


Understanding Emotions in Adolescents: Validation of the Indonesian Version of the Adolescent Alexithymia Scale

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<p>Submitted: 2024-07-26</p> <p>Published: 2024-08-23</p> <p>Keywords: Adolescent, Alexithymia, Emotion, Feeling, Validity</p> <p>Copyright holder: © Author/s (2024)</p> <p>This article is under: </p> <p>How to cite: Kurniawan, M. A., & Sampe Tondok, M. (2024). Understanding Emotions in Adolescents: Validation of the Indonesian Version of the Adolescent Alexithymia Scale. <i>Bulletin of Counseling and Psychotherapy</i>, 6(2). https://doi.org/10.51214/002024061038000</p> <p>Published by: Kuras Institute</p> <p>E-ISSN: 2656-1050</p>	<p>ABSTRACT: Adolescence, marked by significant changes, often leads to emotional tension and instability associated with alexithymia. This study aimed to validate the Indonesian version of the Adolescent Alexithymia Scale, hypothesizing that its internal structure was unidimensional. Participants included 70 adolescents aged 13 to 18 years (M age = 16.44; SD = 1.44). Data were collected using the Indonesian version of the Adolescent Alexithymia Scale, consisting of 24 items representing the four alexithymia indicators. The results revealed that the scale has a unidimensional internal structure, with 11 valid items, and sufficient validity and reliability coefficients. These items collectively represent the four main characteristics of alexithymia. The most dominant indicator is the difficulty in identifying and distinguishing between feelings and emotional bodily sensations. This research implies that this scale needs to be tested on different populations and in different contexts.</p>
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INTRODUCTION

Adolescence is a phase marked by significant changes. Teenagers undergo physical transformations, shifts in interests, alterations in their social roles, and emotional fluctuations. Santrock (2019) describes adolescence as traditionally being a time of "storm and stress," characterized by high emotional tension. Teenagers are often viewed as prone to negative emotions, easily irritated, and sometimes resorting to aggressive behavior to resolve conflicts. This tendency can be attributed to their still-developing ability to recognize, understand, and manage emotions (Hamel et al., 2024; Merdekasari, 2017). Adolescence often experiences emotional instability linked to alexithymia. Consequently, alexithymia is recognized as a significant mental health concern during adolescence, a pivotal time for emotional development (Khan & Jaffee, 2022). This psychological condition involves difficulties in identifying, understanding, and expressing both personal and others' emotions. The term "alexithymia" is derived from Greek, with "a" meaning without, "lexis" meaning word, and "thymos" meaning emotion or feeling. Thus, alexithymia literally translates to "without words for emotions" (Preece et al., 2020; Sifneos, 1973; Trimble et al., 2024).

Alexithymia was first identified in 1972 by Dr. Peter Sifneos, a psychotherapist. He asserted that alexithymia is not a disorder but a subclinical symptom, a personality trait that can signal the risk of other psychiatric or medical conditions in individuals (Irwanti & Haq, 2021; Sifneos, 1973). The main indicators of alexithymia include: (1) difficulty in identifying and differentiating between emotions and bodily sensations of emotional arousal; (2) difficulty in describing emotions to others; (3) limited imaginative capacity; and (4) an externally focused cognitive style (Preece et al., 2020; Taylor et al., 1997; Trimble et al., 2024).

In Asia, alexithymia is commonly measured using the Toronto Alexithymia Scale (TAS-20), a self-report instrument consisting of 20 items with five-point Likert scale. For example, Moriguchi et al. (2007) used the TAS-20 to measure alexithymia in individuals aged 14 years to 84 years in Japan, aiming to assess the construct validity of alexithymia in the Japanese context. Another study in Asia also employed the TAS-20 to measure alexithymia. Ng and Chan (2020) measured alexithymia in Chinese adolescents (in Hong Kong) aged 10 years to 17 years, focusing on the association between alexithymia and family emotional expressiveness. Research on alexithymia in Asia is relatively limited, with most studies conducted in Western countries.

Numerous earlier studies have indicated that alexithymia is a significant precursor to various emotional and behavioral disorders. These include psychological distress (Alslman et al., 2020; Hébert et al., 2018), aggressive behavior (De Schutter et al., 2016), (De Schutter et al., 2016), self-harm (Bordalo & Carvalho, 2022) atau self-injury (Greene et al., 2020), substance abuse (Honkalampi et al., 2022) including alcoholic drinks (Cruise & Becerra, 2018; Greene et al., 2020), internet addiction (Mahapatra & Sharma, 2018), and an increased risk of suicide (De Berardis et al., 2017; Norman et al., 2020).

Rationale of Current Study

Based on the existing body of knowledge, studies related to alexithymia need further development, particularly concerning its measurement tools. In Indonesia, the phenomenon of alexithymia has not been extensively discussed and is still gradually evolving. Measurement tools for alexithymia do exist but were developed in other countries, such as the Perth Alexithymia Questionnaire (Trimble et al., 2024), Beth Israel Hospital Psychosomatic Questionnaire (BIQ) (Sifneos, 1973), Bermond-Vorst Alexithymia Questionnaire (BVAQ) (Vorst & Bermond, 2001), and Toronto Alexithymia Scale (TAS-20) (Bagby et al., 1994).

The development of alexithymia measurement tools in Indonesia is still relatively limited. Nevertheless, several studies on alexithymia in Indonesia have utilized the Toronto Alexithymia Scale (TAS-20), which has been translated into Indonesian (Wardono, 2023; Yosep et al., 2024). The TAS-20 measures three dimensions: Difficulty Identifying Feelings (DIF), Difficulty Describing Feelings (DDF), and Externally Oriented Thinking (EOT) (Geni, 2020).

This has ultimately prompted researchers to develop an Indonesian version of the alexithymia measurement tool. Previously, researchers conducted studies using an alexithymia measurement tool that was developed and used in this study as well. The study involved male adolescents aged 13 to 18 years, residing in Surabaya, who had ever had thoughts of committing suicide. Researchers tested the alexithymia measurement tool to understand the relationship between the level of alexithymia and suicidal tendencies among male adolescents in Surabaya. There were 31 participants involved in the previous study (Kurniawan & Sudagijono, 2021).

In previous research, researchers evaluated the validity and reliability of a 24-item alexithymia measurement tool. The tool demonstrated a Cronbach's Alpha coefficient of 0.825, indicating high reliability. During the validity testing, the corrected item-total correlation values ranged from 0.356 to 0.705. The findings revealed that 12 items were valid while 12 items were not. Additionally, the researchers noticed that one aspect of the alexithymia scale was represented by only one item, suggesting that this aspect may not be sufficiently captured (Kurniawan & Sudagijono, 2021).

Study Aim and Hypothesis

Building on the validation results of the Indonesian version of the alexithymia scale for adolescents by Kurniawan and Sudagijono (2021), we conducted a follow-up study using the same scale. Therefore, this study aimed to validate the Indonesian version of the alexithymia scale for adolescents. The hypothesis for this study is that the internal structure of the Indonesian version of the alexithymia scale for adolescents is unidimensional.

METHODS

Research Design and Procedures

This study employed a quantitative research method with a cross-sectional survey design, utilizing a questionnaire for data collection. The researchers analyzed the psychometric properties of the alexithymia measurement tool through validity and reliability testing using confirmatory factor analysis (CFA). Data were collected by distributing the alexithymia scale online via Google Forms. The study received approval from the Ethics Committee of the University of Surabaya, Number 62/KE/IV/2022. Prior to completing the alexithymia scale online, participants voluntarily consented to take part in the research.

Participants

The study involved adolescents of both genders, specifically targeting those between the ages of 13 and 18. The selection of age criteria was based on the age of adolescence proposed by Santrock (2012), which states that adolescence begins at age 10 years and ends between the ages of 18 to 22. The researchers used purposive sampling to select participants, ensuring that the sample met certain predetermined criteria. This method, as described Neuman (2014), allowed for a targeted selection process. Ultimately, the sample included 70 adolescents with an average age of 16.44 years and a standard deviation of 1.44. The participants were comprised of 48 females, representing 68.57% of the sample, and 22 males, making up 31.43% of the total.

Instruments

The instrument used in this research is the Indonesian version of the alexithymia scale for adolescents, created by Kurniawan and Sudagijono (2021) as detailed in the Appendix. This tool is based on the alexithymia indicators or characteristics outlined by Taylor et al. (1997) and utilized in Kurniawan and Sudagijono's (2021) study. The scale includes four indicators: (1) difficulty in identifying and distinguishing between feelings and bodily sensations from emotional stimuli; (2) difficulty in describing feelings to others; (3) limited imaginative capacity; and (4) an externally focused cognitive style. These characteristics will be translated into specific items that represent each aspect of alexithymia. This alexithymia measurement tool consists of 24 items and uses a Likert scale. There are 5 levels of response options in this tool: Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. The items in the alexithymia scale include both favorable and unfavorable items. The following is the blueprint of the constructed alexithymia scale.

Table 1. Blueprint of The Indonesian Version of Adolescent Alexithymia Scale

Indicators/Characteristics	Favorable	Unfavorable	Total
Difficulty in identifying and distinguishing between feelings and emotional bodily sensations	1, 11, 19	4, 10, 16	6
Difficulty in describing feelings to others	5, 13, 21	8, 18, 22	6
Limited imaginative capacity	7, 9, 17	2, 14, 24	6
An externally oriented cognitive style	3, 15, 23	6, 12, 20	6
Total	12	12	24

Data Analysis

The reliability and validity testing of the alexithymia scale in this research employed CFA (confirmatory factor analysis). A psychological measurement tool is deemed reliable if its reliability coefficient value is at least 0.7 (Pallant, 2007). For validity testing, construct validity was used, where an item is considered valid if it has a loading factor greater than 0.5 (Hair, 2019). To evaluate the model's fit with the data, several fit indices were used, including the Root Mean Square Error of Approximation (RMSEA), standardized Root Mean Square Residual (SRMR), and Goodness-of-Fit Index (GFI). Chi-square was not utilized in this study due to its sensitivity to sample size (Brown, 2015;

Kline, 2023). A model is deemed fit when the RMSEA < 0.08 (Kline, 2023), SRMR is \leq 0.08 (Schreiber et al., 2006), GFI \geq 0.95 (Schreiber et al., 2006), TLI \geq 0.95 (Schreiber et al., 2006), CFI \geq 0.95 (Kline, 2023; van de Schoot et al., 2012). SRMR/RMSEA values below 0.08 indicate an acceptable fit, with values under 0.05 suggesting a good fit. GFI/CFI/TLI values above 0.90 indicate an acceptable fit, while values above 0.95 represent a good fit (Kline, 2023). All statistical analyses were conducted using JASP (JASP Team, 2024).

RESULTS AND DISCUSSION

Results

The researcher conducted CFA testing on 24 items from the alexithymia scale. It can be observed in Table 1 regarding the loading factor results that some items have scores below 0.5. The researcher focused on observing the loading factor results to identify items with loading factor scores below 0.5, which will be discarded. The researcher will then conduct a second round of CFA testing using items that have loading factor scores above 0.5.

Table 2. Unidimensional Factor Loading Values in the First Round Test

Indicators/Characteristics	No.	Item	Loading Factor	Note
Difficulty in identifying and distinguishing between feelings and emotional bodily sensations	1	A1_1	0.764	valid
	2	A1_2	0.609	valid
	3	A1_3	0.483	not valid
	4	A1_4	0.770	valid
	5	A1_5	0.351	not valid
	6	A1_6	0.701	valid
Difficulty in describing feelings to others	7	A2_1	0.630	valid
	8	A2_2	0.255	not valid
	9	A2_3	0.580	valid
	10	A2_4	0.331	not valid
	11	A2_5	0.616	valid
	12	A2_6	0.199	not valid
Limited imaginative capacity	13	A3_1	0.105	not valid
	14	A3_2	0.252	not valid
	15	A3_3	0.523	valid
	16	A3_4	-0.134	not valid
	17	A3_5	0.378	valid
	18	A3_6	-0.207	not valid
An externally oriented cognitive style	19	A4_1	0.544	valid
	20	A4_2	-0.209	not valid
	21	A4_3	0.684	valid
	22	A4_4	0.156	not valid
	23	A4_5	-0.179	not valid
	24	A4_6	0.318	valid

In the second round of CFA testing, the researcher discarded 13 items that had loading factors below 0.5. Two items were discarded from category A1 (first alexithymia characteristic), three items from category A2 (second alexithymia characteristic), four items from category A3 (third alexithymia characteristic), and four items from category A4 (fourth alexithymia characteristic). We tested 11 items from the alexithymia scale that had scores above 0.5 as shown in Table 3.

Based on the second round of CFA testing in Table 3, we noted that one item, "A3_3," still had a loading factor below 0.5. Despite this, the researcher decided to keep this item because removing it would leave the third alexithymia characteristic represented by only one item. For the remaining items, it was observed that all had loading factors greater than 0.5, indicating that they effectively represent the alexithymia construct.

Table 3. Unidimensional Factor Loading Values in the Second Round Test

No.	Item	Loading Factor	Note
1	A1_1	0.743	valid
2	A1_2	0.587	valid
3	A1_4	0.794	valid
4	A1_6	0.714	valid
5	A2_1	0.600	valid
6	A2_3	0.566	valid
7	A2_5	0.611	valid
8	A3_3	0.551	valid
9	A3_5	0.414	valid
10	A4_1	0.567	valid
11	A4_3	0.687	valid

Table 4. Result of Reliability Test

CFA (Round)	N of Items	Reliability		AVE
		Coefficient ω	Coefficient α	
First CFA	24	0.745	0.808	0.245
Second CFA	11	0.869	0.872	0.402

In Table 4, it can be observed that the alexithymia measurement tool with 11 items has satisfactory reliability (>0.8), with a reliability coefficient of 0.869 (Coefficient McDonald omega/ ω) and 0.872 (Coefficient Cronbach alpha/ α). Although the AVE values in both the first and second tests did not meet the standard of 0.5, a significant increase in AVE values can be noted in the second round (using 11 items). The AVE result in the second-round CFA is closer to the 0.5 standard.

Table 5. Results of Evaluating the Fit of the Theoretical Model with Empirical Data

Fit Indices	Criteria			Result	
	Excellent Fit	Acceptable Fit	Poor Fit	CFA 1st Round	CFA 2nd Round
Absolute Fit Indices:					
RMSEA[95% CI]	≤ 0.05	0.05 - 0.08	> 0.08	0.105 (0.089, 0.121)	0.073 (0.004, 0.115)
SRMR	≤ 0.05	0.05 - 0.08	> 0.08	0.114	0.069
GFI	≥ 0.95	0.90 - 0.95	< 0.90	0.938	0.962
Relative Fit Indices:					
CFI	≥ 0.95	0.90 - 0.95	< 0.90	0.594	0.936
TLI	≥ 0.95	0.90 - 0.95	< 0.90	0.556	0.920

Note: RMSEA (Root Mean Square Error of Approximation; SRMR (Standardized Root Mean Square Residual; GFI (Goodness-of-Fit Index); CFI (Comparative Fit Index; TLI (Tucker–Lewis Index)

The model fit indices for the single-factor structure of the alexithymia scale in both round 1 and round 2 using CFA are presented in Table 3. In the first round of CFA (CFA 1) with 24 items, the absolute fit indices revealed poor fit results: RMSEA (0.105) > 0.08 and SRMR (0.114) > 0.08 . The absolute fit indices showed a good fit only for GFI (0.938), which is within the range of 0.90 - 0.95. The relative fit indices also indicated a poor fit (CFI and TLI < 0.90). In the second round of CFA (CFA 2) with 11 items, the results improved and indicated a good fit. As shown in Table 5 (CFA 2nd round), the absolute fit indices demonstrated an acceptable to excellence fit (SRMR ≤ 0.08 ; GFI ≥ 0.95 ; RMSEA < 0.08). The relative or incremental fit indices (CFI and TLI > 0.90) also indicated an acceptable fit.

Discussion

This study aims to validate the Indonesian version of the alexithymia scale for adolescents, which is hypothesized to have a unidimensional internal structure. The data analysis results indicate that the Indonesian version of the alexithymia scale for adolescents developed by the researchers is a construct with the unidimensional internal structure as hypothesized. This is consistent with other

alexithymia measurement tools, such as the Perth Alexithymia Questionnaire (Trimble et al., 2024), Beth Israel Hospital Psychosomatic Questionnaire (BIQ) (Sifneos, 1973), Bermond-Vorst Alexithymia Questionnaire (BVAQ) (Vorst & Bermond, 2001), and Toronto Alexithymia Scale (TAS-20) (Bagby et al., 1994), and the Indonesian version of the Alexithymia Scale for Adolescents (Kurniawan & Sudagijono, 2021).

In the CFA process, it was determined that the Indonesian version of the alexithymia scale for adolescents, created by Kurniawan and Sudagijono (2021), is supported by data as having a unidimensional internal structure. Initially, the scale consisted of 24 items. However, the CFA results in the second round (Table 3) revealed that 11 items are valid and represent the four characteristics of alexithymia as stated by Taylor et al. (1997). As shown in Table 3, the first indicator or characteristic, which is difficulty in identifying and distinguishing between feelings and emotional bodily sensations, is represented by 4 items (A1_1; A1_2; A1_4; A1_6). The second characteristic, which is difficulty in describing feelings to others, is covered by 3 items (A2_1; A2_3; A2_5). The third characteristic, that is limited imaginative capacity, is reflected by 2 items (A3_3 and A3_5). The fourth characteristic, which is an externally oriented cognitive style, is represented by 2 items (A4_1 and A4_3).

Through the second round of CFA analysis (see Table 3), it can be observed that the characteristic best represented by the items is the first characteristic, as it had only 2 items discarded. The second characteristic is also well represented by 3 items. This finding is consistent with the research conducted by Preece et al. (2018), which found that in the TAS-20 scale, the characteristics of difficulty in identifying and distinguishing between feelings and emotional bodily sensations (DIF) and difficulty in describing feelings to others (DDF) effectively represent alexithymia.

Items related to the third characteristic, limited imaginative capacity (A3), and the fourth characteristic, an externally oriented cognitive style (A4), still need improvement, especially the discarded items, to better represent the characteristics of alexithymia. This is important because these characteristics are represented by only 2 items each, and 4 items had to be discarded due to loading factors below 0.5. This finding is in line with the research by Geni (2020), which indicates that the externally oriented cognitive style (EOT) still does not fully capture the alexithymia construct. The EOT characteristic requires further research with a broader population to more effectively represent the alexithymia construct.

Limitations and Further Research Direction

The limitation of this study is the number of participants, which theoretically should be at least 5 to 10 participants per item. For 24 items, this would suggest a minimum sample size of 120 to 240 participants. Given this limitation, it is recommended for future researchers to increase the number of participants involved in the study to achieve more optimal and representative results. Additionally, expanding the research population and improving invalid items are advisable. If possible, considering longitudinal research to examine the stability and reliability of the measurement tool over time could provide further insights into how the tool functions under various conditions and over time.

CONCLUSION

Based on the results obtained from the factor analysis conducted, it can be concluded that 11 items are valid. These items collectively represent the 4 main characteristics of alexithymia as a construct with a unidimensional internal structure. The most dominant characteristic that represents alexithymia is the difficulty in identifying and distinguishing between feelings and emotional bodily sensations. The results of the confirmatory factor analysis conducted by the researchers are expected to serve as a reference for further exploration and expansion of knowledge, as well as the development of the alexithymia measurement tool.

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AUTHOR CONTRIBUTIONS STATEMENT

Conceptualization: MAK and MST; methodology, MST; software, MAK; validation, MAK, MST; formal analysis, MAK; data curation, MAK; writing—original draft preparation, MAK; writing-review and editing, MST; supervision, MST. All authors have read and agreed to the published version of the manuscript.

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Appendix 1. The Indonesian Adolescent Alexithymia Scale

No	Item in Indonesian	Item in English
1.	Saya sering merasa kesulitan untuk mengenali perasaan saya sendiri.	I often find it difficult to recognize my own feelings.
2.	Teman saya menyampaikan bahwa mereka merasa nyaman untuk mencurahkan isi hatinya kepada saya.	My friends say that they feel comfortable confiding in me.
3.	Meski mengalami peristiwa yang menyedihkan namun saya sulit untuk dapat menangis.	Even when I experience sad events, I find it hard to cry.
4.	Saat saya dalam keadaan yang menyenangkan, saya dapat menyadari perasaan bahagia saya.	When I am in a pleasant situation, I can recognize my feelings of happiness.
5.	Saya merasa kesulitan untuk menyampaikan apa yang saya rasakan kepada orang lain.	I find it challenging to express what I feel to others.
6.	Saya sering membayangkan tentang apa yang akan saya lakukan di masa depan.	I often imagine what I will do in the future.
7.	Saya sering merasa bosan dan kurang nyaman saat teman saya meminta saya untuk mendengarkan ceritanya.	I often feel bored and uncomfortable when my friends ask me to listen to their stories.
8.	Saya memiliki satu teman atau lebih yang sering menjadi tempat bagi saya untuk bercerita dengan nyaman.	I have one or more friends who often provide a comfortable space for me to share my thoughts.
9.	Saya seringkali merasa bingung mengapa seseorang bisa menangis, marah, dan menunjukkan reaksi emosional lainnya.	I often feel confused about why someone can cry, get angry, or show other emotional reactions.
10.	Saya dapat dengan mudah mengidentifikasi perasaan saya saat mengalami suatu kejadian/peristiwa tertentu.	I can easily identify my feelings when I experience a specific event or situation.
11.	Saya merasa sulit untuk memahami atau mengenali perasaan marah, sedih, dan emosi lainnya dalam diri saya.	I find it difficult to understand or recognize feelings of anger, sadness, and other emotions within myself.
12.	Saya dapat mengekspresikan kemarahan saya kepada orang lain secara wajar.	I can express my anger to others in a reasonable manner.
13.	Teman saya menyampaikan bahwa mereka seringkali kurang dapat memahami cerita yang saya sampaikan.	My friends say that they often have difficulty understanding the stories I share.
14.	Ketika ada teman saya yang menangis atau merasa sedih, saya langsung berusaha untuk menenangkannya.	When a friend of mine is crying or feeling sad, I immediately try to comfort them.
15.	Ketika diminta untuk menceritakan sesuatu, saya lebih sering menceritakan terkait aktivitas sehari-hari saya /rutinitas.	When asked to share something, I more often talk about my daily activities or routine.
16.	Saya dapat merasakan atau menyadari perasaan dicintai oleh orang lain.	I can feel or recognize the feeling of being loved by others.
17.	Saat teman saya bercerita tentang keadaannya, saya sering merasa sulit membayangkannya.	When my friend talks about their situation, I often find it hard to imagine it.
18.	Saya dapat dengan mudah meminta bantuan orang lain ketika saya membutuhkannya	I can easily ask others for help when I need it.
19.	Saya pernah mengalami sensasi rangsangan emosional tubuh (seperti mengeluarkan air mata, berkeringat dingin, dan sebagainya) tetapi saya tidak mengerti penyebabnya	I have experienced emotional bodily sensations (such as crying, sweating, etc.) but I do not understand the cause.
20.	Saya menyukai kegiatan-kegiatan yang dapat menggugah emosi saya, seperti menonton film drama dan sebagainya.	I enjoy activities that evoke my emotions, such as watching drama films.

21.	Saya lebih memilih untuk tidak menceritakan apa yang saya rasakan karena tidak ada yang akan dapat memahami cerita saya.	I prefer not to share what I feel because I believe no one will understand my story.
22.	Menurut orang-orang di sekitar saya, saya dapat menyampaikan langsung inti cerita yang hendak saya sampaikan.	According to people around me, I can directly convey the main point of the story I want to tell.
23.	Dalam mengambil suatu keputusan, saya cenderung melakukannya secara kaku berdasar pada aturan.	When making a decision, I tend to do it rigidly based on rules.
24.	Saat sedang mendengarkan cerita seseorang, saya dapat dengan mudah memposisikan diri saya di posisi orang tersebut serta memahaminya.	While listening to someone's story, I can easily put myself in their position and understand them.
