

RESEARCH ARTICLE

-  **Emine Ibici Akca** ¹
 **Nilay Gokbulut** ²
 **Yesim Aksoy Derya** ³

¹ Department of Midwifery,
Faculty of Health Sciences,
Amasya University, Amasya,
Türkiye

² Department of Midwifery,
Faculty of Health Sciences,
Cankırı Karatekin University,
Cankırı, Türkiye

³ Department of Midwifery,
Faculty of Health Sciences, Inonu
University, Malatya, Türkiye

Corresponding Author:

Nilay Gokbulut

mail:ngokbulut@karatekin.edu.tr

Received: 31.07.2024

Acceptance: 20.10.2024

DOI: 10.18521/kt.1526016

Ejoms 16th International
Conference On Mathematics,
Engineering, Natural & Medical
Sciences (November 11-13,
2023), İstanbul, Türkiye

Konuralp Medical Journal

e-ISSN1309-3878

konuralptipdergi@duzce.edu.tr

konuralptipdergisi@gmail.com

www.konuralptipdergi.duzce.edu.tr

Validity and Reliability Testing of the Turkish Version of the Self-Acceptance Scale for Pregnant Women

ABSTRACT

Objective: This study was conducted to adapt the Self-Acceptance Scale for Pregnant Women (SAS-PW), which was developed in Brazil, to Turkish and test the psychometric properties of its Turkish version.

Method: This methodological study was carried out with 576 pregnant women who presented to the pregnancy outpatient clinics of a Research and Training Hospital in northern Turkey between December 2021 and April 2022. The validity of the Turkish version of SAS-PW was tested by conducting linguistic, content, and construct validity analyses, while its reliability was tested by conducting internal consistency and test-retest analyses.

Results: According to the results of the exploratory factor analysis, the factor load values of the items and the rates of the total variance in scale scores explained by the factors were sufficient. The confirmatory factor analysis results demonstrated that the goodness-of-fit indices of the scale were within suitable ranges. The 2-factor and 10-item construct of the original SAS-PW was confirmed based on the factor analyses. The item-total score correlations of the scale were found sufficient, and the total Cronbach's alpha coefficient of SAS-PW was determined to be 0.93. The test-retest analysis of the scale scores revealed a strong correlation between the scores of the two implementations.

Conclusion: The Turkish version of SAS-PW is a valid and reliable measurement instrument to evaluate the self-acceptance levels of pregnant women in Turkish society.

Keywords: Pregnancy, Reliability, Validity, Midwifery.

Gebelerde Kendini Kabul Ölçeği Türkçe Versiyonunun Geçerlik ve Güvenirlilik Çalışması

ÖZET

Amaç: Araştırma Brezilya'da geliştirilen Gebelerde Kendini Kabul Ölçeği (GKKÖ)'nin Türkçe versiyonunu oluşturmak ve psikometrik özelliklerini test etmek amacıyla yapıldı.

Yöntem: Metodolojik türde olan araştırma Aralık 2021-Nisan 2022 tarihleri arasında, Türkiye'nin kuzeyinde bir Eğitim Araştırma Hastanesinin gebe polikliniklerine başvuran 576 gebe ile gerçekleştirildi. Araştırmada GKKÖ'nün geçerlik analizinde dil, kapsam, yapı; güvenilirlik analizinde iç tutarlılık ve test-tekrar test analizleri kullanıldı.

Bulgular: Açıklayıcı faktör analizi sonrasında ölçeğin açıklanan varyans yüzdesi ve maddelerin faktör yükleri yeterli; doğrulayıcı faktör analizi sonrasında ölçeğin uyum indeksleri uygun aralıkta bulundu. Orijinal GKKÖ'nün iki alt boyut ve 10 maddelik yapısı faktör analizleri ile doğrulandı. İç tutarlılık analizinde ölçek maddelerinin madde toplam puan korelasyonları yeterli ve GKKÖ toplam Cronbach alfa katsayısı 0.93 olarak hesaplandı. Ölçeğin test-tekrar test sonuçları arasındaki ilişkiye ait korelasyon değeri ise yüksek bulundu.

Sonuç: GKKÖ'nün Türkçe versiyonunun gebelerde kendini kabul düzeylerinin değerlendirilmesinde Türk toplumu için geçerli ve güvenilir bir araç olduğunu göstermektedir.

Anahtar Kelimeler: Gebelik, Güvenilirlik, Geçerlilik, Ebelik.

INTRODUCTION

Self-acceptance is defined as the individual's acceptance of oneself as a whole, comprising one's positive and negative characteristics, including past experiences (1, 2). Li et al. (2021) argued that self-acceptance comprises self-assessment and the self-experiences and attitudes that emerge as a result of it (3). Individuals who show self-acceptance can express themselves more accurately in social situations, establish interpersonal relationships more effectively, have higher self-worth, and experience less loneliness (1). Considering several biopsychosocial changes that occur in a short time during pregnancy (4, 5), the antenatal period is a critical period for the pregnant woman in terms of "self-acceptance" (6, 7).

Pregnancy and childbirth are significant events that lead to substantial physical, psychological, social, and existential changes in women's lives (8-10). In this period, in addition to physiological changes, the women experience body image changes, especially those such as weight gain and skin changes (4, 11, 12). While it was stated that some physiological changes brought about by pregnancy such as abdominal growth have positive effects on the feeling of motherhood (13), these changes may also increase the dissatisfaction of women with their body image (4).

Problems associated with body image during pregnancy can affect maternal and fetal health (5). In the study in which they examined the relationship between psychological well-being and body image in pregnant women, Fahami et al. (2018) found a significant positive relationship between these two variables (14). Similarly, Przybyła-Basista et al. (2020) reported that dissatisfaction with one's body image increased the likelihood of depression among pregnant women (15). Tsuchiya et al. (2019) investigated dissatisfaction with body image among Japanese pregnant women in the second trimester of pregnancy and revealed that body dissatisfaction increased in proportion to body mass index (BMI) (16). In their study in Turkey, Küçükaya et al. (2020) reported that with an increase in weight during pregnancy, the body perceptions of women and their acceptance of pregnancy were negatively affected, and positive body perceptions related to pregnancy increased the acceptance of pregnancy (11).

In line with current studies, the acceptance of pregnancy and the relationships among the psychosocial aspects of pregnancy-related changes are a matter of curiosity (11, 14-16). The universal acknowledgment of the gap in scientific knowledge regarding the construct of self-acceptance among pregnant women emphasizes the need to investigate measurement instruments to be used in the screening of this issue. Measurement tools are necessary to help health professionals improve the

mental health of pregnant women and provide them with better health services (2). Some studies in Turkey have examined the acceptance of pregnancy, the perception of motherhood, and body perceptions using different measurement instruments (11, 12, 17). The positive attitudes of pregnant women toward their current status (pregnancy) can be considered their acceptance of pregnancy, and they fundamentally reflect self-acceptance (2, 10, 14). The Self-Acceptance Scale for Pregnant Women (SAS-PW), which is different from other current measurement instruments, evaluates two aspects of self-acceptance in pregnant women, namely body acceptance and pregnancy acceptance (2). It is important to investigate whether SAS-PW, which is considered functional in this regard, is appropriate for different cultural structures. The purpose of our study is to create the Turkish version of SAS-PW and test its psychometric properties.

MATERIALS AND METHODS

Design and Participants: This study was conducted with a methodological design to test the validity and reliability of the Turkish version of the SAS-PW. It was conducted at the pregnancy outpatient clinics of a Research and Training Hospital in northern Turkey between December 2021 and April 2022. The population of the study consisted of pregnant women who presented to these outpatient clinics on the specified dates. A sample that can sufficiently reveal the psychometric structure of a scale is recommended to include at least 500 participants (18, 19). The research was completed with 576 pregnant volunteers. The simple random sampling method was used to include pregnant women in the sample. The sample included pregnant women who were literate, had singleton fetuses and did not have a risk factor in their pregnancies.

Data Collection Instruments: A "Personal Information Form" and the SAS-PW were used to collect data.

Personal Information Form: This form was developed by the researchers in line with the relevant literature to identify some sociodemographic characteristics (age, education level, occupation, family income, gestational week) of the participants (2, 11, 14).

Self-Acceptance Scale for Pregnant Women: SAS-PW was developed by Meireles et al. (2021). The scale consists of 10 items and two dimensions, namely Body Acceptance (BAc) (items 1, 2, 4, 5, 7, 8, and 9) and Pregnancy Acceptance (PA) (items 3, 6, and 10). Each item of the 5-point Likert-type scale has the response options of "Always (5)", "Often (4)", "Sometimes (3)", "Rarely (2)", and "Never (1)". The scale has a score range of 10-50, and higher scores indicate higher levels of self-acceptance. The Cronbach's alpha

internal consistency coefficient of the original scale was reported as 0.90 (2). In this study, the total Cronbach's alpha coefficient of SAS-PW was determined to be 0.93.

Cultural Adaptation: The cultural adaptation process of the scale was conducted in three stages: linguistic validity, content validity, and pilot application. The translation and back-translation methods were used to determine the linguistic validity of SAS-PW. The scale was translated from English into Turkish by the researchers (three faculty members specialized in the field of midwifery). As a result of this group translation process, the Turkish form of the scale was obtained. This form was evaluated by a Turkish language expert. The back-translation of the scale from Turkish into English was carried out by two translators who are native speakers of English and fluent in Turkish. The form obtained after the back-translation process and the original form of the scale were submitted for the review of expert linguists. After the examinations and analyses of these experts, it was concluded that there was no semantic shift in the items, the scale was applicable in Turkish, and the linguistic validity of the Turkish version of SAS-PW (henceforth Turkish SAS-PW) was demonstrated. To test the content validity of the Turkish SAS-PW, the form obtained as a result of linguistic validity testing was submitted for the reviews of 12 experts who are specialized in their field (Department of Midwifery). The Davis (1992) technique was used to calculate the content validity ratio (CVR) values based on expert opinions (20). Because the opinions of 12 experts were obtained for the analysis of the content validity of the scale, it was aimed to find CVR values greater than 0.66 (21). The CVR values of the items of the Turkish SAS-PW were in the range of 0.83-1.00. The content validity index (CVI) value of a scale is calculated by taking the average of the CVR values of the items remaining in the item pool (22). The total CVI value of the Turkish SAS-PW was calculated as 0.97. CVI values greater than 0.67 are desired (22). Because the calculated CVI value was greater than 0.67, the scale was found statistically significant, and no item was removed in the context of the content validity analyses. After the expert opinion and review processes, the scale was applied to a group of 28 individuals as a pilot implementation to determine whether the statements included in the scale were comprehensible. After the pilot implementation, it was concluded that all items were comprehensible. The data of the 28 pregnant women who participated in the pilot implementation were not included in the main sample. In this way, the final version of the Turkish SAS-PW form was created.

Psychometric Testing of the Turkish SAS-PW Validity: The exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) methods were used to test the construct validity of

the scale (18). Before EFA and CFA, to determine the adequacy of the sample and the suitability of the data for factor analysis, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity were carried out. While KMO statistic values greater than 0.70 are considered sufficient in the literature, those in the range of 0.90-1.00 are considered excellent (23). Additionally, a statistically significant result of the Bartlett's test of sphericity shows that the data are suitable for factor analysis (24). In this study, it was aimed to obtain factor load values of at least 0.30 based on EFA results and remove the items with lower values from the scale, if any (23). The ratio of the total variance in the measured variable explained by the factors determined by EFA is considered sufficient in the range of 0.50-0.70 (22, 25). A scree plot was also examined, looking for a change in the slope of the line connecting the eigenvalues of the factors (25). After the EFA, a CFA was carried out to support the results on the factors of the scale (26). In structural equation modeling, which uses multiple goodness-of-fit indices to reveal whether a model that is established regarding factors is confirmed, rather than focusing on a single goodness-of-fit index, all indices are evaluated together (27). In the literature, desirable values for CFA goodness-of-fit indices have been reported as $RMSEA < 0.06-0.08$, $\chi^2/df = 2-5$, $GFI \geq 0.95$, $NFI \geq 0.95$, and IFI and $CFI \geq 0.95$ (27-30).

Reliability: To measure the internal consistency of the scale, the Cronbach's alpha coefficient was used, and item-total score correlations were calculated as a part of the reliability analyses. The Cronbach's alpha coefficient varies between 0 and 1. Values closer to 1 indicate higher reliability regarding the internal consistency of the items of the scale that is being tested. Cronbach's alpha coefficients higher than 0.70 are considered an indicator of good internal consistency in the literature (19, 31). In this study, the criterion for the exclusion of items was determined as having item-total score correlation values that are negative or lower than 0.25 (22). The time-invariance of the scale was analyzed using the test-retest analysis method (26). It is important to re-administer a measurement instrument for test-retest analysis within an optimal time interval. For the test-retest analysis of the Turkish SAS-PW, the scale was administered again to 30 pregnant women two weeks later (26, 31). For this analysis, the correlation coefficient between the scores of the two implementations was calculated (18). In the literature, correlation coefficients (r) in the range of 0.00-0.49 are considered weak, those in the range of 0.50-0.69 are considered moderate, and those in the range of 0.70-1.00 are considered strong (32).

Data Analysis: The collected data were analyzed using the "Statistical Package for the Social Sciences" (SPSS) for Windows 26.0 statistical package program and the "Analysis of

Moment Structures” (AMOS) 24.0 program. Using the SPSS program, EFA and reliability analyses were carried out on the dataset. To test the significance of the construct, a CFA was carried out using the AMOS program. The test statistics and goodness-of-fit indices of the model that was obtained as a result of the analyses were interpreted to establish the final model. The descriptive statistics of the variables that were used in the study are presented as frequency, percentage, mean, and standard deviation values. The results were interpreted in a 95% confidence interval and at a statistical significance level of $p < 0.05$.

Ethical Aspect of the Study: In the process of adapting SAS-PW to Turkish culture, Juliana Fernandes Filgueiras Meireles was first contacted

via e-mail, and permission was obtained to use the scale. Next, to carry out the study, ethical approval was obtained from the Scientific Research and Publication Ethics Committee of Inonu University (Decision no: 2021/2723). The relevant hospital’s permission and the informed consent of the participants were also obtained.

RESULTS

Participant Characteristics: The mean age of the participants was 27.75 ± 4.83 , while their mean gestational week was 31.96 ± 8.36 . It was found that 40.1% of the participants had high school degrees, 82.3% were not working, and 88.7% stated their income level as moderate (Table 1).

Table 1. Sociodemographic characteristics of the participants (n =576)

Sociodemographic characteristics			
Age (years) (mean \pm SD)		27.75 \pm 4.83	
Gestational week (mean \pm SD)		31.96 \pm 8.36	
		n	%
Educational level	Literate	6	1.0
	Primary school	47	8.2
	Secondary school	103	17.9
	High school	231	40.1
	University	189	32.8
Occupation	Employed	102	17.7
	Unemployed	474	82.3
Family income	Low	32	5.6
	Moderate	511	88.7
	High	33	5.7

SD: Standard deviation

Validity Analyses

Multivariate Normal Distribution Testing for the Construct Validity Analyses of the Scale:

One of the most frequently used methods for checking multivariate normal distribution in the AMOS program is the Mahalanobis distance. In this approach, a plot is drawn and examined for each variable. The existence of an outlier value in the dataset is tested based on the distances of the observed data on the plots to the centroid, the mean values of the samples, and their variances (33). The study started with 611 data collection forms, and 35 of these forms were eliminated as their values were under the $p < 0.01$ in terms of the Mahalanobis distance results. Consequently, validity and reliability analyses were conducted with 576 forms. The multivariate normal distribution of the data was tested using the “observations farthest from the centroid (Mahalanobis distance) menu” in the AMOS program. The skewness value for the model was calculated as 6.149, and multivariate normal distribution was provided as this value was smaller than 8 (33).

Construct Validity: The EFA and CFA methods were used to test the construct validity of

the scale. Before EFA and CFA, to determine the adequacy of the sample and the suitability of the data for factor analysis, the KM test and Bartlett’s test of sphericity were carried out. As a result of these tests, the KMO statistic was found as 0.923, and the result of the Bartlett’s test of sphericity was $\chi^2 = 4336.291$ and significant at $p < 0.001$.

Exploratory Factor Analysis: An EFA was conducted to investigate the Turkish SAS-PW, whose original version had 10 items and two factors. It was determined that 48.798% of the total variance in the scale scores was explained by the BAc dimension, while 25.015% of this variance was explained by the PA dimension. The rate of the total variance explained by these two factors was 73.813%. According to the EFA results, the factor load values were 0.708-0.891 in the BAc dimension and 0.597-0.906 in the PA dimension (Table 2). The scree-plot drawn for the scale is given in Figure 1. The number of segments in the plot clearly showed the two-factor structure of the scale, and the construct that was obtained as a result of the analyses was also similar to the plot.

Table 2. Item Factor Loads, Descriptive Statistics, and Corrected Item-Total Correlations of the Turkish SAS-PW

Scale Items	BAc	PA	Mean ± SD	Corrected Item-total correlations
Q1	0.891		3.72 ± 1.17	0.788
Q2	0.857		3.78 ± 1.11	0.773
Q4	0.834		3.81 ± 1.08	0.794
Q5	0.773		3.88 ± 1.11	0.793
Q8	0.766		3.9 ± 1.06	0.822
Q9	0.749		4.01 ± 1.03	0.831
Q7	0.708		3.36 ± 1.25	0.706
Q6		0.906	4.56 ± 0.72	0.516
Q3		0.883	4.34 ± 0.88	0.607
Q10		0.597	4.22 ± 0.95	0.716
% variance explained	48.798	25.015	Total = 73.813	

SD: Standard deviation

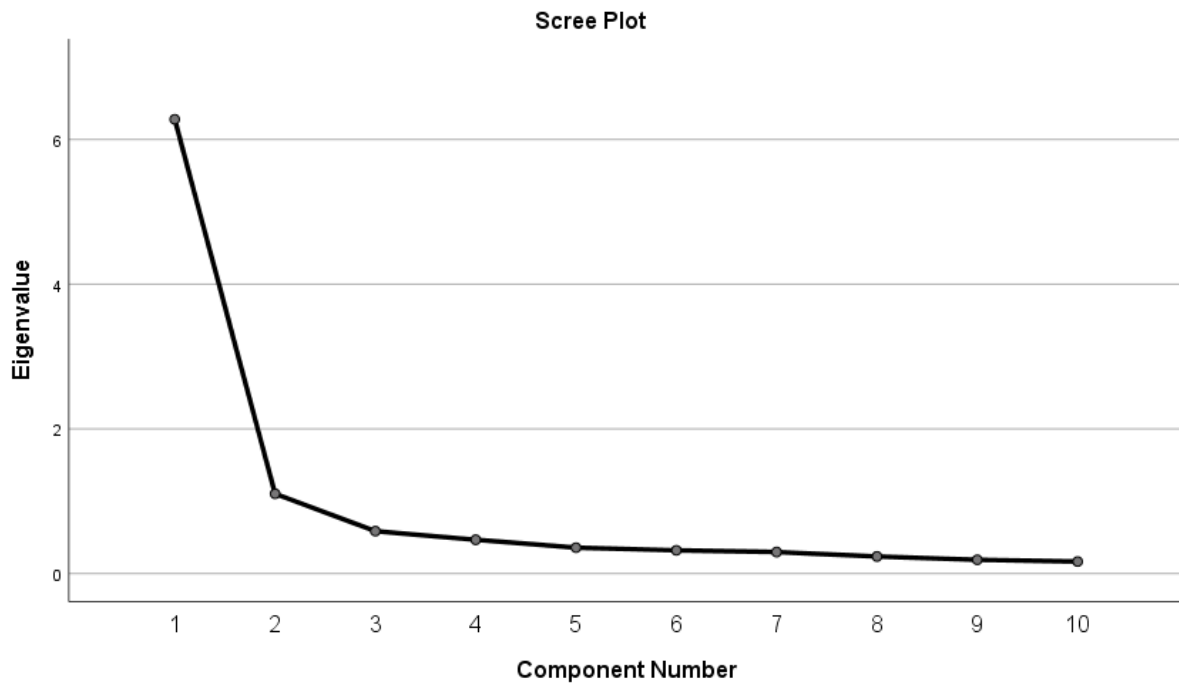


Figure 1. Turkish SAS-PW Scree-Plot

Confirmatory Factor Analysis: To test the accuracy of the 10-item two-factor Turkish SAS-PW model that was calculated with the EFA and confirm the construct, a CFA was carried out. The initial goodness-of-fit values of the Turkish SAS-PW were found as $\chi^2=478.943$, $df=34$ ($p<0.05$), $\chi^2/df=14.087$, $RMSEA=0.151$, $GFI=0.843$, $CFI=0.898$, $NFI=0.891$, and $IFI=0.898$ (Table 3). Accordingly, the desired result could not be achieved based on the goodness-of-fit indices obtained from the first model. When the modification indices of the model were examined, it was determined that the residual term pairs with the highest values were e1-e2, e4-e9, e7-e8, e8-e9, e3-e6, and e3-e10. A new model was created by

drawing covariances between these pairs, and calculations were made. A second CFA model was obtained by correlating the error covariances of the items in question. The χ^2 value based on the modified CFA model's diagram was found as 132.208. The degree of freedom for the model was 28, and the χ^2/df value was found as 4.722. The RMSEA value, which indicates the adequacy of the sample size, was found as 0.080. Among other goodness-of-fit indices, GFI was determined to be 0.956, NFI was 0.970, and IFI and CFI were 0.976 (Table 3). The factor structure that was obtained based on the second CFA model of the scale items is presented in the form of a path diagram in Figure 2.

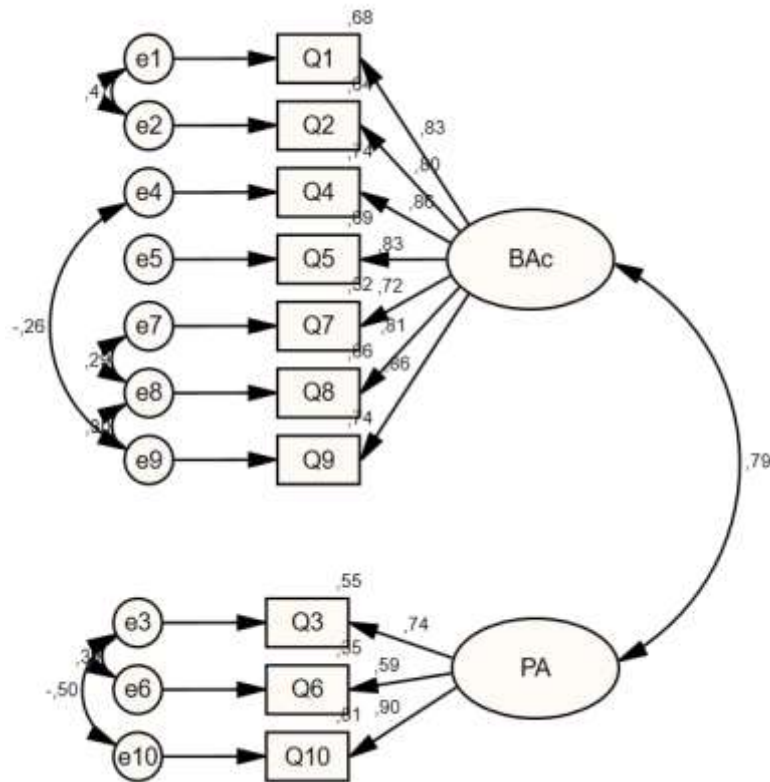


Figure 2. Factor structure model of the Turkish SAS-PW

Table 3. Fit indices for confirmatory factor models in the Turkish SAS-PW

Fit indices	First Model	Modified Model	Acceptable fit indices
CMIN	478.943	132.208	The model with the smallest value is more compatible.
p	<0.001*	<0.001*	<0.05
χ^2 / sd	14.087	4.722	2-5
IFI	0.898	0.976	≥ 0.95
CFI	0.898	0.976	≥ 0.95
NFI	0.891	0.970	≥ 0.95
GFI	0.843	0.956	≥ 0.95
RMSEA	0.151	0.080	<0.06-0.08

The 10-item Turkish SAS-PW consisting of the dimensions of BAc (items 1, 2, 4, 5, 7, 8, and 9) and PA (items 3, 6, and 10) in the EFA was confirmed with the CFA.

Reliability Analyses: To test the reliability of the Turkish SAS-PW, internal consistency (item-total score correlation and Cronbach’s alpha coefficients) and test-retest analyses were conducted.

Internal Consistency Analyses: According to the results of the Cronbach’s alpha reliability analysis conducted to measure the internal consistency of the scale, the Cronbach’s alpha coefficient of the BAc dimension was found as 0.93, the coefficient of the PA dimension was found as 0.78, and the coefficient of the total SAS-PW was found as 0.93. The item-total correlation coefficient ranges for the dimensions were

determined to be 0.706-0.831 for BAc and 0.516-0.716 for PA.

Test-Retest Analysis: The test-retest analysis method was used to test the time-invariance of the scale. Thirty pregnant women were included in this analysis, and the same scale was administered to these participants again two weeks later. The test-retest correlation coefficients were determined to be 0.893 for the BAc dimension, 0.901 for the PA dimension, and 0.902 for the total scale ($p < 0.001$).

Cutoff Point Calculation: An ROC analysis was carried out to determine the cutoff points of the scale. The evaluation categories for the Turkish SAS-PW were found as low self-acceptance for scores of 10-35, moderate self-acceptance for scores of 36-45, and high self-acceptance for scores of 46-50 (Figure 3).

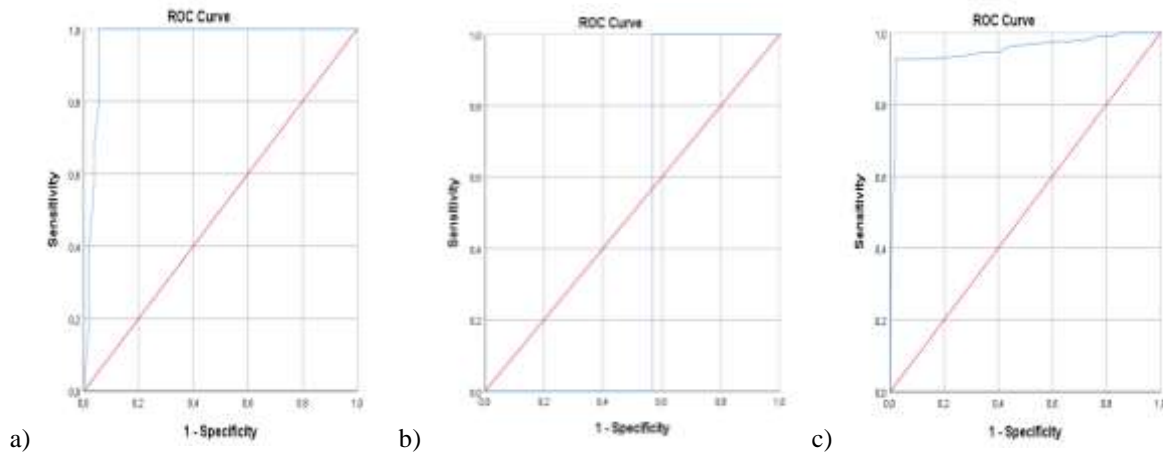


Figure 3. Cutoff points based on ROC analysis results a) low, b) moderate, c) high

DISCUSSION

Validity: Construct validity shows the capacity of a measurement instrument to measure the construct for which it is designed to measure (34). The EFA and CFA methods were used in the construct validity analyses of the Turkish SAS-PW. Before EFA and CFA, KMO and Bartlett's tests were carried out. The results of these tests showed the KMO statistic of the scale as 0.923, and the result of the Bartlett's test was $\chi^2=4336.291$, which was significant at $p<0.001$. These results demonstrated the adequacy of the sample and the suitability of the dataset for factor analysis (23, 24).

EFA is a multivariate statistical method that is used to create a new construct by investigating the relationships between variables (35, 36). The original SAS-PW consists of two dimensions and 10 items (2). In the literature, the lower limit of factor loads for items in a measurement instrument was recommended to be 0.30 (23). According to the results of the EFA in this study, because the factor loads of all items were greater than 0.30, no item was removed, and these results were compatible with the EFA results of the study in which the original SAS-PW was developed (2). Like the original SAS-PW, the Turkish SAS-PW was also two-dimensional. According to the EFA results of the original scale, the rates of the total variance in the scale scores explained by the factors were 42.519% for the BAc dimension and 10.611% for the PA dimension (2). In this study, for the Turkish SAS-PW, 48.798% of the total variance was explained by the BAc dimension, while 25.015% of this variance was explained by the PA dimension, which constituted a total variance explanation ratio of 73.813%. The results of this study showed similarities to the results of the original scale development study. Considering the variance explanation rates of this study, sufficient construct validity was achieved (22, 25). The two-factor scale construct that was found as a result of the EFA was checked using the CFA method. The CFA results of the original scale showed goodness-of-fit index

values of RMSEA=0.079, $\chi^2/df=4.04$, CFI=0.994, GFI=0.991, AGFI=0.985, and NFI=0.986 (2). In this study, the desired outcome could not be achieved in terms of goodness-of-fit indices based on the model that was established first. The modification indices for the model were examined, covariances between residual term pairs were drawn, and a new model was established. According to the results of the second CFA, the goodness-of-fit indices of the Turkish SAS-PW were found as RMSEA=0.080, $\chi^2/df=4.722$, GFI=0.956, NFI=0.970, and IFI and CFI=0.976. After the modifications, it was seen that the goodness-of-fit indices of the Turkish SAS-PW were within suitable ranges, and the scale had sufficient construct validity (27- 30) (Table 3).

Reliability: Reliability is considered an indicator of the consistency of results obtained from a measurement instrument in implementations repeated under the same conditions (34). For the Turkish SAS-PW, internal consistency and test-retest analyses were carried out (18). The Cronbach's alpha coefficient is one of the most prevalently used psychometric indicators of the reliability and internal consistency of a measurement instrument (18, 26). The Cronbach's alpha coefficients of the original scale were reported as 0.91 for the BAc dimension, 0.76 for the PA dimension, and 0.90 for the total SAS-PW (2). In this study, the Cronbach's alpha coefficients of the Turkish SAS-PW were found as 0.93 for the BAc dimension, 0.78 for the PA dimension, and 0.93 for the total Turkish SAS-PW. These results were in agreement with the results of the original version of the scale. Moreover, considering the Cronbach's alpha coefficients of the Turkish SAS-PW, the internal consistency levels of the dimensions of the scale and the total scale were very high, and the scale was found reliable (19, 31). A high correlation coefficient for each item with the total scale shows that the relevant item is effective and adequate in measuring the result that is aimed to be measured (24). In this study, the item-total

score correlation coefficient ranges were found as 0.706-0.831 for the BAc dimension and 0.516-0.716 for the PA dimension. Therefore, as the item-total correlation coefficients of all items were positive and greater than 0.25, no item was removed from the scale (22).

The consistency of the responses of individuals to a measurement instrument at different times indicates the time-invariance of the instrument (19, 26). In the literature, it is recommended to have a time interval of 1-2 weeks between two implementations (31). In this study, after the Turkish SAS-PW was administered to 30 pregnant women again after two weeks for the test-retest analysis, positive, statistically significant, and strong correlations were found between the results of the two implementations for the total scale and both of its dimensions ($p < 0.001$). According to these results, because there was sufficient time between the two measurements, and the agreement of outcomes in this time interval was preserved, the Turkish SAS-PW was found to be a consistent scale.

In the original development study of the scale, cutoff scores were calculated. Accordingly, self-acceptance levels were categorized as low for scores of 10-34, moderate for scores of 35-44, and high for scores of 45-50 (2). In this study, an ROC analysis was carried out to determine the cutoff points of the Turkish SAS-PW, and the evaluation categories were found as low self-acceptance for scores of 10-35, moderate self-acceptance for

scores of 36-45, and high self-acceptance for scores of 46-50. While these results were not exactly the same as the results of the original scale, they were very close. The small difference between these cutoff points may have originated from the samples of the two studies that were selected from two different cultures.

The strong aspects of the study include the fact that it was conducted with a broad sample of individuals, and a valid and reliable measurement instrument was adapted to Turkish society for healthcare professionals in Turkey. Despite the strengths of the study, the limitation of the study was that the data were collected in only one province in Turkey, and the results were dependent on the self-reports of the participants. This situation is susceptible to bias.

CONCLUSION

The results of the analyses demonstrated that the Turkish SAS-PW had a good agreement with the original SAS-PW, and it was a valid and reliable measurement instrument in the assessment of the self-acceptance levels of Turkish pregnant women.

SAS-PW can be used as a short, accurate, and beneficial measurement instrument by healthcare professionals and researchers for evaluating the adaptation of pregnant women to the pregnancy process in the antenatal stage, planning education and support interventions to improve their self-acceptance levels, and providing individual-centered care services.

REFERENCES

1. Lu Q, Wang B, Zhang R, Wang J, Sun F, Zou G. Relationship between emotional intelligence, self-acceptance, and positive coping styles among chinese psychiatric nurses in shandong. *Frontiers in Psychology*. 2022;13:837917.
2. Meireles JFF, Neves CM, Morgado FF da R, Muzik M, Ferreira MEC. Development and psychometric properties of the self-acceptance scales for pregnant and postpartum women. *Perceptual and Motor Skills*. 2021;128(1):258-82.
3. Li S, Zhang X, Luo C, Chen M, Xie X, Gong F, Lv F, Xu J, Han J, Fu L, Sun Y. The mediating role of self-acceptance in the relationship between loneliness and subjective well-being among the elderly in nursing home: A cross-sectional study. *Medicine*. 2021;100(40):e27364.
4. Linde K, Lehnig F, Nagl M, Stepan H, Kersting A. Course and prediction of body image dissatisfaction during pregnancy: a prospective study. *BMC Pregnancy and Childbirth*. 2022;22:719
5. Salzer EB, Meireles JFF, Toledo AFÁ, de Siqueira MR, Ferreira MEC, Neves CM. Body image assessment tools in pregnant women: A systematic review. *Int. J. Environ. Res. Public Health*. 2023;20:2258.
6. Meireles JF, Neves CM, de Carvalho PH, Ferreira ME. Body dissatisfaction among pregnant women: an integrative review of the literature. *Ciencia & Saude Coletiva*. 2015;20(7):2091–2103.
7. Watson B, Fuller-Tyszkiewicz M, Broadbent J, Skouteris H. The meaning of body image experiences during the perinatal period: A systematic review of the qualitative literature. *Body image*. 2015;14:102–13.
8. Plante A-S, Doyon A-A, Savard C, ÉquiLibre G, Meilleur D, Achim J, et al. Weight changes and body image in pregnant women: a challenge for health care professionals. *Canadian Journal of Dietetic Practice and Research*. 2020;81.
9. Prinds C, Nikolajsen H, Folmann B. Yummy Mummy. The ideal of not looking like a mother. *Women and Birth*. 2020;33, e266-e273.
10. Aksay Y, Gülhan YB, Saygın N, Körükcü Ö. Is There any Effect of Psychosocial Health of Pregnant Women on Birth Preference ? *GUSB*. 2017;6(4):138-45.
11. Küçükkaya B, Altan Sarıkaya N, Kahyaglu Süt H, Öz S. The relation between body perception related to the weight gain during pregnancy and acceptance of pregnancy. *Jaren*. 2020;6(3):426-32.

12. Kumcağız H, Ersanlı E, Murat N. The development of a self-perception of pregnant scale and its psychometric features. *Journal of Psychiatric Nursing*. 2017;8(1):23–31.
13. Sohrabi Z, Kazemi A, Farajzadegan Z, Janighorban M. Body perception in pregnant women: a qualitative study. *BMC Pregnancy and Childbirth*. 2023;23:165.
14. Fahami F, Amini-Abchuyeh M, Aghaei A. The relationship between psychological wellbeing and body image in pregnant women. *Iranian Journal of Nursing and Midwifery Research*. 2018;23(3):167–71.
15. Przybyła-Basista H, Kwiecińska E, Iłska M. Body acceptance by pregnant women and their attitudes toward pregnancy and maternity as predictors of prenatal depression. *International Journal of Environmental Research and Public Health*. 2020;17: 9436.
16. Tsuchiya S, Yasui M, Ohashi K. Assessing body dissatisfaction in Japanese women during the second trimester of pregnancy using a new figure rating scale. *Nursing & Health Sciences*. 2019;21(3):367–74.
17. Mutlugüneş E, Mete S. The relationship between the role of motherhood and acceptance of pregnancy with nausea and vomiting during pregnancy. *Cumhuriyet Nursing Journal*. 2013;2(1):8-14.
18. Arafat SMY, Chowdhury HR, Qusar MMAS, Hafez MA. Cross-cultural adaptation and psychometric validation of research instruments: A methodological review. *Journal of Behavioral Health*. 2016;5(3):129–36.
19. Tsang S, Royse CF, Terkawi AS. Guidelines for developing, translating, and validating a questionnaire in perioperative and pain medicine. *Saudi J Anaesth*. 2017;(11):80–89.
20. Davis L. Instrument review: Getting the most from a panel of experts. *Appl Nurs Res*. 1992;5(4):194–7
21. Ayre C, Scally A. Critical values for Lawshe's content validity ratio: revisiting the original methods of calculation. *Meas Eval Couns Dev*. 2014;47(1):79–86.
22. Alpar R. *Applied statistics and validity-reliability*. Ankara: Detay Publishing; 2016.
23. Howard MC. A review of exploratory factor analysis decisions and overview of current practices: what we are doing and how can we improve? *International Journal of Human-Computer Interaction*. 2016;32(1):51–62.
24. Karagöz Y. *Scientific research methods and publication ethics*. Ankara: Nobel Akademik Publishing; 2021.
25. Beavers AS, Lounsbury JW, Richards JK, Huck SW, Skolits GJ, Esquivel SL. Practical considerations for using exploratory factor analysis in educational research. *Practical Assessment, Research, and Evaluation*. 2013;18(6).
26. Souza AC de, Alexandre NMC, Guirardello E de B. Psychometric properties in instruments evaluation of reliability and validity. *Epidemiologia e Servicos de Saude*. 2017;26(3).
27. Hooper D, Coughlan J, Mullen M. Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*. 2008;6(1):53–60.
28. Klem L. Structural equation modeling. In: Bryant, FB, Grimm LG, Yarnold PR, editors, *Reading and understanding more multivariate statistics*. American Psychological Association: Washington D.C; 2000.
29. Costa V, Sarmento R. *Confirmatory factor analysis – a case study (arXiv may)*; 2019.
30. Schreiber JB, Nora A, Stage FK, Barlow EA, King J. Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*. 2006;99(6):323–38.
31. Terwee CB, Bot SDM, de Boer MR, van der Windt DAWM, Knol DL, Dekker J et al. Quality criteria were proposed for measurement properties of health status questionnaires. *Journal of Clinical Epidemiology*. 2007;60:34–42.
32. Sümbüloğlu K, Akdağ B. *Regression methods and correlation analysis*. Ankara: Hatiboğlu Publishing; 2007.
33. Inceoğlu F, Demir P, Aydoğdu H. Adaptation of fear of missing out scale (FoMOs) to dentistry. *Selcuk Dental Journal*. 2021;8:530–7.
34. Anthoine E, Moret L, Regnault A, Sbille V, Hardouin J-B. Sample size used to validate a scale: a review of publications on newly-developed patient reported outcomes measures. *Health and Quality of Life Outcomes*. 2014;12:176.
35. Ledesma RD, Ferrando PJ, Trógolo MA, Poó FM, Tosi JD, Castro C. Exploratory factor analysis in transportation research: Current practices and recommendations. *Transportation Research Part F*. 2021;78:340–52.
36. Watkins MW. Exploratory factor analysis: A guide to best practice. *Journal of Black Psychology*. 2018;44(3):219–46.