

Validation of Stress Management Training Modules to Reduce Stress Levels of University Students

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Abstract: This study aims to validate a stress management training module (KENDALI Stress) to reduce stress levels in university students in Yogyakarta. The research started with the construction of the module, the construction of this module refers to the MANTAP method. Module validation was conducted in two stages. First, the content validity test was conducted through the assessment of eight expert judgments. The results of Aiken's V analysis obtained a score between 0.67 to 0.77, meaning that the module had good content validity. Second, the functional validity test was used to determine whether this module had a good function as expected. The functional validity test process began with the implementation of module trials in small groups using a quasi-experimental research approach utilizing an untreated control group design with pretest and posttest samples. The participants were 8 students aged 20-24 years old in Yogyakarta who were divided into 4 people in the experimental group and 4 people in the control group. The results of statistical analysis using the Mann-Whitney test showed that there was no significant difference in stress levels between the control and experimental groups. The significance values obtained (0.083 and 0.114) > p 0.05. Qualitative analysis showed that stress management training provided benefits in developing understanding and coping skills. It can be concluded that although the stress management training module has good content validity, it is not ready for distribution and requires review and functional adjustment to increase its effectiveness in reducing stress levels in university students in Yogyakarta.

Keywords: Stress Management, Stress Management Module, Validity

1. Introduction

When viewed from the perspective of age (Arnett, 2018; Santrock, 2012), generation, and the current era of the world (VUCA world; Volatility, Uncertainty, Complexity, and Ambiguity), students are faced with increasingly complex challenges. The complexity of issues experienced by students makes them vulnerable to stress (Ambarsarie et al., 2021). Factors that contribute to stress among students include academic demands, transition to independent living, financial problems, social pressures, and uncertainty about the future (Lestari et al., 2023). Currently, mental health issues among students have become a major concern due to the rising cases of suicide among students in Indonesia. Excessive stress can trigger suicidal ideation (Lalenoh et al., 2021). Although still an idea, this can potentially lead to suicide, as suicidal thoughts and attempts often occur impulsively (Idham et al., 2019). In 2023, there was an increase in suicide cases among students in Indonesia. Factors such as academic pressure, personal problems, stress, and life pressures are suspected to be potential contributors to suicidal ideation and attempts among students (Idham et al., 2019).

Researchers conducted interviews with several students to gather initial data and analyze their needs. The interview results indicated that these students were experiencing symptoms of stress caused by various stressors. This finding is consistent with previous research stating that campus life issues, negative feelings and thoughts, and relationship problems are challenging situations faced by students that can trigger stress (Immanuel et al., 2022). Unresolved stress can lead to various symptoms, such as physical, psychological, and social symptoms (Chen, 2016). Interventions are needed to address stress and prevent the mental health problems often experienced by students. Considering that mental health issues among students require intensive attention due to their vulnerability to psychological problems. Factors such as academic pressure, financial issues, interpersonal problems, and environmental changes can affect students' mental health. Additionally, according to Darden & Ginter (1996), students

need skills to complete developmental tasks to achieve happiness, satisfaction, and success. Failure to complete these tasks can lead to unhappiness, dissatisfaction, suffering, pressure, societal rejection, and difficulties in subsequent tasks. Rasik & Ismail (2019) emphasized the importance of serious handling of student stress, considering the role of students as the nation's assets in building the future.

There are many interventions that can be provided to university students, and psychological intervention through psychoeducation is an effective method in helping individuals cope with stress and maintain mental health. Psychoeducation involves explanation, information, and skills through educational sessions, training, or discussions, both individually and in groups (HIMPSI, 2010). In the context of this research, the researchers used stress management training as an intervention aimed at helping individuals develop skills and strategies to cope with stress (Bana et al., 2023; Nabila & Sayekti, 2021; Moesarofah, 2021; Hakim, 2017; Chinaveh, 2013). In this study, the researchers developed a stress management training module that aims to serve as a teaching material to provide knowledge and understanding related to stress and impart skills related to stress management to training participants. This research developed the KENDALI stress management training module consisting of educational, skill acquisition, and practice stages, referring to Taylor (2018). The module comprises four sessions: know stress, recognize stress, protect yourself from stress, and practice deep breathing. Deep breathing is an effective relaxation technique for reducing stress and enhancing overall well-being (Taylor, 2018; Chen, 2017). This technique is practical, cost-effective, and can be done anywhere without additional equipment. Studies have shown that deep breathing for 5-10 minutes can provide significant benefits (Taylor, 2018).

One important property of training that needs to be tested for validity is the training module to be used. According to Azwar (2018), content validity refers to the extent to which the content of the module aligns with the intended intervention goals. In developing a module, there are several model procedures that can be used, such as Module Development Procedure (Russell, 1974), Sidek Module Development Model (SMDM), and Module Development Process (Alsagoff, 1981). One of the common approaches used is the ADDIE instructional design model (Hamid et al., 2021; Mahfar et al., 2019). In the development of stress management training modules (KENDALI Stress Control), the construction of these modules refers to the Mantap method. The Mantap model is a modification of the stages of the Borg and Gall design (Sumarni, 2019). For the validation of the modules, the researcher used references (Azwar, 2018) where the validation tests conducted in this study included content validity and construct validity. If the module has been proven to have good validity and reliability, then the module is considered complete and ready for use. However, if the module does not meet the criteria of good validity and reliability, the developer needs to re

In the construction of the stress management training module (KENDALI Stress), the researchers followed the solid model. The Solid Model is a modification of the stages of the Borg and Gall design. For testing the validity of the module, the researchers used references (Azwar, 2018), conducting content validity and construct validity tests. If the module has been proven to have good validity and reliability, it is considered complete and ready for use. However, if the module does not meet the criteria for good validity and reliability, the developer needs to reevaluate and improve the module until it meets the desired criteria (Mahfar et al., 2019). To provide effective stress management training, it is essential to have training properties that align with the goals of stress management training, such as a valid training module that meets the needs of students to help them manage stress and reduce their stress levels. Therefore, the research problem posed is: Is the Stress Management Training Module (KENDALI: Know, Recognize, and Protect Yourself from Stress) valid in terms of content and functionality so that it can be used to reduce stress levels in students?

The aim of this research is to test the content validity and functional validity of this stress management training module in order to reduce the level of stress among students. The benefit of this research is to contribute to the development of a valid stress management training module to decrease stress levels among students. The results of this research are expected to equip skills in managing stress, particularly for the students who are participants in this study. It is hoped that by possessing skills to manage stress, these students can effectively handle stress and avoid the negative impacts caused by poorly managed stress.

2. Literature Review

Module validation is a process to ensure that the developed module has good content validity, meaning the module content is relevant and accurate according to the intended objectives. Additionally, the reliability of the module is also tested to ensure the consistency and stability of the results obtained from the module (Yahaya et al., 2011). Validity refers to the extent to which measurement results can be considered accurate and precise in measuring the intended constructs (Azwar, 2016). A module as a training package includes various elements such as objectives, activities, materials, operational procedures, outcome measurements, and guidelines for implementers. The module content is considered an intervention designed to change attitudes, knowledge, skills, perspectives, and behaviors of individuals, with the intervention referred to as treatment in the context of experiments and considered as an independent variable (Azwar, 2018).

The process of validating the stress management training module in stress management training (KENDALI: Know, Recognize, and Protect Yourself from Stress). In developing a module, there are several model procedures for module development that can be used such as the Module Development Procedure (Russell, 1974), Sidek Module

Development Model (SMDM), and Module Development Process (Alsagoff, 1981). Additionally, one common approach used is the ADDIE Instructional Design Model (Hamid et al., 2021; Mahfar et al., 2019). In this research, the researcher refers to the Mantap method in module development. The Mantap Model is a modification of the stages of the Borg and Gall design (Sumarni, 2019) re-clustered based on the differences in research types at each stage. This MANTAP Model consists of five main stages in research and development: 1) Preliminary Research Stage; 2) Model Development Stage; 3) Model Validation Stage; 4) Effectiveness Testing Stage; and 5) Dissemination Stage. This re-clustering is solely to facilitate research method users in understanding the R&D procedure, especially for beginners (Siregar 2023; Sumarni, 2019).

Module validation involves evaluating the content, construct, and reliability of the module to ensure that the developed module has good quality and can be effectively used in interventions (Rasik & Ismail, 2019). The validation process of the module according to Azwar (2018) is an important stage in research to ensure the effectiveness of the module in achieving the desired intervention goals. The validation process involves testing the module content, alignment with intervention objectives, and evaluating the effectiveness of the module in achieving the expected changes in training participants. The validity of the intervention module can be confirmed through the analysis of the significance of changes in dependent variable scores after the treatment, using statistical methods. Pretesting in research serves as a reference to understand the changes that occur after the intervention and to prevent ceiling effects. Theoretical references are needed to determine the appropriate timing for post-measurement after the intervention module is given. Thus, the validation of the intervention module is a crucial step in ensuring the success of the intervention and the effectiveness of the module in achieving the desired goals in the research context.

The testing of module validity consists of content validity and functional validity, with the following explanations: 1) Content validity aims to ensure that the content of the intervention module or training program aligns with the desired intervention goals. Content validity assesses the extent to which the presented material is relevant, representative, and comprehensive in achieving the established goals; 2) Functional validity of the intervention module measures how effective the module is in achieving the established goals, proven through significant changes in dependent variables after the intervention. The functional validity of the intervention module can be demonstrated through experimental research using instruments and measurement procedures to observe changes in target attributes after the intervention (target attributes are called dependent variables in experimental research design). The validity of the intervention module can be confirmed through the significance of changes in dependent variable scores after the treatment, which can be analyzed by: 1) Comparing the mean post-test scores between the experimental group (E) and the control group (C) using independent sample t-test or non-parametric Mann-Whitney U test; 2) Conducting manipulation check analysis to ensure that the intervention module affects the dependent variables according to the module's goals; 3) Examining the significance of changes in dependent variable scores after the intervention to evaluate the effectiveness of the module (Azwar, 2016).

Based on the theory explained, it can be concluded that module validation in this research is a process to ensure whether the developed module has good content that aligns with the intervention objectives. The validation tests in this module include content validity and functional validity. Content validity ensures the alignment of the module content with the intervention objectives, conducted through expert assessment and calculation of content validity coefficients. Functional validity measures the effectiveness of the module in achieving its goals, proven through significant changes in dependent variables after the intervention, using statistical analysis.

3. Methodology

The research variables in this study are 1) Stress, which is the score obtained from the measurement of the Perceived Stress Scale (PSS)-10. The PSS-10 scale consists of 10 items covering three aspects: feeling of unpredictability, feeling of uncontrollability, and feeling of overload. Stress levels can be determined from the scores obtained by participants after completing the stress scale; 2) Stress Management Training: The KENDALI Stress Training (Know, Recognize, and Protect Yourself From Stress) consists of three stages: education, skill acquisition, and practice. Research Participants: 1) Professional Judgment Participants (psychologists or academics with a minimum of 2 years of practice, experience in developing training modules, and understanding student psychological dynamics); 2) Functional Validation Participants (students with moderate to high stress scores based on the PSS-10). Inclusion criteria: 1) Never participated in stress management training before; 2) Active students aged 18-25. The research design is a quasi-experimental design with an untreated control group design with dependent pre-test and post-test samples (Cook et al., 2002). The manipulation of the independent variable in this study involves providing stress management to the experimental group, which consists of students. The control group is placed on a waiting list, meaning they will receive the same intervention after the research is completed. The stress management intervention is conducted offline with participant consent, consisting of one session lasting 3.5 hours, including 5 activities, 3 education sessions, and 1 practice session. Data collection is done using the PSS-10 questionnaire (PSS-10 is a validated questionnaire in the Indonesian language and has been used in previous studies (Purnami, 2020). The Cronbach's alpha value of 0.68 indicates the consistency and reliability of the scale in measuring stress levels. The module validation sheet (Professional Judgment or assessment of the content suitability of each subsection as an intervention by experts by providing ratings on the blank form) is prepared following Azwar (2018) and observation.

4. Results and Discussion

The process of validating the content of the stress management training module (KENDALI; Know, Recognize, and Protect Yourself from Stress) involved seven experts (clinical psychologists) to provide assessments, including lecturers, practitioners, and clinical psychologists with experience in developing modules and understanding the issues causing stress in students. The results of the experts' assessments were processed using Aiken's V and can be seen in Table 1.

Table 1. Expert Panel Results and Aiken's V Analysis

Sessions	Expert Initials								Aiken's V	Category
	S	G	T	Z	V	L	T	I		
Sessions 1. Identify	5	4	4	4	4.1	4	4	3	0.75	Good
Sessions 2. Aware	5	4	4	4	4	4	4	3	0.75	Good
Sessions 3. Protect Yourself from Stress	5	4	3	4	4.6	4	4	3	0.77	Good
Sessions 4. Practice deep breathing	3.5	4	3	4	4	4	4	3	0.67	Good

After obtaining good content validity results, the researchers proceeded to conduct functional validity testing. Functional validity was tested through a quasi-experimental design with an untreated control group, using dependent pretest and posttest samples, conducted with statistical and qualitative analysis.

Tabel 2. Demography

No.	Name (Initial)	Age	Last Education / Current Activity	Place of Origin
Experimental Group Participants				
1	R	22	Senior High School/ 11th Semester College	Papua
2	M	23	Senior High School/ 7 Semester College	Tangerang
3	E	23	Senior High School/ 9th Semester College	Pemalang
4	D	24	Senior High School/ 9th Semester College	Pekan Baru
Control Group Participants				
1	C	24	Senior High School/ 11th Semester College	Bengkulu
2	AN	22	Senior High School/ 9th Semester College	Papua
3	EL	21	Senior High School/ 7th Semester College	Manado
4	R	22	Senior High School/ 7th Semester College	Bali

The results of the module test on a small group are as follows: 1) The experimental group did not show a significant difference between the pretest and posttest, with a Z value of (-0.730) and $p > 0.05$ (0.465). The control group also did not show a significant difference between the pretest and posttest, with a Z value of -1.461 and $p > 0.05$ (0.144). Based on the statistical analysis using the Mann-Whitney test, there was no significant difference between the experimental and control groups, with significance values obtained (0.083 and 0.114) > 0.05 . However, the comparison of gains between the two groups shows that stress management training in the experimental group had different effects on participants, where 1 experienced an increase and 3 experienced a decrease in stress levels. In contrast, in the control group, there were varying changes in values, where 1 experienced a decrease and 3 experienced an increase in stress levels, possibly due to uncontrolled external factors in the study. Although there was no significant difference between the two groups, the changes in stress levels in participants indicate different responses to stress management training between the experimental and control groups. Differences in stress levels based on the PSS-10 scale can be seen in Table 3.

Table 3. Score Pretest Post-test PSS-10

No.	Name (Initials)	Pretest Score	Category	Posttest Score	Category
Experimental Group Participants					
1	R	27	High	24	Moderate
2	M	27	High	31	High
3	E	30	High	28	High
4	D	28	High	23	Moderate
Participants Control Group					
1	C	27	High	32	High
2	AN	25	Moderate	24	Moderate

No.	Name (Initials)	Pretest Score	Category	Posttest Score	Category
3	AL	27	High	29	High
4	RR	24	Moderate	31	High

The qualitative analysis results of stress management training in the experimental group showed that participants benefited significantly, including identifying the causes of stress, enlightening ways to cope with stress, gaining knowledge of stress elimination strategies, understanding the impact and symptoms of stress, identifying daily stress triggers, improving understanding of stress, ability to apply learning, ability to manage stress according to individual characteristics, as well as feeling relieved, calm, and relaxed after the training. Other benefits included detailed knowledge about stress, insights related to stress, and a better understanding of stress. Participants also reported increased understanding, ability to apply learning, ability to manage stress, as well as feeling relieved, calm, and relaxed after the training. Therefore, stress management training provides benefits in developing understanding of stress, stress coping skills, and overall mental well-being.

After the training, one participant still experienced a surge of negative emotions. The researcher provided Psychological First Aid (PFA) for emotional stabilization. One day after the training, most participants reported feeling well. Facilitators need PFA skills to anticipate emotional surges. PFA helps individuals manage stress due to crises or trauma, provides psychosocial support, and reduces stress levels. Although not clinical therapy, PFA provides a strong foundation for providing support.

Based on the analysis using Aiken's V, this stress management training module has scores ranging from 0.67 to 0.77, which according to Azwar (2018) indicates good content validity. The researchers in developing this module referred to the Solid Model for the model development stage (Siregar, 2023; Sumarni, 2019). This module is based on Taylor's stress management stages (2018) and other theories such as Chen (2017). Before validation, the module was evaluated by practitioner experts, and a module trial was conducted using the Delphi technique involving 8 experts for quantitative and qualitative assessments. Out of the 8 experts, one expert provided the lowest rating compared to the other 7 experts, so when selecting validators, consider the validator's competence and availability of time to provide accurate and quality assessments of the developed module.

The statistical test results of the validity function show that there is no significant difference between the experimental group and the control group, with a significance value above 0.05. Factors influencing the validity in this module research include the measurement time being too close between pre-test and post-test, a sample size that is too small, the use of the PSS-10 instrument for a period of less than one month, and other factors beyond the researcher's control that affect participant conditions. From the qualitative analysis of the trial results in a small group, participants in the stress management training showed enthusiasm, therapeutic interaction, willingness to ask questions, and benefits obtained such as identifying the causes of stress, enlightening ways to cope with stress, knowledge of stress elimination strategies, understanding the impact and symptoms of stress, identifying daily stress triggers, improving understanding of stress, ability to apply learning in daily life, ability to manage stress according to individual characteristics, as well as feeling relieved, calm, and relaxed after the training. Additionally, researchers can provide enough time for facilitators to deepen their knowledge of the material before the training begins.

5. Conclusion

Although this module has good content validity, a review and functional adjustment are needed to make it more effective in reducing stress levels. In this case, the stress management training module has not yet achieved the expected functionality. Additionally, in the implementation of stress management training modules, facilitators need to have Psychological First Aid (PFA) skills to anticipate emotional surges in participants. PFA helps individuals return to a more stable emotional state after experiencing acute stress and can be used to provide effective psychosocial support. The weakness in this study lies in the evaluation implementation, specifically due to time constraints. The ideal administration of the PSS-10 should have been after 1 month of training, but it was given at the end of the training, which had a close time range with the pretest. Therefore, it is recommended for future researchers to conduct the post-test PSS-10 within a 1-month timeframe after the training to observe the changes that occur after participants receive training for 1 month. Administering the post-test PSS-10 within a 1-month timeframe after the training is crucial to assess long-term changes and the stability of the training effects on participants. Additionally, the PSS-10 construct is designed to assess stress levels over a period of 1 month.

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Conflict of Interest

The authors declare no conflicts of interest.

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