

The validation of the Indonesian version of social anxiety scale for social media users

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Abstract. Social media anxiety is an excessive fear of negative evaluation in digital interactions. There is no specific measurement tool for social media anxiety in Indonesia. Therefore, this study validates the Indonesian adaptation of the 21-item Social Anxiety Scale for Social Media Users (SAS-SMU) to address this gap. In this study, a total of 320 participants ranging in age from 18 to 24 years (mean age 21.1 ± 1.54 ; 82.5% female) answered questions in an online survey. The original version of the scale was translated into Indonesian using a back-translation procedure. All participants completed a demographic questionnaire, and the SAS-SMU. The collected response data were analyzed for internal consistency and construct validity. Construct validity was conducted using the item factor analysis (IFA) approach because the response data from Likert ratings were ordinal data with a non-normal distribution. Four dimensions namely Shared Content Anxiety (SCA), Privacy Concern Anxiety (PCA), Interaction Anxiety (IA), Self-Evaluation Anxiety (SEA) which are proven to have moderate-high correlation between dimensions. The original hierarchical model, with four first-order factors and one second order factor had good fit to the data ($\chi^2(185) = 351, p < 0.001$; RMSEA = 0.053 (95% CI = 0.044-0.061), $p = 0.271$; CFI = 0.975; TLI = 0.972; SRMR = 0.057]. Ordinal alpha for internal consistency was found to be 0.93 for the total scale and 0.92, 0.82, 0.92, 0.83 for SCA, PCA, IA, and SEA, respectively. The Indonesian version of SAS-SMU is proven to have acceptable validity, and reliability estimates for use in studies in the field of psychological problems related to social media and online communication.

1 Introduction

The rapid development of digital technology has brought about major changes in the way individuals communicate and establish social relationships. The ease of accessing social media platforms such as Instagram, Facebook, and TikTok allows individuals to express themselves, share various daily moments, and build self-image in the digital space. The massive use of social media facilitates broader interactions without

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limitations of space and time but also creates new psychological challenges for its users.

One of the increasingly relevant psychological challenges is the emergence of social anxiety in the context of online interactions. Social anxiety in social media (or social media anxiety) is an excessive fear of negative evaluation from online audiences, which leads to tight control over content, restrictions on interactions, and suppression of authentic self-expression in favor of a positive image. Its manifestations include obsession with digital responses (likes, comments) and acceptance of posts. In the collectivist context of Indonesia—with pressures to maintain social harmony and avoid conflict—this fear is culturally reinforced. Collectivist societies, such as Indonesia, are characterized by strong collectivist values that prioritize group harmony (*rukun*), interdependence, and the avoidance of open conflict. The concept of shame as a public self-image, and a deep-seated fear of being shamed not only by the individual but also by their group (e.g., family or peers). This cultural perspective may result in the intensification of certain dimensions of social media anxiety [1]. Empirical evidence suggests that the intensity of social media use (duration/type of activity) is positively associated with social anxiety, mediated by fear of negative evaluation and a preference for online interactions that are perceived as safer than face-to-face interactions [2].

This mechanism is exacerbated by psychological factors such as low mindfulness, self-esteem, and self-efficacy. Individuals with high mindfulness are more resistant to fear of missing out and social anxiety, while low self-esteem increases the risk of problematic use and anxiety amplification [3]. High exposure to social media reinforces dynamic behavior. The unique characteristics of digital platforms create a high-pressure ecosystem for self-image presentation.

In the digital context, individuals not only experience anxiety when interacting directly, but also worry about permanent digital traces that can be seen and traced back by the public (persistence). Social media has the characteristic of high visibility, where uploaded content can be accessed by a very wide audience, even outside the close social circle, thus increasing the pressure to maintain a self-image that is in accordance with social norms. The characteristic of editing control (editability) encourages excessive content manipulation, while heterogeneous networks (association) give rise to "hidden audiences" that increase the complexity of social evaluation [4]. Finally, feedback accessibility allows individuals to easily obtain comments, likes, or instant reactions which then encourages them to continue checking other people's responses, reinforcing perceived social anxiety [5]. In this condition, individuals with high social anxiety tend to limit self-disclosure and present an idealized image. As an adaptive response, strategies such as using a second account to share personal content with a limited audience have developed, although this has the potential to exacerbate self-dissonance.

Despite the increasing urgency of understanding social media anxiety, research in Indonesia is hampered by a reliance on conventional measurement tools. The use of the Indonesian version of the Liebowitz Social Anxiety Scale (LSAS) and the Social Interaction Anxiety Scale (SIAS) [6]. Both scales were designed for face-to-face contexts, thus failing to capture the unique dynamics of online interactions such as anonymity, audience control, and speed of feedback. More crucially, inadequate linguistic-cultural adaptation has the potential to reduce validity and hinder the development of effective interventions. Therefore, it is important to provide social anxiety instruments designed for the social media context.

The Social Anxiety Scale for Social Media Users (SAS-SMU) developed by Alkis et al. [7], offers a solution to measure social media anxiety through four dimensions: shared content anxiety (SCA), privacy concern anxiety (PCA), interaction anxiety (IA), and self-evaluation anxiety (SEA). This scale has been successfully adapted in various cultural versions. To our knowledge, there has been no validated adaptation of SAS-SMU with Indonesian samples. Adaptation and validation of the Indonesian version that meets linguistic-cultural standards is an urgent need. Therefore, this study aims to adapt and validate the SAS-SMU into Indonesian through a comprehensive process that includes culturally based adaptive translation and psychometric property testing. The psychometric analysis conducted included testing of internal consistency and construct validity.

2 Methods

2.1 Participants

Non-probability sampling is a type of convenience sampling used to obtain measurement responses. The survey consisted of informed consent, respondent characteristics (email address and demographics). Participants completed a questionnaire that collected information on gender, marital status, age, and job status. Participants were active social media users with a minimum usage of 1 hour/day and had at least one active social media account. The age range of participants was between 18-24 years ($M = 21.1$; $SD = 1.54$). Detailed participant characteristics are described in Table 1.

Table 1. Participant Demographics (N=320)

Demographic Characteristics	Category	Frequency (<i>N</i>)	Percentage (%)
Gender	Female	264	82.5
	Male	56	17.5
Marital status	Single	238	74.4
	Dating	80	25.0
	Married	2	0.6
Job status	Student	293	91.6
	Employee	15	4.7
	Jobless	10	3.1
	Entrepreneur	2	0.6

2.2 Research Instrumen

Measured using the Social Anxiety Scale for Social Media Users (SAS-SMU) developed by Alkis et al. [7] adapted into an Indonesian version. SAS-SMU as a multidimensional constructing consisting of the dimensions of Shared Content Anxiety, Privacy Concern Anxiety, Interaction Anxiety, and Self-Evaluation Anxiety. The adapted and tested SAS-SMU consists of 21 items. This scale functions to measure the fear felt towards negative evaluation from others which causes individuals to feel anxious, avoid interaction, and experience emotional stress in the digital environment. Some representatives of the items read “Saya merasa cemas saat berbicara dengan orang yang baru saya kenal”. The response scaling format was carried out using a Likert rating scale which consists of 5 answer options, namely 1 - totally disagree to 5 -

strongly agree. The total score is obtained by adding up all items. A high score is interpreted as a state of social anxiety in high social media users.

It begins with the translation of SAS-SMU items from English to Indonesian by two sworn translators. The results of the two translations are synthesized by a research team that understands both languages. The first synthesis resolves the semantic differences between the two forward translations and produces a contextually appropriate Indonesian version. After obtaining the Indonesian version (pre-final scale), the next process is to retranslate the results of the first synthesis into English by the same translator. Then a second synthesis was carried out by independent experts and fellow researchers who understood the study theme. The final review of the second synthesis with the original version was discussed together with the research team that to confirm both versions showed linguistic and conceptual meaning equivalence.

Next, the language version of the first synthesis conducted cognitive interviewing to prospective participants with predetermined characteristics. Cognitive interviewing examination was conducted on four participants (1 male and 3 females) with an educational background as students and aged 21-22 years. Participants were asked to describe their understanding of the items verbally, and the researcher took notes. The results of the notes from the understanding of the items were adjusted to the participants' understanding to avoid ambiguity of meaning. Finally, it was found that all participants understood the direction of each item's statement according to its purpose and no significant ambiguity was found in the scale items. The administrative procedure involves conveying to participants a set of statements experienced in the context of social media.

2.3 Data Analysis Technique

First, the descriptive test of the items is calculated by calculating mean, standard deviation, skewness, kurtosis and item-rest correlation (IRC) to check the normality of the distribution needed. The skewness value is in the range of -1 to 1, which means that the entire distribution of the item responses approaches the normality obtained so that the confirmatory factor analysis (CFA) test can be used. Meanwhile, if there is a violation of the normality of the item distribution, then the test uses item factor analysis (IFA). IFA is a factor analysis method that does not require normal distribution. Model fit criteria in IFA include chi-square (X^2), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). The model is considered to have a good fit, a certain threshold is set. CFI and TLI values > 0.90 , RMSEA < 0.06 , and SRMR < 0.08 [8]. Factor loadings for each item on each behavioral dimension were also evaluated to determine their significance level. Items with factor loadings below 0.5 were eliminated and compared to a model that retained all items [9]. IFA model was estimated using the Robust Weighted Least Squares (WLSMV) method. Finally, reliability was estimated using alpha and omega coefficients, with values > 0.70 indicating acceptable internal consistency [10].

Three-dimensional model by Erliksson et al. [11] and the four-dimensional hierarchical model recommended by Raimondi et al. [12] tested to compare the use of the best models. Convergent validity in factor analysis items is assessed through internal consistency items and two main metrics: 1) average variance extracted (AVE) which requires a value of > 0.50 , shows that most of the indicator variance originates from the latent construct and 2) composite reliability (CR) must be ≥ 0.70 , proves the

reliability of indicators collectively in measuring constructs [8]. Reliability estimates using ordinal alpha and omega coefficients with values greater than 0.70 indicate acceptable internal consistency [10]. Descriptive analysis, reliability estimation, and IFA were performed using the SEMlj package in Jamovi software (ver. 2.3.28).

3 Result

The results of the descriptive analysis of each item showed that the observed indicators did not follow a multivariate normal distribution (skewness > +1 and < -1) or in other words the observed indicators were ordinal. Therefore, the Item Factor Analysis model was used to evaluate the conceptual model of the original version of the questionnaire using the WLSMV estimator. Item rest-correlation value of 21 items is from 0.29 (item12) to 0.65 (item2, item4, and item6). The results of this analysis are presented in Table 2.

3.1 Item Factor Analysis

As shown in Figure 1, the relationship of all extracted factors with the observed variables (questions) is desirable (standardized factor loading greater than 0.40). Comparison of competing models was conducted with reference to the baseline model proposed by Alkis et al. [7] and the three-factor model by Erliksson et al. [11] supporting the superiority of the original four-factor model [X^2 (183) = 381, $p < 0.001$; RMSEA = 0.058 (95% CI = 0.050-0.066)), $p = 0.051$; CFI = 0.970; TLI = 0.966; SRMR = 0.056]. In addition, the original four-factor model produces moderate to high correlations between dimensions. The three-factor model proposed by Erliksson et al. [11] did not fit the data [X^2 (186) = 1397, $p < 0.001$; RMSEA = 0.143 (95% CI = 0.136-0.150)), $p < 0.001$; CFI = 0.817; TLI = 0.793; SRMR = 0.159]. Finally, the hierarchical four-factor model had a better fit to the data [X^2 (185) = 351, $p < 0.001$; RMSEA = 0.053 (95% CI = 0.044-0.061), $p = 0.271$; CFI = 0.975; TLI = 0.972; SRMR = 0.057] when compared to the original model. Factor loadings are reported in Figure 1.

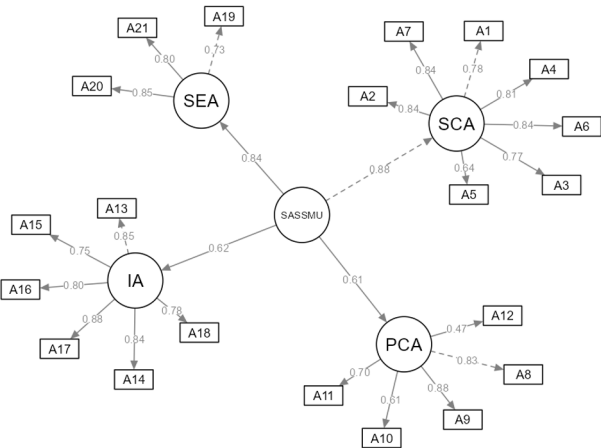


Fig. 1. Factor structure of the SAS-SMU

Table 2. Template tabel.

No	Items	Mean (SD)	Skewness/ Kurtosis	IRC
item1	Saya merasa cemas karena orang lain mungkin menganggap tindakan saya aneh.	2.98 (0.89)	0.48/ -0.73	0.62
item2	Saya khawatir dihina oleh orang lain karena konten yang saya bagikan di Instagram.	2.92 (0.99)	0.63/ -0.88	0.65
item3	Saya khawatir konten yang saya bagikan tidak akan disukai oleh orang lain.	2.95 (1.04)	0.59/ -1.02	0.59
item4	Saya takut teman-teman dekat saya tidak menyetujui perilaku saya.	2.87 (0.97)	0.70/ -0.75	0.65
item5	Saya akan merasa tidak nyaman jika teman-teman saya secara terbuka mengungkapkan ketidaksukaan mereka terhadap konten yang saya bagikan.	2.83 (1.01)	0.77/ -0.80	0.48
item6	Saya khawatir tentang orang lain yang tidak setuju dengan perilaku saya.	3.03 (1.01)	0.42/ -1.11	0.65
item7	Saya khawatir akan dihakimi oleh teman-teman saya atas konten yang saya bagikan di hadapan orang lain.	2.89 (1.05)	0.71/ -0.91	0.62
item8	Kemungkinan informasi pribadi saya diperoleh oleh orang lain membuat saya merasa cemas.	3.33 (1.06)	0.11/ -1.25	0.51
item9	Kemungkinan informasi pribadi saya dibagikan secara publik membuat saya merasa cemas.	3.52 (1.05)	-0.12/ -1.17	0.55
item10	Saya merasa tidak nyaman ketika teman-teman saya membagikan informasi pribadi saya kepada orang yang tidak saya kenal.	4.09 (0.95)	-0.89/ -0.11	0.33
item11	Saya akan merasa khawatir jika ruang pribadi saya diakses tanpa izin.	4.21 (0.90)	-0.96/ 0.09	0.41
item12	Saya merasa cemas tentang bagaimana perusahaan media sosial menangani kebijakan privasi dari kemungkinan informasi pribadi saya di retas atau tersebar.	3.56 (1.03)	-0.16/ -1.11	0.29
item13	Saya merasa cemas saat berbicara dengan orang yang baru saya kenal.	3.01 (1.05)	0.65/ -0.84	0.53
item14	Saya merasa gugup saat berbicara dengan orang yang tidak saya kenal dengan baik.	3.13 (1.05)	0.42/ -1.08	0.54
item15	Saya merasa tidak nyaman saat menjalin pertemanan baru.	2.80 (0.92)	0.83/ -0.40	0.47
item16	Saya merasa tegang saat bertemu seseorang untuk pertama kalinya.	3.25 (1.06)	0.20/ -1.23	0.56
item17	Saya takut berinteraksi dengan orang lain	2.72 (0.93)	1.06/ 0.03	0.60
item18	Saya merasa gugup ketika harus berbicara tentang diri saya kepada orang lain.	3.15 (0.99)	0.23/ -1.16	0.59
Item19	Saya merasa cemas memberikan kesan negatif kepada orang lain.	3.59 (1.03)	-0.18/ -1.11	0.53
item20	Saya khawatir orang lain akan berpikir buruk tentang saya.	3.42 (1.01)	-0.01/ -1.11	0.60
item21	Saya merasa cemas karena tidak mampu memenuhi harapan orang lain.	3.51 (1.07)	-0.07/ -1.25	0.55

Note. IRC = Item Rest Correlation; SD = Standard Deviation

Table 3. Convergent validity of SAS-SMU

Dimensions	Item	Unstd.	S.E.	Std.	z	p	AVE	CR
SCA	item1	1.00		0.78			0.62	
	item2	1.07	0.05	0.84	20.60	< .001		
	item3	0.99	0.05	0.77	20.56	< .001		
	item4	1.04	0.05	0.81	20.64	< .001		
	item5	0.82	0.07	0.64	12.56	< .001		
	item6	1.08	0.05	0.84	22.29	< .001		
	item7	1.07	0.04	0.84	24.14	< .001		
PCA	item8	1.00		0.83			0.51	
	item9	1.06	0.06	0.88	17.39	< .001		
	item10	0.74	0.07	0.61	11.12	< .001		
	item11	0.84	0.07	0.70	12.10	< .001		
	item12	0.57	0.07	0.47	8.09	< .001		
IA	item13	1.00		0.85			0.66	0.89
	item14	0.99	0.04	0.84	26.96	< .001		
	item15	0.88	0.05	0.75	19.26	< .001		
	item16	0.95	0.04	0.80	25.57	< .001		
	item17	1.03	0.04	0.88	27.62	< .001		
	item18	0.91	0.04	0.78	21.48	< .001		
SEA	item19	1.00		0.73			0.63	0.77
	item20	1.17	0.07	0.85	15.79	< .001		
	item21	1.10	0.07	0.80	15.05	< .001		

3.2 Convergent validity and estimation reliability

The Indonesian version of SAS-SMU showed acceptable convergent validity, with the average variance extraction (AVE) values for SCA, PCA, IA, and SEA of 0.62, 0.51, 0.66, and 0.63, respectively, the minimum acceptable value being 0.50. The square roots of the AVE values of the four dimensions are greater than the correlation coefficients between the dimensions, which is interpreted as good discriminant validity. The ordinal alpha for the total score of the Indonesian version of the SAS-SMU was 0.93, and the ordinal alphas for the SCA, PCA, IA, and SEA dimensions were 0.92, 0.82, 0.92, and 0.83, respectively, indicating strong internal consistency for each dimension. The Omega reliability values for the three dimensions were 0.89, 0.80, 0.89, and 0.79, respectively. All values were greater than the minimum acceptable criterion of 0.70.

Table 4. Correlation matrix for convergent and divergent validity for Indonesian SAS-SMU

	Ordinal α	ω	CR	AVE	SCA	PCA	IA	SEA
SCA	0.92	0.89	0.88	0.62	0,79			
PCA	0.82	0.80	0.73	0,51	0.55	0,71		
IA	0.92	0.89	0.89	0.66	0.55	0.36	0,81	
SEA	0.83	0.79	0.77	0.63	0.73	0.52	0.54	0,79

Note. Bold values in the square roots of the AVE values of these dimensions.

4 Discussion

The findings of this study indicate that the Indonesian version of SAS-SMU has a psychometric characteristic that is suitable for use in Indonesian samples. Evidence indicates that the psychometric characteristics of the Indonesian version of the SAS-SMU meet the validity and reliability estimates. The four-dimensional version constructed Alkis et al. [7] validated in this research includes sourced from the shared content anxiety (SCA) dimensions, privacy concerns (PCA), interaction anxiety (IA), self-evaluation anxiety (SEA). The four-dimensional version with the First Order Models and Hierarchical Models proven that the dimensional structure can explain the Social Anxiety Scale for Social Media Users is better than other models. In collectivist cultures, an individual's self-evaluation is closely tied to how the group views them. Shared content reflects not only the individual's identity but also that of the group. Fear of negative judgment is not merely a personal feeling, but rather an anxiety that can lead to shame for both the individual and their reference group (family or close friends). This creates greater pressure so that individuals try to present themselves as more ideal. Obsession with digital responses is thus a mechanism to ensure that individuals remain within the bounds of group norms and maintain harmony.

Several studies have confirmed the structure of the dimensions of the SAS-SMU in a different cultural context. The three-dimensional model was also discovered Eriksson et al. [11] with different dimensions labels, including the Negative Evaluation Anxiety (NEA) dimension, interaction anxiety (IA) and Anxiety Regarding Privacy Concerning (ARPC). Jia et al. [13] study also reported three-dimensional structures including representations of social recognition anxiety representations interaction and representations privacy concerns. However, the three-dimensional model was not proven to be the accuracy of the model when tested in Indonesian samples.

The first order model proves the compatibility of the satisfactory model with the findings between dimensions correlated from medium to high in line with the findings of Alkis et al. [7]. Furthermore, the hierarchical model with the second order factor produces a better suitability of the model. Research before also confirms the hierarchical model but only in three dimensions of behavior [12]. Accuracy of SAS-SMU hierarchical model proves the suggestion for using the total score for testing with other variables. This implies that the four dimensions are a manifestation of a single latent construct, namely social anxiety on social media [7,14,15]. All dimensions meet convergent validity and discriminant validity that reflects the dominance of social anxiety. The internal consistency of SAS-SMU is also satisfying, which shows that all items simultaneously measure social anxiety related to social media. Furthermore, ordinal α of the whole item is higher than any dimensions that indicate the strength of the evaluation of SAS-SMU total score.

These findings should be interpreted with several limitations in mind. Although the sample size was sufficient for the present analysis, its relatively small and relatively homogeneous sample size, as it only included participants aged 18–24, limits the generalizability of the findings to the broader population. The non-clinical general participants involved do not reflect the characteristics of the Indonesian population. The sample proportion was unbalanced by gender (82.5% female), making invariance testing difficult. Although the structural validity of the Indonesian version of the SAS-SMU has been proven, we recognize limitations in the adaptation process, particularly in the back-translation process from the target language to the original language. Involving the same translator in both forward and back-translation processes could potentially lead to translation bias. Ultimately, the second synthesis process

was conducted by independent experts and fellow researchers. Future research could also consider an expert equivalence assessment stage after completing the first synthesis, considering the difficulty of finding a back-translation that matches the original language due to cultural and linguistic differences. The lack of test-retest reliability raises questions about the stability and specificity of the measurement instrument.

5 Conclusion

The purpose of this study was to adapt and validate the SAS-SMU into Indonesian through a comprehensive process that included culturally adaptive translation and psychometric property testing. Using item factor analysis on the basic first order and hierarchical models, the SAS-SMU confirmed that it has four dimensions (SCA, PCA, IA, and SEA). Model fit indices, convergent correlations, and alpha coefficients confirmed that the current scale has acceptable validity and reliability and is suitable for use in young adult samples (18–24 years old). However, replication is needed in diverse clinical or age groups.

6 Implication

This instrument can be used to more precisely investigate the relationship between specific dimensions of social media anxiety and other psychological variables relevant to collectivist contexts, such as fear of missing out (FoMO), conformity, collective self-esteem, and intensity of social media use. Practically, the SAS-SMU instrument can serve as a screening tool for early identification of individuals at high risk of experiencing social anxiety triggered or exacerbated by social media. Policymakers should consider the study's findings when formulating evidence-based policies for digital mental health and social media literacy.

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