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RESEARCH ARTICLE

Benson Relaxation Therapy reduces stress levels among undergraduate students during thesis writing

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ABSTRACT

Thesis completion represents a significant source of academic stress for final-year undergraduates. This study examined the effect of Benson Relaxation Therapy (BRT) as a non-pharmacological intervention on stress levels among students completing their thesis at Universitas Malikussaleh. A quantitative, experimental design was employed using a posttest-only approach. Of the 30 initial respondents screened, three students with high stress levels participated in the BRT intervention. Stress was measured using an adapted questionnaire based on Sarafino and Smith's (2012) model. Quantitative inferential analysis indicated no statistically significant effect of the intervention *(p = .626).* However, observational data from the intervention group indicated favorable subjective and behavioral changes, including reduced anxiety, a more tranquil disposition, and decreased physiological arousal following the session. While the small sample size limits statistical generalizability, the qualitative findings suggest BRT may hold practical value as a simple, culturally adaptable stress management tool. The study points out that further research with more rigorous methodologies, including larger samples and pretest-posttest designs, is needed to conclusively evaluate the efficacy of BRT in academic settings. These preliminary results contribute to the growing literature on holistic, non-pharmacological approaches to supporting student mental health during demanding academic transitions.

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INTRODUCTION

Final-year university students are required to complete an undergraduate thesis as a mandatory academic requirement to obtain a bachelor's degree. This process often represents one of the most demanding phases in higher education due to academic pressure, limited time, and high expectations for independent scholarly work (Misra & McKean, 2019; Pascoe et al., 2020; Zajacova et al., 2018). Research indicates that students engaged in thesis writing frequently encounter elevated levels of

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academic stress stemming from difficulties in topic selection, literature review, methodological design, supervisory challenges, time management issues, and fear of failure. When unmanaged, such stress can negatively impact psychological well-being, academic performance, and overall quality of life (Bewick et al., 2017; Regehr et al., 2019).

Academic stress is broadly defined as a condition in which students perceive academic demands as exceeding their adaptive resources, leading to emotional, cognitive, physiological, and behavioral disturbances (Sarafino & Smith, 2014; Kadapatti & Vijayalaxmi, 2012). Final-year students, in particular, have been shown to exhibit higher stress levels than students at earlier academic stages, due in part to cumulative academic burdens and uncertainty regarding graduation and future career prospects (Hystad et al., 2021; Ramón-Arbués et al., 2020). Common stress symptoms among thesis-writing students include anxiety, sleep disturbances, impaired concentration, emotional instability, procrastination, and avoidance behaviors, which can further delay thesis completion and exacerbate psychological distress (Eisenberg et al., 2016; Beiter et al., 2015).

Given the prevalence and negative consequences of academic stress, effective and accessible stress management interventions are critically needed within university settings. Non-pharmacological approaches, particularly relaxation-based interventions, have been widely recommended due to their simplicity, cost-effectiveness, and minimal side effects (Varvogli & Darviri, 2016; Pascoe et al., 2020). Benson Relaxation Therapy, a technique developed to elicit the relaxation response through deep breathing, focused attention, and the repetition of calming words or phrases, offers one such approach (Benson & Proctor, 2010). This method has been demonstrated to reduce sympathetic nervous system activity and promote parasympathetic dominance, resulting in decreased physiological and psychological stress responses.

Previous empirical studies have established the efficacy of Benson Relaxation Therapy in reducing stress, anxiety, pain, and sleep disturbances across diverse populations, including patients with chronic illnesses, postoperative patients, and healthcare workers (Astuti et al., 2019; Purnamasari et al., 2021; Widyastuti et al., 2020). In academic settings, relaxation and mindfulness-based interventions have been shown to significantly lower stress levels and improve emotional regulation and concentration among university students (Bamber & Schneider, 2016; Rith-Najarian et al., 2019; Galante et al., 2018). However, research specifically examining the application of Benson Relaxation Therapy among undergraduate students actively engaged in thesis writing remains limited, particularly in the Indonesian higher education context.

Existing studies on student stress management have largely focused on general academic populations or employed interventions such as mindfulness-based stress reduction, cognitive-behavioral techniques, or general relaxation exercises (Dvořáková et al., 2017; Yusufov et al., 2019). A notable research gap persists regarding the effectiveness of Benson Relaxation Therapy, a spiritually integrated relaxation technique, in reducing stress among final-year students facing the unique demands of thesis completion. Moreover, empirical evidence from Indonesian universities, particularly regional institutions such as Universitas Malikussaleh, remains scarce despite the potential influence of cultural and contextual factors on students' stress experiences and coping mechanisms.

Therefore, this study aims to examine the effect of Benson Relaxation Therapy on stress levels among undergraduate students currently writing their theses at Universitas Malikussaleh. By addressing the existing gap in the literature, this research seeks to provide empirical evidence on the effectiveness of this intervention within a specific academic and cultural setting. The findings are anticipated to contribute to theory by enriching the body of knowledge on stress management interventions for academic populations, particularly regarding psychophysiological relaxation

approaches. On a practical level, the results may serve as a foundation for universities, counselors, and mental health practitioners to implement Benson Relaxation Therapy as a preventive and supportive intervention to enhance students' psychological well-being and academic persistence.

Based on the established theoretical framework and previous empirical findings, the research hypothesis guiding this study is that Benson Relaxation Therapy has a significant effect in reducing stress levels among undergraduate students in the process of completing their thesis at Universitas Malikussaleh.

METHOD

This study employed a quantitative approach using an experimental research design to examine the effect of Benson Relaxation Therapy on stress levels among undergraduate students in the process of completing their thesis at Universitas Malikussaleh. The independent variable was the administration of Benson Relaxation Therapy, and the dependent variable was the students' stress level. A randomized two-group posttest-only design was utilized. Participants who met the inclusion criteria were randomly assigned to either an experimental group that received the intervention or a control group that did not. Stress levels were measured solely after the intervention to compare the outcomes between the two groups.

Table 1. Research design: Randomized matched two-group posttest-only design

Stage	Experimental Group	Control Group
Participant selection	Participants meeting inclusion criteria	Participants meeting inclusion criteria
Matching & randomization	Matched and randomly assigned	Matched and randomly assigned
Treatment	Benson Relaxation Therapy	No intervention
Outcome measurement	Posttest stress level	Posttest stress level

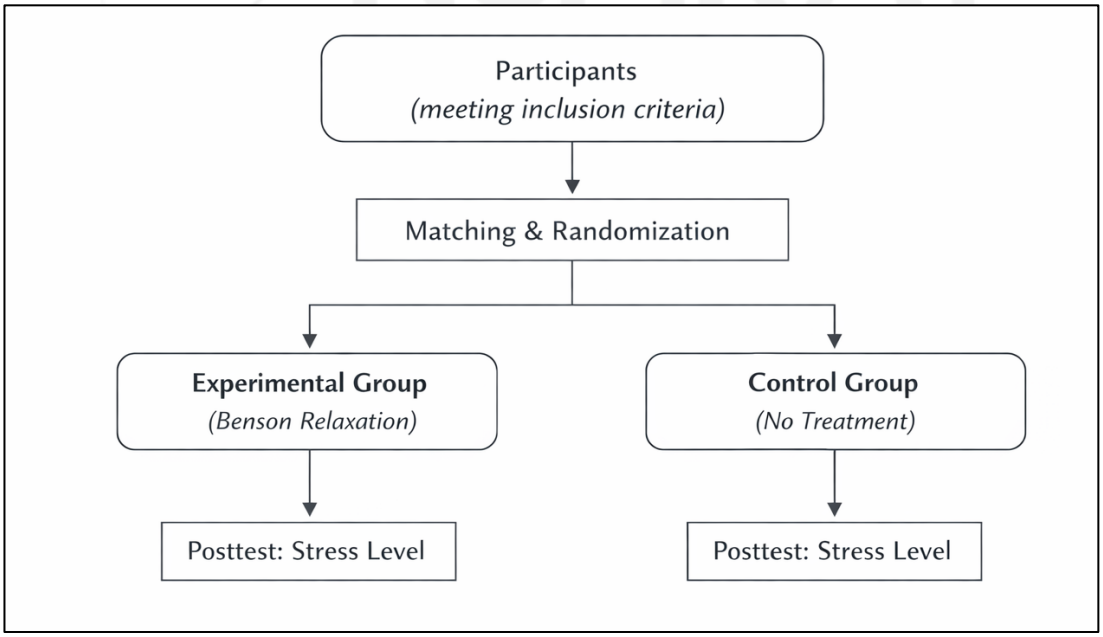

Figure 1. Randomized matched two-group posttest-only design

The study population consisted of active undergraduate students at Universitas Malikussaleh who were currently writing their thesis. A purposive sampling technique was applied based on the following inclusion criteria: (1) being an active undergraduate student at Universitas Malikussaleh, (2) currently engaged in the thesis writing process, and (3) willing to participate voluntarily. An initial

screening was conducted by administering a stress questionnaire to 30 students. From this pool, three students who exhibited high stress levels were selected to form the experimental group and receive the intervention.

The primary data collection instrument was a stress questionnaire adapted from the conceptual framework of Sarafino and Smith (2012). The instrument assessed stress across two main dimensions: biological (physical symptoms) and psychological (cognitive, emotional, and behavioral symptoms). The questionnaire consisted of 23 items utilizing a Guttman scale with dichotomous (yes/no) response options. For positively worded statements, responses were scored as "Yes = 1" and "No = 0," whereas negatively worded statements were reverse-scored. A higher total score indicated a higher perceived stress level.

Prior to the main study, the questionnaire underwent validity and reliability testing. Content validity was established by ensuring alignment with Sarafino and Smith's (2012) stress model. Reliability was assessed to confirm the instrument's internal consistency.

The research procedure consisted of several stages: 1) Phenomenon Identification & Literature Review: Initial observations and a literature review were conducted to establish the theoretical foundation; 2) Participant Screening: Stress questionnaires were distributed to 50 final-year students. Based on the scores, eligible participants with high stress levels were identified; 3) Intervention (Experimental Group): Selected participants received Benson Relaxation Therapy in a quiet, comfortable setting. The session, lasting approximately 15 minutes, involved guided deep breathing, focused attention, and the silent repetition of a calming word or phrase in alignment with personal beliefs; and 4) Posttest Data Collection: Stress levels were measured for both the experimental and control groups immediately following the intervention period.

Data were analyzed using descriptive statistics to summarize the stress scores and inferential statistics to test the hypothesis. A comparative analysis (e.g., independent-samples t-test or Mann-Whitney U test, depending on the data distribution) was performed on posttest scores to determine whether a statistically significant difference in stress levels existed between the experimental and control groups, thereby assessing the intervention's effect.

RESULT

This section presents the findings of the data analysis, including descriptive statistics of participants' characteristics and an inferential analysis examining the effect of Benson Relaxation Therapy on the stress levels of undergraduate thesis students at Universitas Malikussaleh. A total of 30 final-year undergraduate students participated in this study. The respondents' demographic characteristics are summarized in Table 1, which details gender, academic semester, age, and department.

The majority of respondents were female (n = 24, 80%), while male respondents accounted for a smaller proportion (n = 6, 20%). Participants were distributed across several semesters, with the largest proportion in semester 7 (40%, n = 12), followed by semester 9 (30%, n = 9). Smaller groups were in semester 5 (13.3%, n = 4), semester 13 (13.3%, n = 4), and semester 11 (3.3%, n = 1). Respondents' ages ranged from 20 to 27 years. The most common age was 22 years (40%, n = 12), followed by 20 years (26.7%, n = 8) and 21 years (16.7%, n = 5). The sample was predominantly from the Psychology department (86.7%, n = 26). The remaining participants were from the departments of Agribusiness, Aquaculture, Medicine, and Fisheries, each representing 3.3% (n = 1) of the sample.

Table 2. Demographic characteristics of participants (n=30)

Category	n (%)
Gender	
Male	6 (20.0)
Female	24 (80.0)
Age (year)	
20	8 (26.7)
21	5 (16.7)
22	12 (40.0)
23	2 (6.7)
24	2 (6.7)
27	1 (3.3)
Academic semester	
Semester 5	4 (13.3)
Semester 7	12 (40.0)
Semester 9	9 (30.0)
Semester 11	1 (3.3)
Semester 13	4 (13.3)
Department	
Psychology	26 (86.7)
Agribusiness	1 (3.3)
Aquaculture	1 (3.3)
Medicine	1 (3.3)
Fisheries	1 (3.3)

To test the hypothesis regarding the effect of Benson Relaxation Therapy on stress levels, an inferential analysis was performed. However, the statistical model used (ANOVA) did not yield a significant result. The analysis produced an F-value of 0.243 *(p = .626)*. This finding indicates that, based on the quantitative statistical test applied to the available data, no statistically significant effect of the intervention on stress levels was detected.

Table 3. ANOVA results for the effect of stress on students

Source	SS	df	MS	F	*p*
Regression	0.041	1	0.041	0.243	.626
Residual	4.759	28	0.170		
Total	4.800	29			

Despite the lack of statistical significance in the quantitative analysis, qualitative observations of the three participants who received the Benson Relaxation Therapy intervention revealed notable subjective and behavioral changes. These participants, selected for high initial stress scores, demonstrated signs of relaxation post-intervention. Observable indicators included calmer facial expressions and demeanor, visibly reduced muscle tension, and slower, deeper breathing patterns. Furthermore, participants provided unsolicited feedback, reporting increased relaxation, decreased anxiety, and a greater sense of mental calm after the relaxation sessions.

DISCUSSION

This study investigated stress levels among undergraduate students completing their thesis at Universitas Malikussaleh and explored the potential effect of Benson Relaxation Therapy (BRT) in reducing stress responses. The findings were mixed: while the quantitative inferential analysis did not show a statistically significant effect of the intervention *(p = .626)*, qualitative observations indicated positive subjective and behavioral responses among participants who received the therapy.

The inferential statistical analysis revealed no statistically significant difference in stress outcomes between the experimental and control conditions. This non-significant result is likely attributable to key methodological limitations, most notably the extremely small sample size in the intervention group. Of the 30 respondents initially screened, only three with high stress levels received BRT. As

established in methodological literature, small sample sizes severely limit statistical power, increasing the probability of Type II errors, the failure to detect a true effect, even when an intervention may have practical or clinical relevance (Button et al., 2013; Lakens, 2022). Therefore, the quantitative findings should be interpreted with caution and are not conclusive evidence of the therapy's ineffectiveness.

Despite the lack of statistical significance, observational data from the three intervention participants revealed meaningful changes consistent with a relaxation response. Participants reported feeling calmer and exhibited behavioral signs such as reduced muscle tension and slower, more controlled breathing post-session. These observations align with the theoretical mechanism of BRT, which is designed to reduce sympathetic nervous system arousal and increase parasympathetic activity, thereby counteracting the physiological and psychological manifestations of stress (Benson & Proctor, 2010; Astuti et al., 2019). Furthermore, these changes correspond to the multidimensional stress framework proposed by Sarafino and Smith (2014), suggesting that BRT may positively influence the emotional, cognitive, and physiological components of stress commonly experienced by thesis students.

The present findings partially align with previous research on BRT and similar relaxation techniques. For instance, Ramayanti (2019) found a significant reduction in stress among final-year nursing students following BRT, and Aryana (2013) recommended its regular practice to bolster psychological resilience. The discrepancy between these significant findings and the non-significant result of the current study can likely be explained by differences in key study parameters, including sample size, intervention duration, practice frequency, and overall research design rigor. This study has several limitations that must be acknowledged. First, the very small intervention group sample critically constrained statistical power and generalizability. Second, the use of a posttest-only design without baseline (pretest) measurements prevented an analysis of individual change over time. Third, the reliance on self-report and researcher observation introduces potential subjectivity and bias.

Future research should address these limitations by employing more robust designs, such as randomized controlled trials (RCTs) with pretest-posttest control groups and larger, adequately powered samples. Extending the intervention period and incorporating objective physiological measures of stress (e.g., heart rate variability, salivary cortisol) would enhance the validity and comprehensiveness of the findings.

Although statistical significance was not achieved, the positive qualitative responses suggest that Benson Relaxation Therapy holds promise as a simple, accessible, and culturally adaptable stress management tool for undergraduate thesis writers. These findings contribute to the literature on non-pharmacological interventions for academic stress and provide a preliminary foundation for universities and student support services to consider integrating brief relaxation training into wellness programs. Further rigorous investigation is warranted to definitively establish its efficacy and optimal implementation strategy.

CONCLUSION

This study examined the role of Benson Relaxation Therapy as a non-pharmacological approach to managing stress among undergraduate thesis students at Universitas Malikussaleh. While the quantitative analysis did not demonstrate a statistically significant effect, the findings offer valuable insights into the practical and experiential relevance of relaxation-based interventions within academic settings. The study contributes to psychological science by underscoring the distinction between statistical significance and clinical or practical utility. The observed emotional and

physiological indicators of relaxation suggest that Benson Relaxation Therapy may facilitate stress regulation through mechanisms involving focused attention, controlled breathing, and the incorporation of personal belief systems. These elements are particularly relevant for final-year students navigating prolonged academic pressure and cognitive demands during thesis completion. From an applied perspective, Benson Relaxation Therapy is a viable, complementary stress-management strategy for university settings. It is a low-cost, culturally adaptable, and self-administered technique that may assist students in improving emotional regulation, reducing somatic tension, and enhancing overall psychological well-being amidst rigorous academic obligations. Future research should employ more robust experimental designs, including larger sample sizes, pretest-posttest control-group designs, and extended intervention periods. Incorporating objective physiological measures and mixed-methods approaches could further elucidate the efficacy and underlying mechanisms of Benson Relaxation Therapy. Collectively, this study provides a preliminary foundation for advancing evidence-based, holistic stress interventions in higher education.

DECLARATION

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Author contribution statement

Hafnidar was primarily responsible for reporting and presenting the research findings in the manuscript, including preparing the results and discussion sections. Dyotami Adelia contributed to data collection and analysis, including administering research instruments and processing and interpreting the data. Dwi Irza Humairoh contributed to data collection and analysis, including administering research instruments and processing and interpreting the data. Dea Eliana participated in data collection and analysis, including administering research instruments and processing and interpreting the data. Guatia Rani contributed to data collection and analysis, including administering research instruments and processing and interpreting the data. The development of the research design, instruments, and procedures was carried out collaboratively by all authors.

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Data access statement

The data described in this article can be accessed by contacting the first author.

Declaration of interest statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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