

Indonesian Translation and Adaptation of Social Appearance Anxiety Scale (SAAS) for Early Adolescent Girls in Indonesia

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Background: During adolescence, the attention of individuals has been observed to increasingly shift toward respective appearances, and this is primarily influenced by the various stages of puberty. Previous studies have reported that early body image disturbances may have long-term mental health impacts that persist into adulthood.

Purpose: This study aimed to translate and validate Social Appearance Anxiety Scale (SAAS), developed by Hart et al, for use among early adolescent girls in Indonesia.

Patients and Methods: In order to achieve the stated objective, an adaptation process, guided by the International Test Commission (ITC) Guidelines for Adapting Tests was carried out. The process consisted of three stages including 1) forward and backward translations, 2) testing of reliability coefficients, and 3) collecting validity evidence through content-based and construct-based testing using Confirmatory Factor Analysis (CFA). Data were collected online from respondents in Bandung, Indonesia, who were then asked to participate in a retest 1 month later. The final sample comprised 197 girls aged 10–14 years.

Results: The obtained results showed that content validity achieved an agreement rate exceeding 90%, and SAAS was observed to possess excellent internal consistency (Cronbach's $\alpha = 0.932$). Accordingly, test-retest reliability was stable (ICC (95% CI) = 0.850), convergent validity between SAAS and Social Anxiety Scale for Adolescents (SAS-A) was significantly positive ($r = 0.439$; $p < 0.001$), and CFA signified an acceptable model fit after modification (Model Chi-Square, $p > 0.05$; RMSEA = $0.036 < 0.08$; CFI = $1 \geq 0.90$; GFI = $0.94 \geq 0.90$; Loading Factors > 0.3).

Conclusion: SAAS-Indonesia was observed to be sufficiently reliable and valid for use among early adolescent girls in Indonesia.

Keywords: social appearance anxiety, psychometric property, adolescents

Introduction

Body image is a multi-dimensional construct that constitutes the manner in which individuals perceive, feel, and behave regarding respective physical appearances. It consists of three key aspects namely evaluation, emotion, and investment. The evaluation aspect refers to the feelings of satisfaction related to body perception, and this is conventionally based on personal beliefs. The emotional aspect pertains to feelings of anxiety, distress, and other emotions associated with body perception. Lastly, the investment aspect reflects the level of importance individuals place on respective physiques, as well as how personal beliefs (cognitive) and emotions (affective) influence inherent behavioral patterns.¹ Several studies have shown that body dissatisfaction and appearance-related anxiety are related to behaviors such as eating disorders, depressive and suicidal tendencies, sexual dysfunction, and an increased preoccupation with cosmetic surgery. Furthermore, body dissatisfaction and appearance-related anxiety have also been observed to possess the capability to contribute to performance-related disorders, including school dropout and withdrawal from social interactions.^{1–5}

As observed in previous studies, adolescence is a particularly critical period for the development of these psychosocial disorders due to the significant physical and hormonal changes associated with puberty.^{5,6} This is further supported

by the fact that pubertal development has been found to often move adolescents further from societal ideals, with girls typically striving for thinness and boys seeking muscularity.⁶ Additionally, explorations have shown that the appearance evaluations of adolescents are strongly influenced by sociocultural factors, including peer rivalry and media exposure.^{5,7}

Recent study in Indonesia identified three key influences perceived as social pressures that contribute to unhealthy dieting behaviors, including family influence (suggestion to go on diet, supporting dieting decisions and recommendation of diet methods), peer influence (suggestion to go on diet, invitation to go on diet together, desire to go on diet based on friends' body types, and recommendation of diet methods), and community influence (belief in a specific ideal body standard, which leads to negative views or judgments about one's body).⁸ A recent study further emphasized that adolescents who experience early or late maturation are particularly vulnerable to body dissatisfaction and appearance anxiety, hence the individuals may feel "out of sync" with peers, and this typically increases the risk of psychosocial disorders.⁹

Based on observations, media consumption is a significant predictor of body dissatisfaction and appearance anxiety. This is primarily because media platforms often promote societal ideals, which adolescents internalize as desirable, and provide immediate feedback on respective appearance, further sustaining appearance-based self-esteem.^{10,11} A study conducted in Indonesia regarding social media and body image issues, found the following results: 1) social media facilitates social comparison among peers through photos shared in social media, which can lead to jealousy and motivation to inhale unhealthy diet pills or do extreme dieting; 2) social media enables fashion icons to promote unrealistic beauty ideals such as being slimmer, taller and possessing specific facial features which are considered attractive.¹² Various investigations have been carried out on gender differences in body dissatisfaction and appearance anxiety. While most studies suggested that girls conventionally experience higher levels of dissatisfaction and anxiety than boys, a few reported no significant gender differences, and others suggest boys may be more affected than girls.^{2,13–15}

In developing middle-income countries such as Indonesia, body image issues and eating disorders are significant concerns, particularly among adolescents, who represent a crucial target group for early intervention.^{16,17} According to a report in one recent study, there has been a prevalent issue of the double burden of malnutrition in Indonesia, which includes both undernutrition and obesity.¹⁶ The study suggested that the rise in obesity could be attributed to changes in dietary patterns and decreased physical activity, driven by industrialization and urbanization. However, undernutrition has remained a persistent issue in the country, having been a longstanding public health challenge. To further expound on the matter, another research observed that a plausible explanation for the significantly pronounced undernutrition problem in Indonesia, compared to high-income countries, was the low level of individualism in the nation.¹⁷ This cultural characteristic places pressure on adolescents to conform to societal appearance standards.

To address these challenges, the first step is to measure the level of body dissatisfaction and appearance anxiety among Indonesian adolescents. This is particularly important because the early identification of at-risk individuals can help inform the development of effective intervention programs. An effective tool used for this purpose is the Social Appearance Anxiety Scale (SAAS).¹⁸ This tool is capable of measuring anxiety in situations, including in cases where the entire appearance of an individual, such as body mass index (BMI), shape, or specific body proportions, requires evaluation. SAAS was developed by combining three constructs namely body image dissatisfaction, body dysmorphic disorder, and social anxiety, recognizing appearance anxiety as a component of these measures. In addition, the tool is a brief instrument consisting of 16 items that address cognitive, emotional, and behavioral aspects of social appearance anxiety. Studies in several countries, including Canada, Germany, Turkey, and the United States of America have shown that SAAS has a stable one-dimensional factor structure with high internal consistency, strong four-week test-retest reliability, and good construct validity.^{2,18–20}

In accordance with this, various countries, such as the United States, Italy, Turkey, and Germany, have validated the SAAS in both clinical and non-clinical populations. The studies conducted in these countries have shown interesting findings, including the elucidation that SAAS scores were positively associated with social anxiety, body mass index (BMI), and negative body image factors such as body dissatisfaction, body image disturbance, and drive for thinness. Additionally, its scores were also observed to be related to neuroticism, emotional problems including trait anxiety and depression, as well as interpersonal problems such as suspiciousness and submissiveness. To further expound on its significance, some other studies showed that SAAS scores were negatively related to extraversion, and global self-esteem, but unrelated to factors such as sympathy, openness, agreeableness, conscientiousness, ethnic identity, and social

desirability response bias. It is also important to state that these scores were observed to be higher among individuals with eating disorders, and the scale was found to effectively discriminate between clinical and non-clinical participants, thereby demonstrating the clinical utility of the tool.^{2,13,19–21}

Based on observations, the majority of studies that have examined the psychometric properties of the SAAS were carried out with a predominant focus on adult populations, as evidenced by the fact that only two studies were conducted on adolescents.^{2,13,18–21} Considering this gap, it is crucial to recognize that the early onset of eating and body-related symptoms during adolescence is related to an elevated risk of both physical and mental health issues in adulthood.²² Therefore, ensuring that the SAAS is a valid and reliable tool for assessing social appearance anxiety in adolescents is crucial, as it could inform future studies on the causes and effects of social appearance anxiety on the entire well-being of adolescents.

Furthermore, it is important to state that findings on the co-occurrence of social appearance anxiety with social anxiety symptoms among non-clinical adolescent participants have been limited to high-income countries, such as Italy.¹³ This gap presents an interesting opportunity to explore the relationship between social appearance anxiety and social anxiety symptoms among non-clinical adolescent participants, particularly early adolescents, in an upcoming middle-income country such as Indonesia. Therefore, this study aimed to examine the psychometric properties of the Indonesian version of the SAAS in early adolescents in Bandung City, Indonesia, including its factor structure, convergent validity through relationship with social anxiety, internal consistency, and stability over a 4-week period.

Materials and Methods

Samples

A total of 197 female students from grades 5 to 8 participated in this study. All students were from Bandung City, the second-most populous and fourth-largest city in Indonesia. Furthermore, the mean age of the participants was 13.08 years ($SD = 0.85$), with the majority being sixth-grade students (47.2%) and practicing Islam as a religion (63.5%). Before the commencement of the investigation, written consents from both parents and participants, which were acknowledged by the schools, were obtained. Participation was entirely voluntary, and a reward was given to the participants at the end of the session. It is also important to state that the students were availed of the option to withdraw from the study at any time during the data collection process.

Measures

Social Appearance Anxiety Scale

The SAAS, as previously mentioned, consists of 16 items that assess cognitive, emotional, and behavioral aspects related to social appearance anxiety. Each item is typically rated on a 5-point Likert scale, ranging from 1 (not at all) to 5 (extremely), with total possible scores ranging between 16 and 80. Subsequently, the reversed item (Item 1) is recoded and a total sum score is calculated, where higher scores show greater social appearance anxiety. The Indonesian version of SAAS was developed in accordance with the International Test Commission (ITC) Guidelines for Translating and Adapting Tests.²³ The adaptation process for this study constitutes several key phases. In the first phase (pre-condition), permission was obtained from the original author to examine the psychometric properties of the Indonesian version of SAAS. To carry out this examination, a discussion was held with three experts, comprising two psychologists and one graduate student, to evaluate the construct being measured.

During the second phase (test development), the Indonesian version of the SAAS was developed using a forward-translation and back-translation process. In this phase, two independent translators, one a psychologist and the other a professor specializing in foreign languages, both fluent in Indonesian (Bahasa Indonesia) and English, translated the original English questionnaire into Indonesian. Subsequently, a panel consisting of the first, second, and third authors reviewed and refined the Indonesian translation to ensure accuracy and clarity, resulting in the final Indonesian translation. To verify the accuracy of the translation, three independent translators, all foreign nationals living in Indonesia, translated the Indonesian version back into English. The same panel of authors reviewed the back-translation to ensure that no inconsistencies existed between it and the original version. In terms of content validity, a psychologist and two school counselors were consulted to assess the appropriateness of each item. The individuals

rated each statement on a 4-point Likert scale (1 = not suitable/needs revision, 2 = somewhat suitable, 3 = quite suitable, 4 = highly suitable), after which a panel discussion was carried out among the three experts and the first author to ensure the content validity of the translated SAAS.

Following the check for content validity, another panel consisting of the first, second, and third authors reviewed the necessary revisions based on the expert panel discussion. This process led to the creation of a pre-final Indonesian version of SAAS, which was administered to 30 participants. Accordingly, post-administration interviews were conducted with these participants to ensure that the scales of the items and instructions were clear and appropriate. This feedback resulted in the final version of the Indonesian SAAS, which can be found in [supplementary material](#). In the third phase (confirmation), non-probability sampling was used to select participants to meet the required sample size based on the rule-of-thumb indicator of 10 cases per parameter.^{24,25} During this phase, the reliability of the Indonesian version of SAAS was assessed using Cronbach's alpha coefficient and test-retest reliability, which was adopted to evaluate the internal consistency, item discrimination, and stability of the scale. Additionally, validity was examined through convergent validity, factorial validity, and content validity. The fourth phase (administration) includes the integration of the translation of SAAS instructions with the translation procedures outlined in the second step. The fifth step (scoring and interpretation) constitutes an analysis of the relationship between SAAS scores and participant characteristics, including age and religion. However, it is important to state that the sixth step (documentation) was not part of this study.

SAAS is not specifically designed for adolescents, nor intended solely for women. This study focused on adolescent girls due to several urgency reasons, including: 1) pubertal development has been often found not meeting adolescents' expectations; 2) Indonesian adolescents are strongly influenced by sociocultural factors, including family influence, peer comparison and media exposure; 3) most studies suggested that girls generally experience higher levels of body dissatisfaction and appearance anxiety than boys; 4) plausible explanation for the undernutrition problem in Indonesia, compared to high-income countries, is the low level of individualism which creates extreme pressure on adolescents to conform to societal beauty standards; 5) Early onset of eating and body-related issues during adolescence has been related to an elevated risk of physical and mental health problems in adulthood; 6) As a patriarchal nation, Indonesia places more pressure on women to be attractive, given their lower societal status compared to men.^{2,5-9,12,13,16,18,22,26,27}

Social Anxiety Scale – Adolescent

Social Anxiety Scale – Adolescent (SAS-A) was used in this study to analyze the convergent validity of the translated SAAS by comparing it with a similar or related instrument. Conventionally, the Indonesian version of the SAS-A is a self-reported questionnaire specifically designed to measure the level of social anxiety among Indonesian adolescents. The original SAS-A comprises 18 items, which are divided into three dimensions namely Fear of Negative Evaluation (FNE), Social Avoidance and Distress-New (SAD-New), and Social Avoidance and Distress-General (SAD-G). However, the Indonesian version retained only 11 items after removing 7 that were considered less suitable for measuring social anxiety in this context. It is important to state that the remaining items were still categorized into the same three dimensions, five items for FNE, four for SAD-New, and two for SAD-G. In accordance with previous studies, the Indonesian version of the SAS-A showed high validity in a Confirmatory Factor Analysis (CFA), as evidenced by the following metrics, Chi-Square Model, $p\text{-value} > 0.05$ ($0.254 > 0.05$), Root Mean Squared Error of Approximation < 0.08 ($0.02 < 0.08$), Comparative Fit Index ≥ 0.90 ($0.99 \geq 0.90$), and Standardized Root Mean-Square Residual < 0.08 ($0.05 < 0.08$).²⁸

Procedures

The present study was approved by the Research Ethics Committee of Universitas Padjadjaran, Bandung, Indonesia (921/UN6.I/PK.01.03/2022) as the participants are underage and need the approval of their parents and school. To achieve the study objectives, data was collected from seven schools in Bandung City, including four public and three private schools, to ensure a diverse sample in terms of the religious backgrounds of the participants. This is particularly important, considering the fact that religion is predominantly known to influence the extent to which individuals invest in appearances.^{29,30} Before the data collection, parents and participants were given an information letter about the main purpose of the study, together with the intended procedures, as the bases of consideration for consenting. In accordance, the data for the Indonesian version of SAAS and SAS-A was collected online using Google Forms.

In the first round of data collection, middle school students, whose parents provided consent for their participation, were gathered in a classroom and guided through the process by the first author. The first author ensured that the environment and students' behavior were supportive for data collection. Instructions for answering the questionnaire were given by the first author with assistance from the counselor and homeroom teacher. The students started to fill the questionnaire together in class using their own gadget and finished in less than 30 minutes, with various differences given the inconsistent internet performance of each students' gadgets. Meanwhile, elementary school students were sent a link to complete the form at home after school, as the majority of the demographic did not have access to personal gadgets. The homeroom teachers in each elementary schools would remind the parents during the one-week data collection through social media application. First author would verify each students' completion routinely and cooperate accordingly with each homeroom teachers.

The second round of data collection began one month after the last participant completed the initial survey. The procedure for the second data collection is similar to that of the first. After completing both rounds of data collection, the participants received a box containing stationery as a reward in accordance with the Research Ethics Committee's recommendations.

Data Analysis Technique

The content validity of the Indonesian version of SAAS was evaluated using the expert panel discussion method (CVI) as previously described in the measures section. The standards followed were based on the guidelines provided from previous research.³¹ Subsequently, data distribution was assessed in terms of mean, standard deviation, skewness, and kurtosis, with the criteria for normal distribution following the approved guideline, which specified a cutoff of ± 2 .³² Internal consistency was analyzed using Cronbach's Alpha, with the interpretation also following an approved guideline, where a Cronbach's Alpha value of 0.7 or higher was considered the minimum acceptable standard for reliability.³² Following internal consistency, item discrimination was determined by calculating the correlation of the corrected item-total of each item, with values greater than 0.3, signifying good item discrimination.³³ Test-retest reliability was evaluated by analyzing the intra-class correlation coefficient (ICC), where a value above 0.75 was considered indicative of good stability, based on the standards provided.³⁴ Convergent validity, on the other hand, was assessed by analyzing the correlation between the SAAS and the SAS-A, following the criteria from previous adaptations, which required a 2-tailed significance below 0.001 and a positive correlation for appropriate convergent validity.^{2,19,21} Accordingly, factorial validity was tested using CFA, with the minimum recommended fit criteria, including a model Chi-square p-value greater than 0.05, factor loading of 0.4 or greater according to amount of samples, a Root Mean Squared Error of Approximation (RMSEA) of less than 0.08, a Comparative Fit Index (CFI) of 0.90 or greater, and a Goodness of Fit Index (GFI) of 0.90 or greater.²⁴ Data analysis for this study was conducted using SPSS 23, JASP 0.13.1, and LISREL 8.80.

Results

The Content Validity

The content validity of the Indonesian version of SAAS was assessed following the evaluation of the expert panel. The results of the discussion showed a high degree of relevance and comprehensibility for SAAS-Indonesia, with more than 90% agreement among the panel members on the appropriateness of the items for the target population (see Table 1).

Descriptive Analysis Results

Table 2 shows that all SAAS items scored slightly above and below the midpoint of 2.5, with values ranging from 1.751 to 3.259. However, the standard deviations ranged from 0.897 to 1.433, signifying that most participants provided similar, generally lower responses. The absolute skewness values for the items were between 0.137 and 1.284, while the absolute kurtosis values ranged from 0.080 to 1.226. These absolute values suggest that the data was normally distributed.

Table 1 Content Validity Index

Item	Number of Expert	Number Giving Rating of 3 or 4	I-CVI	p_c	k^*	Evaluation
1	3	3	1	0.125	1	Excellent
2	3	3	1	0.125	1	Excellent
3	3	2	0.67	0.375	0.47	Fair
4	3	3	1	0.125	1	Excellent
5	3	3	1	0.125	1	Excellent
6	3	3	1	0.125	1	Excellent
7	3	3	1	0.125	1	Excellent
8	3	3	1	0.125	1	Excellent
9	3	3	1	0.125	1	Excellent
10	3	3	1	0.125	1	Excellent
11	3	3	1	0.125	1	Excellent
12	3	2	0.67	0.375	0.47	Fair
13	3	3	1	0.125	1	Excellent
14	3	3	1	0.125	1	Excellent
15	3	3	1	0.125	1	Excellent
16	3	3	1	0.125	1	Excellent
Average CVI = 0.958 → Excellent						

Abbreviations: I-CVI, item-level content validity index; p_c , probability of a chance occurrence (p_c was computed using formula: $p_c = [N!/A!(N - A)!] \cdot 5^N$ where N, number of experts; A, Number agreeing on good relevance); k^* , kappa designating agreement on relevance (k^* was computed using formula: $k^* = (I-CVI - p_c) / (1 - p_c)$).

Table 2 Descriptive Statistics

Items	Mean	Standard Deviation	Skewness	Kurtosis
SAAS1	3.259	0.897	-0.278	0.095
SAAS2	2.320	1.171	0.624	-0.516
SAAS3	2.766	1.155	0.146	-0.812
SAAS4	2.822	1.210	0.137	-0.845
SAAS5	3.147	1.318	-0.167	-1.110
SAAS6	2.558	1.205	0.268	-0.892
SAAS7	2.574	1.183	0.299	-0.756
SAAS8	1.751	1.052	1.284	0.634
SAAS9	2.020	1.111	0.929	0.080
SAAS10	2.203	1.151	0.709	-0.399

(Continued)

Table 2 (Continued).

Items	Mean	Standard Deviation	Skewness	Kurtosis
SAAS11	2.706	1.264	0.326	-0.909
SAAS12	2.345	1.051	0.496	-0.356
SAAS13	2.579	1.200	0.359	-0.798
SAAS14	2.569	1.179	0.438	-0.696
SAAS15	2.386	1.433	0.547	-1.155
SAAS16	2.787	1.402	0.217	-1.226

Internal Consistency, Item Discrimination, and Test-Retest Reliability

The Cronbach's alpha coefficients for SAAS-Indonesia, as shown in Table 3, were above 0.9, reflecting excellent internal consistency. The corrected item-total correlations are also presented in Table 3, with the majority of the items showing good discrimination, as there were no negative correlations. The majority of the corrected item-total correlations exceeded 0.30. However, item 1 had a correlation value below 0.30 in the second intake. Given that Item 1 is a reverse-scored item, which typically yields lower scores compared to other items, and the fact that Cronbach's Alpha would change by only 0.003 if this item were deleted, it was considered acceptable without modification. In terms of stability, the obtained test-retest reliability score of 0.850 with a 95% confidence interval confirms that the SAAS-Indonesia remained stable over the 4-week period.

Convergent Validity

The present study adopted Pearson's Correlation to assess the convergent validity between SAAS and SAS-A. The results obtained from the analysis showed a significant positive correlation, with Pearson's $r = 0.439$, $p < 0.001$. This finding signifies a strong convergent validity between the total scores of SAAS and SAS-A, demonstrating that SAAS-Indonesia was properly in line with SAS-A in measuring related constructs.

Factorial Validity

The initial results of the CFA using LISREL 8.80 showed that the Indonesian version of SAAS did not achieve a good model fit. This was evidenced by the first analysis conducted, which produced a Chi-Square value of 362.06 ($df = 104$) with a p -value < 0.05 , suggesting the model needed modification. To improve the fit, modification indices were consulted, all of which showed high covariances between certain error terms. Within this context, the overlap in items was attributed to the use of similar words in the Indonesian translation, such as "tegang" (tense), "gugup" (nervous), "cemas" (anxious), "khawatir" (worried), and "takut" (afraid), all of which appeared across 14 items and carried similar meanings. To address this issue, correlations between twenty pairs of error terms were allowed, leading to a final model with an improved fit (refer to Table 4 and Figure 1). Table 4 presents the goodness-of-fit indices for the factor model after applying two modification indices. The analysis shows that the model properly fits the data, with the Chi-Square,

Table 3 Reliability

Data	α	Corrected Item – Total Correlation	ICC (95% CI)
SAAS first data collection	0.932	0.399–0.752	0.850
SAAS second data collection	0.937	0.286–0.795	

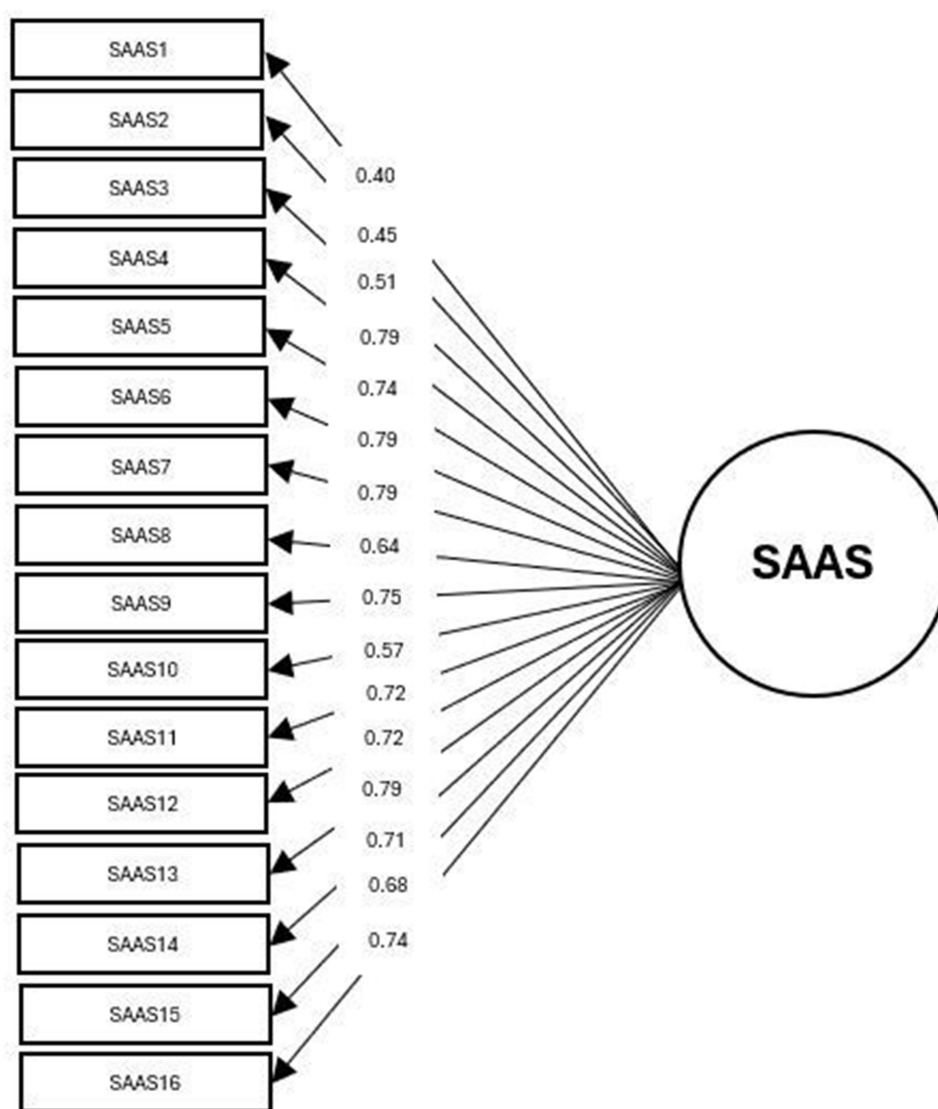
Abbreviations: α , cronbach alpha coefficient; ICC (95% CI), Intraclass correlation coefficient with a 95% confidence interval.

Table 4 Goodness of fit

Fit Criteria					
Chi-Square			RMSEA	CFI	GFI
Score = 104.63	df = 83	p-value = 0.054	0.036	1	0.94

Abbreviations: df, degree of freedom; p-value, probability; RMSEA, Root Mean Squared Error of Approximation; CFI, Comparative Fit Index; GFI, Goodness of Fit Index.

RMSEA, CFI, and GFI values all falling within the acceptable fit range. As presented in Figure 1, all items in SAAS showed significant loading factors based on sample size, confirming that the construct validity of SAAS-Indonesia was empirically supported.

**Figure 1** Confirmatory Factor Analysis of SAAS-Indonesia.

Discussion

This present study translated and examined the psychometric properties of the Indonesian version of SAAS. The obtained results showed that the Bahasa Indonesia version possessed adequate psychometric properties, including high internal consistency, acceptable item discrimination, and satisfactory convergent validity. The unifactorial model was observed to fit the data properly, with RMSEA, GFI, and CFI all falling in the acceptable range. Accordingly, the factor loadings obtained during the course of the investigation were significant.

The values in this regard were generally lower compared to other adapted versions, such as the German version, and the Italian version, and quite similar to the Turkish version.^{2,13,20} This observation implies that countries with a predominantly Islamic population may experience a slight mismatch with the scale, possibly due to cultural norms related to modesty, where individuals tend to cover respective skins and body silhouettes. Previous studies showed that, in Islam, women's bodies are expected to be covered and revealed to their future husbands, hence Islamic teaching can be considered protective factor against adolescents' social appearance anxiety.^{35,36} The reason why the mismatch between SAAS and Indonesian culture is so slight, arguably insignificant, can be attributed to two significant cultural risk factors: patriarchy and collectivism. Previous study found that a woman's appearance plays a crucial role in promoting gender equality. Most opportunities to excel in financial and greater influence in family dynamics, usually intended for women with attractive appearances as men tend to deem attractive women as more self-sufficient and capable of handling future financial and power challenges.²⁶ While another previous study showed that collective goals are prioritized over individual goals which can be reflected in how families, peer groups and society establish specific appearance standards.²⁷

However, it is important to state that both the results from statistical analysis and consultation with expert reviewers observed SAAS-Indonesia to be a user-friendly scale for early adolescents in Indonesia. This was evidenced by the fact that the instrument was effectively used to assess symptoms of social appearance anxiety among the population. SAAS-Indonesia also passed the required test-retest reliability, showing that it is sufficiently stable for use in longitudinal studies.

Previous studies had documented a positive relationship between social avoidance, social distress, fear of negative evaluation, and social appearance anxiety among Italian adolescents.¹³ Consistent with these results, this present study showed no significant differences in similar relationships between adolescents from high-income and middle-income countries. The data obtained from the study sample showed that SAAS-Indonesia was also significantly positively correlated with social avoidance, social distress, and fear of negative evaluation, even though the correlations were low. Similar to previous results,³⁰ the present investigation found that in Indonesia, where strong religious beliefs prevail, there is lower investment in physical appearance, and this may explain why appearance-related anxiety is lower compared to social anxiety.

This current study has several strengths, first, the entire process adhered to psychometric standard methods by strictly following established procedures, including forward and backward translation, as well as a review panel consisting of six experts. This was followed by an analysis of internal consistency, item discrimination, test-retest reliability, convergent validity, factorial validity, and content validity. Since previous studies did not report the content validity of SAAS, the content validity findings from this study make a valuable contribution to the psychometric literature on SAAS. Second, this is the first SAAS adaptation study conducted with a specific focus on early adolescence, which is a critical developmental period characterized by significant personal changes. Early adolescence is marked by numerous developmental tasks, such as adjusting to a changing body, forming a distinct identity, contributing to society, and expanding relationships beyond the family unit. Among these tasks, adjusting to bodily changes is often considered the most challenging. Generally, adolescents with high appearance anxiety are more susceptible to interpersonal problems, mental health issues such as low self-esteem, depression, body image disturbances, and eating disorders, as well as social anxiety. Based on this understanding, early identification of adolescents at risk through valid and reliable measures is essential. The findings of this study suggested that academics may confidently use SAAS as a valid, reliable, and unifactorial scale when conducting further studies on early adolescents, particularly in the Indonesian context.

Following the outlined strengths, this study has certain limitations. First, respondents were early adolescents aged 11–14 years living in urban areas, which limited the generalizability of the results to other populations. Additionally, due to varying levels of agreement and limitations in access to technology among respondents, the data collection procedure

was not fully standardized, which may have introduced some bias in the results. The stability over long term period is not included either in this study.

For future studies, these are some ideas to further enhance the understanding of this research: 1) expanding the sample to include adolescents from other regions in Indonesia such as rural areas as opposite of Bandung, or regions with different racial majority as Bandung has Sundanese as its predominant group, to achieve greater generalizability of SAAS-Indonesia; 2) conducting a cross-cultural analysis to compare scores of Indonesian adolescents with those from other countries to identify how cultural differences impact social appearance anxiety; 3) expanding the sample to include another age group in Indonesia to identify variations in factors influencing early adolescent versus other age group; 4) a replication of this study with more standardized procedures would yield less biased results; 5) a deeper understanding of the stability and consistency over longer term period, example three to six months interval, would provide more insight; 6) SAAS-Indonesia could also be used to identify risk and protective factors that may influence social appearance anxiety among adolescents in Indonesia which could lead to appropriate prevention-intervention strategies against negative body image issues.

Conclusion

In conclusion, this study showed that SAAS-Indonesia was a reliable and valid instrument for assessing social appearance anxiety symptoms among early adolescents in Indonesia. The instrument was used to effectively identify risk factors and protective factors for social appearance anxiety and assist in the development of prevention and intervention programs aimed at mitigating the onset and progression of these symptoms. An example of prevention and intervention strategy from this study is the importance of promoting religiosity and religion teaching among Islamic adolescents in Indonesia to inhibit the onset and progression of social appearance anxiety. Public schools, Islamic private schools, and mental health practitioners should prioritize identifying religiosity and social appearance anxiety using SAAS and appropriate religiosity instruments as early as possible to set apart those in need of intervention. Future studies would benefit from more standardized procedures, more diverse sample, and longer period to achieve a more valid and comprehensive understanding of SAAS-Indonesia.

Statement

This study complies with Declaration of Helsinki.

Data Sharing Statement

The final version of SAAS-Indonesia is included in the [supplementary material](#). Further inquiries can be directed to the corresponding author.

Disclosure

The authors report no conflicts of interest in this work.

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