

RELIABLE AND VALIDATED SOCIAL APPEARANCE ANXIETY SELF-REPORT MEASURE AMONG UNIVERSITY STUDENTS

**Nor Ba'yah Abdul Kadir
AbRahman Roseliza-Murni
Asmawati Desa**

ABSTRACT

Social appearance is common among university students in Malaysia. In this study, we examine the reliability and validity of the SAAS in a sample of university students in Malaysia. This study aims to examine internal consistency and to validate the Social Appearance Anxiety Scale for Malaysian university students. Using a systematic random sampling, a set of questions was distributed to 400 academic college residents of a public university in Malaysia with a response rate of 86%. The student participants completed the Social Appearance Anxiety Scale, the Social Interaction Anxiety Scale, the Brief Fear of Negative Evaluation Scale, and the General Health Questionnaire. The internal consistency of questions within the Social Appearance Anxiety Scale was 0.92. The Social Appearance Anxiety Scale had good convergent validity with the Social Interaction Anxiety Scale ($r=0.55$, $p<.01$), the Brief Fear of Negative Evaluation ($r=0.69$, $p<.01$), and the General Health Questionnaire ($r=0.24$, $p<.01$). The findings suggested that the Social Appearance Anxiety Scale was comparable, reliable and suitable for use among undergraduate students in Malaysia.

Keywords anxious, social anxiety, mental health, university students

INTRODUCTION

The purpose of our study is to present the internal consistency and convergent validity of the social appearance anxiety scale (SAAS) in a sample of university students in Malaysia. While other studies reported the associations of psychological factors on social anxiety (Levinson, Langer & Rodebaugh, 2011), prevalence rates of social anxiety (Purdon, Antony, Monteiro & Swinson, 2001) and the reliability of social anxiety measures (Levinson & Rodebaugh, 2011), research on the validation of social anxiety measures in the Malaysian context is negligible. A good psychometric property of the SAAS measures is crucial to determine whether the SAAS measures what it intends to measure in the Malaysian context. A good SAAS measure is also expected to measure a specific variable accurately in a given construct. This may help researchers to select the SAAS appropriately, to identify if the SAAS is performing as intended, and to see if the SAAS produces a consistent score. In addition, mental health

practitioners can use a validated SAAS to screen social appearance anxiety in educational settings. Therefore, excellent validity of the SAAS for screening social anxiety is important.

The SAAS was created to evaluate many types of social fear including social interaction anxiety, fear of scrutiny, fear of negative evaluation and fear of social appearance. Such items of the SAAS were derived based on social anxiety, body image satisfaction, and body dysmorphic disorder to assess a general construct of social appearance anxiety. The SAAS does not assess specific aspects of appearance, such as one's eyes, nose, or mouth. The SAAS has reported high internal consistency and has achieved satisfactory convergent validity among undergraduate students (Hart, Flora, Fresco, Holle & Heimberg, 2008). The scale has also been reported to correlate positively with social anxiety and body image disturbance. Hart and colleagues (2008) suggested that the SAAS also reflects as an indicator of negative body image and appears to be a good predictor of prediction.

Previous studies reported that the prevalence rate of social anxiety in the United Kingdom is high among college students (Russell & Shaw, 2009) as well as in the United States (Merikangas et al., 2010). In Malaysia, reports showed that the prevalence rates of social anxiety were comparable with other countries (Sidik, Arroll & Goodyear-Smith, 2011). No further studies examining the prevalence rates of overall social appearance anxiety in Malaysian populations were found. To date, two studies have investigated social interaction anxiety in relation to perfectionism among university students (Al-Naggar, Bobryshev & Alabsi, 2013), and physical attractiveness among Malaysian males (Swami & Tovée, 2007). Thus to fill this research gap, we examined the factor structure and convergent validity in a sample of university students. Specifically, this study aims to examine if the SAAS will correlate positively with social interaction, fear of negative evaluation, and depressive symptoms because these constructs correlate moderately with social anxiety (Levinson et al., 2013).

METHOD

Participants

The participants for this study comprised 35% males ($n=119$, $M_{age}=21.13$, $SD=1.34$) and 65% females ($n=225$, $M_{age}=21.23$, $SD=1.6$). The data were obtained from among the resident students of one public university in Selangor, Malaysia. In terms of ethnicity, 87% ($n=300$) were Malay, 12% ($n=41$) Chinese and others 1% ($n=3$). Most Malays claimed to be Moslems (88%, $n=302$), while the other ethnicities comprised Buddhists (9%, $n=30$), and Christians (4%, $n=12$).

Procedure

Student residents of an academic college were chosen to participate in this study. Using a systematic sampling technique, a set of questions was distributed door-to-door to 400 student residents. The sample of 344 student residents in the present analysis completed a survey between September 2011 and Jan 2012. There was a high level of cooperation with 86% completing the questionnaires to be collected by the researchers, or depositing them at the research administrative office. The measures in this study were self-administered, and each participant completed the questionnaire without the other roommates being aware of his or her responses. The participants received a brief explanation about the study and the issue of confidentiality. Any questions on instruments were handled by the principal investigator (PI). All participants were given two to three weeks to complete the questionnaire.

Measures

The Social Appearance Anxiety Scale (SAAS; Hart et al., 2008) consists of 16 items measuring anxiety about being negatively evaluated by others because of one's overall appearance, including body shape. Example of items from the SAAS are "I am concerned people would not like me because of the way I look", "I get nervous when talking to people because of the way I look", "I am afraid that people find me unattractive", "I am frequently afraid I would not meet others' standards of how I should look" and "I am concerned that people think I am not good looking". Each item was rated using a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely). The Cronbach's alpha for this scale was .94 with a corrected-item total correlation of more than 0.30 being selected and items less than .30 being removed.

The Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998) is a 20-item measure designed to assess social interaction anxiety. The SIAS describes anxiety relating to reactions for a variety of social interaction situations. Example of items from the SIAS are "I get nervous if I have to speak with someone in authority (teacher, boss)", "I find it difficult to mix comfortably with the people I work with", "I have difficulty talking with other people" and "I am unsure whether to greet someone I know only slightly". Each item was rated using a 5-point Likert scale ranging from 0 (not at all characteristic or true of me) to 4 (extremely characteristic or true of me). Overall, the research using this scale reported that the SIAS has satisfactory internal reliability and convergent validity. The Cronbach's alpha for the SIAS was .89.

The Brief Fear of Negative Evaluation Scale version 2 (BFNE-II; Carleton et al., 2006) consists of nine straightforwardly worded items measuring fear of negative evaluation, which is a central component of social anxiety. Each item was rated using a 5-point Likert scale ranging from 0 (not at all characteristic of me) to 4 (extremely characteristic of me).

Example of items from the BFNE-II are “I worry about what other people will think of me even when I know it doesn’t make any difference”, “I am frequently afraid of other people noticing my shortcomings”, “I am afraid others will not approve of me” and “I am concerned about other people’s opinions of me”. The Cronbach’s alpha for this scale was .90.

The General Health Questionnaire-30 (GHQ-30; Goldberg, 1978) measures depression symptoms. The GHQ-30 was selected because of its high level of internal consistency when tested in Malaysia as a screening tool for mood disorders. The GHQ-30 comprises a set of questions concerning depression over the past few weeks. The items include symptoms, such as loss of sleep, loss of concentration, unhappiness, and depression. The ratings used a 4-point Likert scale (better than usual, same as usual, less than usual, much less than usual). The Cronbach’s alpha of the GHQ-30 was tested for which a high coefficient of .92 was produced. This indicates the satisfactory internal consistency of the scale items, which is well above the required .70 (Tabachnick & Fidell, 2013).

Translation of the measures

According to the guidelines for the process of the cross-cultural adaptation of the self-report measures, the SAAS score was cross-culturally adapted for a Malaysian context in five steps, as follows:

Step I: The original items of the SAAS were translated from English to Malay. The translation was performed by a professional Malay translator. This translator had no knowledge of psychology background and was not familiar with the questionnaire concepts. Discussion concerning the SAAS items was based on the rationale for decision-making, linguistic difficulties and problems with the items.

Step II: Back translation of the SAAS was then conducted by a Malaysian who was a Malay speaker and fluent in English with a psychology background and blind to the original SAAS.

Step III: Two psychologists then checked the final SAAS version through discussion with respect to the semantic, idiomatic, experiential, and conceptual equivalence based on previous material (original SAAS, forward translated questionnaire, back translated questionnaires).

Step IV (pretesting): The pre-final questionnaire was completed by 344 undergraduate students (35% males; 65% females). They were then asked regarding their individual understanding of the items. The questionnaire was then adapted and modified accordingly, resulting in a final version.

Step V: The final SAAS was then subjected to psychometric testing including an analysis of the reliability and validity.

RESULTS

The relationship between the measures of social anxiety (SAAS, SIAS, BFNE-II), and depression (GHQ-30) were explored using zero-order correlations, and total-item correlations were used to test convergent validity. The internal consistency of the measures was evaluated using Cronbach's alpha. The factorial analysis with varimax rotation was also conducted for SAAS, SIAS and BFNE-II. The number of factors was determined by the eigenvalues and the variance explained by each factor.

Zero-order correlations. Table 1 displays the convergent relationships between the components of social anxiety (SAAS, SIAS, BFNE-II), and GHQ-30. The convergent relationships of the variables studied were found. The measures of the social anxiety components had medium correlations with each other, while the measures of social anxiety components had low correlations with depression in the expected direction.

TABLE 1
Zero-order correlations – convergent validity of measures

	1	2	3	4	Mean	S.D
1. SAAS	-				30.86	12.19
2. SIAS	.54**	-			39.01	12.64
3. BFNE-II	.70**	.52**	-		24.13	7.60
4. GHQ-30	.21**	.32**	.28**	-	32.28	13.41

* Correlation is significant at the .05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed). SAAS= The Social Appearance Anxiety Scale; SIAS= The Social Interaction Anxiety Scale; BFNE-II= The Brief Fear of Negative Evaluation Scale; GHQ-30=General Health Questionnaire

Total-item correlations

Correlations between the total-items and subscale scores were carried out to test convergent validity. Analysis of the relationship between the SIAS total and subscales SIAS scores showed that the SIAS total score was positively correlated with the social phobia ($r=.83, p<.01$). The SAAS total score was positively correlated with social phobia ($r=.47, p<.01$) and social anxiety ($r=.42, p<.01$). The BFNE-II total score was positively correlated with social phobia ($r=.39, p<.01$) and social anxiety ($r=.38, p<.01$). These associations were as expected; however, the coefficients were not so high as to preclude discriminant validity.

TABLE 2
Total-item correlations of variables studied

Variables	Total-item		
	SAAS	SIAS	BFNE-II
Social phobia	.47**	.83**	.39**
Social anxiety	.42**	.68**	.38**

* Correlation is significant at the .05 level (2-tailed); ** Correlation is significant at the 0.01 SAAS= The Social Appearance Anxiety Scale; SIAS= The Social Interaction Anxiety Scale; BFNE-II= The Brief Fear of Negative Evaluation Scale

Construct Validity

A principle components exploratory factor analysis with varimax rotation was performed on the SAAS (table 3). Three factors were extracted, which explained 66.42 % of the total variance. The first factor had an eigenvalue of 8.31 that accounted for 51.96% of the variance. The second factor had an eigenvalue of 1.27 that accounted for 7.92% of the variance. The third factor had an eigenvalue of 1.04 that accounted for 6.53% of the variance. Following the recommendation of .55 of Tabachnick and Fidell (2013) as an acceptable factor loading cut-off for interpreting item salience, this resulted in a consistent pattern of SAAS, in which items were loaded either on factor 1, factor 2 or factor 3. Therefore, all the items were used in this study.

TABLE 3
A factorial analysis of SAAS with varimax rotation

SAAS items	Factor 1	Factor 2	Factor 3
1. I feel comfortable with the way I appear to others.			.97
2. I feel nervous when having my picture taken.		.79	
3. I get tense when it is obvious people are looking at me.		.82	
4. I am concerned people would not like me because of the way I look.		.58	
5. I worry that others talk about flaws in my appearance when I am not around.	.66		
6. I am concerned people will find me unappealing because of my appearance.	.75		
7. I am afraid that people find me unattractive.	.79		
8. I worry that my appearance will make life more difficult for me.	.78		
9. I am concerned that I have missed out on opportunities because of my appearance.	.73		
10. I get nervous when talking to people because of the way I look.	.70		
11. I feel anxious when other people say something about my appearance.	.73		
12. I am frequently afraid I would not meet others' standards of how I should look.	.69		
13. I worry people will judge me the way I look negatively.	.71		
14. I am uncomfortable when I think others are noticing flaws in my appearance.	.80		
15. I worry that a romantic partner will/would leave me because of my appearance.	.77		
16. I am concerned that people think I am not good looking.	.76		
Eigen value	8.31	1.27	1.04
% of variance	51.96	7.92	6.53

A principle components exploratory factor analysis with varimax rotation was performed on the SIAS (table 4). Four factors were extracted, which explained 56.23% of the total variance. The first factor had an eigenvalue of 7.04 that accounted for 35.22% of the variance. The second factor had an eigenvalue of 1.76 that accounted for 8.79% of the variance. The third factor had an eigenvalue of 1.35 that accounted for 6.74% of the variance. The fourth factor had an eigenvalue of 1.10 that accounted for 5.48% of the variance. Items were loaded either on factor 1, factor 2, factor 3, and factor 4. Most of the items were used in this study apart of items 3 and 13.

TABLE 4
A factorial analysis of SIAS with varimax rotation

SIAS items	Factor 1	Factor 2	Factor 3	Factor 4
1. I get nervous if I have to speak with someone in authority (teacher, boss, etc).				.81
2. I have difficulty making eye contact with others.				.58
3. I become tense if I have to talk about myself or my feelings.				
4. I find it difficult to mix comfortably with the people I work with.		.69		
5. I find it easy to make friends my own age.			.66	
6. I tense up if I meet an acquaintance in the street.		.62		
7. When mixing socially, I am uncomfortable.		.66		
8. I feel tense if I am alone with just one other person.	.61			
9. I am at ease meeting people at parties, etc.			.73	
10. I have difficulty talking with other people.		.72		
11. I find it easy to think of things to talk about.			.75	

12.	I worry about expressing myself in case I appear awkward.	.58			
13.	I find it difficult to disagree with another's point of view.				
14.	I have difficulty talking to attractive persons of the opposite sex.	.71			
15.	I find myself worrying that I won't know what to say in social situations.	.77			
16.	I am nervous mixing in a group, I find myself worrying I will be ignored.	.73			
17.	I feel I'll say something embarrassing when talking.	.60			
18.	When mixing in a group, I find myself worrying I will be ignored.	.71			
19.	I am tense mixing in a group.	.65			
20.	I am unsure whether to greet someone I know only slightly.	.72			
	Eigenvalue	7.04	1.76	1.35	1.10
	% of variance	35.22	8.79	6.74	5.48

A principle components exploratory factor analysis with varimax rotation was performed on the BFNE-II. One factor was extracted, which explained 61.01% of the total variance. The factor had an eigenvalue of 4.88. Therefore, all the items were used in this study. Thus, those who scored high on BFNE-II would have high social anxiety.

SAAS item correlations with related measures. A theory-driven correlation analysis was used to examine problematic items. Social appearance anxiety is thought to underlie social anxiety and social phobia; therefore, correlations between SIAS, BFNE-II and GHQ should be required from low to modest correlation (Westgard, 1999). Individual SAAS items not having low to moderate correlations with summed total scores on SIAS, BFNE-II and GHQ-30 were removed (i.e., item 15) (table 5).

TABLE 5
Correlations of items of the SAAS self-report with related measures

SAAS items	SIAS	BFNE- II	GHQ- 30
1. I feel comfortable with the way I appear to others.	-.16**	.02	-.21**
2. I feel nervous when having my picture taken.	.36**	.32**	.19**
3. I get tense when it is obvious people are looking at me.	.41**	.36**	.20**
4. I am concerned people would not like me because of the way I look.	.44**	.46**	.15**
5. I worry that others talk about flaws in my appearance when I am not around.	.42**	.48**	.28**
6. I am concerned people will find me unappealing because of my appearance.	.43**	.58**	.18**
7. I am afraid that people find me unattractive.	.42**	.56**	.17**
8. I worry that my appearance will make life more difficult for me.	.46**	.55**	.23**
9. I am concerned that I have missed out on opportunities because of my appearance.	.35**	.50**	.14**
10. I get nervous when talking to people because of the way I look.	.45**	.47**	.18**
11. I feel anxious when other people say something about my appearance.	.45**	.63**	.13*
12. I am frequently afraid I would not meet others' standards of how I should look.	.44**	.61**	.28**
13. I worry people will judge me the way I look negatively.	.39**	.56**	.13*
14. I am uncomfortable when I think others are noticing flaws in my appearance.	.40**	.61**	.16**
15. I worry that a romantic partner will/would leave me because of my appearance.	.26**	.41**	.04
16. I am concerned that people think I am not good looking.	.44**	.49**	.19**

* Correlation is significant at the .05 level (2-tailed); ** Correlation is significant at the 0.01

DISCUSSION

The study aims to validate the SAAS and examine internal consistency that could help other mental health professionals to gather more clinical information concerning social appearance anxiety among university students. The validated SAAS is also useful for research and clinical practice in tapping social appearance anxiety among university students. This study also verifies the validity of the SAAS for Malaysians. We examined the psychometric properties of the SAAS on a sample of university students. This study indicates acceptable levels of internal consistency for the SAAS using Cronbach's alpha, as suggested by Tabachnick and Fidell (2013); however, one item showed unacceptable reliability and validity coefficients. Our findings also indicated evidence of modest convergent validity. The inter-scale correlations showed that satisfactory overall construct validity was achieved and as predicted, and that the magnitudes of the scales were not different from Levinson and Rodebaugh (2011). However, the unexpected non-significant relationship between item 1 of the SAAS ("I feel comfortable with the way I appear to others") on BFNE-II indicated validity problems. This item may have problems related to cross-cultural issues concerning the clinical aspects of social anxiety.

The results lend additional support that the SAAS is a valid measure of social anxiety. The tests of correlated correlations indicated robust convergent relationships with all convergent measures. The results indicated that social appearance anxiety, social interaction and fear of negative evaluation may be understood as a type of social anxiety, and, to be more specific, a component of social anxiety. The positive relationship between social appearance anxiety and social interaction anxiety, as well as fear of negative evaluation, is consistent with previous studies (Levinson & Rodebaugh, 2011). These findings also support the explanation of Hoffman and colleagues (2010) that social appearance anxiety among Asians relates to one's appearance that will cause offence or embarrassment to others.

The results also suggested that those who exhibit high social appearance anxiety are more likely to score high in depression symptoms. We suggest that certain situations in students' activities, such as presenting working papers, giving a speech, and so forth may lead to fear of appearance evaluations, and, thus, bring about symptoms of depression.

This study has several limitations. First, a cross-sectional design was applied for this research, and, thus, a causal relationship cannot be established. In addition, there are contamination issues on depression. The use of self-report measures on university samples means that generalization to other populations is restricted. Future research should employ a longitudinal design in order to establish a causal relationship and avoid the contamination issue. Despite the limitations of this study, the self-report of

SAAS is useful in basic and applied research, and for early psychosocial intervention programmes. It is suggested that future work conducts a comparison group (e.g., psychiatric patients vs. non-psychiatric patients) to see if this self-report is stable across populations.

In summary, social appearance anxiety refers to being evaluated by others including physical appearance, such as body shape. The social appearance anxiety validation can be useful in consolidating the construct, increasing internal reliability and for association with other constructs. Using such a measure on a young Malaysian sample, determined that the social appearance anxiety items are significantly related to depression except item 1 and item 15. Future research should also assess the role of shame in relation to social appearance anxiety and examine the potential mediators of the link between body dissatisfaction, and depression. While depression has been an outcome of all the studies across-cultures in relation to social anxiety, this study provides further support that the additional indicator of poor physical health is pertinent to social anxiety and depression.

Acknowledgements

The authors declare that they have no conflict of interest arising from the funding or publishing of the project. The authors greatly appreciate the work of our enumerators: Hasmienna Ramli, Zuraida Zainuddin, Wan Faiez Wan Ismail and Wan Md. Nazeri Wan Md. Aizan who contributed to the data collection.

REFERENCES

- Al-Naggar, R.A., Bobryshev, Y.V., & Alabsi, M. (2013). Perfectionism and social anxiety among university students in Malaysia. *ASEAN Journal of Psychiatry, 14*(1), 51-58..
- Carleton, R. N., McCreary, D. R., Norton, P. J., & Asmundson, G. J. (2006). Brief fear of negative evaluation scale—revised. *Depression and Anxiety, 23*(5), 297-303.
- Hart, T. A., Flora, D. B., Palyo, S. A., Fresco, D. M., Holle, C., & Heimberg, R. G. (2008). Development and examination of the social appearance anxiety scale. *Assessment, 15*(1), 48-59.
- Hofmann, S. G., Richey, J. A., Asnaani, A., & Sawyer, A. T. (2010). Avoiding treatment failures in social anxiety disorder. In *Avoiding Treatment Failures in the Anxiety Disorders* (pp. 169-184). Springer New York.
- Goldberg, D.P. (1978) Manual of the General Health Questionnaire. Slough, National Foundation for Educational Research.
- Levinson, C. A., Langer, J. K., & Rodebaugh, T. L. (2011). Self-construal and social anxiety: Considering personality. *Personality and Individual Differences, 51*(3), 355-359.

- Levinson, C. A., & Rodebaugh, T. L. (2011). Validation of the Social Appearance Anxiety Scale: Factor, convergent, and divergent validity. *Assessment, 18*(3), 350-356.
- Levinson, C. A., Rodebaugh, T. L., White, E. K., Menatti, A., Weeks, J. W., Iacovino, J. M., & Warren, C. S. (2013). Social appearance anxiety, perfectionism, and fear of negative evaluation: Distinct or shared risk factors for social anxiety and eating disorders?. *Appetite*.
- Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety 1. *Behaviour research and therapy, 36*(4), 455-470.
- Merikangas, K. R., He, J. P., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., ... & Swendsen, J. (2010). Lifetime prevalence of mental disorders in US adolescents: results from the National Comorbidity Survey Replication-Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(10), 980-989.
- Purdon, C., Antony, M., Monteiro, S., & Swinson, R. P. (2001). Social anxiety in college students. *Journal of Anxiety Disorders, 15*(3), 203-215.
- Russell, G., & Shaw, S. (2009). A study to investigate the prevalence of social anxiety in a sample of higher education students in the United Kingdom. *Journal of Mental Health, 18*(3), 198-206.
- Sidik, S. M., Arroll, B., & Goodyear-Smith, F. (2011). Prevalence of anxiety among women attending a primary care clinic in Malaysia. *The British Journal of General Practice, 61*(587), e326.
- Swami, V., & Tovée, M. J. (2007). The relative contribution of profile body shape and weight to judgements of women's physical attractiveness in Britain and Malaysia. *Body Image, 4*(4), 391-396.
- Tabachnick, B. G., and Fidell, L. S. (2013). *Using Multivariate Statistics, 6th ed.* Boston: Allyn and Bacon.
- Westgard, J. O. (1999). Basic method validation. Madison, WI: Westgard QC Inc.