



Preliminary Psychometric Evaluation of the Indonesian Version of the Aggression–Problem Behavior Frequency Scale (A-PBFS) in Adolescents

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Abstract: This study presents a preliminary psychometric evaluation of the Indonesian version of the Aggression–Problem Behavior Frequency Scale (A-PBFS) in adolescents. The aim was to examine the internal consistency and factorability of the scale as an initial step toward cultural adaptation in Indonesia. The sample consisted of 30 adolescents aged 12–17 years who met behavioral criteria related to aggression. The A-PBFS consists of 18 items measuring physical, non-physical, and relational aggression. Reliability was examined using Cronbach’s alpha, and construct factorability was assessed using the Kaiser–Meyer–Olkin (KMO) index and Bartlett’s test of sphericity. Despite the very small pilot sample ($N = 30$), the results showed excellent internal consistency ($\alpha = .947$) and preliminary evidence of factorability ($KMO = .782$; Bartlett’s $p < .001$), indicating that the Indonesian version of the A-PBFS warrants further large-scale psychometric validation. Although a stable factor structure could not be established due to the limited sample size, these findings suggest that the Indonesian A-PBFS is a promising instrument for future large-scale psychometric validation.

Keywords: Aggression; psychometrics; scale adaptation; reliability; factorability.

Evaluasi Psikometrik Awal Versi Bahasa Indonesia dari Aggression–Problem Behavior Frequency Scale (A-PBFS) pada Remaja

Abstrak: Penelitian ini menyajikan evaluasi psikometrik awal terhadap versi Bahasa Indonesia dari Aggression–Problem Behavior Frequency Scale (A-PBFS) pada remaja. Tujuan penelitian ini adalah untuk menguji konsistensi internal dan keterfaktoran (factorability) skala sebagai langkah awal dalam proses adaptasi budaya di Indonesia. Sampel penelitian terdiri dari 30 remaja berusia 12–17 tahun yang memenuhi kriteria perilaku terkait agresivitas. A-PBFS terdiri dari 18 butir yang mengukur agresi fisik, nonfisik, dan relasional. Reliabilitas dianalisis menggunakan koefisien alpha Cronbach, sedangkan keterfaktoran konstruk diuji menggunakan indeks Kaiser–Meyer–Olkin (KMO) dan uji Bartlett. Meskipun ukuran sampel pilot sangat kecil ($N = 30$), hasil menunjukkan konsistensi internal yang sangat baik ($\alpha = .947$) serta bukti awal keterfaktoran ($KMO = .782$; Bartlett’s $p < .001$), yang menunjukkan bahwa versi Bahasa Indonesia dari A-PBFS layak untuk dilakukan validasi psikometrik lebih lanjut dalam skala besar. Walaupun struktur faktor yang stabil belum dapat ditetapkan karena keterbatasan ukuran sampel, temuan ini menunjukkan bahwa A-PBFS versi Indonesia merupakan instrumen yang menjanjikan untuk validasi psikometrik lanjutan pada sampel yang lebih besar.

Kata Kunci: Agresi; psikometri; adaptasi skala; reliabilitas, keterfaktoran.



1. Introduction

Aggression refers to behavior intended to harm or injure others, either physically or psychologically. Forms of aggression in individuals are explained in several types, such as attacking objects or other people; verbal aggression, such as using words to hurt other people's feelings; anger aggression which shows emotions and expressions of disapproval or displeasure towards something; and aggression. The hostility can be seen in behavior and words conveying feelings of dislike owned by others. This hostility follows what was stated that aggression includes four parts: physical aggression, verbal aggression, anger, and hostility (Buss & Perry, 1992). Hostility is also appropriate (Farrell et al., 2016), which states that aggressive behavior is divided into physical and non-physical aspects in the form of verbal aggression and relationships. Relational aggression can be seen as the hostility and anger shown by individuals for disapproval or anger toward others.

Aggression in childhood will cause individuals to have a high level of aggressiveness in adolescence or adulthood (Huesman et al., 2003). Aggression can affect the mental conditions of children and adolescents, such as anxiety, depression, academic problems, and maladaptive behavior, such as juvenile delinquency, and can even lead to criminal behavior (Tremblay, 2010; Webster-Stratton et al., 2008). Aggressiveness possessed by individuals, both children and adolescents, can also be influenced by environmental factors, such as the family environment. The family environment has a role in shaping the personality and behavior of children. Parenting is a learning process that is received by the child directly by the parents, and if the parents give parenting positively, the child has a low level of aggressiveness in the child (Kawabata et al., 2011). Poor interpersonal relationships between children and parents can also affect children's lives (Kwako et al., 2010).

Children exposed to violence and neglect will have severe cognitive and emotional developmental impacts (Cavanaugh & Gelles, 2005); however, children will be vulnerable to trauma so that they can increase the risk of becoming perpetrators of violence in the future (Kitzmann et al., 2003). Children who get violence can also behave in destructive or aggressive ways, such as hurting themselves because of feelings of hopelessness and mounting resentment and can even cause the desire to commit suicide. It can happen due to the burden of thoughts and stress the child owns (Kurniasari, 2019).

Aggressiveness is a psychological aspect that can be measured using the Aggression-Problem Behavior Frequency Scale (A-PBFS). The A-PBFS scale is an aggressiveness scale that looks at and measures the frequency of physical aggression, non-physical aggression, and aggression in relationships. This scale can be given to adolescents with an age range of 12-16 years. The Aggression-Problem Behavior Frequency Scale (A-PBFS) has also been developed and tested in Bulgaria (Albert D. Farrell, Eva M. Kung & To, 2010; Farrell et al., 2016, 2018). On the Aggression-Problem Behavior Frequency Scale (A-PBFS) scale, there are three aspects as the basis for compiling the scale in viewing adolescents' aggressiveness: physical aspects, non-physical aspects, and relational aspects. This scale distinguishes between physical and non-physical forms of aggressive behavior. Previous studies stated that male children and adolescents were more likely to be involved in physical aggression and female children or adolescents were more likely to be involved in non-physical aggression (Crick & Grotpeter, 1995).

Previous research on the Aggression-Problem Behavior Frequency Scale (A-PBFS) scale gave good results. The results of previous studies obtained the reliability of each subscale from .07 to .87 conducted in the United States. In research in Bulgaria, Cronbach's Alpha results were .83 to .87. and for the internal consistency of the scale based on the results of previous studies is $r = 0.93$ (Albert D. Farrell, Eva M. Kung & To, 2010; Farrell



et al., 2016, 2018). However, there has yet to research using the Indonesian language version of the item studied in Indonesia. It is the primary basis of this study which aims to test the reliability of the components of the Indonesian version of the A-PBFS scale on the aggressiveness of adolescents aged 12-16 years.

The Aggression-Problem Behaviour Frequency Scale (A-PBFS) is a scale made by (Albert D. Farrell , Eva M. Kung & To, 2010), which is intended for teenagers to see the level of aggressiveness that was studied initially in teen subjects who use addictive substances such as drugs. However, gradually this scale is given to adolescent subjects with general aggressiveness problems (Farrell et al., 2016, 2018). The Aggression-Problem Behavior Frequency Scale (A-PBFS) scale has been tested in several studies in various countries and provides satisfactory results. However, due to the absence of research conducted in Indonesia, the aggression-problem behavior scale (A-PBFS) scale cannot be tested either valid or reliable for adolescents in Indonesia. Research to test the reliability and validity of Aggression-Problem Behavior Frequency Scale (A-PBFS) scale is essential because adolescents own many differences in Indonesia from other countries, including countries in the European continent.

Differences that appear clear can be seen in different cultures, religions, and habits possessed by teenagers in Indonesia compared with those in the European continent. It certainly can affect the behavior shown related to the aggressiveness that is owned and can be measured. It is necessary to do a reliability and validity test before giving a scale to assess whether the scale of Aggression-Problem Behavior Frequency Scale (A-PBFS) is feasible and can be used to achieve goals from the Aggression-Problem Behavior Frequency Scale (A-PBFS) in adolescents in Indonesia. This study can also assess the psychometric properties of the Aggression-Problem Behavior Frequency Scale (A-PBFS) can be understood so that individuals can fill in the scale well according to the visible behavior owned or felt by individual teenagers and people around the subject.

The Aggression-Problem Behavior Frequency Scale (A-PBFS) itself becomes the most stable aggression scale in moderating problematic behavior in adolescents. Findings from the Aggression-Problem Behavior Frequency Scale (A-PBFS) scale in finding different factors that represent adolescent aggression and delinquency are significant to consider because many other scales tend to look unbalanced, as in the study of Williams et al., (Williams et al., 1996). It is also the basis where the aggression scale used in this study is a scale of Aggression-Problem Behavior Frequency Scale (A-PBFS), tested in several studies to show factors in representing adolescent aggression and delinquency that occur in Indonesia later.

Therefore, the present study does not aim to provide a final validation of the Indonesian A-PBFS. Instead, it seeks to conduct a preliminary psychometric evaluation to determine whether the Indonesian version of the scale demonstrates adequate internal consistency and factorability to justify further large-scale validation.

2. Methods

The sample of this study consisted of 30 adolescents aged 12-17 years who met specific criteria related to aggression and anger. This sample size is sufficient for preliminary reliability and factorability screening, but it is inadequate for stable factor extraction or construct validation. The instrument used was the Aggression-Problem Behavior Frequency Scale (A-PBFS), which contains 18 items measuring the frequency of aggressive behavior across three dimensions: physical, non-physical, and relational aggression. Responses were recorded on a six-point Likert scale ranging from 1 (never) to



6 (20 or more), indicating how often each behavior occurred during the previous 30 days (Farrell et al., 2016; Waller et al., 2020). The A-PBFS was administered to examine the internal consistency and factorability of the Indonesian version of the scale. Therefore, the present study does not aim to provide a final validation of the Indonesian A-PBFS. Instead, it serves as a preliminary psychometric evaluation to determine whether the scale demonstrates adequate reliability and statistical suitability for future large-scale validation.

The A-PBFS was translated into Indonesian using a forward-backward translation procedure. Two bilingual psychologists independently translated the original English version into Indonesian. A reconciled version was then back-translated into English by an independent bilingual translator. Discrepancies were reviewed by an expert panel consisting of clinical psychologists and psychometricians to ensure semantic, conceptual, and cultural equivalence. A pilot readability test was conducted with five adolescents to confirm clarity and comprehension before the instrument was administered in this study.

3. Result

Thirty adolescents aged 12–17 years participated in this study and completed the Indonesian version of the A-PBFS. The sample comprised 21 females (70.0%) and nine males (30.0%). Detailed demographic characteristics, including age, gender, and educational background, are presented in Table 1.

Table 1.
Characteristics of Age, Gender, and Education

Variable	N	%
Gender		
Male	9	30.0
Female	21	70.0
Age		
12-14 Years old	10	33.3
15-17 Years old	20	66.7
Education		
Junior high school	10	33.3
Senior high school	20	66.7

The first analysis conducted was an assessment of the factorability of the Indonesian version of the A-PBFS. Factorability was examined using the Kaiser–Meyer–Olkin Measure of Sampling Adequacy (KMO) and Bartlett’s Test of Sphericity, where KMO values above .50 and significant Bartlett’s test indicate that the data are suitable for factor analysis (Chizanah & Hadjam, 2011). In this study, the KMO value was .782 and Bartlett’s Test of Sphericity was significant ($\chi^2 = 412.270$, $df = 105$, $p < .001$), indicating that the correlation matrix was statistically suitable for preliminary factorability screening, although the sample size is insufficient for confirming a stable factor structure. Factor extraction was constrained to three components based on the theoretical structure of the A-PBFS, with eigenvalues greater than 1.00 and a cumulative explained variance of 76.291%. However, given the limited sample size, these results are interpreted as evidence of statistical suitability for factor analysis rather than confirmation of a stable factor structure.



Table 2.
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.782
Bartlett's Test of Sphericity	Approx. Chi-Square	412.270
	df	105
	Sig.	.000

Based on the factorability analysis, several items showed anti-image correlation values below .50, indicating relatively weaker individual contributions to the overall correlation matrix (Selickaite et al., 2019). These results were used only as preliminary diagnostic information rather than as a basis for permanent item elimination, given the limited sample size. The anti-image correlations and overall KMO values for the Indonesian version of the A-PBFS are presented in Table 3.

Table 3.
Anti-Image Correlation and Kaiser-Mayer-Olkin (KMO) A-PBFS Indonesian version

Item	Anti-Image Correlation	Kaiser-Mayer-Olkin
Item 1	.688	.782
Item 2	.906	
Item 3	.837	
Item 4	.825	
Item 5	.701	
Item 6	.715	
Item 7	.848	
Item 9	.865	
Item 10	.783	
Item 11	.825	
Item 12	.658	
Item 13	.828	
Item 14	.605	
Item 16	.763	
Item 18	.853	

The Indonesian version of the A-PBFS demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of .947, indicating a high degree of inter-item reliability in this sample. The results of the Cronbach's alpha analysis are presented in Table 4.

Table 4.
Alpha Cronbach's Reliability Tests

Cronbach's Alpha	N of Items
.947	15

4. Discussion

The findings of this study provide preliminary psychometric support for the Indonesian version of the Aggression–Problem Behavior Frequency Scale (A-PBFS). The excellent internal consistency indicates that the items function cohesively in assessing



aggressive behavior among Indonesian adolescents. In addition, the adequate KMO value and significant Bartlett's test suggest that the item correlations are statistically suitable for factor analysis, indicating good factorability of the scale.

Although previous studies have demonstrated stable factor structures and associations with variables such as substance use, gender, and delinquent behavior (Farrell et al., 2000), the present study was not designed to examine these relationships. Instead, this research serves as a pilot adaptation study, providing initial evidence that the Indonesian A-PBFS items are understandable and psychometrically promising in the Indonesian cultural context.

The theoretical three-factor framework of physical, non-physical, and relational aggression was used as a guiding model; however, due to the limited sample size, the present findings do not confirm a stable factorial structure. Therefore, these results should be interpreted as preliminary support for further validation, rather than definitive construct validation.

The present study provides preliminary psychometric evidence for the Indonesian version of the Aggression-Problem Behavior Frequency Scale (A-PBFS). The scale demonstrated excellent internal consistency in this sample, with a Cronbach's alpha coefficient of .947, indicating a high degree of inter-item reliability. These findings suggest that the Indonesian A-PBFS items function cohesively in measuring aggressive behavior among adolescents in a non-clinical context. The A-PBFS yields a total score ranging from 0 to 108, where higher scores indicate higher frequencies of aggressive behavior, as described in the original instrument (Farrell et al., 2016).

Several limitations should be considered when interpreting the findings of this study. One important limitation relates to the reliance on adolescents' self-reports regarding sensitive and potentially stigmatized behaviors, which may be influenced by response bias or social desirability. Previous research suggests that creating supportive conditions and ensuring confidentiality can improve the accuracy of self-reported problem behaviors, including substance use and aggression (Jhonston, 1985; Oetting & Beauvais, 1990). In the present study, rapport building and collateral information from family members were used as procedural strategies to reduce potential reporting bias, although these steps do not eliminate this limitation.

Another limitation of this study concerns the characteristics of the sample, which consisted entirely of adolescents who were currently enrolled in formal education. As a result, the findings may not generalize to adolescents with limited educational backgrounds, such as those who are out of school or living in vulnerable social conditions. Educational background can influence respondents' comprehension of questionnaire items and response patterns. Therefore, future studies should examine the Indonesian A-PBFS in more diverse adolescent populations to evaluate whether the scale performs consistently across different levels of education and social vulnerability.

Another limitation of this study is the imbalance in gender distribution, which limits the ability to examine potential differences between physical and non-physical aggression across male and female adolescents. Because of this imbalance and the small sample size, no meaningful gender comparisons could be conducted. Future research with larger and more balanced samples should investigate gender-based differences in aggression patterns, as suggested by previous literature indicating that males tend to exhibit higher physical aggression while females are more likely to display relational or non-physical forms of aggression.



5. Conclusion

This study provides preliminary psychometric evidence for the Indonesian version of the Aggression–Problem Behavior Frequency Scale (A-PBFS) among adolescents aged 12–17 years. The scale demonstrated excellent internal consistency and adequate factorability, indicating that the Indonesian A-PBFS items function cohesively and are statistically suitable for further psychometric evaluation. While the theoretical three-component structure of physical, non-physical, and relational aggression was used as a guiding framework, the present study does not establish a stable factor structure due to the limited sample size. Overall, the findings suggest that the Indonesian A-PBFS is a promising instrument for future large-scale validation in Indonesian adolescent populations.

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