

# Postpartum Specific Anxiety Scale (PSAS): Reliability and validity of the Turkish version

Songül Duran 

Department of Nursing, Trakya University  
Keşan Hakkı Yörük School of Health, Edirne,  
Turkey

## Correspondence

Songül Duran, PhD, RN, Assistant Professor,  
Trakya University Keşan Hakkı Yörük School  
of Health, Department of Nursing, Edirne,  
Turkey.

Email: songul.duran@gmail.com

## Abstract

**Purpose:** This study aims to conduct reliability and validity study of the Turkish version of the Postpartum Specific Anxiety Scale (PSAS), which determines the anxiety of women in the postpartum period.

**Design and Methods:** This methodological study included 275 women.

**Results:** The scale had a single factor structure, which had the factor load in the appropriate range (0.30-0.58). The Cronbach's alpha was determined as 0.91, and the item total score correlations ranged between 0.25 and 0.54. The test-retest coefficient was determined as 0.93.

**Practice Implications:** The Turkish version of the PSAS was evaluated and it was found that it could be used as a valid and reliable measurement tool in Turkish women.

## KEYWORDS

anxiety, postpartum, scale development, women health

## 1 | INTRODUCTION

Although new motherhood is considered as a joyful and meaningful experience, this transition period includes many abrupt changes and is considered a stressful life experience.<sup>1-3</sup> Being a mother means that she would have a new role, a new task, a new person, and new responsibilities in her life. As a response to this situation, anxiety is very common, and some mothers can become extremely anxious for various reasons.<sup>4,5</sup> The prevalence of anxiety in the first 6 months of the postpartum period has been reported to range between 6.1% and 27.9%.<sup>6</sup> Postpartum anxiety disorder and postpartum depression are reported to be among the most common psychiatric disorders suffered during the postpartum period.<sup>7-9</sup>

There are several reasons that increase the risk of the development of anxiety disorders during the postpartum period. A woman's concerns about her child's health and being a good mother, changes in her financial situation, and unexpected or unintended pregnancies may increase her stress and anxiety even more.<sup>4</sup>

Anxiety adversely affects women particularly during postpartum periods.<sup>10</sup> Suffering from postpartum anxiety intensely can lead to

significant distresses the maternal neglect and can seriously disturb mother-infant interaction.<sup>11-13</sup> Anxiety has also been reported to exacerbate depression and increase the risk of suicide.<sup>14</sup> Since a woman's mental health directly affects the welfare of her baby, accurate diagnosis and appropriate treatment are vital to this population.<sup>15</sup> Therefore, it is important to have a valid and reliable instrument to measure postpartum anxiety. In Turkey, there is no specific tool to measure postpartum anxiety. By measuring the anxiety level of women in the postpartum period with such a scale, it is expected that necessary precautions can be taken to protect women at risk and that appropriate treatments can be performed.

This study aims to perform Turkish adaptation and reliability and validity study of the Postpartum Specific Anxiety Scale (PSAS), which determines the anxiety of women in the postpartum period.

## 2 | METHOD

### 2.1 | Study design, sample, and setting

This methodological study was carried out between December 2017 and June 2018 with women who presented to the gynecology and

obstetrics, and pediatric clinics/outpatient clinics of both in a university hospital and in a state hospital in Edirne.

The study included literate women who had one healthy baby (0-6 months), had no communication or mental problems, had no postnatal complications and agreed to participate in the study.

In a validity and reliability study, there are rules on how to calculate the sample size. The most important of these rules is to include 5 to 30 individuals for each of the items in the scale.<sup>16,17</sup> The study data were collected from 275 women who agreed to participate in the study and met the inclusion criteria.

## 2.2 | Instruments

In the present study, the Sociodemographic Characteristics Questionnaire, PSAS, Edinburgh Postnatal Depression Scale (EPDS), Beck Depression Inventory (BDI), and State-Trait Anxiety Inventory (STAI) were used to collect the data.

### 2.2.1 | Sociodemographic Characteristics Questionnaire

The questionnaire was developed by the researcher and includes 22 items related to the main theme of the study.

### 2.2.2 | PSAS

The scale developed by Fallon and her friends to assess anxiety symptoms specific to the postpartum period consists of 51 items and has the following four sub-dimensions: maternal competence and attachment anxieties (Items 1-15), infant safety and welfare anxieties (Items 16-26), practical infant care anxieties (Items 27-33), and psychosocial adjustment to motherhood (Items 34-51). Responses to the items are rated on a 4-point Likert scale.<sup>18</sup> Responses to the items are rated on a 4-point Likert scale ranging from 1 to 4 (1 = never, 2 = sometimes, 3 = often, 4 = almost always).

Before the study was conducted, the permission to translate the PSAS from English to Turkish was obtained from Fallon who developed it in 2016.

The PSAS was independently translated from English to Turkish by five academicians experienced in their fields. Then, the necessary approval was obtained from an academician in the field of linguistics who was requested to check whether the statements in the scale items were compatible with the Turkish grammar rules. Finally, the Turkish form was given to a bilingual expert whose native language was English and second language was Turkish to translate it back to English. Because there was no significant difference between the original scale and its back-translated form, it was decided that the form could be used as is.

### 2.2.3 | EPDS

The scale developed by Cox in 1987 is aimed at screening postpartum depression in women. The scale includes 10 items. The cut-off point of the scale is 12.<sup>19,20</sup>

### 2.2.4 | BDI

The 21-item, self-report rating inventory is used to assess the severity of depression-related affective, cognitive, and motivational symptoms. The minimum and maximum possible scores to be obtained from the scale are 0 and 63 respectively and its cut-off point was accepted as 17.<sup>19</sup>

### 2.2.5 | STAI

The inventory was developed in 1970. The scores to be obtained from either scale range between 20 and 80. The higher the score is the greater the level of anxiety. While scores of  $\leq 36$  indicate no anxiety, scores ranging between 37 and 42 indicate mild anxiety, and scores of  $\geq 42$  indicate high anxiety.<sup>19</sup>

## 2.3 | Analysis

Statistical analysis of the study was performed using the SPSS 16 for Windows software (SPSS Inc., Chicago, IL). For the construct validity of the scale, explanatory factor analysis was applied. Exploratory factor analysis was performed by applying the Varimax rotation in line with the principal components method and the factors with an eigenvalue of  $\geq 2$  were evaluated. The items whose factor loadings were  $\geq 0.3$  were included in the evolutions.

In addition, the relationship between the PSAS and EPDS, BDI, and STAI was investigated in terms of the criterion validity.

The relationship between the values obtained was calculated and the test-retest reliability coefficient of the scale was determined. The Cronbach's alpha internal consistency coefficients were calculated based on the variance of each item. In addition, the item reliability of the scale was determined using the item total score correlation coefficients.

To demonstrate whether there was any difference between the participants in terms of their sociodemographic characteristics, the independent samples t-test and one-way analysis of variance analysis were performed.

## 2.4 | Ethics

The written approvals were obtained from the Trakya University Medical Faculty Scientific Research Ethics Committee (TÜTF-BAEK 2017/225) and the hospitals where the study was to be conducted. Informed consent was obtained from the women who agreed to participate in the study. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or National Research Committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

## 3 | RESULTS

### 3.1 | Participants

The participants' mean age was 27.49 years (SD 6.06). Of the postpartum women, 45.3% were high school graduates and 78.2%

were unemployed. About 66.9% of the women received postnatal help. The introductory characteristics of the women are shown in Table 1.

### 3.2 | Validity

To obtain more accurate results, and to determine sample adequacy and whether data were suitable for the factor analysis, the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests were applied before the principal component analysis was performed. The KMO value was found as 0.846, which indicated suitability for the principal component analysis. Similarly, Bartlett's test results ( $\chi^2 = 4107.847$   $P < 0.001$ ) demonstrated the interrelationships between the data and the suitability of the data for the factor analysis.

### 3.3 | Exploratory factor analysis

The exploratory factor analysis was performed with the principal component analysis and the data were analyzed using the Varimax rotation method. As in the original scale, it was observed that the items were grouped under different subscales when examined as a 4-factor structure. Since many items of the scale (1-3, 1-16, 18, and 19) were found to have shifted to a different group, it was decided that the Turkish version of the scale should be one-dimensional (one-dimensional).

The factor loadings of the scale items analyzed at a single subscale ranged between 0.30 and 0.58. When the factor loadings of the factor including each item of the 51-item scale were analyzed, the factor loadings of the items 1, 2, 15, and 46 were determined to be  $< 0.30$ . Then the reliability analysis of the overall scale was performed, and it was concluded that the reliability coefficients of these items were also very low. Based on these results, these aforementioned four items were excluded from the scale. The factor analysis was repeated with the remaining 47 items. The percent variance explained in the Turkish version was 40.0.

The results obtained in the present study are shown in Table 2. The Turkish version of the scale was decided to be one-dimensional with 47 items. There is not an inverse coded item.

### 3.4 | Concurrent validity

To assess the convergent and divergent validity of the PSAS, correlation coefficients between continuous variables were determined. The results are given in Table 3.

The analysis of the related correlation coefficients revealed that there was a significant relationship between the total score obtained from the PSAS and the total trait anxiety scores of the STAI which assesses the general anxiety symptoms ( $r = 0.53$ ). No significant relationship was determined between the total score obtained from the PSAS and that obtained from the State Anxiety Scale of the STAI ( $P > 0.05$ ).

**TABLE 1** Characteristics of the participants (n=275)

Sociodemographic characteristics	Arithmetic mean (Standard deviation)
Age of the participating women	27.49 (6.06)
Length of marriage	6.01 (4.86)
Child age (mo)	3.10 (1.97)
Baby's weight	3049.63 (733.81)
	f (%)
<b>Baby's gender</b>	
Girl	137 (49.8)
Boy	138 (50.2)
<b>Educational status</b>	
Literate	29 (10.6)
Primary school	76 (27.7)
Middle school	45 (16.4)
High school and above	124 (45.3)
<b>Place of residence</b>	
City center	98 (35.6)
District	155 (56.4)
Bay	22 (8.0)
<b>Marital status</b>	
The married	265 (97.4)
Single	4 (1.6)
<b>Employment status</b>	
Working	60 (21.8)
Not working	215 (78.2)
<b>Intended pregnancies</b>	
Yes	245 (89.1)
No	30 (10.9)
<b>Income status</b>	
Less than revenue	94 (34.9)
Income equal to their expenses	142 (52.8)
More than revenue	33 (12.3)
<b>Smoking status</b>	
Smoking	62 (22.5)
She does not smoke	213 (77.59)
<b>Baby's birth</b>	
Normal birth	111 (40.4)
Cesarean section	164 (59.6)
<b>Satisfying with the sex of the baby</b>	
Yes	266 (96.7)
No	9 (3.3)
<b>Where she lives after birth</b>	
Own house	230 (83.6)
Next to their own family	17 (6.2)
Near her husband's family	28 (10.2)
<b>Received postnatal help</b>	
Yes	184 (66.9)
No	91 (33.1)

(Continues)

**TABLE 1** (Continued)

Sociodemographic characteristics	Arithmetic mean (Standard deviation)
<b>Take any psychiatric medication before delivery</b>	
Yes	30 (10.9)
No	245 (89.1)
<b>Have other disease during pregnancy</b>	
Yes	53 (19.3)
No	222 (80.7)
<b>Receiving information about the birth process during the prenatal period</b>	
Yes	168 (61.1)
No	107 (38.9)
<b>Total</b>	<b>275 (100)</b>

There was a positive correlation between the total score obtained from the PSAS and that obtained from the EPDS at a minimum of  $P = 0.05$  ( $r = 0.51$ ).

On the other hand, there was a statistically significant positive correlation between the total score obtained from the PSAS and that obtained from the BDI ( $P < 0.05$ ) ( $r = 0.36$ ).

These results confirm the convergent-divergent validity of the PSAS.

### 3.5 | Reliability study of the PSAS

In the present study, the test-retest reliability coefficient was 0.93 (Table 4).

The internal consistency coefficient of the PSAS was determined as 0.91. The item-total correlations of the scale ranged between 0.25 and 0.54 (Table 4).

### 3.6 | Normative study

The Turkish version of the PSAS has 47 items. According to the scale assessment system, the minimum and maximum possible scores to be obtained from the scale are 47 and 188, respectively. Because Q1 and Q3 were 73 and 101, respectively in the distribution, the postpartum anxiety levels were considered as low among those who scored  $\leq 73$  on the PSAS scale, moderate among those who scored between 74 and 100, and high among those who scored  $\geq 101$ . Higher scores indicate higher anxiety.

## 4 | DISCUSSIONS

In the present study, it was aimed to perform adaptation, reliability, and validity study of the Turkish version of the PSAS used to assess anxiety levels of women in the postpartum period.

Because there was no scale to determine anxiety levels of women in the postpartum period in Turkey, this scale was developed. In scaling studies, the first thing to do is to translate the original scale

**TABLE 2** Factor loads of Postpartum Specific Anxiety Scale items

Item no	Factor loading
3	0.33
4	0.40
5	0.40
6	0.41
7	0.42
8	0.49
9	0.56
10	0.58
11	0.48
12	0.45
13	0.54
14	0.44
16	0.56
17	0.43
18	0.54
19	0.49
20	0.33
21	0.39
22	0.39
23	0.48
24	0.57
25	0.56
26	0.43
27	0.37
28	0.38
29	0.43
30	0.56
31	0.50
32	0.30
33	0.51
34	0.38
35	0.53
36	0.44
37	0.41
38	0.47
39	0.37
40	0.47
41	0.48
42	0.51
43	0.36
44	0.33
45	0.49
47	0.42
48	0.52
49	0.41

(Continues)

**TABLE 2** (Continued)

Item no	Factor loading
50	0.44
51	0.33
% Variance explained	% 40.01

taking the culture of the society to which the scale is to be adapted into account. To perform the language adaptation of the PSAS, the translation-back translation method, the most widely used translation method, was used.<sup>21</sup> In this method, the scale is translated into the target language from the original language and then it is translated back to the original language for semantic evaluation.<sup>21</sup> After the implementation of the translation-back translation method, it was decided that the Turkish version of the PSAS was an appropriate measurement tool in terms of language validity. The fact that the correlation coefficient obtained after the English and Turkish versions of the PSAS were administered to 30 Turkish mothers who had recently gave births and had a good command of both English and Turkish languages at a one-week interval indicated that the linguistic equivalence of the Turkish version of the scale was very high ( $r: 0.929$ ).

In the second stage of the scale adaptation study, the scale was administered to 275 people, and for the construct validity, the factor analysis based on the data obtained was performed. To determine the suitability of the study sample size for the factor analysis, the Kaiser-Mayer-Olkin procedure was performed.<sup>22</sup> While the KMO value between 0.90 and 1.00 is considered as excellent, the value between 0.60 and 0.69 is considered as good, between 0.50 and 0.59 as weak, and < 0.50 as unacceptable.<sup>22</sup> The KMO value should be greater than 0.60 for good factor analysis.<sup>22</sup> In the present study, the KMO value was calculated as 0.85, which suggests that the sample size was suitable for the factor analysis. In addition, Bartlett's sphericity test showed that the correlation between the elements was high enough for the PCA [ $\chi^2(1081) = 4107.84, P < 0.001$ ]. In the original study (2016), this value was statistically significant at the 0.001 level ( $\chi^2(1275) = 14117.3$ ).<sup>18</sup> While the PCA in the original scale accounted for 44.72% of the variance in the combination, it explained 40.01% of the variance in the Turkish version. In order for an item to be included in a subdimension, principally, its factor loading should be at least 0.30.<sup>21</sup> In Fallon and her friend's study, all the 51 items had a factor loading of at least 0.30 in one subdimension. However, in the Turkish version, four items (1, 2, 15, and 46) did not have a factor loading of 0.30. These items were as follows: "I have felt that I should not need help to look after my baby," "I have had negative thoughts about my relationship with my baby," "I have felt that my baby would be better cared for by someone else," and "I have worried about returning to work". The low-correlation value of the first item of the scale is thought to be due to the fact that in the Turkish culture, the mother perceives the child event as another responsibility and even as a more important responsibility than other responsibilities. Often, all responsibilities and duties related to

**TABLE 3** Correlations for the Postpartum Specific Anxiety Scale (PSAS), Beck Depression Inventory (BDI), Edinburgh Postnatal Depression Scale (EPDS), and the The Spielberger State-Trait Anxiety Inventory (STAI)

	BDI	EPDS	STAI	
			State Anxiety Scale	Trait Anxiety Scale
PSAS	0.364*	0.517**	0.184	0.537**
Total				

\* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ .

children's development and education are laid on the mother.<sup>23</sup> In this case, motherhood is the primary responsibility. Therefore, if a woman who has just given birth fails to fulfill her other responsibilities, it is considered acceptable. The low-correlation value of the second item of the scale suggests that the newborn does not adversely affect the family relations, and that if the birth is an intended one and the newborn is healthy, this affects the relationships even more positively. The low-correlation value of the 15th item of the scale "I have worried that I will become too ill to care for my baby" is probably due to the fact that in Turkish culture, delivery is considered as a natural process and that delivery is not thought to lead to an important health problem in women. Similarly, the low-correlation value of the 46th item of the scale may be due to the fact that mothers consider the child more important than the changes in their physical appearance. In general, the child is considered as sacred, and more valuable than any other thing. A woman's feeling of femininity is honored with birth. In general, the idea that her spouse's finding her less attractive in this process recedes into the background.

After this result was obtained, the corrected item-total correlations were checked in the reliability study of the Turkish version, and it was observed that they were not statistically significant either, and that the Cronbach's alpha values of the scale increased when these items were excluded. It was understood that these four items did not yield valid results in Turkish culture, and it was decided not to include these items when the total scores of the tests were calculated. However, not to disrupt the originality of the scale, these items were included in the Turkish version but were excluded from the calculations. This difference is thought to stem from cultural factors.

In the literature, factor loadings are expected to  $\geq 0.30$  as a result of factor analysis.<sup>21</sup> In this study, the factor loadings of the items ranged between 0.30 and 0.58 (Table 2).

Cronbach's alpha levels greater than 0.80 are considered sufficient.<sup>17</sup> In the present study, the Cronbach's alpha coefficient for the overall scale was found to be 0.91. In the original study, it was 0.96.<sup>18</sup> The Cronbach's alpha coefficients determined for the original scale and for the Turkish version of the scale were very close to each other. In the literature, the item-total score correlation is stated to be at least 0.20.<sup>24</sup> In Fallon's study, item-total correlations ranged between 0.30 and 0.70.<sup>18</sup> In the present study, item-total correlations of the scale were between 0.25 and 0.54, which indicated that there were no problematic items in the 47-item Turkish version of the PSAS.

**TABLE 4** Cronbach's alpha coefficient of the Postpartum Specific Anxiety Scale

Item No	Arithmetic mean	Standart deviation	Corrected item-total correlation	Cronbach's alpha if item deleted
3	1.49	0.87	0.40	0.91
4	1.20	0.58	0.36	0.91
5	1.44	0.82	0.36	0.91
6	1.39	0.81	0.37	0.91
7	1.28	0.67	0.38	0.91
8	1.76	0.95	0.43	0.91
9	1.66	0.94	0.50	0.91
10	1.69	0.89	0.54	0.91
11	1.90	1.06	0.46	0.91
12	1.84	1.05	0.40	0.91
13	1.53	0.91	0.49	0.91
14	2.03	1.11	0.40	0.91
16	2.83	1.18	0.53	0.91
17	2.79	1.09	0.40	0.91
18	2.49	1.22	0.51	0.91
19	2.64	1.24	0.46	0.91
20	2.31	1.19	0.31	0.91
21	1.85	1.04	0.35	0.91
22	3.13	1.05	0.36	0.91
23	2.34	1.13	0.44	0.91
24	2.04	1.12	0.54	0.91
25	2.37	1.19	0.52	0.91
26	2.35	1.07	0.42	0.91
27	1.77	1.02	0.34	0.91
28	1.67	0.99	0.25	0.91
29	1.45	0.78	0.39	0.91
30	1.55	0.90	0.51	0.91
31	1.93	1.11	0.46	0.91
32	2.39	1.15	0.28	0.91
33	1.87	1.04	0.46	0.91
34	1.33	0.81	0.34	0.91
35	2.35	1.13	0.49	0.91
36	1.39	0.80	0.40	0.91
37	1.95	1.04	0.38	0.91
38	1.49	0.95	0.42	0.91
39	1.44	0.85	0.33	0.91
40	1.75	1.06	0.43	0.91
41	2.01	1.08	0.45	0.91
42	2.13	1.12	0.47	0.91
43	1.61	0.98	0.30	0.91
44	1.48	0.86	0.29	0.91
45	2.03	1.04	0.45	0.91
47	1.68	0.89	0.38	0.91

(Continues)

**TABLE 4** (Continued)

Item No	Arithmetic mean	Standart deviation	Corrected item-total correlation	Cronbach's alpha if item deleted
48	1.93	1.06	0.49	0.91
49	1.71	1.00	0.37	0.91
50	1.96	1.08	0.40	0.91
51	1.46	0.85	0.30	0.91
<b>Total cronbach alfa</b>	0.91	<b>Test- retest reliability</b>	0.93	

To determine the convergent validity of the Turkish version of the PSAS, the scales used in the original study were used. A positive correlation (0.517) was determined between the PSAS and EPDS ( $P < 0.01$ ). This value between the original PSAS and EPDS was 0.810 ( $P < 0.001$ ). In a study conducted with 147 women 8 weeks after delivery by Wenzel and his friends 10% to 50% of the women diagnosed with anxiety also had comorbid depressive symptoms.<sup>25</sup> While the relationship between the PSAS and trait anxiety of the STAI was 0.537 in the present study, ( $P < 0.01$ ), it was 0.77 between the original PSAS and trait anxiety of the STAI ( $P < 0.001$ ). In both cases, the relationships were positive and statistically significant. However, the values of the Turkish version were slightly lower than those of the English version. While there was a statistically significant relationship between STAI state anxiety and PSAS total scores, the coefficient obtained in Turkish version was not significant. This causes the new mother's PSAS anxiety score to be high if she had a trait anxiety in her past, or if she does not have a history of trait anxiety, which suggests that she has overcome the stress related to childbirth and the new baby very easily due to not having a significant anxiety about the birth process.

While the relationship between the English version of the PSAS and BDI was 0.76 ( $P < 0.001$ ), it was only 0.364 ( $P < 0.05$ ) in the present study.

Based on these results, it can be said that the Turkish version of the PSAS has convergent validity but not as high as its English version has.

Although the receiver operating characteristic analysis was performed in the original study, it was not performed in the present study, because the latter did not include participants with psychiatric diagnoses. While the cut-off point was 112 in the English version, it was, based on the Q3 value, 101 in the Turkish version.

#### 4.1 | Limitations of the study

The present study was carried out in only one province, Edirne. Therefore, the results obtained from this study are applicable only to people surveyed and cannot be generalized to people in all the provinces of Turkey, which is one of the limitations of the study.

## 4.2 | Conclusion

At the end of the present study, it was concluded that the PSAS was a valid and reliable measurement tool for Turkish society. It is recommended to conduct similar studies with larger samples throughout Turkey in the future, which would enable the researchers of those studies to perform the confirmatory factor analysis, which was not performed in the present study due to the small size of the study sample. It is also recommended that future studies should include the clinical population in the sample group, which is expected to enable researchers to obtain further and more robust data on the PSAS.

## 4.3 | Implications for nursing practice

PSAS can be used as a useful measurement tool in determining the anxiety levels of women during postpartum 0 to 6 months. Thus, the necessary psychosocial support can be provided for women whose anxiety levels are high. The use of this scale in further research will contribute to its effectiveness.

## ORCID

Songül Duran  <http://orcid.org/0000-0002-2565-7784>

## REFERENCES

- Javadifar N, Majlesi F, Nikbakht A, Nedjat S, Montazeri A. Journey to motherhood in the first year after child birth. *J Fam Reprod Health*. 2016;10(3):146-153.
- Yelland J, Sutherland G, Brown SJ. Postpartum anxiety, depression and social health: findings from a population-based survey of Australian women. *BMC Public Health*. 2010;20:2-11. <https://doi.org/10.1186/1471-2458-10-771>
- Erdem Ö, Bucaktepe GE, Özen Ş, Kara İH. Prepartum ve postpartum dönemde annelerin depresyon ve kaygı düzeylerinin incelenmesi. [Evaluation of anxiety and depression levels of mothers during prepartum and postpartum periods]. *Düzce Tıp Dergisi*. 2010;12:24-31.
- Anniverno R, Bramante A, Mencacci C, Durbano F. Anxiety disorders in pregnancy and the postpartum period. New Inside into Anxiety Disorders. *Lancet (London, England)*. 2013;11:260-285. <https://doi.org/10.5772/52786>
- Wardrop AA, Popadiuk NE. Women's experiences with postpartum anxiety: expectations, relationships, and sociocultural influences. *Qual Rep*. 2013;18:1-24.
- Ali E. Women's experiences with postpartum anxiety disorders: a narrative literature review. *Int J Women's Health*. 2018;10:237-249.
- Pawluski JL, Lonstein JS, Fleming AS. The neurobiology of postpartum anxiety and depression. *Trends Neurosci*. 2017;40(2):106-120. <https://doi.org/10.1016/j.tins.2016.11.009>
- Radoš NS, Tadinac M, Herman R. Anxiety during pregnancy and postpartum: course, predictors and comorbidity with postpartum depression. *Acta Clin Croat*. 2018;57:39-51. <https://doi.org/10.20471/acc.2018.57.01.05>
- Giannandrea SA, Cerulli C, Anson E, Chaudron LH. Increased risk for postpartum psychiatric disorders among women with past pregnancy loss. *J Womens Health (Larchmt)*. 2013;22(9):760-768. <https://doi.org/10.1089/jwh.2012.4011>
- Fairbrother N, Young AH, Janssen P, Antony MM, Tucker T. Depression and anxiety during the perinatal period. *BMC Psychiatry*. 2015;15(206):2-9. <https://doi.org/10.1186/s12888-015-0526-6>
- Odinka JI, Nwoke M, Chukwuorji JBC, et al. Post-partum depression, anxiety and marital satisfaction: a perspective from Southeastern Nigeria. *S Afr J Psychiat*. 2018;24:a1109. <https://doi.org/10.4102/sajpspsychiatry>
- Yasmin F, Islam S. Adaptation of the Perinatal Anxiety Screening Scale in Bangladeshi context. *Psychol Psychol Res Int J*. 2018;3(1):000144.
- Dennis CL, Fallah-Hassani K, Brown HK, Vigod SN. Identifying women at risk for postpartum anxiety: a prospective population-based study. *Acta Psychiatr Scand*. 2016;134:485-493. <https://doi.org/10.1111/acps.12648>
- Sit D, Luther J, Buysse D, et al. Suicidal ideation in depressed postpartum women: associations with childhood trauma, sleep disturbance and anxiety. *J Psychiatr Res*. 2015;0:95-104. <https://doi.org/10.1016/j.jpsychires.2015.04.021>
- Misri S, Swift E. Generalized anxiety disorder and major depressive disorder in pregnant and postpartum women: maternal quality of life and treatment outcomes. *Journal Obstet Gynaecol Can*. 2015;37:798-803. [https://doi.org/10.1016/S1701-2163\(15\)30150-X](https://doi.org/10.1016/S1701-2163(15)30150-X)
- Hatcher L. Principle component analysis. In: O'Rourke N, Hatcher L, eds. *A Step-by-Step Approach to Using SAS for Factor Analysis and Structural Equation Modeling*. 2nd ed. Cary, NC: SAS Institute, Inc; 2013:p. 9.
- Karakoç FY, Dönmez L. Basic principles of scale development. *Tıp Eğitimi Dünyası*. 2014;40:39-49.
- Fallon V, Halford JCG, Bennett KM, Harrold JA. The Postpartum Specific Anxiety Scale: development and preliminary validation. *Arch Womens Ment Health*. 2016;19:1079-1090. <https://doi.org/10.1007/s00737-016-0658-9>
- Aydemir Ö, Köroğlu E. Edinburgh Doğum Sonrası Depresyon Ölçeği. *Psikiyatride kullanılan klinik ölçekler [Clinical Scales Used in Psychiatry]*. 4th ed. Ankara, Turkey: HYB Basım Yayın Matbaası; 2009:178. 221.
- Engindeniz AN, Küey L, Kültür S. Edinburgh doğum sonrası depresyon ölçeği Türkçe formu geçerlilik ve güvenilirlik çalışması. *Edinburgh Postpartum Depression Scale Turkish Form Validity and Reliability Study*. 1st ed. Ankara, Turkey: Bahar Sempozyumları 1, Psikiyatri Derneği Yayınları; 1997:51-52.
- Gözüm S, Aksayan S. Guideleness for scale adaptation between cultures I: the stages of scale adaptation and language adaptation. *J Nurse Res*. 2002;4:9-11.
- Özdamar K. Statistical analysis with software packages. 5th ed. Eskişehir, Turkey: Kaan Publishing House; 2004:450-455.
- Özenel E. Mothers' role in raising children in Turkish society: a case of Konya. *Değerler Eğitimi Dergisi*. 2004;2(6):77-96.
- Öner N. Psychological tests used in Turkey. 2nd ed. Istanbul: Istanbul Boğaziçi Press.; 2009:520-525.
- Wenzel A, Haugen EN, Jackson LC, Brendle JR. Anxiety symptoms and disorders at eight weeks postpartum. *J Anxiety Disord*. 2005;19:295-311. <https://doi.org/10.1016/j.janxdis.2004.04.001>

**How to cite this article:** Duran S. Postpartum Specific Anxiety Scale (PSAS): Reliability and validity of the Turkish version. *Perspect Psychiatr Care*. 2019;1-7. <https://doi.org/10.1111/ppc.12385>