p–ISSN: 2723 – 6609 e-ISSN: 2745-5254
Vol. 5, No. 11, November 2024 http://jist.publikasiindonesia.id/

Adaptation Of Measuring Instruments: The Adolescent Distress Eustress Scale (The Ades)

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Keywords: adaptation, distress, eustress, adolescents, the ades.

ABSTRACT

Adolescence is a transitional age, an individual has left a weak and dependent childhood but has not been able to reach a strong and responsible age, both for himself and society. One of the problems that arise among early adolescents is stress. The purpose of this study is to test the adolescent distress-eustress scale in adolescents spread across several islands in Indonesia. The research method carried out in this study is quantitative research. Based on the results of the analysis carried out on the 2 aspects measured in the scale adaptation, the ades meet the results of the scale adaptation test, namely the Exploratory Factor Analysis (EFA) test, the internal reliability test, and the construct validity test so that the ades scale can be used to measure distress and eustress in adolescents. It was concluded that The Adolescent Distress-Eustress Scale instrument can measure stress through two dimensions, namely distress and eustress. The results of this study show that there is evidence of good validity and reliability.

Introduction

Quoted from CNN Indonesia, several examples of mental health disorders are mentioned, including schizophrenia, bipolar disorder, and anxiety. Disorders in mental health are classified as severe mental disorders. (Zatari, Hoor, & Nasereddin, 2022). However, if you look at it again, mental health has a wide spectrum. Mental health or psychiatric problems not only dwell on severe mental disorders but also mild mental health disorders such as stress and depression. Mental disorders of stress and depression are not only experienced by adults but children and adolescents are also prone to experiencing them. (Alsepianingsih & Esabella, 2023).

Based on data from Basic Health Research (Riskesdas) by the Ministry of Health in 2014, in Indonesia, there are one million people as patients with severe mental disorders and 19 million people with mild mental disorders (Thekkum Kara, 2021). It was recorded that 2.03% of patients with mental disorders or as many as 385,700 people suffered from mental disorders in Jakarta which became the number one city with the

most patients with mental disorders in Indonesia. Currently, data on mild mental disorders in the adolescent age group is quite difficult to find. However, the condition of adolescents with depressive symptoms does exist (Toscano, Cobo, & Herrera-Viedma, 2022). For example, what happened to Renita (17), when asked when she last felt high tension to the point of feeling hopeless? "Just last night I cried for a long time. The problem is more because I feel like I don't have time to rest. Saturday and Sunday are also used to do assignments," said the student of a high school in South Jakarta (quoted from CNN Indonesia "Stress in Teenagers, It Feels Like Jelangkung").

This is the opinion of (Hidayat et al., 2022) Who stated that adolescence is a transitional age where an individual has left a weak and dependent childhood but has not been able to reach a strong and responsible age, both for himself and society. The more advanced the society, the longer the adolescent life because he must prepare himself to adapt to a society that has many demands (Lubis, Prihandi, & Ismail, 2024). From the data and exposure that has been explained above, various kinds of problems arise among early adolescents, one of which is stress. (Faizy & Sutopo, 2024) Define stress as a special relationship between a person and his or her environment that is considered beyond his or her abilities and endangers his well-being.

So far, stress has been associated with a lot of negative things. Stress can also have a positive impact on humans. Stress is classified into two types, namely positive stress (eustress) and negative stress (distress). Positive stress (eustress) is stress that can be controlled and can improve a person's performance or student achievement because with this stress, mental readiness, cognitive, health, and performance increase so it also affects a person's productivity for the better. (Saputra, Nazaruddin, Yunardi, & Andriyani, 2019). Furthermore, negative stress (distress) is uncontrollable stress where a person's condition feels excessively anxious, afraid, and worried so that a person's performance decreases. An example is academic stress which causes students to experience disorders such as sleep disorders where the number of normal hours of sleep is reduced due to many things such as dense activities. (Zaki & Putra, 2018).

From this phenomenon, researchers are interested in researching stress holistically or comprehensively. Stressful conditions caused by stress and pressure from the environment on a person can have both negative and positive impacts. Not a few previous studies and articles have discussed negative stress or distress that leads to other psychological symptoms such as anxiety and even depression. (Sudiatmika, Dewi, & Jayaningsih, 2021). However, positive stress or eustress research is still rare. Therefore, this study seeks to lift positive and negative stress by developing a scale that measures stress holistically. This study will develop The Adolescent Distress-Eustress Scale (2019) to be adapted to Indonesian based on relevant research principles. (Faizy & Sutopo, 2024).

The purpose of this study is to test The Adolescent Distress-Eustress Scale in adolescents spread across several islands in Indonesia. This scale has two aspects, namely distress and eustress. (Putra, Piarsa, & Sukarsa, 2020).

Method

The research method carried out in this study is quantitative research. This study selects participants based on predetermined characteristics. The criteria for participants in this study:

1. Teenagers aged 13 - 18 years old
2. Experiencing a sad condition in the last 7 days.
3. Domiciled on the islands of Sumatra, Java, Kalimantan, Sulawesi, Papua, Riau Islands, and Bangka Belitung Islands.

Research Procedure

The researcher used guidelines from Beaton et al (2000) to adapt the measuring instrument in this study. Beaton et al (2000) stated that there are several stages, including:

1. Stage I (Forward Translation)

The first stage is the process of translating the scale from English to Indonesian by two translators (T1 and T2). The ADES scale in this study was translated by two people, namely: T1 is a graduate of a master's degree in English education in Riau with a TOEFL ITP score of 563 and T2 is a graduate of a master's degree in English education in Yogyakarta with a TOEFL score of 607.

2. Stage II (Synthesis)

The second stage is the stage of combining the translation results so that they can be processed to compare and examine the equivalent of the word that is closest to the meaning of the original scale. Synthesis is carried out by the researcher and the two translators by comparing the translation results and making translation decisions on a scale with an effective, easy-to-understand, and appropriate word or sentence structure. This synthesis resulted in a translation of the scale of the T12 version as per mutual agreement.

3. Stage III (Back Translation)

The Back Translation process is to re-translate the scale of the T12 version from Indonesian to English by two Back Translators (BT1 and BT2) who do not know the original version and the concept of the measuring tool. This process is done to ensure that the previous translation can explain the content of each item as it originally scaled.

4. Stage IV (Expert Committee Review)

The fourth stage is a review from an expert committee or expert. At this stage, the experts examine the entire original questionnaire in terms of language and sentence structure to obtain the final item of the adapted scale so that it is worth testing. The task of the experts is to make a decision on which items are worth using in the study so that the adaptation scale can achieve equivalence between the original version scale and the adapted version scale. This stage is carried out by psychological experts (psychology

lecturers) and linguists. The Expert Committee Review was conducted by a psychologist who is also a lecturer at a university in the city of Pekanbaru, Riau.

5. Stage V (Test of the Pre-Final Version)

The last stage is the trial of the final measuring instrument on the participants according to the characteristics of the participants that have been determined by the researcher. This stage is carried out to generate psychometric properties and see which items are missing and need to be repaired.

Measurement

This study will use The Adolescent Distress-Eustress Scale by Branson et al. (2019) which has 2 indicators, namely eustress and distress to be adapted to Indonesian. The Grand Theory used in this measuring tool uses the stress theory by Hans Selye (1974) which states that stress is divided into two, namely distress and eustress. Then, the Adolescent Distress-Eustress scale in its development was compared with 5 other measuring tools, namely the Perceived Stress Scale, Big Five Inventory, Academic Eustress Scale, General Self-Efficacy Scale, and Orientation to Life Questionnaire, and produced a scale that is now used in Australia and several countries.

The newness of the measuring instrument made in 2019 is one of the reasons for researchers to adapt this measuring instrument to Indonesian. Another reason to adopt this measure is that the aspect being measured is stress holistically or thoroughly. The Adolescent Distress-Eustress Scale has never been adopted in Indonesia and there are still not many studies using this measuring tool.

Data Analysis

The data collection process in this study was carried out to test the validity and reliability of the ADES scale. Validity testing is carried out to find out whether the measuring tool used is for the measurement. If the instrument is valid, then the measuring tool used to obtain the data is also valid. Valid means that the instrument can be used to measure what should be measured (Sugiyono, 2019). The validity technique used in this study is the corrected item-total correlation technique. This technique is used to correlate the sum of factor scores with the total score. Sugiyono (2019) stated that if the correlation coefficient $r \geq 0.3$, the instrument is considered valid.

Meanwhile, reliability testing is carried out to see if the measuring instrument instrument has good quality and can produce a careful score with a small or reliable measurement error. Azwar (2018) said that reliability itself refers to the reliability or consistency of measurement results, which contains the meaning of how high the accuracy of the measurement is. The reliability coefficient (r) is in the range of 0 to 1. If the reliability coefficient is getting higher and closer to 1.00, it means that the measurement is also more reliable (Sugiyono, 2019). In this study, the reliability measurement used by the researcher is the Alpha Cronbach technique. This validity test and reliability test were carried out with the help of the IBM SPSS computer program version 22.0 for Windows.

In addition, data analysis can also be carried out using the ADES measuring tool to measure distress and eustress in adolescents as predictors for other psychological variables to test the validity and reliability of this measuring tool. Research conducted by Asnita, et al. (2015) found that the higher the level of stress experienced by

adolescents, the lower the self-esteem of the adolescents, and vice versa. Research conducted by Hastuti and Baiti (2019) obtained the result that the higher the emotional intelligence that adolescents have, the lower the level of stress they will experience and vice versa.

Results and Discussion

Exploratory Factor Analysis Test Results

a) EFA KMO Bartlett's Test Assumption Test

Table 1
KMO Measure of Sampling Adequacy

	MSA
Sum	0.805

Based on the results of the assumption test using the KMO Measure of Sampling Adequacy, the numbers are 0.805 > 0.500, so the data can be said to meet the exploratory factor analysis assumption test and can be further analyzed.

b) Exploratory Factor Analysis

Table 2
Exploratory Factor Analysis

factor	Number of Items	Value factor	information
1	5	0.360 – 0.722	ADES2, ADES5, ADE6, ADES7, ADES10
2	5	0.460 – 0.605	ADES1, ADES3, ADES4, ADES8, ADES9
Total	10		

Based on the results of the Exploratory Factor Analysis, 2 factors were obtained from the loading factor, for factor 1 consisted of 5 indicators, namely D1, D2, D3, D4, and D5. As for factor 2, 5 indicators were obtained, namely E1, E2, E3, E4, and E5. Based on the distribution of statements in each indicator, factor 1 can be said to be a distress factor, while factor 2 is said to be an eustress factor. Here is the distribution of the statements based on the loading factor:

Table 3
Factors, Items, and Codes for Distress and Eustress

Factor	Items	Code

Distress	I felt anxious	D4 (ADES7)
	I felt overwhelmed	D3 (ADES6)
	I felt panicked	D2 (ADES5)
	I was frustrated with myself.	D5 (ADES10)
	My mind was racing out of control	D1 (ADES2)
Eustress	I felt the outcome was worth the effort	E2 (ADES3)
	I felt determined	E4 (ADES8)
	I felt proud for dealing with the pressure	E5 (ADES9)
	I felt motivated	E1 (ADES1)
	I was satisfied with how I dealt with the pressure	E3 (ADES4)

c) Factor Summary

Table 4
Factor Summary

Factor	SS Loadings	% of Variance	Cumulative %
1	2.40	24.0	24.0
2	2.16	21.6	45.7

Based on the results of the summary factor above, in factor 1 there is a cumulative value of 24.0%, while in factor 2 there is a value of 45.7%. This figure shows that the ability of factor 1 and factor 2 is not so good at explaining all the origin variables or stress variables.

d) Eigenvalues

Table 5
Initial Eigenvalues

Factor	Eigenvalue
1	2.8526
2	1.3535

Based on the table above, the Initial Eigenvalues are set at 1.00 to explain a factor. As for the analyzed data, 2 factors were obtained that met the initial eigenvalues with a value of 2.8526 for factor 1 and a value of 1.3535 for factor 2. So, 2 factors can explain the variable, namely distress and eustress.

Internal Reliability

Table 6
Per-Dimensional Reliability

Dimension	Number of Items	Item-rest correlation	Aitem		α	Ket
			Valid	Fall		
Distress	5	0.476 – 0.694	5	-	0.808	Reliable
Eustress	5	0.508 – 0.609	5	-	0.784	Reliable
Total	10	-	10	-	0.795	

Based on the results of the reliability test of all items on the THE ADES measuring instrument for eustress items, a reliability value of 0.784 was obtained. In the item-rest correlation value, it was also obtained that all items had a table r value of more than 0.138 for the number of samples of 200 subjects. Based on the results of the reliability test of all items on the THE ADES measuring instrument for distress items, a reliability value of 0.808 was obtained. In the item-rest correlation value, it was also obtained that all items had a table r value of more than 0.138 for the number of samples of 200 subjects.

Construct Validity

Table 7
Per-Dimensional Validity

Dimension	Number of Items	Pearson's r	p-value	Ket
Distress	5	0.645 – 0.820	< 0.001	Reliable

Eustress	5	0.652 – 0.774	< 0.001	Reliable
Total	10	-	< 0.001	

Based on the output of the table above, the person-organization fit obtained the result that the item p-value < 0.001 so that the 5 items are valid and can be used and can measure what to measure about eustress itself. Then, based on the output of the table above person-organization fit, the result was obtained that the item p-value < 0.001 so that the 5 items were valid and P could be used and able to measure what to measure about their distress.

Hans Selye, the inventor of the first stress theory, defined stress as the body's non-specific response to all the demands that a person gets. Stress arises when there is a stimulus that demands the individual. Individuals themselves can assess the stimulus in two forms, namely distress (positive stress) and eustress (negative stress). Distress is an individual's response to a negative, unwanted, and harmful stressor. Meanwhile, eustress is an individual's response to stressors that are positive, desirable, and beneficial for the individual concerned. The two responses are two different constructs and individuals can experience both at the same time (Branson et al., 2019). The Yerkes-Dodson Law reveals that a certain amount of stress in an individual can provide a positive force that can increase productivity and help the individual to develop, once it reaches its optimal point, the stress can be destructive and cause negative effects (in Musabiq & Karimah, 2018).

Adolescence is a transitional period where individuals transition from a childhood full of dependence to a time when they are more responsible and strong for their environment, but individuals are not fully capable of these responsibilities (Hurlock, 2003). Bhargava and Trivedi (2018) explained that adolescence is a critical period because many new things happen so it is necessary to adapt to the environment. New things that happen in adolescence create stress and distress in adolescents. Distress that occurs in adolescents is like academic stress (Rahmawati, W.K., 2017). The impact of psychological distress on adolescents last longer than adults (Leung et.al., 2020).

Research conducted by Pertiwi, et al. (2021) obtained the result that there is a fairly large percentage of stress experienced by adolescents, which is 34.7%. This number must be a concern because if stress is not treated immediately, it can have an impact on physical, cognitive, emotional, and behavioral aspects. Bressert (in Musabiq and Karimah, 2018) explained that in the physical aspect, the form of symptoms that appear are sleep disturbances, increased heart rate, tense muscles, dizziness, and fatigue. In the cognitive aspect, the symptoms that appear are confusion, easy to forget, easy to feel worried, and easy to panic. In the emotional aspect, the symptoms that appear are easily sensitive and irritable, feelings of helplessness, and frustration. In the behavioral aspect, the symptoms that appear are a loss of interest in socializing, a tendency to always want to be alone, and a sense of laziness.

Based on the results of the analysis carried out, the Adolescents Distress-Eustress Scale (THE ADES) did not experience any changes in items from the original scale,

namely the number of fixed scale items amounted to 10 items with 5 distress items and 5 eustress items. Based on the results of the analysis carried out on the 2 aspects measured in the adaptation of THE ADES scale, it meets the results of the scale adaptation test, namely the Exploratory Factor Analysis (EFA) test, the internal reliability test, and the construct validity test so that THE ADES scale can be used to measure distress and eustress in adolescents.

Conclusion

The conclusion from the results of the research on the adaptation of The Adolescent Distress-Eustress Scale in adolescents spread across several Indonesian islands is that the measuring tool can be used. Based on the results of the EFA analysis, it can be concluded that The Adolescent Distress-Eustress Scale can measure stress through two dimensions, namely distress and eustress. The results of this study show that there is evidence of good validity and reliability. From the data obtained, all items can meet the value and show a fit result and no items are wasted.

The suggestion from the results of this study show that The Adolescent Distress-Eustress Scale can measure stress in adolescents, but it can still be improved by comparing other stress variables so that it can be a better measurement tool when applied to find out the stress phenomenon. In addition to comparing other stress scale variables, it can also be done by adding a larger number of samples such as early or late adults so that wider demographic data will be obtained about the stress phenomenon in Indonesia.

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