

RESEARCH ARTICLE

Psychometric properties of the perceived stress scale (pss-10) with breast cancer patients

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Abstract

Breast cancer diagnosis is one of the most difficult events that a woman can experience during her life and it usually produces high levels of stress. Global measures of perceived stress are useful for screening and for comparing stress levels between cancer patients and other clinical and nonclinical populations. One such instrument that is widely used is the Perceived Stress Scale (pss-10), but its psychometric properties have scarcely been analysed with breast cancer patients. The aim of this study was to provide validity evidence regarding the use of the 10-item version of the pss-10 as a tool for measuring perceived stress in this context. Participants were 215 Spanish breast cancer patients who completed the PSS-10 and the DASS-21, a measure of affective distress (depression, anxiety, and stress). The internal structure of the PSS-10 was examined through confirmatory factor analysis (CFA), and the reliability of test scores was estimated using McDonald's omega coefficient. Validity evidence based on relationships with other variables was also obtained using correlation analysis. The CFA supported a correlated two-factor structure: perceived helplessness (six negatively worded items) and perceived self-efficacy (four positively worded items). Reliability coefficients for scores on these two factors were 0.87 and 0.73, respectively. Scores on affective distress (DASS-21) were strongly and positively correlated with perceived helplessness and moderately and negatively correlated with perceived self-efficacy. The PSS-10 is an adequate tool for measuring perceived stress in the breast cancer context and it may be useful for identifying women at risk of psychological maladjustment.

KEYWORDS

cancer, distress, helplessness, self-efficacy, validity evidence

1 | INTRODUCTION

Female breast cancer accounted for the highest proportion of new cancer diagnoses worldwide in 2020, surpassing lung cancer (11.7% vs. 11.4%), and it is a leading cause of cancer death among women

(Sung et al., 2021). Cases are expected to reach 3,025,471 worldwide by 2040, about one million more diagnoses (Ferlay et al., 2020). Among women in our country, Spain, breast cancer is both the most common cancer diagnosis and the leading cause of cancer death (Spanish Society of Medical Oncology, 2021).

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Having a breast cancer diagnosis is one of the most difficult events that a woman can experience during her life (Dooley et al., 2017). Empirical evidence suggests that between 35% and 41% of these patients suffer symptoms of emotional distress (Cerezo et al., 2020; Fayanju et al., 2021; Ochoa et al., 2017) that affect their mental health and well-being (Alarcón et al., 2020; Cardenal et al., 2012; Cerezo et al., 2020, 2022). The emotional impact of breast cancer manifests in the form of anxiety, fear, and depression, which may persist for years after the end of treatment (Borgi et al., 2020; De la Torre-Luque et al., 2020; Li et al., 2021). High levels of stress are also common among these patients (Abuatiq et al., 2020; Dooley et al., 2017; Harris et al., 2017; Li et al., 2021), and consequently, various studies have examined the impact this has on mental health (Abdollahi et al., 2019; Arnaboldi et al., 2017; Voigt et al., 2017).

Stress occurs when a situation is perceived as uncontrollable, unpredictable, distressing or feared (Baik et al., 2019; Cohen et al., 1983; Lazarus & Folkman, 1984). When a person's well-being is threatened because a situation exceeds their coping resources, they will react with stress. This reaction triggers physical, psychological or social discomfort which is observable at the brain, endocrine, and mental levels (Faro, 2015; Lazarus & Folkman, 1984). The individual perception of stress depends on personality, learning, and culture (Folkman, 2011).

Some measures of perceived stress have been developed specifically for the cancer context, for example, the Questionnaire on Stress in Cancer Patients (Herschbach et al., 2003), which assesses cancer-specific stress situations, and the Newly Diagnosed Breast Cancer Stress Scale (Lee et al., 2013, 2021), which measures perceptions of stress at the beginning of the breast cancer process. However, the cancer experience does not occur in isolation, and specific measures must be complemented by global measures of perceived stress. The latter are useful both for screening purposes and for comparing stress levels between cancer patients and other clinical and nonclinical populations. One of the most well-known tools of this kind is the Perceived Stress Scale (pss-10) (PSS-14; Cohen et al., 1983). The PSS-14 is a 14-item self-report measure designed to explore the extent to which daily life situations during the last month are perceived as unpredictable, uncontrollable, and stressful. A shortened 10-item version has also been developed (PSS-10; Cohen et al., 1983; Cohen & Williamson, 1988). The PSS-10 has become one of the most widely used instruments for measuring perceived stress (Reyna et al., 2019), with both empirical studies and systematic reviews showing it to have better psychometric properties than the PSS-14 (Cohen & Williamson, 1988; Klein et al., 2016; Lee, 2012; Nordin & Nordin, 2013; Reyna et al., 2019; Taylor, 2015). The PSS-10 includes six negatively worded items (e.g., How often have you felt that you were on top of things?) and four positively worded items (e.g., How often have you been able to control irritations in your life?), each rated on a 5-point Likert-type scale.

The psychometric properties of the PSS-10 have been widely studied worldwide, including different populations from Asia (Anwer et al., 2020; Chen et al., 2021; Dao-Tran et al., 2017; Huang

et al., 2020; Islam, 2020; Kaya et al., 2019; Lu et al., 2017; Ng, 2013; Park & Colvin, 2019; Wang et al., 2011), Africa (Ben Loubir et al., 2014; Makhubela, 2020; Manzar et al., 2019), Latin America (González-Ramírez et al., 2013; Reyna et al., 2019; Ruisoto et al., 2020; Soares et al., 2018), and the USA (Cohen & Williamson, 1988; Ezzati et al., 2014; Roberti et al., 2006; Smith & Emerson, 2014; Smith et al., 2014). In Europe, studies have been carried out with populations from Greece (Andreou et al., 2011), Italy (Mondo et al., 2021), Germany (Bastianon et al., 2020; Klein et al., 2016; Reis et al., 2019), Czechoslovakia (Figalová & Charvát, 2021), Slovakia (Ráczová et al., 2018), and Spain (Pedrero-Pérez et al., 2015; Remor, 2006). The psychometric properties of the PSS-10 have also been studied with clinical samples, including, for example, individuals with oral lichen planus (Wiriyakijja et al., 2019), psychiatric problems (Jovanović & Gavrilov-Jerkovic, 2015), diabetes (Gillani et al., 2011), multiple sclerosis (Wu & Amtmann, 2013), and emotional disorders (Wongpakaran & Wongpakaran, 2010). However, studies with cancer patients are very scarce. To the best of our knowledge, only Golden-Kreutz et al. (2004) have analysed the psychometric properties of the PSS-10 in this population, specifically in 111 breast cancer patients in the USA.

In terms of validity evidence based on the internal structure of the PSS-10, the results usually support a two-factor structure, although a total score is commonly used (e.g., Cohen & Williamson, 1988; González-Ramírez et al., 2013; Pedrero-Pérez et al., 2015; Reyna et al., 2019). Most studies have found evidence for either a correlated two-factor model (Anwer et al., 2020; Bastianon et al., 2020; Chen et al., 2021; Golden-Kreutz et al., 2004; González-Ramírez et al., 2013; Huang et al., 2020; Kaya et al., 2019; Klein et al., 2016; Lu et al., 2017; Makhubela, 2020; Manzar et al., 2019; Mondo et al., 2021; Ng, 2013; Ráczová et al., 2018; Roberti et al., 2006; Ruisoto et al., 2020; Wang et al., 2011), or a bifactor model (Figalová & Charvát, 2021; Islam, 2020; Park & Colvin, 2019; Reis et al., 2019). The majority of these structures included one factor composed of six negatively worded items, usually labelled *perceived helplessness*, and another factor composed of four positively worded items, usually called *perceived self-efficacy* (Bastianon et al., 2020; Islam, 2020; Ng, 2013; Roberti et al., 2006). In general, these studies obtained satisfactory reliability coefficients (Cronbach's alpha or McDonald's omega) for scores on both perceived helplessness (generally above 0.78) and perceived self-efficacy, although values were slightly lower for the latter factor (generally above 0.64) (Anwer et al., 2020; Bastianon et al., 2020; Kaya et al., 2019; Manzar et al., 2019; Ng, 2013; Ráczová et al., 2018; Roberti et al., 2006; Ruisoto et al., 2020; Wang et al., 2011).

Regarding validity evidence for the PSS-10 based on relationships with other variables, empirical studies have found positive relationships between scores on perceived helplessness and scores on depression and anxiety (Anwer et al., 2020; Kaya et al., 2019; Leung et al., 2010), negative affect (Ezzati et al., 2014), and sleep disturbance (Anwer et al., 2020). Scores on this factor also correlated negatively with general health (Kaya et al., 2019; Leung et al., 2010) and positive affect (Ezzati et al., 2014). Most of these studies also

showed relationships in the opposite direction between scores on perceived self-efficacy and those on the aforementioned variables. However, to the best of our knowledge, validity evidence for the PSS-10 based on relationships with other variables has not been provided with cancer patients. Further research is therefore warranted to obtain additional validity evidence regarding the use of the PSS-10 in this population. This is important because the adequate assessment of the stress experienced by breast cancer patients could contribute to the design of more targeted psychological interventions to help them cope with the disease.

Given that the inferences drawn from instrument scores are for use in specific populations and contexts (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014; Muñiz & Fonseca-Pedrero, 2019), the aim of this study was to evaluate the psychometric properties of the PSS-10 in order to provide validity evidence for its use with breast cancer patients in the Spanish context, one that has not been studied previously. To this end, we sought to obtain validity evidence based on the instrument's internal structure and on relationships with other variables (specifically, depression, anxiety, and stress), and also to examine the reliability of test scores. Regarding the analysis of internal structure, we tested one-factor, uncorrelated and correlated two-factor, and bifactor models. Based on previous evidence, we expected to find: (1) a better fit for either the correlated two-factor or bifactor models, and (2) that scores on depression, anxiety, and stress would be positively related with scores on perceived helplessness and negatively related with scores on perceived self-efficacy.

2 | METHOD

2.1 | Participants

The sample comprised 215 Spanish women with breast cancer. They were aged between 28 and 74 years ($M = 51.25$, $SD = 8.64$) and were recruited through health centres from several regions of Spain that provide services to women with a breast cancer diagnosis. The mean age at diagnosis was 46.62 years ($SD = 8.69$), and time since diagnosis ranged from 0.08 to 24.83 years ($M = 4.62$, $SD = 5.24$). Approximately half of the women (45.1%) were at stage II of the TNM tumour classification system (Sobin et al., 2009). More information about sample characteristics is shown in Table 1.

2.2 | Instruments

2.2.1 | Perceived stress

The Spanish version (Remor, 2006) of the pss-10 (PSS-10; Cohen et al., 1983; Cohen & Williamson, 1988) was used. The PSS-10 measures the degree to which life situations are appraised as unpredictable, uncontrollable, and stressful. It comprises 10 self-report items, each rated on a 5-point Likert-type scale (0 = never to 4 = very often).

TABLE 1 Sociodemographic and clinical characteristics of the sample ($N = 215$)

Variables	%
Age (years)	
<50	42.8
50 or over	57.2
Marital status	
Married	74.9
Single	13.5
Divorced	8.8
Widowed	2.8
Education level	
Primary	7.9
Secondary	51.2
University	40.9
Occupation	
Homemaker	14.4
Employed	31.6
Unemployed	8.8
Sick leave	27.9
Retired	17.2
Breast cancer stage	
0	7.0
I	18.1
II	45.1
III	23.7
IV	6.0
Time since diagnosis	
<2 years	40.0
2–5 years	29.8
>5 years	30.2
Treatment received	
Surgery	91.6
Chemotherapy	60.0
Radiotherapy	57.2
Endocrine therapy	39.1
Monoclonal antibody	14.0
Type of surgery	
Conserving	54.8
Mastectomy without reconstruction	26.4
Mastectomy with reconstruction	18.8
Cancer sequelae	
None	36.3

(Continues)

TABLE 1 (Continued)

Variables	%
Lymphedema	25.1
Other sequelae	38.6
Medical examination	
Every 3 months	31.6
Every 6 months	40.9
Every 1 year or more	27.4

The PSS-10 yields scores on two factors: *Perceived helplessness*, composed of six negatively worded items (e.g., 'How often have you felt nervous or stressed?') reflecting the perception of stress; and *Perceived self-efficacy*, comprising four positively worded items (e.g., 'How often have you felt that things were going your way?') referring to the perceived degree of coping ability with respect to current stressors.

2.2.2 | Depression, anxiety, and stress

The Spanish version (Daza et al., 2002) of the Depression, Anxiety, and Stress Scales (DASS-21; Lovibond & Lovibond, 1995) was used. Previous studies (Bener et al., 2016) with breast cancer patients have shown that the DASS-21 performed better than the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) and the Beck Depression Inventory (BDI-II; Beck et al., 1996) in terms of sensitivity, specificity, and positive and negative predictive values. The DASS-21 consists of three 7-item subscales: *Depression* (e.g., 'I felt down-hearted and blue'), *Anxiety* (e.g., 'I felt scared without any good reason'), and *Stress* (e.g., 'I felt that I was rather touchy'). The total score is considered to be a measure of general affective distress (Daza et al., 2002). Each item is rated on a 4-point Likert-type scale, with respondents being asked to consider how they felt over the past week (from 0 = did not apply to me at all, to 3 = applied to me very much or most of the time). High scores on each subscale indicate higher levels of the respective construct. Cronbach's alpha coefficients in the present sample were 0.95 for total scores, 0.90 for depression, 0.84 for anxiety, and 0.87 for stress.

2.3 | Procedure

This study followed the ethical standards of the Declaration of Helsinki and was approved by the Experimentation Ethics Committee of the University of Malaga. The sample was recruited by convenience. Participants were all volunteers and they signed informed consent for their anonymous responses to be used solely for research purposes. No incentives were given. Healthcare staff contacted potential participants in person, and those who agreed to take part in the study were sent an email with a link to the online questionnaire. There were no missing data as questionnaires could not be submitted electronically unless all questions had been answered.

2.4 | Data analysis

We began by computing descriptive statistics for PSS-10 items and the other study variables. Validity based on the internal structure of the PSS-10 was then assessed through confirmatory factor analysis, using RStudio software with the *lavaan* package (Rosseel, 2012). Based on previous evidence, we tested four structural models: (1) a one-factor model, with all 10 items loading on a single factor; (2) an uncorrelated two-factor model with negatively worded items (1, 2, 3, 6, 9, and 10, corresponding to perceived helplessness) and positively worded items (4, 5, 7, and 8, corresponding to perceived self-efficacy); (3) a correlated two-factor model, with the same structure, which is mathematically equivalent to the second-order model (Golden-Kreutz et al., 2004); and (4) a bifactor model, with two factors and each item loading on a general factor.

Model parameters in the CFAs were estimated using the unweighted least squares method and the polychoric correlation matrix, and we computed the following goodness-of-fit indices: comparative fit index (CFI), non-normed fit index (NNFI), the root mean square error of approximation (RMSEA), and the root mean square residuals (RMSR). Values of the CFI and NNFI above or close to 0.95, RMSR values close to 0.08, and RMSEA values below 0.06 were interpreted as a good fit (Hu & Bentler, 1999). RMSEA values between 0.06 and 0.08 were interpreted as a reasonable fit (Browne & Cudeck, 1993). The reliability of test scores was analysed by computing McDonald's omega coefficient, considering values of 0.70 or higher as satisfactory.

Finally, we obtained validity evidence based on relationships with other variables by calculating Pearson correlation coefficients between PSS-10 scores and scores on depression, anxiety, and stress. Coefficients of |0.10| were considered as small, of |0.30| as moderate, and of |0.50| or higher as strong correlations (Cohen, 1988).

3 | RESULTS

3.1 | Descriptive statistics

Table 2 shows means, standard deviations, and skewness and kurtosis coefficients for PSS-10 items, for perceived helplessness and self-efficacy factor scores, and for scores on the other study variables. Some of the items of the PSS-10 showed a slight departure from normality, mainly in the form of negative kurtosis.

3.2 | Validity evidence based on internal structure

Table 3 shows the goodness-of-fit indices for the models tested. Both the one-factor and uncorrelated two-factor models showed a poor fit to the data, with indices below the recommended threshold. By contrast, indices for the correlated two-factor model were indicative of a good fit. The solution of the bifactor model did not converge, implying that its estimates are untrustworthy. Figure 1 shows the

TABLE 2 Means, standard deviations, and skewness and kurtosis coefficients for Perceived Stress Scale (PSS-10) items, for perceived helplessness and self-efficacy factor scores, and for scores on the other study variables ($N = 215$)

Variables	M	SD	Skewness	Kurtosis
1. In the last month, how often have you been upset because of something that happened unexpectedly?	2.06	1.24	−0.02	−0.87
2. In the last month, how often have you felt that you were unable to control the important things in your life?	1.83	1.31	0.11	−1.05
3. In the last month, how often have you felt nervous and stressed?	2.59	1.20	−0.39	−0.91
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	2.35	1.06	−0.11	−0.61
5. In the last month, how often have you felt that things were going your way?	2.39	0.93	−0.14	−0.16
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	2.03	1.18	−0.03	−0.77
7. In the last month, how often have you been able to control irritations in your life?	2.46	0.92	−0.04	−0.51
8. In the last month, how often have you felt that you were on top of things?	2.10	1.05	−0.05	−0.45
9. In the last month, how often have you been angered because of things that happened that were outside of your control?	2.09	1.31	−0.11	−1.07
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	1.86	1.29	0.05	−1.03
Perceived helplessness (PSS-10)	12.46	5.87	−0.15	−0.69
Perceived self-efficacy (PSS-10)	9.30	2.85	0.16	−0.27
Depression (DASS-21)	6.47	5.38	0.76	−0.18
Anxiety (DASS-21)	6.09	4.96	0.98	0.60
Stress (DASS-21)	9.00	5.39	0.35	−0.46
General affective distress (DASS-21 total score)	21.58	14.36	0.68	0.05

TABLE 3 Goodness-of-fit indices from CFA

Model	χ^2	df	CFI	NNFI	RMSEA	90% CI	RMSR
One-factor	158.97	35	0.93	0.91	0.13	[0.11, 0.15]	0.12
Uncorrelated two-factor	384.14	35	0.79	0.74	0.22	[0.20, 0.24]	0.18
Correlated two-factor	47.05	34	0.99	0.99	0.04	[0.01, 0.07]	0.06

standardized parameter values for the correlated two-factor solution, all of which are statistically significant.

3.3 | Reliability of PSS-10 scores

McDonald's omega coefficients for perceived helplessness and perceived self-efficacy were 0.87 and 0.73, respectively. Both these values are above the established cut-off of 0.70.

3.3.1 | Validity evidence based on relationships with other variables

Table 4 shows the correlation between PSS-10 factor scores and scores on other variables. Scores on perceived helplessness correlated positively and strongly with depression, anxiety, and stress,

whereas scores on perceived self-efficacy correlated negatively and moderately with these variables. In all cases, correlation coefficients were higher with respect to the stress scale than the depression and anxiety scales of the DASS-21.

4 | DISCUSSION

The present study analysed the psychometric properties of the PSS-10 with the aim of supporting its use as a tool for measuring perceived stress among women with breast cancer. To this end, we examined the scale's internal structure and the reliability of test scores, and obtained validity evidence based on relationships with other variables.

Regarding the internal structure of the PSS-10, the goodness-of-fit indices were satisfactory for the correlated two-factor model, with values of 0.04 for the RMSEA, 0.06 for RMSR, and 0.99 for both the

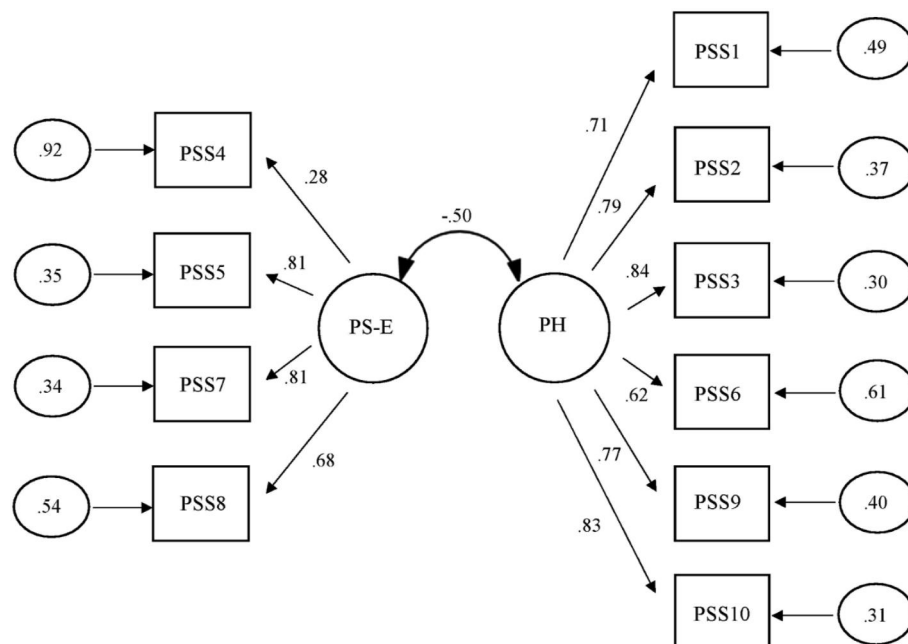


FIGURE 1 Standardized parameter values for the correlated two-factor model. PH, Perceived helplessness; PS-E, Perceived self-efficacy; PSS, Perceived Stress Scale

TABLE 4 Correlations between Perceived Stress Scale (PSS-10) factor scores and depression, anxiety, and stress ($N = 215$)

Variables	Perceived helplessness	Perceived self-efficacy
Depression (DASS-21)	0.69***	−0.33***
Anxiety (DASS-21)	0.66***	−0.29***
Stress (DASS-21)	0.74***	−0.40***
General affective distress (DASS-21 total score)	0.77***	−0.37***

*** $p < 0.001$.

CFI and NNFI. The first factor was composed of the six negatively worded items, indicative of perceived helplessness, while the second comprised the four positively worded items, indicative of perceived self-efficacy. This model is consistent with previous research with breast cancer patients (Golden-Kreutz et al., 2004), as well as with other clinical (Gillani et al., 2011; Wongpakaran & Wongpakaran, 2010) and non-clinical populations (Anwer et al., 2020; Bastianon et al., 2020; Chen et al., 2021; González-Ramírez et al., 2013; Huang et al., 2020; Kaya et al., 2019; Klein et al., 2016; Lu et al., 2017; Makhubela, 2020; Manzar et al., 2019; Mondo et al., 2021; Ng, 2013; Ráczová et al., 2018; Roberti et al., 2006; Ruisoto et al., 2020; Wang et al., 2011). The reliability of test scores was also satisfactory, with McDonald's omega coefficients of 0.87 for scores on perceived helplessness and 0.73 for scores on perceived self-efficacy, both above the threshold of 0.70. These values are also in line with those obtained by other researchers, including the finding

of slightly lower reliability coefficients for scores on the second factor (Anwer et al., 2020; Bastianon et al., 2020; Kaya et al., 2019; Manzar et al., 2019; Ng, 2013; Ráczová et al., 2018; Roberti et al., 2006; Ruisoto et al., 2020; Wang et al., 2011), probably due to the smaller number of items. It should be noted that the bifactor model did not converge. Other authors have similarly found that a two-factor structure showed a better fit to the data than did the bifactor model (Makhubela, 2020; Reyna et al., 2019). The lack of convergence in our data may be due to sample size. Zhang et al. (2021) showed that anomalous results between the general factor and all specific factors used to predict the outcome are highly likely when sample size is small, leading them to recommend a sample size of 600 when testing bifactor models.

The mean scores on perceived helplessness and perceived self-efficacy were 12.46 and 9.30, respectively. These figures cannot be compared with those obtained in previous studies in the general Spanish population because there only the mean total score on the PSS-10 is reported. In order to make the comparison we computed the mean total score for our sample. The figure obtained, 19.15, is higher than that reported by Pedrero-Pérez et al. (2015) for women in general ($M = 15.72$). Although further research is needed to explore these differences, it may be the case that women with breast cancer perceive higher levels of stress in comparison with the general female population. It would also be interesting in future studies to analyse differences in stress levels with respect to other clinical samples.

Regarding validity evidence based on the associations with other variables, the results were in line with what we expected. Scores on perceived helplessness were strongly and positively correlated (coefficients of 0.60 or higher) with scores on depression, anxiety, and

stress (DASS-21). Conversely, scores on perceived self-efficacy showed moderate negative correlations with these variables. These results are consistent with previous studies involving different populations (Anwer et al., 2020; Kaya et al., 2019; Leung et al., 2010) and indicate that women with a higher level of perceived helplessness and lower level of perceived self-efficacy also experience higher levels of depression and anxiety. Overall, our results suggest that the PSS-10 may be a useful tool for identifying breast cancer patients at risk of psychological maladjustment, and who therefore need psychological support to cope more successfully with the disease process.

This study has a number of limitations that should be acknowledged. First, participants were recruited through a convenience sampling strategy and almost half of the women (45.1%) were at cancer stage II, which may limit the generalisability of results. Second, the PSS-10 is a self-report questionnaire and it might therefore be affected by response bias (e.g., social desirability, order effect bias). Third, the sample size is likely too small for testing a bifactor model (Zhang et al., 2021), and hence further studies with a larger sample size are required. That said, it is important to acknowledge the challenges involved in recruiting samples with specific characteristics, as is the case here. Finally, we provide limited validity evidence based on relationships with depression, anxiety, and stress. Further research is therefore needed to examine the relationship with other variables such as personality, coping strategies, social support, and resilience.

Despite these limitations, this study extends knowledge regarding the use of the PSS-10 in the cancer context, providing evidence about its validity and the reliability of test scores. Overall, the findings suggest that the PSS-10 is an adequate tool for measuring perceived stress in Spanish women with a diagnosis of breast cancer. This scale provides scores for both perceived helplessness and perceived self-efficacy, and scores on the first factor are highly correlated with depression and anxiety. This supports the use of the PSS-10 as a complementary tool for assessing psychological adjustment among people with cancer. Using the scale to assess the stress experienced by women with breast cancer may be useful both to identify those who are at risk of psychological maladjustment and to design more targeted psychological interventions to help them cope with the disease.

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CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

DATA AVAILABILITY STATEMENT

Data is available and can be consulted at this link: <https://dx.doi.org/10.24310/riuma.23190>.

ETHICS STATEMENT

This study followed the ethical standards of the Declaration of Helsinki and was approved by the Experimentation Ethics Committee of the University of Malaga (555–2017 H).

PATIENT CONSENT STATEMENT

Participants were all volunteers and they signed informed consent for their anonymous responses to be used solely for research purposes.

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