

## Development, Validation and Standardization of the Social Anxiety Scale for Higher Education Students (SAS-HES)

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### ABSTRACT

The present study describes the development and psychometric evaluation of the Social Anxiety Scale for Higher Education Students (SAS-HES), a measure designed to assess social anxiety among students enrolled in higher education institutions. An initial pool of 50 items was generated based on relevant theoretical frameworks and existing literature on social anxiety, fear of negative evaluation, social interaction difficulties and social avoidance. A panel of experts evaluated the items for relevance, clarity, comprehensibility and appropriateness, resulting in the removal of 23 items. The preliminary 27-item scale was administered to a sample of 500 higher education students (250 males and 250 females) drawn from diverse academic disciplines. Item analysis led to the deletion of four items with low or negative corrected item-total correlations, yielding a final 23-item scale. The SAS-HES demonstrated excellent internal consistency (Cronbach's  $\alpha = .937$ ), representing an improvement over the preliminary 27-item version ( $\alpha = .923$ ). Exploratory factor analysis using principal components extraction with varimax rotation suggested a five-factor structure (KMO = .831; Bartlett's  $\chi^2(253) = 8280.618, p < .001$ ), accounting for 67.75% of the total variance. Descriptive statistics indicated a mean score of 68.74 (SD = 16.32), with acceptable skewness (-.406) and kurtosis (-.714), suggesting an approximately normal distribution. Normative percentile values (P10 = 48, P25 = 57, P50 = 70, P75 = 85, P90 = 88) were established to facilitate score interpretation and classification of social anxiety levels from Very Low to Very High. The findings provide preliminary evidence for the reliability and construct validity of the SAS-HES and establish preliminary norms for its use. The scale addresses the need for a culturally relevant measure of social anxiety among higher education students and may be useful in research, counselling, student mental health services and educational settings. Future studies are encouraged to confirm the factor structure through confirmatory factor analysis and further examine the scale's validity across diverse populations and contexts.

**Keywords:** *Social Anxiety, Higher Education Students, Scale Development, Psychometric Properties, Construct Validity, Normative Data*

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### ***Concept of Social Anxiety***

Social anxiety refers to individuals' experiences of excessive fear, apprehension and discomfort in social situations where they may be observed, evaluated or judged by others. It is characterized by persistent concerns about negative evaluation, embarrassment, rejection or humiliation in social and performance-related contexts. In psychological literature, social anxiety is closely related to constructs such as fear of negative evaluation, social inhibition, interpersonal sensitivity and social avoidance. However, unlike general anxiety, social anxiety specifically concerns anxiety arising from actual or anticipated social interactions and situations involving scrutiny by others.

The experience of social anxiety has become increasingly relevant in contemporary society. Educational environments, social expectations, competitive academic settings and expanding interpersonal demands have increased opportunities for social evaluation. For many individuals, social interactions represent important opportunities for personal growth and development. However, for socially anxious individuals, these situations may become sources of significant psychological distress. Consequently, social anxiety is no longer viewed merely as a personality characteristic or shyness but as a meaningful psychological construct with important implications for emotional well-being, academic functioning and social adjustment.

Developmentally, late adolescence and emerging adulthood are characterized by identity formation, social exploration, academic engagement and increasing independence. During this period, individuals are required to establish interpersonal relationships, participate in academic discussions, engage in group activities and navigate diverse social environments. These developmental tasks require effective social functioning and interpersonal confidence. However, when individuals experience elevated levels of social anxiety, their ability to participate fully in these activities may be compromised. Research suggests that higher levels of social anxiety are associated with increased psychological distress, reduced self-esteem, impaired social functioning and lower quality of life. In contrast, positive social competence and confidence have consistently been associated with better psychological adjustment, academic success and interpersonal well-being. Thus, social anxiety may be conceptualized as a psychological barrier that interferes with effective social functioning and adaptive development.

### ***Social Anxiety among Higher Education Students***

Students enrolled in higher education institutions encounter numerous social and academic situations that may contribute to feelings of anxiety and self-consciousness. Classroom presentations, group discussions, seminars, interactions with faculty members and participation in extracurricular activities frequently involve social evaluation and performance demands. As a result, social anxiety has become a common concern among university and college students across diverse educational contexts.

The transition to higher education often requires students to adapt to unfamiliar environments, establish new social networks and meet increasing academic expectations. Many students experience concerns about peer acceptance, academic performance and social competence during this period. Research has indicated that social anxiety may negatively influence classroom participation, communication skills, leadership opportunities and academic engagement. Students with elevated social anxiety often avoid situations that

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require public speaking, active participation or interpersonal interaction, thereby limiting opportunities for academic and personal growth.

Recent social and technological changes have further influenced students' social experiences. Increased competition, social comparison, online communication and evolving social expectations have altered patterns of interpersonal interaction among young adults. While digital communication provides alternative means of social engagement, it may also contribute to concerns regarding social evaluation and self-presentation. Studies have demonstrated that students experiencing higher levels of social anxiety are more likely to report emotional distress, loneliness, reduced social support and lower overall well-being.

Social functioning plays a crucial role in higher education experiences. Students' ability to communicate effectively, establish relationships and participate confidently in academic and social activities significantly influences their educational outcomes and psychological adjustment. Consequently, persistent social anxiety may hinder academic achievement, social integration and overall student development.

### ***Need for a Culturally Relevant Measure***

Despite increasing scholarly interest in social anxiety among young adults, there remains a need for instruments specifically designed to assess social anxiety among higher education students within culturally relevant contexts. Existing measures of social anxiety have contributed significantly to understanding the construct and its associated outcomes. However, many available instruments were developed primarily within Western cultural settings and may not fully capture the social experiences, educational environments and cultural expectations encountered by students in other contexts.

Research has demonstrated that cultural, social and educational factors significantly influence the expression and interpretation of social anxiety. Family expectations, communication styles, academic structures, societal norms and cultural beliefs regarding social behaviour may shape how individuals experience social evaluation and interpersonal interactions. Consequently, assessment instruments developed in one cultural context may not completely reflect the lived experiences of students from different educational and cultural backgrounds without appropriate adaptation.

Previous studies have emphasized the importance of developing culturally relevant psychological measures capable of capturing context-specific experiences. Research conducted among university students in diverse cultural settings has identified variations in the manifestation of social anxiety and highlighted the importance of culturally sensitive assessment tools. These findings underscore the need for a dedicated instrument capable of assessing social anxiety within the specific developmental, educational and cultural contexts of higher education students.

### ***Rationale for Developing the Social Anxiety Scale for Higher Education Students (SAS-HES)***

Given the growing recognition of social anxiety as an important psychological concern among students and the limited availability of culturally relevant assessment tools, the present study aimed to develop the Social Anxiety Scale for Higher Education Students (SAS-HES). The scale was designed to assess experiences of social anxiety among students enrolled in higher education institutions.

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The development of SAS-HES was guided by established principles of psychological scale construction. Items were generated from theoretical literature and empirical research related to social anxiety, fear of negative evaluation, social interaction difficulties, social avoidance and student mental health. The initial item pool underwent face validation and expert review to ensure clarity, relevance and suitability for assessing social anxiety among higher education students. Subsequently, empirical analyses were conducted to evaluate the reliability and construct validity of the scale.

A psychometrically sound measure of social anxiety has important implications for both research and practice. In research settings, it can facilitate systematic investigations of factors associated with social anxiety and its impact on academic functioning, psychological well-being and interpersonal adjustment. In applied settings, the scale may assist psychologists, counsellors, educators and student support professionals in identifying students experiencing elevated levels of social anxiety and in designing appropriate interventions and support programs.

### **REVIEW OF RELEVANT LITERATURE**

The theoretical foundation of the SAS-HES draws from research on social anxiety, interpersonal functioning and student mental health. Studies examining social anxiety have consistently demonstrated that concerns regarding negative evaluation, social judgment and interpersonal performance are associated with increased emotional distress and impaired social functioning. Research has further indicated that socially anxious individuals often engage in avoidance behaviours that limit opportunities for social interaction and personal development.

Empirical investigations have increasingly recognized social anxiety as a significant concern among students and young adults. Studies have demonstrated associations between social anxiety and various psychological outcomes, including stress, depression, loneliness, reduced self-esteem and impaired academic performance. Research examining university student populations has further revealed that social anxiety may interfere with classroom participation, public speaking, collaborative learning and the development of meaningful interpersonal relationships.

Cross-cultural investigations have suggested that social anxiety is influenced by cultural and social contexts. Variations in social norms, communication patterns and expectations regarding interpersonal behaviour contribute to differences in how social anxiety is experienced and expressed. Consequently, culturally relevant assessment instruments are essential for accurately evaluating social anxiety within specific populations.

Collectively, the existing literature suggests that social anxiety represents a meaningful and multidimensional psychological construct with important implications for student development, mental health and academic success. However, the limited availability of assessment tools specifically developed for higher education students highlights the need for further measurement development. The present study addresses this gap through the development and psychometric evaluation of the Social Anxiety Scale for Higher Education Students (SAS-HES).

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### *Objectives of the Study*

The objectives of the present study were as follows:

1. **Item Development:** To generate an initial pool of items reflecting the theoretical and empirical dimensions of social anxiety among higher education students.
2. **Face Validation and Expert Review:** To evaluate the relevance, clarity and appropriateness of the generated items through expert review and to refine the item pool accordingly.
3. **Item Analysis:** To examine the psychometric performance of the preliminary items and eliminate poorly functioning items based on corrected item-total correlation analysis.
4. **Reliability Assessment:** To assess the internal consistency reliability of both the preliminary and final versions of the scale using Cronbach's alpha.
5. **Construct Validation:** To examine the underlying factor structure of the scale through exploratory factor analysis (EFA) and evaluate its suitability using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity.
6. **Norm Development:** To establish normative data, including percentile ranks and interpretative categories, for meaningful interpretation of Social Anxiety Scale for Higher Education Students (SAS-HES) scores.
7. **Scale Finalization:** To develop a psychometrically sound and culturally relevant instrument for assessing social anxiety among higher education students aged 18-30 years.

## **METHOD**

### *Participants*

A total of 500 higher education students participated in the study. The sample comprised 250 males (50%) and 250 females (50%) drawn from undergraduate, postgraduate and research programmes across multiple universities and academic disciplines. Participants represented diverse educational backgrounds, thereby enhancing the representativeness of the sample. Participation was voluntary and informed consent was obtained from all participants prior to data collection.

### *Scale Development Procedure*

The Social Anxiety Scale for Higher Education Students (SAS-HES) was developed following standard psychometric scale construction procedures. An initial pool of 50 items was generated through an extensive review of literature related to social anxiety, fear of negative evaluation, social interaction anxiety, social avoidance, performance anxiety and student mental health. Items were designed to assess social anxiety experiences commonly encountered by students in higher education settings, including classroom participation, interpersonal interactions, public speaking, social evaluation and social confidence.

All items were structured as self-report statements rated on a five-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The preliminary item pool was reviewed for wording, clarity and conceptual relevance before being submitted for expert evaluation.

### *Face Validation, Expert Review and Item Refinement*

The initial pool of 50 items was reviewed by a panel of five experts representing sociology, psychology, counselling, research methodology and higher education. The experts evaluated each item for clarity, relevance, comprehensibility, adequacy and redundancy in relation to

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the construct of social anxiety among higher education students. Based on their evaluations and consensus recommendations, 23 items were removed due to duplication, ambiguity or limited relevance to the construct.

Following this review and refinement process, a preliminary 27-item version of the Social Anxiety Scale for Higher Education Students (SAS-HES) was retained for empirical testing. Item Analysis.

The 27-item preliminary SAS-HES was administered to the full sample (N = 500). Item analysis included calculation of corrected item-total correlations (CITC) for each item. The CITC measures the correlation of each item with the total score from the remaining items, indicating how well each item aligns with the overall construct. Items with low CITC values (typically < .32 or negative) were flagged for removal.

Item analysis revealed that four items demonstrated relatively weak psychometric performance, with corrected item-total correlations of  $-.345$ ,  $.229$ ,  $.295$ , and  $.315$ , respectively. Therefore, these items were removed from the scale to improve its internal consistency and overall psychometric quality.

These findings indicated that the identified items did not cohere adequately with the remaining items. The resulting final SAS-HES consisted of 23 items (see Appendix A).

### **Reliability Analysis**

Internal consistency reliability was evaluated using Cronbach's alpha ( $\alpha$ ). For the preliminary 27-item scale, Cronbach's  $\alpha$  was  $.923$ , indicating excellent internal consistency. Following the removal of the four weak items, the final 23-item scale yielded an even higher alpha coefficient of  $.937$ . This improvement suggests that the item refinement process enhanced the coherence and reliability of the scale. Cronbach's alpha values above  $.90$  are generally considered indicative of excellent internal consistency.

**Table 1: Reliability Statistics for Preliminary and Final Versions of SAS-HES**

Scale Version	Number of Items	Cronbach's $\alpha$
Preliminary Scale	27	.923
Final Scale	23	.937

### **Construct Validity**

Construct validity of the Social Anxiety Scale for Higher Education Students (SAS-HES) was examined through Exploratory Factor Analysis (EFA) using Principal Component Analysis (PCA) with Varimax rotation. Prior to factor extraction, the suitability of the data for factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity.

The KMO value for the final scale was  $.831$ , indicating good sampling adequacy, while Bartlett's Test of Sphericity was statistically significant,  $\chi^2(253) = 8280.618$ ,  $p < .001$ , confirming that the correlation matrix was appropriate for factor analysis.

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**Table 2: Kaiser-Meyer-Olkin Measure and Bartlett's Test**

Statistic	Value
KMO Measure	.831
Bartlett's $\chi^2$ (df = 253)	8280.618
Significance (p)	< .001

Exploratory factor analysis identified five factors with eigenvalues greater than 1.00, which collectively accounted for 67.75% of the total variance. The findings suggested the presence of multiple dimensions of social anxiety among higher education students. However, the present study focused on the overall assessment of social anxiety and interpretation of the total scale score rather than factor-wise subscales. Overall, the factor analytic findings provide evidence for the construct validity of the SAS-HES and support its use as a psychometrically sound instrument for assessing social anxiety among higher education students.

**Development of Norms**

Norms for the Social Anxiety Scale for Higher Education Students (SAS-HES) were developed using the score distribution of the final 23-item scale obtained from the sample of 500 participants. Descriptive statistics were calculated to examine the characteristics of the score distribution and percentile ranks were established to facilitate meaningful interpretation of individual scores.

**Table 3: Descriptive Statistics for SAS-HES Scores (N = 500)**

Statistic	Value
Mean	68.74
Standard Deviation	16.32
Median	70.00
Minimum Score	30
Maximum Score	92
Maximum Possible Score	115
Skewness	-.406
Kurtosis	-.714

The score distribution exhibited slight negative skewness and a moderately platykurtic shape, indicating an approximately normal distribution suitable for norm development. Percentile ranks were computed to establish interpretive categories for social anxiety levels among higher education students.

**Table 4: Percentile Norms and Interpretive Categories for SAS-HES**

Percentile	Score	Interpretation
10th	48	Very Low
25th	57	Low
50th	70	Average
75th	85	High
90th	88	Very High

Percentile values were rounded to the nearest whole number for interpretive classification. Based on these percentile values, scores of 48 or below may be interpreted as indicating very low social anxiety, scores between 49 and 57 as low, scores between 58 and 84 as average,

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scores between 85 and 88 as high and scores of 89 or above as indicating very high social anxiety. These normative categories provide a practical framework for interpreting individual SAS-HES scores in both research and applied settings.

### *Software and Data Analysis*

Data organization and preliminary computations were carried out using Microsoft Excel. Statistical procedures, including item analysis, reliability analysis, descriptive statistics, percentile estimation and exploratory factor analysis, were performed using jamovi (Version 2.6). These analyses were conducted to examine the psychometric characteristics of the scale, assess its reliability and construct validity and establish normative data for score interpretation. ChatGPT (OpenAI) was utilized for language editing and assistance in manuscript preparation.

### *Ethical Considerations*

Participation in the study was voluntary and informed consent was obtained from all participants before data collection. Participants were informed about the purpose of the research and assured that their responses would remain anonymous and confidential. They were further informed that the information collected would be used exclusively for academic and research purposes and that they could withdraw from the study at any time without any consequences. All procedures were carried out in accordance with accepted ethical standards for psychological research.

## RESULTS

A total of 500 higher education students participated in the study, comprising 250 males (50%) and 250 females (50%). Participants included undergraduate students, postgraduate students and research scholars from various academic disciplines. The diversity of the sample enhanced the representativeness of the data and supported the applicability of the Social Anxiety Scale for Higher Education Students (SAS-HES) across students enrolled in higher education institutions.

The internal consistency of the SAS-HES was assessed using Cronbach's alpha. The preliminary 27-item version of the scale yielded a Cronbach's alpha coefficient of .923. Following item analysis and the removal of four poorly performing items, the final 23-item version demonstrated an improved Cronbach's alpha of .937, indicating excellent internal consistency and reliability.

Corrected item-total correlation analysis revealed that four items had unsatisfactory correlation coefficients and were therefore removed from the scale. The removal of these items improved the overall reliability and coherence of the instrument, resulting in a final 23-item version of the SAS-HES.

Construct validity was examined through Exploratory Factor Analysis (EFA) using Principal Component Analysis with Varimax rotation. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was .831 and Bartlett's Test of Sphericity was statistically significant,  $\chi^2(253) = 8280.618$ ,  $p < .001$ , indicating that the data were suitable for factor analysis.

The analysis identified five factors with eigenvalues greater than 1.00, accounting for 67.75% of the total variance. The extracted factors suggested the presence of multiple dimensions of social anxiety among higher education students. Although the factors were

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not interpreted as separate subscales in the present study, the findings provide preliminary evidence that social anxiety among students may involve several interrelated dimensions. Overall, the factor analytic findings support the construct validity of the SAS-HES.

The total SAS-HES scores showed a mean of 68.74 (SD = 16.32) and a median of 70. The observed scores ranged from 30 to 92, while the theoretical score range of the scale was 23 to 115. The distribution demonstrated slight negative skewness (-.406) and a moderately platykurtic shape (kurtosis = -.714), suggesting an approximately normal distribution of scores within the sample.

Percentile ranks were calculated to establish normative interpretations of SAS-HES scores. The 10th, 25th, 50th, 75th and 90th percentile values were 48, 57, 70, 85 and 88, respectively. Based on these percentile values, five interpretive categories were developed: Very Low ( $\leq 48$ ), Low (49–57), Average (58–84), High (85–88) and Very High ( $\geq 89$ ). These normative categories provide a practical framework for interpreting individual levels of social anxiety relative to the reference sample.

The psychometric analyses indicate that the Social Anxiety Scale for Higher Education Students (SAS-HES) is a reliable measure of social anxiety among students enrolled in higher education institutions. The final 23-item scale demonstrated excellent internal consistency ( $\alpha = .937$ ), satisfactory preliminary evidence of construct validity and a five-factor solution accounting for 67.75% of the total variance. Furthermore, the development of normative categories enhances the practical utility of the scale for both research and applied settings.

### DISCUSSION

The present study aimed to develop and validate the Social Anxiety Scale for Higher Education Students (SAS-HES), a psychometric instrument designed to assess social anxiety among students enrolled in higher education institutions. The findings provide substantial evidence for the reliability and validity of the scale and support its use in both research and applied settings.

The SAS-HES demonstrated excellent internal consistency reliability. The final 23-item version yielded a Cronbach's alpha coefficient of .937, indicating a high degree of homogeneity among the items. Furthermore, the increase in reliability from .923 in the preliminary 27-item version to .937 in the final version suggests that the item refinement process successfully improved the psychometric quality of the scale. This finding is consistent with established principles of scale development, which emphasize the importance of removing poorly performing items to enhance overall reliability.

Evidence for construct validity was obtained through exploratory factor analysis. The Kaiser-Meyer-Olkin value (.831) and the statistically significant Bartlett's Test of Sphericity confirmed the suitability of the data for factor analysis. The analysis yielded a five-factor solution that accounted for 67.75% of the total variance, suggesting that social anxiety among higher education students may contain multiple dimensions. These findings are consistent with previous research indicating that social anxiety is a multidimensional construct involving concerns related to social evaluation, interpersonal interaction, performance situations and social avoidance. The substantial proportion of explained variance further supports the adequacy of the scale's underlying structure.

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The descriptive statistics revealed a mean SAS-HES score of 68.74 (SD = 16.32), suggesting a moderate level of social anxiety among the participants. The score distribution demonstrated slight negative skewness and acceptable kurtosis, indicating an approximately normal distribution. These findings suggest that social anxiety is a common experience among higher education students and varies considerably across individuals within the population.

An important contribution of the present study is the development of normative data for score interpretation. Percentile-based categories ranging from Very Low to Very High social anxiety provide a practical framework for interpreting individual scores. These norms enhance the utility of the scale by enabling researchers, counsellors, educators and student support professionals to evaluate an individual's level of social anxiety relative to a reference group of peers.

Overall, the findings indicate that the SAS-HES is a psychometrically sound instrument with strong reliability, satisfactory construct validity and useful normative benchmarks. The scale addresses an important gap in the assessment of social anxiety among higher education students and provides a culturally relevant tool for examining this construct. The SAS-HES may be useful for research on student mental health, academic adjustment, interpersonal functioning and psychological well-being, as well as for identifying individuals who may benefit from counselling and intervention services.

Despite these strengths, future research should further examine the psychometric properties of the scale in diverse populations and settings. Additional studies employing confirmatory factor analysis, test-retest reliability and convergent and discriminant validity analyses would provide further evidence regarding the stability and generalizability of the SAS-HES.

### **CONCLUSION**

The present study developed and psychometrically evaluated the Social Anxiety Scale for Higher Education Students (SAS-HES), a culturally relevant instrument designed to assess social anxiety among students enrolled in higher education institutions. Through a systematic process of item generation, expert review, item analysis and exploratory factor analysis, a final 23-item scale was developed. The SAS-HES demonstrated excellent internal consistency reliability and satisfactory construct validity, supporting its suitability for assessing social anxiety among higher education students.

The findings suggest that social anxiety may involve multiple dimensions, as reflected in the five-factor solution identified through exploratory factor analysis. In addition, the development of normative data and interpretive categories enhances the practical utility of the scale by enabling meaningful interpretation of individual scores.

The SAS-HES addresses an important gap in the assessment of social anxiety among higher education students and provides researchers, psychologists, counsellors, educators and student support professionals with a standardized assessment tool. The scale may be particularly useful for research examining the relationships between social anxiety, academic functioning, interpersonal adjustment, mental health and student well-being. Furthermore, it may assist practitioners in identifying students experiencing elevated levels of social anxiety and in designing appropriate support and intervention programs.

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Overall, the Social Anxiety Scale for Higher Education Students (SAS-HES) represents a reliable, valid and practically useful instrument for assessing social anxiety among students and contributes to the growing body of research on student mental health and psychological well-being.

### ***Limitations***

- Several limitations of the present study should be acknowledged. First, the sample consisted primarily of higher education students, which may limit the generalizability of the findings to non-student populations and other demographic groups. Future studies should validate the Social Anxiety Scale for Higher Education Students (SAS-HES) across diverse educational, community and cultural settings.
- Second, the study employed a cross-sectional research design; therefore, the temporal stability of the scale was not examined. Future research should assess test-retest reliability to determine the consistency of SAS-HES scores over time.
- Third, construct validity was evaluated using Exploratory Factor Analysis (EFA) only. Although the five-factor structure demonstrated satisfactory psychometric properties, Confirmatory Factor Analysis (CFA) using independent samples is required to further verify the factor structure of the scale.
- Fourth, the present study focused primarily on scale development, reliability and construct validity. Other forms of validity, such as criterion-related validity, convergent validity and discriminant validity, were not examined. Future studies should investigate the relationships of the SAS-HES with related constructs such as fear of negative evaluation, general anxiety, self-esteem, social competence and psychological well-being.
- Finally, the findings are based on self-report data, which may be influenced by response biases, including social desirability and individual differences in self-perception. Future research may incorporate longitudinal designs and additional assessment methods to further strengthen the evidence for the validity and practical utility of the SAS-HES.

Despite these limitations, the present study provides initial evidence supporting the reliability, validity and usefulness of the Social Anxiety Scale for Higher Education Students (SAS-HES) as a measure of social anxiety among students enrolled in higher education institutions.

### ***Implications***

The Social Anxiety Scale for Higher Education Students (SAS-HES) has important implications for both research and practice. As a psychometrically sound instrument, it provides researchers with a focused measure for examining social anxiety among students in higher education settings. The scale can facilitate investigations into the relationship between social anxiety and various psychological, educational and developmental outcomes, including mental health, academic performance, interpersonal functioning, social adjustment and psychological well-being.

In applied settings, the SAS-HES may serve as a useful assessment tool for psychologists, counsellors, educators and student support professionals. The normative categories developed in the present study allow practitioners to identify students experiencing relatively high levels of social anxiety and to provide appropriate interventions, such as

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counselling services, social skills training, confidence-building programs and anxiety-management interventions. The scale may also be used to evaluate the effectiveness of interventions designed to reduce social anxiety and improve students' social and academic functioning.

Furthermore, the SAS-HES highlights the growing psychological significance of social anxiety within higher education environments. Universities, colleges, counselling centres and educational policymakers may utilize data generated through the scale to better understand patterns of social anxiety among students and to develop programs that promote social confidence, emotional well-being and successful academic adjustment. By providing a standardized and culturally relevant measure of social anxiety, the SAS-HES contributes to evidence-based research and practice aimed at supporting student mental health and overall educational success.

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### Conflict of Interest

The author declares that there are no conflicts of interest related to this study or its publication.

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### APPENDICES

#### *Appendix A: Final Scale Items of the Social Anxiety Scale for Higher Education Students (SAS-HES)*

The final version of the Social Anxiety Scale for Higher Education Students (SAS-HES) consists of 23 items developed to assess social anxiety among students enrolled in higher education institutions. Respondents are instructed to indicate the extent to which they agree with each statement using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

#### **Response Format:**

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

#### **Items:**

1. I feel uneasy while talking to people I do not know well.
2. I hesitate to express my opinions in public.
3. I often think that others may judge me negatively.
4. I avoid social interaction due to fear of embarrassment.
5. Group discussions make me feel anxious.
6. I feel uncomfortable when everyone's attention is on me.
7. I can interact with unfamiliar people without fear. (R)
8. I fear making mistakes in front of others.
9. I feel nervous while meeting new people.
10. I avoid asking questions in class.
11. I feel confident while interacting with others. (R)
12. Presentations and seminars make me feel anxious.
13. I think people may criticize me in social settings.
14. I avoid participating in social activities.
15. I can speak comfortably in front of people. (R)
16. I feel shy while talking to authority figures.
17. I remain conscious about how others see me in social situations.
18. Academic interaction with others sometimes makes me uncomfortable.
19. Social gatherings make me feel mentally tense.
20. I feel hesitant while starting conversations with others.
21. I worry about being ignored in social situations.
22. I feel anxious when interacting with highly confident people.
23. I experience physical symptoms such as sweating or fast heartbeat in social situations.

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### *Appendix B: Norms and Scoring Procedure*

#### **Scoring**

Participants rate each item on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Items 7, 11 and 15 are reverse scored before computing the total score. For reverse-scored items, responses are recoded as follows: 1 = 5, 2 = 4, 3 = 3, 4 = 2 and 5 = 1 (Reverse-scored items: 7, 11 & 15).

After reverse scoring these items, responses to all 23 items are summed to obtain the total SAS-HES score. Total scores range from 23 to 115, with higher scores indicating greater levels of social anxiety among higher education students.

#### **Normative Categories**

Based on the percentile distribution of scores obtained from the study sample (N = 500), the following interpretive categories were established:

<b>Category</b>	<b>Total Score Range</b>
Very Low Social Anxiety	$\leq 48$
Low Social Anxiety	49–57
Average Social Anxiety	58–84
High Social Anxiety	85–88
Very High Social Anxiety	$\geq 89$

These categories correspond to percentile-based cut-off scores and may be used to interpret an individual's level of social anxiety relative to the reference sample. For example, a score of 55 falls within the Low Social Anxiety category, whereas a score of 90 falls within the Very High Social Anxiety category.