well-being and academic performance. The results of this study are in line with comparable research done by R. Dizon at all "Time management strategies particularly Pomodoro and Flowtime Technique" were utilized to test its effects on the procrastination behaviour and academic motivation of college students. The study utilized a True Experimental research pretest-posttest randomized experimental design to measure and explore the relationship between the variables of the study. The two questionnaires used as research instruments were the Irrational Procrastination Scale and the Motivational Diagnostic Test. The Experimental group applied the Pomodoro Technique while the Control group used the Flowtime Technique. The study resulted to a decrease in the procrastination behaviour from 29.60 to 27.60 mean, and academic motivation, from 86.70 to 84.10 mean in the experimental group. The control group has a slight decrease in the procrastination behaviour, with a mean from 26.69 to 27.38, and academic motivation mean from 83.46 to 82.62. The study concludes the application of Pomodoro technique resulted in a slight improvement on the respondents' procrastination behaviour. Both techniques reduced the academic

motivation of respondents. However, its application has no significant difference in procrastination behaviour and academic motivation of the respondents.⁽⁹⁾

The supporting study referenced in the discussion is titled "Role of Pomodoro Technique used in Virtual Study Halls (VSH) in Reducing Stress and Preventing Burnout Among Neurodivergent Students at NEIU: Mixed Method Approach", Northeastern Illinois University (NEIU) Student Research Conference on February 5, 2025. This research directly aligns with the findings on the Pomodoro Technique's role in alleviating stress and anxiety among nursing students by providing empirical evidence from a similar educational context, emphasizing its applicability in structured virtual learning environments.⁽⁸⁾

CONCLUSION

The study employed a quantitative pre-experimental one group pre-test post-test design to evaluate stress and anxiety level among students and its relationship with demographic variables. Key findings indicated that majority 88% of students age between 17-18 years, where 66% are female. In place of residence, majority is 63% are in category of day scholar and majority is 85% in 2-4 hours of study hours per day.

The overall paired t-test result ($t=14.4$, $p<0.001$) which show reduce in stress. Similarly, anxiety levels improved, moving from mild (60%) to a higher proportion of normal (45%), confirmed by $t=12.6$, $p<0.001$. Correlation shows there is a weak correlation between stress and anxiety, And in association, it shows no any association as p-values corresponding to demographic variables are large (p-values were above 0.05) hence findings did not significantly associate with stress and anxiety.

The results indicate that implementing the Pomodoro Technique through an informational booklet significantly decreases levels of stress and anxiety in students, while also boosting their ability to concentrate and supporting healthier growth patterns.

Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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