Effectiveness of Structured Instructional Teaching on Internet Usage in Reducing Academic Stress Among Nursing Students: A Pre-Experimental Study

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ABSTRACT

This study assesses whether a structured instructional teaching intervention regarding internet usage can effectively reduce academic stress among adolescent nursing students in the Chengalpattu district. Using a quantitative, pre-experimentalpre-test and post-test design, 100 BSc Nursing students were evaluated using a standardized academic stress scale before and after a week-long structured intervention. Statistical analysis revealed a significant reduction in stress levels (paired t-test, $p < 0.05$), with no demographic or internet usage characteristics significantly associated with stress levels. The findings indicate structured, goal-oriented education about internet usage can be a valuable tool for student support in nursing colleges.

KEYWORDS: Academic stress, Nursing students, Internet usage, Structured teaching

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INTRODUCTION

Academic stress is a pervasive issue among nursing students due to rigorous curricula, clinical requirements, and frequent assessments. Technological advancements have transformed educational access through the internet, yet unregulated usage can lead to distractions and heightened stress. Structured instructional methods, which provide planned, sequential learning experiences, may help mitigate these challenges. This study aims to evaluate the impact of a structured instructional teaching program on internet usage as a means to alleviate academic stress among adolescent nursing students.

REVIEW OF LITERATURE

Nursing students globally face significant academic stress due to a variety of factors including challenging curricula, clinical requirements, examinations, and personal expectations. Numerous studies have explored both the causes of stress and the effectiveness of structured educational interventions for its reduction.

A recent study in Bengaluru assessed the impact of a structured teaching programme on reducing academic stress among first-year BSc Nursing students. This pre-experimental, pre-test and post-test investigation found that after administering the structured programme, students demonstrated moderately adequate and favorable reductions in academic stress levels. The findings suggest that targeted instructional strategies can enhance student resilience and coping by equipping them with better knowledge and management skills, underlining the role of structured teaching in stress mitigation in nursing education.

Adding to this, “Mapping the Stress: The Influence of Structured Learning Frequency and Clinical Support on Nursing Students’ Stress Levels” provided a broader, cross-sectional perspective. This study established a significant relationship between the frequency of structured learning activities, the quality of clinical support, and nursing students' clinical stress. Students who engaged more consistently with structured academic sessions and received robust clinical mentorship reported lower stress levels. These findings echo prior research that highlights the importance of regular, supportive interventions as protective factors against academic and clinical stress in healthcare training. The authors call for nursing institutions to design targeted support and instructional programmes tailored to foster continuous engagement and mentorship as a strategy for stress reduction.

Collectively, these studies underscore the effectiveness of structured teaching and frequent academic engagement, especially when complemented by strong clinical support, in alleviating stress among nursing students. Their implications advocate for integrating such interventions into standard nursing curricula and institutional policies to promote better psychosocial outcomes for trainees.

METHODS

Research Approach

This study used a quantitative research approach to evaluate the effectiveness of structured instructional teaching (SIT) regarding internet usage on academic stress among adolescent nursing students. The approach allowed for the collection and statistical analysis of numerical data to test hypotheses related to the intervention’s impact on stress levels.

Research Design

A pre-experimentalpre-test and post-test design was employed. This design enabled measurement of academic stress before and

after the SIT intervention within the same group of participants, facilitating assessment of the intervention's effectiveness.

Variables
Dependent Variable: Academic stress levels among adolescent nursing students
Independent Variable: Structured Instructional Teaching (SIT) regarding internet usage
Demographic Variables: Age, gender, course, year of study, prior computer knowledge, hours of internet usage, and purpose of internet use.

Setting
The study was conducted at Shri Sathya Sai College of Nursing, Ammapettai, Chengalpattu District, Tamil Nadu, India, which enrolls approximately 400 nursing students across various academic years.

Population and Sample
Population: Adolescents enrolled as BSc Nursing students in selected nursing colleges at Chengalpattu District
Accessible Population: BSc Nursing students at Shri Sathya Sai College of Nursing
Sample Size: 100 students selected based on sample size calculation from prior studies, considering a mean difference and standard deviation to achieve adequate power
Sampling Technique: Convenient sampling technique is used.

Inclusion Criteria:
1. Students enrolled in 3rd or 4th year BSc Nursing
2. Present during data collection
3. Willing to participate and provide informed consent.

Exclusion Criteria:
1. Students absent or ill during data collection.

Development and Description of Tools
The study utilized a structured questionnaire comprising two sections:
Section A: Demographic variables including age, gender, internet usage patterns (hours/day, device type, mobile type), purpose of internet use, data pack budget, family income, and parents' education.
Section B: Academic Stress Scale consisting of 40 items assessing various stressors related to academic life. Responses were scored on a 5-point scale, ranging from "No Stress" (1) to "Extreme Stress" (5). The total score ranged from 0 to 120, with interpretation as follows:
Low Stress: 0-40
Moderate Stress: 41-80
High Stress: 81-120
The tool's reliability was established with a test-retest correlation of 0.82.

Structured Instructional Teaching (SIT) Intervention
The SIT module was developed to educate students about responsible and effective internet usage as a means to manage academic stress better. The content covered:
Introduction to the internet and its academic relevance
Online safety and digital ethics
Time management and minimizing distractions
Using the internet for educational purposes effectively
Privacy rights and digital citizenship
The SIT was delivered immediately after the pretest assessment on the first day and included lectures, discussions, and distribution of a digital hygiene handbook.

Data Collection Procedure
Written permission was obtained from the college administration.
Participants were briefed on the study purpose, and informed consent was gathered via Google Forms.A pretest using the academic stress scale and demographic questionnaire was administered online.The SIT intervention was conducted the same day. A post-test was done on the seventh day after the intervention to evaluate changes in academic stress.

Data Analysis Plan
Data were analyzed using descriptive and inferential statistics:
Descriptive statistics for demographic variables (frequency, percentage), Paired t-test to compare pretest and posttest academic stress scores, Chi-square test to assess associations between academic stress levels and demographic variablesStatistical significance was set at $p < 0.05$.

Ethical Considerations
Approval was obtained from the institutional ethical review board.Participants were informed about voluntary participation and

confidentiality.Informed consent was documented prior to data collection.Participants had the right to withdraw anytime without penalty.

RESULTS

Demographic Characteristics

The study involved 100 adolescent nursing students. The majority (48%) were aged 19-20 years, followed by 42% in the 21-22 years age range, 7% aged 17-18 years, and 3% above 23 years. Females constituted 63% of the sample and males 37%.
Demographic Characteristics of Participants.

Frequency and Percentage Distribution of Subjects According to Age.

Age	Frequency	Percentage (%)
17-18 Years	7	7
19-20 Years	48	48
21-22 Years	42	42
23 Years & Above	3	3

This table 1 presents the age distribution among the 100 nursing student participants, showing most students (48%) were aged 19-20 years, followed by 42% aged 21-22 years, 7% aged 17-18 years, and 3% aged above 23 years.

Frequency and Percentage Distribution of Subjects According to Gender.

Gender	Frequency	Percentage (%)
Male	37	37
Female	63	63

This table2 displays the gender profile of the sample, with females making up the majority (63%) and males constituting 37%..

Frequency and Percentage Distribution of Subjects According to Internet Usage Patterns

Internet Usage Patterns	Frequency	Percentage (%)
Internet Usage Hours/Day		
Less than 1 hour	35	35
1-2 hours	32	32
2-3 hours	17	17
4 hours and above	11	11

This table 3 details participants' daily internet usage: 35% used less than 1 hour per day, 32% used 1-2 hours, 17% reported 2-3 hours, and 11% used 4 hours or more, highlighting varied exposure to internet use among students.

Frequency and Percentage Distribution of Subjects According to Mobile Type Use

Mobile Type	Frequency	Percentage (%)
Android	83	83
iPhone	13	13

The table 4 summarizes mobile device preferences, with 83% using Android phones and 13% using iPhones.

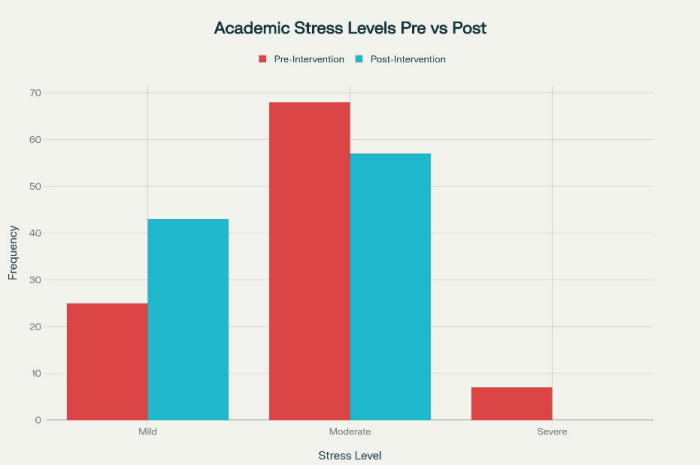
Frequency and Percentage distribution of the Academic stress before and after the intervention.

Academic Stress Levels Before and After Intervention	Pre-Intervention Frequency	Pre-Intervention Percentage (%)	Post-Intervention Frequency	Post-Intervention Percentage (%)
Mild	25	25	43	43
Moderate	68	68	57	57
Severe	7	7	0	0

This table 5 compares the frequency and percentages of mild, moderate, and severe academic stress before and after the structured teaching intervention. Notably, the proportion of students with mild stress rose from 25% to 43%, and severe stress decreased

from 7% to 0% after the intervention, indicating a positive effect.

Frequency and Percentage distribution of the Academic stress before and after the intervention.



This figure 1 visually represents the shift in academic stress levels pre- and post-intervention, clearly illustrating reductions in severe and moderate stress and an increase in the percentage of students reporting mild stress.

Effectiveness of intervention on level of stress among experimental group

Paired t-test Results of Academic Stress Scores	Mean	Standard Deviation	t-value	df	p-value
Pre-Test	23	19.95	1.9966	99	**0.0486**
Post-Test	18	15.44	-	-	-

This table 6 provides paired t-test statistics comparing pre- and post-intervention academic stress scores. The mean stress score decreased from 23 (SD=19.95) pre-intervention to 18 (SD=15.44) post-intervention, with a statistically significant t-value (p=0.0486), confirming the intervention's effectiveness.

Association between the level of Academic stress and demographic variables among undergraduate students.

Association Between Academic Stress and Selected Demographic Variables	Chi-Square (X^2)	Degrees of Freedom (df)	p-value	Significance
Age	11.299	6	0.08	Not Significant
Gender	0.359	2	0.836	Not Significant
Internet-Usage Hours/Day	4.924	6	0.554	Not Significant
Type of Device	1.362	2	0.506	Not Significant
Parental Education	7.383	6	0.287	Not Significant

This table 7 reports the results of Chi-square tests examining associations between academic stress levels and demographic factors (age, gender, internet usage hours, device type, parental education). All p-values exceeded 0.05, indicating no statistically significant relationships.

SUMMARY:

The study evaluated the effectiveness of a structured instructional teaching (SIT) intervention on responsible internet usage in reducing academic stress among BSc nursing students. Employing a pre-experimental, single-group design, 100 students participated in pre- and post-intervention assessments using a standardized academic stress scale. Results indicated a statistically significant reduction in academic stress levels following the week-long SIT module. The intervention led to an increased number of students reporting mild stress and the complete elimination of severe stress cases. Demographic and internet usage variables were not significantly associated with stress level changes, suggesting the intervention's benefit was broadly applicable.

CONCLUSION:

Structured, goal-oriented educational interventions focused on effective internet use can significantly lower academic stress among nursing students. The SIT module improved knowledge, attitudes, and behavioral practices regarding digital habits, contributing to better psychosocial outcomes and academic resilience. This low-cost, scalable approach is recommended for integration into nursing curricula to support student wellbeing and enhance learning environments.

DISCUSSION:

Findings are aligned with John & Kumari (2025), who demonstrated that structured teaching programmes were effective in reducing academic stress among BSc nursing students in Bengaluru. Similarly, Yazid et al. (2025) found that frequent structured academic sessions and robust clinical support are associated with lower reported stress. Both studies support the present research, underscoring the importance of intentional educational interventions and continuous mentorship in fostering student coping and well-being. The present study extends this understanding by confirming that targeting digital literacy and internet management is a relevant, practical strategy in the Indian context. Given the rapid rise in students' online engagement, structured digital education is both timely and essential for mitigating stress and promoting academic success within India's nursing education system.

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