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### **DEVELOPMENT AND VALIDATION OF INSTRUMENTS FOR SCREENING PROBLEMS OF CHILDREN AND ADOLESCENTS (ISMAR) IN MEASURING ANXIETY**

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#### **Abstract**

At the moment there are teenagers who feel anxious when they find the thing that make them feel uncomfortable if keeps pressed it will be a nuisance. Then there is a need for a measuring tool for screening the adolescent problems. This study aimed to develop and validate an instrument for screening the youth and children's problems (ISMAR) in measuring anxiety. Then correlate the anxiety scale of ISMAR and Zung Self-rating Scale. A design used by applying a quantitative technique and the data was collected by using quota sampling. There are 12 valid items with the validity value of  $\geq 0.3$  and coefficients reliability 0,769 In the analysis factor by 200 subjects tested using exploratory of analysis, yielding Kaiser Meyer Olkin Measure of Sampling Adequacy (KMO-MSA) value of 0,752 with 0,000 significance. Besides that based on the rotated component matrix, 4 factors accounted for anxiety in ISMAR. By the concurrent validity that is resulting in value 0,479. It can be concluded that ISMAR had good validity and reliability and also had a positive correlation with the Zung Self-rating Anxiety Scale (ZSAS) although weak correlation.

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# 1. INTRODUCTION

## Background

When children are in their teens, they will pay much attention to themselves, from their appearance to the relationships they will face. Adolescence is a period where adolescents begin to better recognize themselves and also hang out with their environment so that they are very vulnerable to negative influences. very complex teenagers in general. This is because adolescence is a very vulnerable age with promiscuity, violence, to crime. The number of cases of violence against adolescents and crime that is broadcast through various media at this time, making some teens will feel anxious about themselves and their environment. Anxiety is a condition where a person will feel scared and depressed so as to cause reactions to unpleasant stimuli (Brooks, 2013).

Data presented by a journal of Mental Health found that as many as 13% of adolescents in the United States from ages 9-17 experience anxiety. Some of the adolescents identified further have arrived at obsessive-compulsive disorders, post-traumatic stress disorder, and phobias (Macnaughton, 2002; Eisner, Sheri, & Charles, 2009). This is also supported by research from the National Institute of Mental Heat which found that as many as 25% of adolescents suffer from anxiety disorders throughout their lives, 11.2% experience depression and 2.4% experience agoraphobia (Noguchi, 2014). Even not only in normal people, but also people who have mental retardation have anxiety (Esbensen, Rojahn, Safe, & Rnedrich, 2003).

There are some important facts that draw attention to the anxiety that is often experienced by adolescents namely; (1) Often bear the consequences of these feelings and often suppress these feelings of difficulty (Henker, Carol, Larry & Ralph, 2002). (2) Having low self-resilience when facing a problem so trying to run away and trying to avoid the problem so that unresolved anxiety arises. (3) Weak personality traits (Von Ah, Sheryl, Anchlee, Najin & Duck-Hee, 2005).

Many factors can actually affect anxiety in adolescents to levels that can be said to be abnormal. Things like this that should be carried out screening that will continue later on in-depth assessment of adolescents related to their anxiety in various problems they face. Further assessments conducted on adolescents with various problems can see to what extent they can be handled and helped to make them more comfortable in their environment. To find out the level of anxiety in adolescents now and in order to reduce the level of excessive anxiety in adolescents, it is necessary to take a measurement to see how anxiety they feel.

Outside experts who have made and developed measuring devices with various aspects of psychology for the purposes of further assessment of a psychological phenomenon. In general, psychological measurement tools that are often used are in the

form of scales, tests, and self-reports. There are two ways that can be done to develop gauges, the first by making their own measuring devices according to needs and the second by adapting existing measuring devices (Suharsono & Istiqomah, 2014).

As it is known that at present most of the measuring instruments are made abroad using the language and culture of the makers of the measuring instruments. However, when Indonesians have a need to use the measuring instrument, it is often difficult to adapt to the measuring instrument. The order is in accordance with the language and culture prevailing in Indonesia, which sometimes takes a long time to adapt to the measuring instrument. But it cannot be denied that it is easier to adapt the measuring instrument than to make it. This is because there are several measuring devices that are easy to adapt and translate, then there are not many experts who can make a measuring instrument (Suharsono & Istiqomah, 2014). But until now some experts in Indonesia have begun trying to make and develop psychological measurement tools that are easier to use and in accordance with cultural conditions and languages that are easily understood in Indonesia. One of them is an anxiety measurement tool.

Anxiety measuring devices have been made and used by their users with the appropriate functions. Anxiety measurement tools that have been frequently used include DASS (Depression Anxiety and Stress Scale), Generalized Anxiety Disorder, Hamilton Rating Anxiety Scale, and others. These measuring instruments are also widely adopted in Indonesia so that they can be used to measure anxiety. With so many measuring devices that have been made abroad, the experts in Indonesia are also trying to make an anxiety measurement tool. But not many measuring devices used in Indonesia come from Indonesia anyway.

When making a measuring instrument, it must meet internal and external validity standards to get good results and make it easier for users. In its position, the validity and reliability of a measuring instrument are very important, because it is used to see whether the measuring instrument is appropriate to use and can describe the facts or not. According to Anastasi and Urbina (2007), validity is the validity of a measuring instrument by looking at how aspects are measured and how they can be used properly.

In this study, measuring instruments that have been previously made will be tested for validity. The measuring instrument is an Instrument for Screening Children and Youth Problems (ISMAR). ISMAR itself is an instrument that has various psychological aspects that will be measured and in accordance with the problems of adolescents in general. However, this research will focus on one psychological aspect that is no less important, namely anxiety.

The purpose of this research itself is to develop and test the validity of both external and internal validity of ISMAR with aspects of anxiety that have been made. So that when this instrument has been declared valid it will be used for screening problems in adolescents and can be used for further handling. Not only to the validation stage, but

ISMAR will also then be tested for correlation with other measuring instruments namely the Zung-self rating anxiety scale which has already been used to measure the same aspect of anxiety and good validity. Then ISMAR anxiety will also be developed so that it can be used appropriately in Indonesia in measuring psychological aspects in adolescents including anxiety. In using ISMAR, anxiety can be used to identify the initial problems they face, so that when anxiety problems in adolescents have been identified, they will be immediately dealt with by the experts.

### **Development and Validation of Measurement Tools**

Research activities in any field require a measuring instrument to measure what variables want to be investigated. A measuring instrument used in research is usually made directly by researchers or by adapting existing measuring instruments. Not only up to the stage of making measuring devices, but a measuring instrument needs to be developed and validated. From here many research problems that require the development of a measuring instrument to be used must be reliable and able to measure abstract things (Yusrizal, 2008).

Some steps that need to be known when making a measuring instrument: (1) defining a measuring instrument, (2) choosing a measuring instrument model, (3) making measurement items, (4) testing items that have been made, (5) revise the measuring instrument that has been tested, (6) and publish it to the public. The purpose of making measuring instruments must also be made clear so that they can be used in accordance with research or measurement interests. To see whether a measuring instrument that has been made in accordance with what will be measured requires testing on a population that has certain characteristics, this is usually referred to as a sample (Elmes, Barry, & Henry, 2006; Sugiyono, 2012).

In making the measurement tool, of course, we must know what the measurement models are, there are at least 4 types of measurement tools that are commonly used in the form of questionnaires in the form of open, multiple-choice, forced-choice and right-wrong responses (Anastasi & Urbina), 2007). The open-response format for the procedure is that respondents are asked to provide answers freely. Then multiple-choice, answer formats like this are commonly found and are usually more widely used in achievement tests such as school exams that can be done classically. Then there is the force-select format, this model is a measurement that only provides two kinds of answers, which are usually answered 'yes' and answers 'no'. The last model is the true-false model in which the respondent is usually asked to answer one of the answers that best suits him. This model is very commonly used in psychological tests such as personality tests.

Of course, to develop the measurement tool that will be used in research must be clear. In measuring certainly the instrument or measuring instrument used must be valid

and reliable, but a valid instrument is not necessarily reliable (Sugiyono, 2012). Validity itself is a direct examination of the extent to which the test equipment can function properly (Anastasi & Urbina, 2007). Meanwhile, according to Azwar (2011) validity is an accuracy that is owned by a measuring instrument and is able to function in accordance with its initial function. To test a measuring instrument is valid or not as a whole, we should not escape from how these items can also be said to be reliable and valid. So actually there are things that must be known when making items of a measuring instrument namely; About the difficulty index, the reliability index, the question velocity index, the characteristics of the questions, the discrimination index about the questions and the updating of questions after the initial validity test (Gregori, 2010). According to Abell, David, & Akihito (2009) in the validity, there are 2 kinds of coefficients, namely : (1) High validity coefficient, the intention is when the score obtained by individuals can describe the real situation and declared accurate, (2) Low validity coefficient is the inverse of the high validity coefficient where when the scores obtained by individuals are inaccurate so it cannot be said to describe the actual situation.

There are two kinds of validity when viewed from the test, the first is internal validity, which is if there is a match between the parts of the questionnaire with the contents of the whole questionnaire which reveals the variables studied. The second is external validity that is if the results of the tested data are in accordance with the variable data under study (Arikunto, 2010). Internal validity testing is followed by factor analysis.

A measuring instrument will be said to be reliable if the measuring instrument has stability or consistency with the same results when retested (Lowe, Peyton, & Reynolds, 2007). The reliability of an instrument or measuring instrument is a requirement in testing the validity of the instrument. Reliability is that there is a measuring instrument which when used repeatedly has stability in measuring an object so that the resulting data is the same (Sugiyono, 2012). There are several reliability models (Kaplan & Saccuzzo, 2012; Azwar, 2011), the first is time sampling (test-retest method). This method is a method that uses the same test in a different time period. Then this parallel form method is a method carried out in a study by comparing two measuring devices that measure the same aspects. Next is internal consistency, this reliability method only needs to do one test on the same group of subjects. In the reliability analysis, it is necessary to have an analysis of items as well as the need for division of tests into groups of items.

## **Anxiety**

In DSM IV anxiety is the most common disorder but there is a mental disorder, where experiencing anxiety such as mood and emotional distress is very extreme.

Anxiety is a manifestation of mood disorders, thinking, behavior, and physiological activity. The criteria mentioned in DSM IV (1994) if people who have anxiety disorders namely; (1) experiencing a disturbance of consciousness characterized by a decrease in alertness, (2) changes in cognitive abilities, such as a decrease in memory and language disorders (3) behavioral disorders accompanied by cognitive impairment.

Meanwhile, according to Williams (2010) anxiety is an anticipation of threats that are not specific and are accompanied by fear. A person who experiences anxiety about difficulties to identify the source of the threat, but he expects something negative or painful that occurs in the presence of certain stimuli. An emotion that is usually characterized by high arousal, negative valences, feelings of uncertainty, low self-control is anxiety according to Brooks (2013). According to him, anxiety can occur because of feelings of depression and psychological arousal as a reaction from any stimuli that are not pleasant and included in the situation and the potential for unpleasant individuals. Anxiety has a negative effect because feelings of anxiety will only drain the brain's working memory and also limit the processing of information so it tends to jeopardize cognition and performance. Anxiety also influences the motivational mechanism because it can cause risk avoidance and loss of confidence easily. However, according to Brooks, anxiety can also have a positive effect on individual behavior. For example, when someone feels anxious to deal with an event then from that feeling comes self-motivation and efforts to become better by making preparations and they will try harder and better to avoid negative results.

## **2. RESEARCH METHODS**

### **Research design**

In this study using quantitative research, to determine the validity of ISMAR by using internal and external validity tests. Internal validity test will be used factor analysis using exploratory factor analysis techniques, to determine the factors formed in ISMAR that measure anxiety. Then to conduct an external validity test between ISMAR and Zung Self-rating Anxiety Scale using concurrent validity.

### **Partisipants**

This study took the adolescent population in Malang at the high school level with an age range between 15-19 years, using a non-probability sampling technique that did not provide an opportunity for all members of the population to be selected as sample members in the study, but subjects to be taken in accordance with predetermined criteria (Sugiyono, 2012). Samples to be taken are as many as 200 teenagers with a type of

sampling technique that is, quota sampling. Quota sampling itself is taking a subject that is done by taking the subject in accordance with certain criteria and will be stopped if the required subject has reached the desired quota (Sugiyono, 2012).

### **Research Variables and Instruments**

The variable to be examined in this study is ISMAR which measures anxiety. ISMAR is an instrument that is used to measure adolescent problems. In making the ISMAR made by Dr. Latipun in 2014. ISMAR uses the Guttman scale model where the answers given from respondents are only "yes" and "no" explicitly. Psychological aspects contained in ISMAR are (1) anxiety, (2) depression, (3) family problems, (4) academic problems, (5) relationships with friends, (6) behavior, (7) inferiority, (8) religion and morals, (9) health, (10) career and education. The purpose of this ISMAR instrument is to screen the problems of children and adolescents so that they can get faster handling of their problems.

While the measuring instrument that will be used as a comparison for ISMAR is Zung Self-rating Anxiety Scale. Zung Self-rating Anxiety Scale (ZSAS) is a scale used to measure anxiety disorders created by William W. K. Zung, a psychiatrist from Duke University in 1971. In this ZSAS there are 20 items that represent feelings of anxiety. It is known that the validity of SAS correlates with the Taylor Manifest Anxiety Scale (TMAS) which is 0.5 while the reliability coefficient value is 0.87. The model used in making this scale is a Likert scale with 4 options in answering statements, namely "never", "sometimes", "often", and "always" (Samakouri, Bouhos, Kadoglou, Giantzelidou, Tsolaki, & Livaditis, 2012). In this ZSAS there are also 4 categories to see scores. This ZSAS scale can be used in the medical world (Healthline, 2010).

### **Procedure and Data Analysis**

In ISMAR testing, anxiety will be carried out in a procedure where the researcher will look for a teenage subject at the high school level in Malang with a range of ages 15-19 years. Then researchers prepare ISMAR with aspects to be measured in the form of anxiety. Later ISMAR anxiety will be given to high school students. After ISMAR anxiety data is collected then the item validity will be tested. The aim is to get valid and precise results and avoid errors that can occur. Research is done by giving instruments to the subject to be filled in accordance with what the subject feels.

The method to be used to test the validity of ISMAR anxiety consists of 4 stages. The first stage is content validity where 15 items that have been made for ISMAR anxiety are taken from various anxiety symptoms that are often experienced. This is also adjusted to the understanding of anxiety itself so that the manufacture of items in accordance with what will be measured and not deviated.

Furthermore, the stages of internal validity testing will be carried out the spread of

measuring instruments namely ISMAR anxiety and Zung Self-rating Anxiety Scales to adolescents. After the content validity test will be seen in the internal validity whether the 15 items have been said to be valid to measure anxiety. Later SPSS for Windows 21 will be used to see the validity and reliability after all the data that has been distributed to the subject has been collected. For validity analysis using product-moment and said to be valid if the value of the correlation of items with the total shows  $\geq 0.30$ . If there are items whose value  $< 0.3$ , then declared null and can not be used for the next stage of the test. Whereas in seeing the reliability of a measuring instrument, it is seen in Cronbach's Alpha in calculations using SPSS for windows 21.

In the phase 3 test using a factor analysis namely exploratory factor analysis. Factor analysis is a multivariate analysis that is used to filter out items in a measuring instrument that are related and indicate which items can be grouped according to their similarity (Yusrizal, 2008). While exploratory factor analysis is usually used at the beginning of research with the aim to find out the forming factors of a variable that is realized into a factor. EFA usually functions to connect and explain the relationship between internal variables, and to explore what are the indicators contained in a research variable which is also translated into factors. Later values will be seen in the KMO Measure of Sampling Adequacy (MSA) for conformance to factor analysis with a minimum value of 0.5. If the value is less than the specified value, it must be extracted. Then proceed with looking at the analysis of the Component Matrix-Principal Analysis and the Component Matrix Rotated-Varimax which will use the highest value of the item on the distribution of the formed factor.

### **3. RESEARCH RESULT**

In this study, there are 4 stages of research, namely: 1. Content validity test, 2. Internal validity test, 3. EFA (exploratory factor analysis), 4. and concurrent validity test.

#### **Content validity**

The content validity test is used to see whether the items that have been made in ISMAR anxiety already conform to the definition and symptoms of anxiety that exist. Anxiety is a mood disorder that usually occurs in daily life, but if the anxiety is excessive and shows certain symptoms, if not treated immediately it will be bad for the sufferer. The anxiety items in ISMAR are developed from various symptoms related to anxiety. Based on the existing definition of anxiety, several items are formed which indicate anxiety tendencies, namely:

1. I cannot sleep well all day.
2. Feeling nervous/tense when dealing with other people.
3. Thinking about something without a solution.
4. Often disturbed by nightmares / scary.
5. Not calm because there is something I'm worried about.
6. Often remember bad experiences in the past.
7. Often feel scared and panic.
8. Sweaty palms when asked to speak in front of many people.
9. Going back and forth to the bathroom because you are nervous.
10. Being nervous when something expected doesn't happen properly.
11. I often feel uncomfortable and awkward.
12. Feel scared in many ways.
13. I get tired quickly.
14. My heart starts beating very fast for no apparent reason.
15. When I feel worried or afraid of a problem, my stomach often hurts.

### Internal Validity

The second stage was tested on 15 ISMAR items about anxiety by giving this scale to 124 subjects at the level of High School (SMA) with an age range between 15-19 years. Then after the data collected is tested using SPSS for Windows 21 in seeing the internal consistency of each item. Item analysis is done by testing the correlation of items with their totals. Complete data are presented in table 1 below.

Table 1. Valid items that are valid at ISMAR

Item	Mean	STD	Corrected Item- Total Correlation
Item2	0,32	0,469	0,463
Item3	0,23	0,425	0,426
Item4	0,23	0,420	0,411
Item5	0,54	0,500	0,404
Item6	0,43	0,497	0,403
Item7	0,17	0,377	0,407
Item8	0,29	0,456	0,317
Item10	0,60	0,493	0,364
Item11	0,28	0,452	0,372
Item12	0,21	0,409	0,493
Item13	0,37	0,484	0,452
Item14	0,17	0,377	0,373

Based on the internal validity test results above, it was found that the Cronbach Alpha value was 0.771 but there were 3 invalid items. Then a second internal validity

test was carried out using only 12 valid items out of the 15 items tested by looking at the Cronbach's Alpha value of 0.769 which translates to reliability as a moderate category. Based on the final results of the test calculations, 12 items that are declared valid are items whose value on the corrected item-total correlation is  $\geq 0.3$ .

### Factor Analysis: Exploratory Factor Analysis (EFA)

EFA validity test is used to determine the factors that are formed from anxiety items in ISMAR. At this EFA test stage, the ISMAR items were then tested again by previously taking a sample of 200 subjects at the Senior High School level. Based on the EFA test results obtained by the Kaiser Meyer Olkin Measure of Sampling Adequacy (KMO-MSA) of 0.748 are good based on the Barlett's Test of Sphericity of 274,855 with a degree of freedom of 66 and a significance level of 0,000. Thus because of the KMO value  $> 0.5$ , it can be said that it is very good. While in the anti-image matrix output table, it is seen that along the diagonal with the sign a) the MSA price is not found below 0.5 which means that all items that have been tested by the EFA have a value  $> 0.5$ .

Table 2. Anti-Image Matrices and Factor Loading

No. Item	Items	Anti-image Matrices	F	Factor
6	I often remember bad experiences in the past.	,799 <sup>a</sup>	0,517	1: Unable to deal with something
7	I often feel scared and panicked.	,751 <sup>a</sup>	0,619	
11	I often feel uncomfortable and awkward.	,782 <sup>a</sup>	0,646	
12	Feel scared in many ways.	,767 <sup>a</sup>	0,678	
13	I feel tired quickly.	,805 <sup>a</sup>	0,619	
3	Thinking about something without a solution.	,668 <sup>a</sup>	0,718	2: Not calm
5	It's not calm because there's something I'm worried about.	,703 <sup>a</sup>	0,568	
14	My heart started beating very fast for no apparent reason.	,800 <sup>a</sup>	0,617	
4	Often disturbed by nightmares / scary.	,715 <sup>a</sup>	0,709	3: Depressed feeling
10	Being nervous when something expected doesn't happen properly.	,687 <sup>a</sup>	0,715	
2	I'm feeling nervous/tense when dealing with other people.	,657 <sup>a</sup>	0,763	4: Low self-control
8	The palms sweat when asked to speak in front of many people.	,707 <sup>a</sup>	0,650	

From the EFA test, the highest factor value is found in item 2, which is 0.763 and the lowest factor value is in item 6, 0.517. Then in the Rotated Component Matrix table, we get 4 anxiety components in ISMAR called factor loading. Of the 4 components

formed this will be named according to the items that are grouped in each component. The first factor consists of items 6, 7, 11, 12, and 13, namely being unable to deal with something. While factor 2 contains items number 3, 5, and 14 which are given the name that is not calm. Then for the next factor, the third factor consists of items 4 and 10 namely feeling depressed. The last is the fourth factor consisting of items 2 and 8 which are named low self-control.

Furthermore, the scree plot display below explains the table of total variance explained in graphical form. The scree plot diagram below is an explanation of the value of eigenvalues used to determine the number of factors used and shows a tendency to subjectively decrease eigenvalues (Yusrizal, 2008).

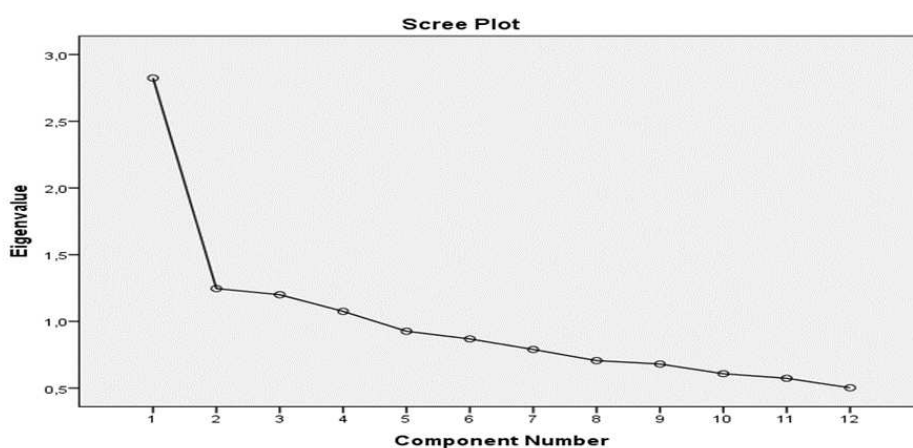


Figure 1. Screen plot in the EFA test

## Correlation Test

At this last stage is a concurrent test between the two scales namely ISMAR anxiety and ZSAS. The aim is to see concurrent validity which is external validity by looking at the correlation between ISMAR anxiety and ZSAS.

From the results of correlation analysis, it is obtained that the two measuring devices can be said to be significant because they have the same significance value of 0,000 and a correlation value of 0.442. This means that the two measuring devices have a positive or unidirectional relationship, because if the ISMAR score is high anxiety then it will be followed by a ZSAS score which is also high (linear). But on the other hand, if the correlation value between the two measuring devices can be said to be weak because of  $0.442 < 0.5$ .

#### 4. DISCUSSION

Anxiety is a mood disorder that often occurs but if you show excessive symptoms will have a bad impact on sufferers of anxiety. In order not to have a bad impact, initial treatment must be given immediately, especially for adolescents. at the age of adolescents who are vulnerable to the problems they face with the age intended to get to know themselves and their surroundings, almost all the problems of adolescents will surely be found. If the problem is not immediately known and dealt with, then continues without resolution, it will have an impact on the lives of adolescents further.

It is necessary to have a measuring tool that can measure anxiety in adolescents. This is the purpose of this study in order to identify it earlier. Thus a measuring tool used must be validated in the sense that it must be valid and reliable. As stated by Yusrizal (2008) that a measuring instrument or institution called quality must be declared valid. As the main purpose of this research is to develop and validate measuring instruments that measure anxiety. The measuring instrument for development and validation is ISMAR (an instrument for screening child and adolescent problems) which measures anxiety.

Based on the results of the validity test conducted with the 4 stages described above, in the first stage, a measurement tool has been made based on symptoms that often appear in anxiety. The second step is testing internal validity and the results show that from 15 items that have been made and then tested on 124 adolescent subjects with an age range of 14-19 years, the results obtained are 12 valid items seen from the corrected item-total correlation table  $\geq 0.3$ . This is according to Zang, Jing, Surachat, & Shu-Chuen (2009) which states that to find out whether the item is valid or not is known by correlating the item with the total and if the correlation between items with a total of  $<0.30$  then the item is said to be invalid so it cannot be used for research. While the value of Cronbach's Alpha is 0.769.

Then to find out the factors formed exploratory factor analysis (EFA) analysis is used. After distributing the ISMAR and SAS scale simultaneously to 200 subjects, an EFA analysis was used to see the factors formed by the items that were made. The desired value of KMO and Barlett's Test is  $> 0.5$  and the significance of the study is 0.05. From the results of the EFA analysis on ISMAR which measures aspects of anxiety, it is known that the KMO MSA value is  $0.748 > 0.5$ , while the significant value on the Barlett's Test of Sphericity is 0,000. After seeing the results of calculations in the Rotated Component Matrices table, it is obtained 4 factors from ISMAR anxiety that are taken the highest value from several factors formed. Factor loading uses the highest value to be used as the main value of the factor than other factors that have values close to zero and some experts suggest using 0.3 as a criterion (Abell, David, & Akihito, 2009).

Judging from the results of the validity analysis starting from content validity to factor analysis it can be said that the statement items contained in ISMAR anxiety can measure anxiety and have its own aspects in its measurement. Where there are 4 factors that are formed from the items and used as aspects in the development of this anxiety ISMAR, namely: (1) Aspect of not being able to deal with something, (2) Uneasy, (3) Feeling depressed, (4) and low self-control.

And the last is the correlation test between ISMAR and ZSAS by measuring the same aspect of anxiety. This concurrent test is done to find out the equivalence between two measuring devices that measure aspects of anxiety. Then the results obtained Pearson Correlation value of 0.442 and a significance value of 0.000 which means that the two measuring devices can be said to be direct or positive, this can be interpreted if the score of ISMAR high anxiety will be followed by a high ZSAS score as well. But it has a weak correlation between the two because of  $r < 0.5$ . But it can still be said that both ISMAR anxiety and ZSAS can measure anxiety. There are several causes that can occur due to the inequality of the two measuring devices as well as language problems. As is known that ISMAR anxiety is a measuring tool made using Indonesian and developed in Indonesia where the target subject of research is also Indonesian. It is very different from ZSAS which is made and developed using English and the target of the research subject is people in their home country. Kaplan & Saccuzo (2012) say that ethnic and cultural differences can affect a tool because the items that have meaning are drawn differently for each respondent.

## 5. CONCLUSIONS AND IMPLICATIONS

Based on research that has been done, it can be concluded that the internal validity test obtained 12 items with a valid value  $> 0.30$  and a reliability value of 0.769 this means that validity and reliability can be said well. In the factor analysis using exploratory factor analysis obtained 4 factors that measure the defect in teenagers. Then in the final test, concurrent validity test, it can be concluded that the two measuring instruments namely ISMAR anxiety and Zung Self-rating Anxiety Scale have a direct correlation or positive correlation of 0.442, but have a weak correlation. It is said so because when the ISMAR score is high anxiety will be followed by the ZSAS score which is also high. However, the correlation between the two measuring devices is weak, which can occur due to some differences in the two measuring devices.

The implication in this research is the expected development and validity of ISMAR (Instrument for Screening Children and Adolescent Problems) which measures anxiety can be used as a tool for early identification of adolescent problems so that it can be quickly dealt with. In addition, with language that is easily understood and in

accordance with the culture and background of people in Indonesia, ISMAR anxiety can be applied easily and does not need to use language and cultural adaptation in its use so that it can be used in general. It is also hoped that further research can develop and test the validity of ISMAR anxiety regularly and correlate ISMAR anxiety with measuring instruments or other instruments that still measure anxiety

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