Validity and Reliability of the Indonesian Version of the Perceived Stress Scale (PSS) and Self-Reporting Questionnaire (SRQ) Questionnaire: Study of Stress Levels and Mental Health Conditions in Master Students of the Faculty of Public Health

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Abstract

Stress levels and the state of mental health experienced by university students are aspects that require special attention. The Perceived Stress Scale (PSS) questionnaire evaluates the extent to which individuals believe that the conditions they experience are unpredictable, uncontrollable, and overloaded. The Self-Reporting Questionnaire (SRQ) questionnaire is designed to assess a person's mental health condition based on cognitive symptoms, depression, anxiety, somatic complaints, and decreased energy experienced. The purpose of this study was to test the validity and reliability of the Indonesian version of the PSS and SRQ questionnaires, as well as to provide an overview of stress levels and mental health conditions among final-year Master of Public Health students. This type of research is quantitative research. The sample used in this study was 35 final-year master students of the Faculty of Public Health at Hasanuddin University. The research instruments used were PSS and SRQ questionnaires. Person's Produc Moment technique was used to test the validity of the questionnaire, and Cronbach's alpha technique was used to test the reliability of the questionnaire. In addition, univariate analysis was also conducted to obtain a description of the level of stress and mental health conditions of students. Validity testing of the instrument on 10 items of the PSS questionnaire and 20 items of the SQR questionnaire showed that all items were declared valid with a correlation value> 0, 333. The reliability test of the PSS and SRQ questionnaires shows a Cronbach Alpha value of 0.888 and 0.916, which means that the value is> 0.600, so the instrument is declared reliable. The results showed that most students' stress levels were at a moderate level, namely 18 people (51.4%). For mental health conditions, most students are in a condition where there are indications of mental disorders, namely 18 people (51.4%). The results of the validity and reliability tests that have been carried out show that all question items on the PSS and SRQ questionnaires are feasible to use with Hasanuddin University Public Health master students. The stress level of most students is at a moderate level, and for mental health conditions, most are indications of mental disorders.

Keywords: stress level, mental health, and student.

1. Introduction

The mental health of university students is an aspect that requires special attention. One of the underlying issues is the Sustainable Development Goals (SDGs) 2030 agenda in point 4 regarding quality education [1]. Maintaining the mental health of students can also prevent the development of psychological problems in adulthood and in professional work to ensure a better world for future generations of academics [2]. Mental health is a state of well-being in which a person can live normally, work productively, and contribute to their community [3]. Mental health among university students is an important public health issue that continues to be studied [4]. Mental health is a fundamental component of the definition of health [5]. Mental health is still one of the most significant problems in both developed and developing countries, including Indonesia [6]. Mental health problems characterized by symptoms that occur in a person. These symptoms include cognitive symptoms, anxiety, depression, somatic symptoms, and decreased energy. Students who are preparing their final project tend to have mental health

problems or psychiatric disorders such as anxiety and depression [7]. Mental disorders are a common phenomenon among students, including master's students.

Stress became the second-leading mental health problem in the world in 2020 [8]. A person is said to experience a disorder or abnormality, one of which is caused by distress. If the amount of stress experienced by a person is so great, then the impact is that the stress can harm physical and mental conditions [9]. Stress is the most common cause of mental health problems that burden the lives of students around the world [10]. Research was also conducted by Yuliani in 2023 regarding the relationship between learning stress and student mental health. The higher the level of student stress, the worse the mental health condition [11]. Research on stress levels of students majoring in health in 2021 regarding stress levels in final students of the Public Health Department. The results showed that of the 50 respondents, 18% were at a low stress level, 68% were at a moderate stress level, and 14% were at a severe stress level [12]. The academic life of master's students has its own demands and challenges. Academic competition, coursework, a new environment, financial conditions, relationships with family members, and work problems are things that concern students.

It is not common for this to cause stress [13]. This is in line with research conducted in 2021 regarding the factors that influence the incidence of stress in students of the Faculty of Public Health, University of Indonesia, who are working on their thesis. Students with severe stress levels were 54 (55.7%), and those with mild stress levels were 43 (44.3%) [14]. The stress levels and mental health conditions of students can measured using questionnaires. One type of questionnaire that can be used to measure student stress levels is the Perceived Stress Scale (PSS) questionnaire, and to measure the state of student mental health, one can use the Self-Reporting Questionnaire (SQR) questionnaire. The Perceived Stress Scale questionnaire is designed to measure the extent to which individuals rate situations in their lives as stressful. Items on the PSS questionnaire evaluate the extent to which individuals believe that their lives have been unpredictable, uncontrollable, and overloaded during the previous month. The items assessed are general in nature and do not focus on specific events or experiences [15].

The PSS questionnaire consists of 10 question items with the answer options Very Often, Often, Sometimes, Rarely, and Never. Furthermore, the SRQ questionnaire is designed to assess a person's mental health condition based on overlapping cognitive symptoms such as depression, anxiety, somatic complaints, and decreased energy [16]. The SRQ questionnaire consists of 20 question items with "yes" and "no" answer options that make it easy to choose an answer to the perceived condition. The PSS and SQR questionnaires that will be used to measure the level of stress and the state of mental health of Hasanuddin University Master of Public Health students need to be tested for validity and reliability. Both tests are needed because of language differences with the original version of the questionnaire and differences in research subjects such as individuals and the environment to be studied, so that there may be differences in the level of accuracy and consistency of the questionnaire. The validity and reliability tests of the PSS and SQR

questionnaires were carried out with the aim that the questionnaires could be standardized when applied to master's students majoring in health.

2. Materials and Methods

2.1. Research Design

This research is a type of quantitative research with a descriptive observational method. This quantitative research conducted by distributing questionnaires to 35 Master of Public Health students who were preparing their final project. These students have agreed to become respondents in this study. Students are asked for their willingness through WhatsApp online media. Students who willing then sent the Perseived Stress Scale (PSS) questionnaire and the Self-Reporting Questionnaire (SRQ) questionnaire in the form of a Google Drive link. The Perseived Stress Scale (PSS) questionnaire is a questionnaire used to measure stress levels, consisting of 10 question items. The Self-Reporting Questionnaire (SRQ) is a questionnaire used to measure mental health conditions, consisting of 20 question items. The sample characteristics of the the data collected were age and gender.

2.2. Location and Time of Research

This research was conducted at the Faculty of Public Health, Hasanuddin University, located at Jalan Perintis Kemerdekaan Km. 10, Makassar City, and South Sulawesi Province, Indonesia. This research was conducted in December 2023.

2.3. Respondent Selection

Respondent selection was conducted by distributing questions to a WhatsApp group of master's students with the aim of identifying the level of willingness to participate in the research I was conducting. In the process, inclusion criteria were included to ensure the proper selection of respondents. The inclusion criteria in this study are active master's students of the Faculty of Public Health, Hasanuddin University, who have programmed the final project on the study plan card and have not yet carried out the final stage of the examination. Students who are willing to participate will be contacted personally via WhatsApp by the researcher. The researcher will explain the procedure for filling out the questionnaire and guarantee the confidentiality of the data provided by the respondent. Researchers got 35 students who were willing to be respondents.

2.4. Data Analysis

The data collected are primary data from master students' answers to questionnaires. The number of samples involved in this study was 35 master's students who were in the process of preparing their final project. The data \processed using the SPSS version 21 for Windows program. The validity test of the questionnaire in this study used the person-product moment correlation test. The statement is considered valid if the value of $r_{count} > r_{table}$ (n = 35, $r_{table} = 0.333$). The questionnaire reliability test in this study used the Cronbach Alpha Coefficient test. The questionnaire is considered reliable if the Cronbach alpha coefficient value is > 0.600. The description of stress levels and mental health conditions of public health master students was obtained through univariate tests, namely descriptive statistical

analysis. The output of the descriptive analysis is the frequency distribution and percentage of stress levels and mental health conditions of Master of Public Health students who are preparing their final project.

2.5. Ethics Approval

This research has received approval from the Ethics Commission of the Faculty of Public Health, Hasanuddin University with the recommendation number for ethical approval: 6505/UN4.14.1/TP.01.02/2023. All participants were given written consent by the researcher to fulfill the requirements.

3. Results and discussion

3.1. Results

Based on the characteristic data in Table 1, the research sample dominated by female students, namely 33 (88.6%) students. The age of students in this research sample is dominated by students aged 17-25 (late adolescence), as many as 27 people (77.1%). Table 2 shows the correlation value of the 10 question items on the Perseived Stress Scale (PSS) questionnaire all show a correlation value> 0.333. These results indicate that all questions on the Indonesian version of the PSS questionnaire are valid and can be used on master students of the Faculty of Public Health, Hasanuddin University. The highest correlation value on the PSS questionnaire is on question item no. 9, namely ^{r}count=0.926 with the wording of the sentence "In the past month, how often have you felt that difficulties have piled up so much that you cannot overcome them?" While the lowest correlation value is on question item No. 8, which is ^{r}count=0.457 with the phrase "In the past month, how often have you felt that you are very happy and successful?"

Based on Table 3, it can be seen that the correlation values of the 10 question items on the Self-Reporting Questionnaire (SRQ) questionnaire all show a correlation value> 0.333. These results indicate that all questions on the Indonesian version of the SRQ questionnaire are valid and can be used by master students of the Faculty of Public Health at Hasanuddin University. The highest correlation value on the SRQ questionnaire is on question item No. 10, namely ^{r}count = 0.814 with the wording of the sentence "Have you lost interest in various things during the last 30 days?" While the lowest correlation value is on question item No. 8, which is ^{r}count = 0.447 with the phrase "Have you had difficulty sleeping during the last 30 days?" Based on table 4, it can be seen that the Cronbach Alpha Coefficient test results of the Perceived Stress Scale (PSS) questionnaire and the Self Reporting Questionnaire (SRQ) questionnaire> 0, 600, namely 0.888 and 0.916.

This indicates that the Indonesian version of the PSS and SRQ questionnaires are reliable for use in measuring stress levels and mental health conditions of master students at the Faculty of Public Health, Hasanuddin University. Table 5 shows that the frequency distribution of stress levels of master students of the Faculty of Public Health is mostly at a moderate stress level, namely 18 people (51.4%), in the category of mild stress level as many as 5 people (14.3%) and at a severe stress level as many as 12 people (34.3%). The

frequency distribution of mental health conditions of master students of the Public Health faculty is mostly in conditions indicated by mental health disorders, namely 18 people (51.4%). In the category of mental health conditions that are not indicated by mental health disorders, there are 17 people (48.6%).

3.2. Discussion

Validity and reliability tests of the Indonesian version of the Perceived Stress Scale and Self-Reporting Questionnaire were conducted on final year master's students of the Faculty of Public Health, Hasanuddin University. The questionnaire that was tested for validity was the Indonesian version of the questionnaire. This validity and reliability test was carried out to see the feasibility of the two questionnaires so that they could be used on master's students in the Department of Public Health. The results of the validity test of the PSS questionnaire show the value of each question item ≥ 0.333, meaning that all questions in the Indonesian version of the Perceived Stress Scale questionnaire have been validly used to measure the stress level of Public Health faculty master students who are preparing the final project. In this study, question item number 10, "In the past month, how often have you felt that difficulties have piled up so much that you cannot overcome them?" is the question item that has the highest validity value of 0,926.

The validity value of this item is the highest because, for final-year master's students, working on the final project tends to provide difficult pressure and is felt to be a task that piles up by students. The results of the SRQ questionnaire validity test showed that the value of each question item was ≥ 0.333, meaning that all questions in the Indonesian version of the Self Reporting Questionnaire were valid to be used to measure the mental health conditions of master students of the Faculty of Public Health who were preparing their final project. In this study, question item number 9, "Have you been unable to do useful things in life during the last 30 days?" is the question item that has the highest validity value of 0.773. The validity value of this item is the highest because in master's students, a disturbed mental health condition can be described by a feeling of uselessness in daily activities.

The results of the reliability test of the Indonesian version of the PSS and SRQ questionnaires showed a Cronbach Alpha value> 0.600. This means that both questionnaires are reliable to be used to measure the stress levels and mental health conditions of master students of the Faculty of Public Health who are working on their final project. The results of this study provide an overview of the level of stress and mental health conditions of master students of the Faculty of Public Health who are preparing the Final Project. The results of this study represent the state of students in approximately the last 30 days. Most students' stress levels are at a moderate level. As for the condition of mental health, most are in a condition where there are indications of mental disorders.

Table 1. Frequency Distribution of Respondent Characteristics

Characteristics	n	%
Gender		
Male	4	11,3
Female	31	88,6
Age		
17-25 years old (late adolescence)	27	77,1
26-35 Years (Early Adult)	6	17,1
36-45 Years (Late Adult)	2	5,7

Source; Primary Data, 2023

Table 2. Validity of the Indonesian Version of the Perceived Stress Scale Questionnaire

No	Question	$r$count	$r$table	Criteria
1	In the past month, how often have you been upset by an unexpected event?	0,691	0,333	Valid
2	In the past month, how often have you felt out of control of something important in your life?	0,827	0,333	Valid
3	In the past month, how often have you felt nervous and stressed?	0,658	0,333	Valid
4	In the past month, how often have you felt confident in your ability to handle your personal problems?	0,468	0,333	Valid
5	In the past month, how often have you felt that things were going your way?	0,496	0,333	Valid
6	In the past month, how often have you found that you could not cope with all the things you were supposed to do?	0,848	0,333	Valid
7	In the past month, how often have you been able to control the disruptions in your life?	0,673	0,333	Valid
8	In the past month, how often have you felt that you were very happy and successful?	0,457	0,333	Valid
9	In the past month, how often have you gotten angry about things you could not control?	0,887	0,333	Valid
10	In the past month, how often have you felt that difficulties were piling up so much that you could not cope?	0,926	0,333	Valid

Source; Primary Data, 2023

Table 3. Validity of the Indonesian Version of the Self-Reporting Questionnaire

No	Question	$r$count	$r$table	Criteria
1	Have you found it difficult to think clearly in the last 30 days?	0,642	0,333	Valid
2	Has it been difficult for you to make decisions in the past 30 days?	0,734	0,333	Valid
3	Have you had trouble sleeping in the past 30 days?	0,447	0,333	Valid
4	Have you been afraid easily in the past 30 days?	0,713	0,333	Valid
5	Have you felt tense, anxious or worried in the last 30 days?	0,644	0,333	Valid
6	Have your hands been shaking during the past 30 days?	0,694	0,333	Valid
7	Have you felt unhappy during the past 30 days?	0,540	0,333	Valid
8	Have you been crying more often in the past 30 days?	0,614	0,333	Valid
9	Have you been unable to do anything worthwhile in life in the last 30 days?	0,773	0,333	Valid
10	Have you lost interest in things over the past 30 days?	0,814	0,333	Valid
11	Have you felt worthless during the past 30 days?	0,528	0,333	Valid
12	Have you had thoughts of ending your life in the past 30 days?	0,749	0,333	Valid
13	Have you suffered from frequent headaches during the past 30 days?	0,687	0,333	Valid
14	Have you lost your appetite during the past 30 days?	0,547	0,333	Valid
15	Has your digestion been poor during the past 30 days?	0,454	0,333	Valid
16	Have you had a bad feeling in your stomach during the past 30 days?	0,557	0,333	Valid
17	Have you found it difficult to enjoy daily activities during the past 30 days?	0,578	0,333	Valid
18	Has your daily work been interrupted during the past 30 days?	0,752	0,333	Valid
19	Do you feel tired all the time?	0,514	0,333	Valid
20	Have you gotten tired easily during the past 30 days?	0,530	0,333	Valid

Source; Primary Data, 2023

Table 4. Reliability of Perceived Stress Scale and Self-Reporting Questionnaire
Reporting Questioner Indonesian Version

Variable	Number of Question Items	(*Cronbach's Alpha*) r_{alpha}	$r$critical	Criteria
Stress Level (Perceived Stress Scale)	10	0,888	0,600	Reliable
Mental Health (Self Reporting Questionnaire)	20	0,916	0,600	Reliable

Source; Primary Data, 2023

Table 5. Frequency Distribution of Stress Level and Mental Health Condition Master Students of the Faculty of Public Health Hasanuddin University

Variable	Category	n	%	Total	
				n	%
Stress Level	Mild	5	14,3	35	100
	Medium	18	51,4		
	Heavy	12	34,3		
Mental Health	No Indication of Mental Health Disorder	18	51,4	35	100
	Indicated Mental Health Disorder	12	34,3		

Source; Primary Data, 2023

4. Conclusions

The results of the validity and reliability tests of the Perceived Stress Scale questionnaire and the Indonesian version of the Self Reporting Questionnaire declared feasible for measuring the level of stress and mental health conditions of master students of the Faculty of Public Health who were working on their final project. The description of the stress level of students is mostly at a moderate level, and for mental health conditions, most are indications of mental disorders.

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