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Cross-cultural Adaptation and Psychometric Properties of the Arabic Version of the Academic Nurse Self-Efficacy Scale

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Abstract

Background: Students' academic self-efficacy is greatly associated with their academic performance. An effective instrument is needed to assess academic self-efficacy in the Saudi context. This study assessed the psychometric properties of the Academic Nurse Self-Efficacy Scale-Arabic version (ANSE-A) given to student nurses and the associations between the students' demographics and overall ANSE-A scores.

Methods: Quantitative and descriptive methods were applied. The study was conducted from January to July 2022 at Shaqra University with 200 nursing students as the convenience sample. For content validity, the item-level content and scale-level content validity indices were utilized following the averaging method. We used Cronbach's alpha (α) to measure the reliability. Meanwhile, for construct validity, we performed an analysis of the principal component with varimax rotation and applied a *t*-test and ANOVA for the tests of the association of variables.

Results: Four distinct factors were revealed in the factor analysis, and they explained 64.86% of the variance. The 14-item ANSE-A's overall Cronbach's alpha was 0.87, with four factors ranging from 0.74 to 0.76. The academic self-efficacy of the students was found to be associated with their gender and GPA. A weak positive correlation existed between the students' GPA and academic self-efficacy ($r = 0.17, p = 0.017$).

Conclusions: The ANSE-A is a valid and reliable instrument that can be utilized to assess the academic self-efficacy of student nurses in Saudi Arabia. The results of the assessment may be used to help boost nursing students' achievement and emotional health and serve as a valid predictor of motivation and learning.

Keywords: nursing students, psychometrics, reliability and validity, Saudi Arabia, self-efficacy

INTRODUCTION

Since the health sector is fast-growing and knowledge-intensive, nursing students must possess a high level of self-efficacy to meet its demands.¹ This will help them address the challenges associated with the profession. Self-efficacy focuses on a person's belief in their capacity to accomplish a certain assignment, and having a sense of achievement and completion is a form of strengthening to effect behavioral change.² In nursing, nursing students must have a solid intent to acquire the necessary skills, training, and judgment to apply in each professional situation. This helps them become more qualified and equipped with the beginning competency in clinical settings and accept the demanding role of being a nurse.

Similarly, self-efficacy in clinical practice is an excellent predictor of nursing students' clinical practice performance.³ A high degree of self-efficacy is essential for them to be able to engage in a variety of learning approaches.⁴ Meanwhile, as cited by Shorey, self-efficacy is also an idea used in nursing education to link the theory-practice gap, gaining clinical skills, critical thinking, and general academic success.² Hence, for students' future career success, it is crucial for them to develop self-efficacy and self-confidence in the early stages of nursing education.⁵

In education, self-efficacy relates to viewing one's capacity to learn or perform successfully. It also pertains to utilizing self-regulatory learning processes, such as goal setting, strategy usage, self-monitoring, self-reaction, and self-evaluation.⁶ It refers to one's capability to fulfill academic tasks and view concerning the successful learning of materials.⁷ Consequently, the motivation of any learner depends on what they would receive in the end that would satisfy their definition of success. In

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nursing education, overall course grades reflect various activities and assessments, such as lectures, case studies, assignments, group work, oral presentations, written examinations, clinical training, and laboratory lessons. However, these activities and objective assessments are not as good as self-efficacy in determining the academic performance of a nursing student. Unlike activities and assessments, self-efficacy serves as a mediator of the effects of students' prior attainment, understanding, and skills on subsequent success. Thus, possessing strong self-efficacy enables students to fulfill an assigned task, eventually excelling in it, with the mindset of perceiving complex skills as challenges instead of barriers.⁷

In nursing education, a close association has been observed between self-efficacy and clinical practice. The self-efficacy of nursing students enables them to give the best care possible to their patients.⁸ Nurse educators should focus on providing instruction that encourages students to make accurate appraisals of their skills because their performance is potentially influenced by self-efficacy. Students must accurately estimate their abilities and calibrate their self-efficacy for task performance.⁹ Students with greater self-efficacy are more vigorous in accomplishing their clinical work and are more likely to gain satisfaction in accomplishing their given tasks. Lastly, someone who has developed the main sources of efficacy—personal mastery, understanding the experiences of others, verbal persuasion, and emotional stimulation—has a greater inclination to self-efficacy improvement, leading to enhanced results in their academics and occupational practice.²

Previous studies have found that learners' academic self-efficacy (ASE) is highly linked to their performance in academics.^{10,11} Furthermore, despite the limited longitudinal research on the association between ASE and educational performance, the most recent study found that academic performance is improved with higher ASE over time and vice versa.¹² The development of positive ASE among graduate students is essential for them to believe that they will be able to attain the goals of their curriculum and degree.¹³ That is, in developing their academic motivation and achievement, the belief that they can master their academic activities is important.^{14,15} Among many other contributing factors, students' self-efficacy plays a vital part in enhancing academic success. Through this, the students' drive, confidence, self-trust, encouragement, and motivation to complete their academic tasks are facilitated, providing them with a higher chance of passing their tests, which results in their achievement of high grades.¹¹

Buffone *et al.* created the Academic Nursing Self-Efficacy Scale (ANSE) to measure self-efficacy in nursing education based on a rigorous literature review.¹⁶ However, even with numerous instruments developed to measure self-efficacy, no research publications have discussed the

psychometric methods for an ASE instrument's cross-cultural validation for student nurses in Saudi Arabia. Therefore, it is essential to develop a valid and reliable tool specifically for student nurses in Saudi Arabia and other Arabic-speaking countries to assess and monitor their self-efficacy, which could also indicate the students' mental health status. Moreover, there are few studies on self-efficacy in student nurses' general confidence in their ability to cope with a range of daily assignments and other educational tasks. Therefore, assessing the ANSE's validity and reliability in Arabic and evaluating nursing students' ASE is important. This study also includes testing of the associations between the students' demographics and overall ANSE-A scores.

This study points out that for nursing educators to assist nursing students in carrying out their academic responsibilities, the ANSE may serve as a guide in identifying students with poor ASE. The study results will also enable the creation and implementation of suitable initiatives to assist students in improving their grades. A valid and reliable scale might also help design more effective outcome-based nursing programs. Finally, the findings will serve as a basis for educators to offer students proper training to help them overcome nursing education challenges.

METHODS

This study utilized quantitative and descriptive methods with a cross-sectional design. The research project was approved by Shaqra University's Ethics Review Committee (reference number ERC_SU_2021021). The investigation was carried out from January to July 2022 on one of the campuses of Shaqra University, a nursing university under the Saudi Arabian government. The sample selection was based on four criteria: (1) Saudi nationality, (2) male and female nursing students at any level, (3) 18 years old and above, and (4) willing to join. With the use of convenient sampling, a total of 240 students were invited and qualified to take part in the study, and 200 students decided to participate and were included in the data analysis. This sample size is adequate to conduct analysis to build the instrument's psychometric properties (10 samples for each scale item)¹⁷ because the tool consists of 14 items, and the minimum sample calculation was 140.

Data were collected through an online survey using a Google form. The survey had three parts: (1) study information and consent form; (2) gender, year/level, age, number of absences from classes (theory and practical), GPA (1.00–5.00 scale), and family income (less than 10,000 SAR, 10,000–14,999 SAR, 15,000–19,999 SAR, and 20,000 SAR and above); and (3) the Arabic-translated ANSE-A questionnaire based on Bulfone *et al.*¹⁶

The tool based on Bulfone *et al.* is a four-item scale that assesses the ASE of nursing students. It consists of 14 items

with four factors: "external emotional management" (four items), "autoregulatory behavior" (four items), "internal emotional management" (three items), and "sociality" (three items). The rating scale is as follows: 1 "Very unconfident," 2 "Slightly unconfident," 3 "Somewhat confident," 4 "Slightly confident," and 5 "Very confident." The reliability of the ASE of Bulfone *et al.* scale is 0.84, and its Cronbach's alpha coefficient is 0.72–0.83. Therefore, it is a useful and trustworthy instrument.¹⁶

The recommended measures for the cross-cultural translation of the instrument served as a basis for translating the ANSE-A.¹⁷ In Stage I (Initial Translation), two linguists who were native speakers of Arabic independently translated the English text into Arabic. A Saudi nursing instructor who teaches at an institution served as the first translator, while a Saudi translator unfamiliar with the topic under study served as the second translator.

Then, in Stage II (Synthesis of the Translations), the two translators compared and discussed their respective versions of the Arabic translation to arrive at a final translation. In Stage III (Back Translation), following the completion of a unified version, a language specialist unfamiliar with the research subject or the original tool performed a back translation into English. This ensured that the translated version included the same information as the original form.

In Stage IV (Expert Committee), the expert committee created a preliminary translation of the two versions. Five expert panels evaluated the two versions' distinctiveness, experiential value, linguistic meaning, and conceptual equality. They assessed the applicability of every item by means of a four-point Likert scale where the relevance ratings varied from 1 to 4, with 1 being completely irrelevant and 4 being extremely relevant for content validity. In Stage V (Test of the Pre-final Version), 30 nursing students evaluated the pre-final version to ensure it was acceptable and thorough. The students were questioned on the survey items' appropriateness, difficulty, similarity, and vagueness. They determined the questionnaire to be clear, and the committee ultimately approved the form considering the obtained data. Therefore, the final draft was created and evaluated for validity and reliability.

Participants were recruited over the Internet. They were given a short overview of the study, and its significance and objectives were explained. This included the necessity of student participation, student rights, and the voluntary nature of participation. If the students gave their consent to participate, they were requested to proceed to the next step. No identification data was collected to guarantee privacy and confidentiality. Passwords and limited access to the online documents by the authorized researchers were ensured to protect the data, followed by the automatic registration of the completed surveys.

The data analyses for this investigation were calculated using SPSS version 22.0. First, percentage, mean, and SD were utilized for the demographic characteristics of the respondents. Second, we used the item-level content validity index (I-CVI) and scale-level content validity index using an averaging method (S-CVI/Ave) to verify the content validity. According to Polit and Beck (2006), I-CVI and S-CVI/Ave scores of 1 and ≥ 0.90 , respectively, are deemed satisfactory.¹⁸

Third, Cronbach's alpha was utilized to measure internal consistency. A Cronbach's $\alpha \geq 0.70$ was adequate to ensure reliability.¹⁸ Nunnally and Bernstein (1994) reported that an item-to-total correlation (ITC) of < 0.30 or > 0.80 may be used as a foundation for the internal structure's validity.¹⁹ Lastly, for the construct validity, before testing the analysis, we applied the Kaiser–Meyer–Olkin (KMO) and Barlett's test of sphericity to determine the suitability of the sample size (KMO value ≥ 0.60) and applicability of the factor model ($p < 0.05$). The construct validity of the principal component analysis (PCA) was tested using varimax rotation. Factors with a factor loading of > 0.40 and an eigenvalue of > 1 can demonstrate appropriate construct validity.²⁰ We applied a t-test and ANOVA to test the association of variables.

RESULTS

Table 1 shows the demographic characteristics of the 200 surveyed pre-registered nursing students. The respondents' average age was 21.38 years (SD = 1.87), and more than half (67.0%) were male. A more significant proportion of the participants were sophomores (41.0%), while 31.5% and 27.5% were juniors and seniors, respectively. Most students reported their parents' monthly income below 10,000 SAR (57.0%). The average number of absences from their theoretical and practical courses was 1.75 days (SD = 1.60) and 1.21 days (SD = 1.24), respectively. The mean GPA was 3.90 (SD = 0.81).

We also tested the associations between the students' demographics and the overall ANSE-A scores. The results revealed a connection between the student's ASE and their gender and GPA. Also, female students (M = 56.35, SD = 8.28) had stronger ASE than male students (53.17, SD = 10.35, $t = -2.34$, $p = .020$). Cohen's D specified a small effect size, which was 0.34. Additionally, there was a marginally positive correlation ($r = 0.17$, $p = 0.017$) between the respondents' GPA and ASE.

The content validity of the ANSE-A was evaluated by expert group members who rated all the 14 items of the scale as either "relevant" or "highly relevant," thereby resulting in the I-CVI of all the items as 1.00 and an S-CVI/Ave equal 1.00, which indicates that the ANSE-A's content validity was excellent at the item and scale levels.

Among the 14 items on the scale in Table 2, the one ranked lowest by the students is "Feeling shame after

making a bad impression in front of the class" (M = 3.52, SD = 1.15), while "Helping a colleague having difficulty in their studies" received the highest mean rating (M = 4.36, SD = 0.98). For the ITC, the lowest value was recorded for "Feeling shame after making a bad impression in front of the class" (ITC = 0.39). In contrast, the highest was recorded for "Avoiding discouraging myself in adversity" (ITC = 0.64). All ITC values were within the acceptable range of 0.30 to 0.80. Additionally, none of the 14 items would result in a 10% increase in the scale's overall Cronbach's alpha when deleted (Cronbach's if the item is deleted range = 0.855–0.867). In reality, removing a scale item will result in a 0.003–0.015 reduction in the overall Cronbach's alpha of the scale.

Over the full scale, Cronbach's alpha was calculated as 0.87. For its factors, the following Cronbach's alpha was revealed: Factors 1, "External emotional management," and 2, "Auto-regulatory behavior," each had 0.74, while Factors 3, "Internal emotional management," and 4, "Sociality," each had 0.76. The computed Cronbach's alpha indicates that the ANSE-A and its four subscales have acceptable internal consistency reliability.

All 14 elements were kept in the Arabic version and recorded in PCA with Varimax rotation based on the ITC values and Cronbach's alpha if the item was eliminated. Bartlett's test of sphericity was significant ($\chi^2 (91) = 1,024.54, p < 0.001$), which demonstrates that the factor model is adequate for our dataset. KMO was calculated as 0.85. Consequently, the KMO and Bartlett's test of sphericity confirm the validity of moving further with the PCA.

Table 3 shows the four distinct components extracted from the scale with a total explained variance of 64.86%. With an Eigenvalue of 5.28, the first component was responsible for 37.69% of the total explained variation. Factor 2 explained 10.40% of the variance (Eigenvalue = 1.46), while Factors 3 and 4 contributed 9.58% (Eigenvalue = 1.34) and 7.19% (Eigenvalue = 1.01), respectively. Six items (items 3, 4, 8–11) loaded in Factor 1, while five (items 4, 5–8), four (items 1–4), and three items (items 12–14) loaded in Factors 2, 3, and 4, respectively.

Three items loaded in either 2 or 3 of the factors. Item 3 loaded in Factors 1 and 3; Item 4 loaded in Factors 1, 2, and 3; and Item 8 loaded in Factors 1 and 2. These factors were not removed from the scale because their removal would decrease the scale's overall Cronbach's alpha. Accordingly, we chose to keep Item 3 in Factor 3, Item 4 in Factor 2, and Item 8 in Factor 1. This decision was made because these items were more suited to the construct being measured by those factors and conformed to the original version of the scale's factor structure. Following the original version, Factor 1 was labeled "External emotional management," Factor 2 was named "Auto-regulatory behavior," Factor 3 was labeled "Internal emotional management," and Factor 4 was named "Sociality."

DISCUSSION

The validity of the tool and its dependability are highlighted in this study. The tool must be tested for its validity and reliability to be recognized as an instrument with excellent psychometric properties.²⁰ According to the results of the analysis, the ANSE-A was both valid and reliable to measure the ASE of student nurses in Arabic-

TABLE 1. Demographic characteristics of the participants and their association with academic self-efficacy (N = 200)

| Variable | N | % | Academic Self-efficacy | | |
|--------------------------------|-----|-------|------------------------|---------------------------|--------|
| | | | Mean (SD) | Correlations / Statistics | p |
| Gender | | | | | |
| Male | 134 | 67.0 | 53.17 (10.35) | $t = -2.34$ | 0.020* |
| Female | 66 | 33.0 | 56.35 (8.28) | | |
| Year/level | | | | | |
| 2nd year | 82 | 41.0 | 54.67 (9.84) | $F = 0.19$ | 0.831 |
| 3rd year | 63 | 31.5 | 53.67 (9.01) | | |
| 4th year | 55 | 27.5 | 54.18 (10.73) | | |
| Parent's monthly income | | | | | |
| Below 10,000 SAR | 114 | 57.0 | 54.19 (9.49) | $F = 1.28$ | 0.339 |
| 10,000–14,999 SAR | 37 | 18.5 | 55.05 (9.35) | | |
| 15,000–20,000 SAR | 28 | 14.0 | 51.57 (12.57) | | |
| Above 20,000 SAR | 21 | 10.5 | 56.43 (7.86) | | |
| Age | | Range | | | |
| | | 18–32 | 21.38 (1.87) | $r = 0.01$ | 0.943 |
| No. of absences | | | | | |
| Theory | | 0–8 | 1.75 (1.60) | $r = 0.04$ | 0.580 |
| Practical | | 0–5 | 1.21 (1.24) | $r = 0.05$ | 0.512 |
| GPA | | 0–5 | 3.90 (0.81) | $r = 0.17$ | 0.017* |

*Significant at 0.05 level

TABLE 2. Item mean, corrected item-total correlations, and Cronbach's alpha if item deleted for the Academic Self-Efficacy scale-Arabic version (N = 200)

| Item | Mean (SD) | CITC | Cronbach's alpha if the item is deleted | Cronbach's alpha for each domain |
|---|-------------|------|---|----------------------------------|
| Domain 1: External emotional management | | | | |
| Item 8. Do not feel spiritless when you are criticized | 3.85 (1.14) | 0.57 | 0.858 | |
| Item 9. Feeling shame after making a bad impression in front of the class | 3.52 (1.15) | 0.39 | 0.867 | |
| Item 10. Overcoming the embarrassment of having made a "gaffe" in front of a person whose judgment you care about a lot | 3.79 (1.12) | 0.60 | 0.857 | 0.74 |
| Item 11. Feeling shame when your weaknesses are highlighted in front of the class | 3.85 (1.13) | 0.55 | 0.859 | |
| Domain 2: Auto-regulatory behavior | | | | |
| Item 4. Resisting peer pressure to do something that risks getting you into trouble | 3.91 (1.18) | 0.62 | 0.62 | |
| Item 5. Resisting the temptation to skip the lesson if you feel bored | 3.75 (1.26) | 0.48 | 0.863 | 0.74 |
| Item 6. Avoiding the insistence of friends who ask you to do something that you think would be better to avoid | 4.10 (1.11) | 0.61 | 0.856 | |
| Item 7. Avoiding committing transgressions even when the risk of sanction is minimal | 3.97 (1.18) | 0.53 | 0.860 | |
| Domain 3: Internal emotional management | | | | |
| Item 1. Controlling anxiety in the face of a problem | 3.53 (1.28) | 0.48 | 0.864 | |
| Item 2. Keeping calm during an exam | 3.83 (1.21) | 0.47 | 0.864 | 0.76 |
| Item 3. Avoiding discouraging myself in adversity | 3.71 (1.14) | 0.64 | 0.855 | |
| Domain 4: Factor 4: Sociality | | | | |
| Item 12. Ensuring me the help of other students when necessary | 3.89 (1.14) | 0.46 | 0.864 | |
| Item 13. Helping a colleague having difficulty in their studies | 4.36 (0.98) | 0.55 | 0.860 | 0.76 |
| Item 14. Helping to create a good atmosphere among students | 4.19 (1.04) | 0.45 | 0.864 | |
| Overall Cronbach's alpha | | | | 0.87 |

TABLE 3. Results of the principal components analysis for the Academic Self-Efficacy scale-Arabic version (N = 200)

| Item | Factor 1 External emotional management | Factor 2 Auto-regulatory behavior | Factor 3 Internal emotional management | Factor 4 Sociality |
|-----------------------------------|---|--------------------------------------|---|-----------------------|
| 9 | 0.788 | | | |
| 10 | 0.732 | | | |
| 11 | 0.702 | | | |
| 8 | 0.531 | 0.468 | | |
| 7 | | 0.776 | | |
| 5 | | 0.709 | | |
| 6 | | 0.603 | | |
| 2 | | | 0.815 | |
| 1 | | | 0.789 | |
| 3 | 0.409 | | 0.625 | |
| 4 | 0.415 | 0.419 | 0.466 | |
| 14 | | | | 0.814 |
| 13 | | | | 0.805 |
| 12 | | | | 0.708 |
| Eigenvalue | 5.28 | 1.46 | 1.34 | 1.01 |
| Variance explained (%) | 37.69 | 10.40 | 9.58 | 7.19 |
| Cumulative variance explained (%) | 37.69 | 48.09 | 57.67 | 64.86 |

speaking countries, specifically Saudi Arabia. The tool may be used to assess the ASE of student nurses with consistency and accuracy. Saudi Arabia's main language is Arabic; thus, the English version of the ANSE tested by Bulfone *et al.* should be examined for its validity and reliability to take on context-specific, operational definitions that may require modification cross-culturally. The validity of ANSE-A was first established by demonstrating its content and construct validity. The experts appraised the applicability of all items, and the tool presented excellent content validity. Therefore, the results indicated that the scale items were suitable for Arabic culture and that the scale appropriately measured the content and had content validity. The outcome was consistent with the psychometric analysis conducted among student nurses.¹⁶

The KMO and Bartlett's tests of sphericity values verify that the sample size was acceptable, and that the factor model was valid. Using the PCA, four distinct factors were identified in the ANSE-A: (1) external emotional management, (2) autoregulatory behavior, (3) internal emotional management, and (4) sociality. The student nurses' ANSE had a jointly explained variance of 64.86%, indicating excellent construct validity.²² These four variables are comparable to the original validation.¹⁶ However, three factors were split-loaded on three different factors. Item 3 was placed in Factors 1 and 3, Item 4 was loaded in 3 Factors, and Item 8 was loaded in Factors 1 and 2. Nunnally and Bernstein argued that the split-loaded items should be kept due to the significant connections between these components.¹⁹ Additionally, this is possible with the hypothesis that it is the variable's latent nature.²³ Item 3 ("Avoiding discouraging myself in adversity") is an internal reaction with the kind of mentality that is not something that we should foster in ourselves. Therefore, students should be enlightened about how facing adversities in life will become an integral part of their success. For this reason, this item deals with Factor 3 (internal emotional management) rather than Factor 1 (External emotional management). The students' capacity to comprehend and exert control over their conduct and responses to feelings and events in their surroundings is addressed in Item 4 ("Resisting peer pressure to do something that risks getting you into trouble"). With this consideration, it is loaded under Factor 2 (auto-regulatory behavior) rather than the other factors. Finally, Item 8 ("Do not feel spiritless when you are criticized") deals with being able to fight a lack of courage and still feeling motivated when being denounced. Therefore, this item should be incorporated under Factor 1 (External emotional management). The items mentioned were similar to those of the original version of the tool.

Previous studies have shown that reducing violent and aggressive behavior in adolescents requires a high level of self-efficacy.²⁴ Four items make up Factor 1 (external

emotional management), including "containing shame after making a bad impression in front of the class," "Overcoming the embarrassment of having made a gaffe with a person to the judgment of which you care a lot," "dominating shame when your frailties have highlighted in front of the class," and "do not be spiritless when you are criticized." According to Restubog *et al.*, effective emotion regulation is essential for minimizing unpleasant feelings and improving well-being.²⁵ This factor is consistent with the assertions that emotional self-efficacy is a person's subjective assessment of their emotional competence, which includes the capacity to express positive emotions like satisfaction, joy, and liking and modulate negative emotions like anger, anxiety, and sadness.^{24,26}

Factor 2 (auto-regulatory behavior) has four items, namely, "avoiding committing transgressions even when the risk of sanction is minimal," "resisting the temptation not to go to the lesson if you feel bored," and "avoiding the insistence of friends who ask you to do something that you think would be better to avoid" and "resisting the pressure of friends for doing something that risks getting you into a trouble." Adolescents regulate their emotions differently in daily life because of various capacities and differing perspectives on those capacities. When confronted with upsetting or stressful conditions, it is possible for a person to feel confident in their capacity to control their emotions but actually be unable to do so. However, it is more challenging for someone to control their emotions if they do not believe they can. In the end, the belief in one's ability to regulate their emotions contributes to their psychological well-being.²⁷ Experiencing negative emotions may make that belief less true, undermining the regulatory emotional self-efficacy perception.²⁸

Emotional skills are crucial to improving self-efficacy.²⁹ The Factor 3 items are internal emotional management, including "keeping calm during an exam," "controlling anxiety in front of a problem," and "avoiding discouraging myself in adversity." This factor emphasizes paying attention to the ideas and feelings occurring at the moment and also embracing and not passing judgment on them. As a result, a person's emotional efficacy will be positive, and they will be able to manage negative emotional efficacy.^{30,31}

Factor 4 (Sociality) consists of "helping in creating a good atmosphere among students," "helping a colleague with difficulty in the study," and "ensuring the help of other students when necessary." In general, social support directly affects self-efficacy.³²⁻³⁴ In a study conducted with nursing students, social support had a meaningful effect on their self-efficacy.³⁵ Consequently, it is implied that when nurses perceive that they are receiving help from others, they may feel that their work is valuable and gain more confidence.³²

This study's internal consistency examination reveals that the ANSE-A is acceptable, indicating that each item is coherent. This outcome is consistent with the reported Cronbach's alpha in the scale's initial validation trial.¹⁶ The Cronbach's alpha value exceeded expectations. The results of the four variables were very consistent. Thus, the ANSE-A is reliable for evaluating Saudi nursing students' ASE.

The gender and GPA of students were related to their ASE. In terms of gender disparities in nursing programs, female learners had higher self-efficacy than male learners.^{28,36,37} In an Iranian study, female medical and dental students reported stronger self-efficacy than male students.³⁸ However, this was in contrast to Ribeiro *et al.*'s study that found male nursing students to have greater levels of self-efficacy than female students.³⁹ Meanwhile, Ister's study of nursing students found that male and female students' self-efficacy scores were comparable.⁴⁰

Self-efficacy has long been considered a significant aspect of predicting educational achievement.^{12,41} There is a weak positive correlation between ASE and GPA. If self-efficacy is low, students will find it difficult to perform tasks under similar conditions.⁴² If self-efficacy is high, they are more likely to persist in learning.⁴³ In conclusion, the higher a student's level of self-efficacy, the higher their academic grade.³⁸

Despite its contribution to the nursing field's knowledge, this study has some limitations. First, there is an issue with the generalization of findings related to the sampling technique used, which is convenient sampling. Conversely, the study's sample size was adequate to measure the reliability and validity of the tool. Second, content validity and PCA were used to measure the validity of the ANSE-A. Other validity measurements were not used (convergent and divergent validity) because of the lack of items in the Arabic version of the scale that can be used to check opposite or similar concepts. Therefore, the researcher recommends that future studies conduct additional validity tests to enhance the results of the current study. Third, since Cronbach's alpha was utilized to gauge the internal consistency of the tool, other reliability test methods (i.e., stability reliability) should be performed.

CONCLUSIONS

Based on the results of this study, the Arabic version of the ANSE is a valid and reliable instrument to measure the ASE of nursing students concerning external emotional management, auto-regulatory behavior, internal emotional management, and sociality. The outcomes suggest that the instrument has suitable content validity and is applicable and significant within the context of Saudi Arabia. The results also support the factors of the instrument, which are consistent with the original version.

The instrument's construct validity was acceptable in assessing the ASE of Saudi nursing students. The tool also displayed acceptable reliability, as supported by Cronbach's alpha. Therefore, this tool can be used by future researchers in testing the validity and reliability of other tools with similar constructs in the Arabic language.

CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

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