Oronoz, Beatriz; Alonso-Arbiol, Itziar; Balluerka, Nekane
A Spanish adaptation of the Parental Stress Scale
Universidad de Oviedo
Oviedo, España

Available in: http://www.redalyc.org/articulo.oa?id=72719423
A Spanish adaptation of the Parental Stress Scale

Beatriz Oronoz, Itziar Alonso-Arbiol and Nekane Balluerka
Universidad del País Vasco

As a specific measure to assess levels of parental stress is lacking in Spain, the aim of this study was to develop the Spanish version of the Parental Stress Scale (PSS). After translating it from English into Spanish using the forward-backward translation method, it was administered to a sample of 211 first-time parents (105 males and 106 females). A factor analysis was carried out to assess its dimensionality. After refining the scale, we obtained a two-factor solution that accounted for 33.5% of the variance, with the factors Stressors and Parenting Rewards. No gender differences were found either in the scale or in the dimensions. Criterion-related validity was tested by means of correlations with anxiety and depressive symptoms and, with regard to internal consistency, adequate alpha coefficients were obtained for both factors.

The birth of the first baby is one of the events that most influence exerts over the couple dynamics. As the first baby comes, couples should face several changes that remarkably affect different areas of their lives (personal, marital, family, and work). Thus, in the process of adapting to this new role, both members of the couple, but especially women, may experience high levels of stress (Belsky, Lang, & Rovine, 1985; Berry & Jones, 1995; Coltrane, 2000; Cox, 1985; Yoge, 1986). As a consequence of these stress levels, the transition to parenthood might be more difficult, and psychological problems may arise at different levels: individual, couple relationship, and relationship with the baby.

An early detection of a couple’s difficulties due to high levels of stress may help us to prevent more serious consequences in terms of each partner’s psychological health—depressive and anxiety symptoms—(Garret, 2003; Windle & Dumenci, 1997), in the couple relationship (Lavee, Sharlin, & Katz, 1996), and in the baby’s welfare (Benzies, Harrison, & Magill-Evans, 2004). In this context, it is necessary to obtain valid and reliable assessment tools of new parents’ stress.

The measurement of parents’ stress levels has been traditionally carried out with different assessment tools (for a review, see Lessenberry & Rehfeldt, 2004). Among those specific measures for parental stress used in English, we may highlight both Parenting Stress Index (PSI; Abidin, 1995) and Parental Stress Scale (PSS; Berry & Jones, 1995) because of their adequate psychometric properties. Although no full psychometric properties are provided, a Spanish adaptation of the PSI scale has already been used with a sample of mothers of autistics (Pozo, Sarriá, & Méndez, 2006). Nevertheless, the use of the PSS (Berry & Jones, 1995) is especially recommended because it displays better applicability: a) being a shorter and more easily understandable self-report, and b) covering parents’ stress levels even from childbirth. The Parental Stress Scale is an assessment tool designed to measure the level of stress that parents experience as a result of having to rear children. It focuses specifically on the stress generated by the parenting role, as opposed to other instruments that fail to separate parenting stress from the stress that be a result of other roles and situations, such as financial or marital problems, or to those instruments that assess the stress generated by the parenting role only in a very specific situation (i.e., during child hospitalization, Ochoa, Repáraz, & Polaino-Lorente, 1997). The PSS is made up of 18 items rated on a Likert-type scale that describe the parent-child relationship and how each parent feels about it.

Regardless of the existence of reliable assessment tools in English, we do not have a specific measure of parental stress in Spanish. Therefore, the aim of this study is to adapt the PSS to Spanish so that it can be used confidently with Spanish-speaking people.
Method

Participants

The sample comprised 211 married or cohabiting heterosexual participants living in Gipuzkoa (Spain) — both members of the couple in 106 dyads — who had a baby between 3 and 8 months ($M=5.37; SD=7.2$). The mean for the total time living with their partner was 4.7 years ($SD=2.65$), and age ranged from 20 to 39 years ($M=31.5; SD=3.46$) for women, and from 24 to 53 ($M=33.4; SD=4.40$) for men. As for work status, 84% of women and 98% of men were paid workers.

PSS Item Forward-Backward Translation

Before translating the items of a questionnaire into another language to be used in a country with its own culture, conceptual equivalence and content equivalence of the underlying construct should be considered. Conceptual equivalence refers to having similar meanings in different cultures (Flaherty, Gaviria, Pathak, Mitchell, Wintrob, Richman, & Birz, 1988). Two researchers who are experts in the field agreed that the meaning of the parental stress construct underlying the PSS scale was meaningful in Spanish culture.

Content equivalence is established by showing that the content of each item is relevant to the culture being considered and likely to have similar meanings in both cultural contexts. In our case, two bilingual researchers who were fluent in both English and Spanish and were involved in the back-translation process evaluated the content equivalence of each item. All 18 items of the existing English-language PSS were thought to be relevant to parenting stress relationships in Spain but, since one of them (item 16, ‘Having a child(ren) has meant having too few choices and too little control over my life’) was considered by the researchers as too vague and ambiguous, a 17-item Spanish version was considered for the translation phase. In order to increase linguistic equivalence between the existing English-language PSS and the new Spanish-language PSS, a forward-backward translation method was used. Each English item was translated into Spanish by a bilingual researcher familiar with the field of parental stress. A bilingual linguist familiar with both societies and parenting process then translated the proposed Spanish-language items back into English. The two translations were compared, discussed, and reduced to a single mutually agreeable wording, and carefully examined by us to determine whether the items seemed to be essentially the same as the English-language originals.

Some small changes were made during this process to adjust the items' ability to fit into contemporary Spanish. For example, we used the wording «padre/madre» (father/mother) when «parent» was used in English items, because the exact translation for this gender-neutral term (progenitor) would have sounded too formal for the context in Spanish (see items 1, 15, and 17). Another change took place in item 13, where «incómodo» (uncomfortable) was preferred in the Spanish version instead of the exact equivalent word (embarazoso) for «embarrassing» from the English version. The final wordings of all items are shown in Table 1.

Once the item wording had been decided, the items were placed in a questionnaire format in which participants were asked to rate each one on a 1-to-5 Likert-type response scale ranging from 1 (strongly disagree [totalmente en desacuerdo]) to 5 (strongly agree [totalmente de acuerdo]). The items appeared in the same order as in the English-language PSS (except for the eliminated item).

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>Factors 2</th>
<th>Factors 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Me siento feliz en mi papel como padre/madre (R)</td>
<td>-0.34</td>
<td>0.51</td>
<td>-0.706</td>
</tr>
<tr>
<td>2. No hay nada o casi nada que no haría por mi hijo/a si fuera necesario (R) (D)</td>
<td>0.18</td>
<td>-0.96</td>
<td>-2.48</td>
</tr>
<tr>
<td>3. Atender a mi hijo/a a veces me quita más tiempo y energía de la que tengo</td>
<td>0.107</td>
<td>0.635</td>
<td>0.139</td>
</tr>
<tr>
<td>4. A veces me preocupa el hecho de si estoy haciendo lo suficiente por mi hijo/a (D)</td>
<td>-0.115</td>
<td>0.252</td>
<td>0.001</td>
</tr>
<tr>
<td>5. Me siento muy cercano/a a mi hijo/a (R)</td>
<td>0.189</td>
<td>-0.008</td>
<td>-0.313</td>
</tr>
<tr>
<td>6. Disfruto pasando tiempo con mi hijo/a (R)</td>
<td>0.388</td>
<td>0.090</td>
<td>-0.458</td>
</tr>
<tr>
<td>7. Mi hijo/a es una fuente importante de afecto para mí (R) (D)</td>
<td>0.954</td>
<td>-0.013</td>
<td>-0.095</td>
</tr>
<tr>
<td>8. Tener un hijo/a me da una visión más certera y optimista para el futuro (R) (D)</td>
<td>0.165</td>
<td>0.207</td>
<td>-1.19</td>
</tr>
<tr>
<td>9. La mayor fuente de estrés en mi vida es mi hijo/a</td>
<td>0.112</td>
<td>0.620</td>
<td>-0.32</td>
</tr>
<tr>
<td>10. Tener un hijo/a deja poco tiempo y flexibilidad en mi vida</td>
<td>0.045</td>
<td>0.674</td>
<td>-0.011</td>
</tr>
<tr>
<td>11. Tener un hijo/a ha supuesto una carga financiera</td>
<td>-0.043</td>
<td>0.350</td>
<td>0.077</td>
</tr>
<tr>
<td>12. Me resulta difícil equilibrar diferentes responsabilidades debido a mi hijo/a</td>
<td>0.005</td>
<td>0.649</td>
<td>-0.083</td>
</tr>
<tr>
<td>13. El comportamiento de mi hijo/a a menudo me resulta incómodo o estresante</td>
<td>-0.059</td>
<td>0.570</td>
<td>-0.205</td>
</tr>
<tr>
<td>14. Si tuviera que hacerlo de nuevo, podré decidir no tener un hijo/a (D)</td>
<td>0.115</td>
<td>0.172</td>
<td>-0.011</td>
</tr>
<tr>
<td>15. Me siento abrumado/a/a por la responsabilidad de ser padre/madre</td>
<td>0.029</td>
<td>0.422</td>
<td>-1.37</td>
</tr>
<tr>
<td>16. Me siento satisfecho/a como padre/madre (R)</td>
<td>-0.005</td>
<td>0.186</td>
<td>-0.792</td>
</tr>
<tr>
<td>17. Disfruto de mi hijo/a (R)</td>
<td>-0.032</td>
<td>0.103</td>
<td>-0.726</td>
</tr>
</tbody>
</table>

Note: R= Reversed, D= Deleted.
**Instruments**

**Parental Stress Scale (PSS; Berry & Jones, 1995).** The level of parental stress was evaluated by means of the Spanish version of the PSS scale, which, in a preliminary version, consisted of 15 items rated on a 5-point Likert scale. The total score was obtained by summing up the value for each item (reversed items are shown in Table 1). A higher score indicates a higher level of parental stress.

**Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961; Conde, Esteban, & Useros, 1976).** The BDI is a 21 item self-report rating inventory measuring characteristic attitudes and symptoms of depression. Each item has 4 sentences (scored from 0 to 3), referring to how the participant has felt over the last week («I am no more irritated than I ever am», «I am slightly more irritated now than usual», «I am quite annoyed or irritated a good deal of the time», «I feel irritated all the time now»). The total score may range from 0 to 63. A higher score indicates a higher level of depressive symptoms. The internal consistency for this sample was alpha= .79.

**State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970, 1994).** The STAI is a self-report inventory developed to measure both state and trait anxiety but only the STAI-E (state anxiety) was administered in this study. The STAI-E scale contains 20 items, which are evaluated on a 4-point Likert scale («I feel tense»). The total score may range from 0 to 60. A higher score indicates a higher level of state anxiety. The internal consistency for this sample was alpha= .92.

**Procedure**

In a previous pilot stage, a preliminary Spanish version of the PSS was administered to a small sample of 5 couples in order to examine the degree of understanding of the items. The two items that showed difficulty in terms of understanding (items 2 and 4) —even though they were not deleted at the very first moment— had inadequate psychometric properties in the original American version (Berry & Jones, 1995). Thus, due to these understanding and psychometric problems, they were neither reformulated nor administered in the experimental phase of the study.

After signing the informed agreement and receiving instructions from a trained interviewer, both members of the couple filled in the questionnaires individually. There was no time limit.

**Results**

**Exploratory Factor Analysis**

In order to examine the dimensionality of the questionnaire, a factor analysis of generalized least-squares estimation with oblimin rotation was conducted. Prior to the analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett sphericity test were calculated. KMO index showed a value of .83, which may be considered acceptable, and the Bartlett test proved to be statistically significant, $\chi^2(105)= 879.46$, $p<.001$. Therefore, the factor analysis was considered appropriate.

The factor analysis was successively conducted with 1, 2 and 3 factors, yielding only a good model fit with 3 factors according to the chi-square statistic index ($\chi^2(63)= 71.8$, $p=.21$) —namely, being statistically significant for the model of 1 and 2 factors, and non-significant for the model of 3 factors— (factor loadings for the three-factor solution are shown in Table 1).

Nevertheless, the first factor contained only one item (item 7). For that reason, it could not be considered as a dimension of construct of parental stress. Consequently, and after deleting that isolated item as well as those items whose factor loadings were low (<.30) for all factors (items 2, 4, 8, and 14), a new factor analysis of generalized least-squares estimation with oblimin rotation was conducted. In this solution, a two-factor structure showed a good model fit ($\chi^2(43)= 39.1$, $p=.64$) and the solution accounted for 33.5% of the variance, where Factor 1 (which we called ‘Baby’s Rewards’) contributed to 23.4% of the variance and comprised 5 items (1, 5, 6, 16, and 17), and Factor 2 (which we labeled as ‘Stressors’) contributed to 10.1% of the variance and was made up of 7 items (3, 9, 10, 11, 12, 13, and 15). In this case, as it can be seen in Table 2, the factor loadings of all items were higher than .35 for corresponding factors.

Since a gender difference was expected for parental stress, correlations between the two subscales (Baby’s Rewards and Stressors) were calculated separately, obtaining a somewhat higher correlation for women (.37, $p<.01$) than for men (.32, $p<.01$).

**Internal consistency**

The internal consistency of the instrument was examined by means of Cronbach alpha. We calculated Cronbach alpha coefficients for the subscales as presented in the final version of the Spanish PSS, and they showed an adequate internal consistency for both subscales: Baby’s Rewards ($\alpha=.77$), and Stressors ($\alpha=.76$).

**Criterion-Related Validity**

To assess the criterion-related validity of the PSS questionnaire, we examined the mean differences in Parental Stress (total score), and Baby’s Reward and Stressor subscales for gender. Previous literature suggests the hypothesis that stress
measures can be expected to show gender differences (e.g., Brody & Hall, 1989; Hovanitz & Kozora, 1989; Remor, 2006). In our sample, means and standard deviations for males and females are respectively as follows: 20.3 (SD = 4.7) and 22.3 (SD = 6.0) for the total score for Parental Stress; 7.1 (SD = 1.6) and 6.9 (SD = 1.9) for Baby’s Rewards; and 13.2 (SD = 3.9) and 15.4 (SD = 4.9) for Stressors. As for gender, no differences were found, as it can be seen in Table 3. In fact, although statistically significant differences emerged for the Parental Stress Scale and for the Stressor subscale in the Mann-Whitney’s U analysis, the effect size was small in both cases ($\eta^2 = .03$ and $\eta^2 = .04$, respectively).

The second issue we examined was the association between Parental Stress and its subscales, and two related variables —anxiety (STAI) and depressive symptoms (BDI)—. Before calculating these correlations, we examined whether possible gender differences for anxiety and depressive symptoms appeared. In our sample, means and standard deviations for males and females were respectively as follows: 14.0 (SD = 8.1) and 16.4 (SD = 10.1) for anxiety; and 3.5 (SD = 3.5) and 5.7 (SD = 4.7) for depressive symptoms. As for the gender differences test, only depressive symptoms were significantly higher for women than for men (Mann-Whitney’s $U = 3,693.50; p < .001; \eta^2 = .08$). Thus, we computed zero-order correlations among target variables without making any gender distinction (see Table 4).

Previous studies (e.g., Wilkie & Ames, 1986; Windle & Dumenci, 1997) have found that parental stress is related to depressive symptoms and to anxiety. The results obtained in our study pointed in the same direction, where all correlations were moderate or high (ranging from -.29 to .51).

### Discussion

The purpose of this study was to examine the psychometric properties (validity and reliability) of the Spanish version of the Parental Stress Scale (PSS). The results show that the final 12-item Spanish version of the PSS has adequate factor and criterion-related validity, as well as adequate internal consistency reliability. Furthermore, the latest data about new parents in the Basque region in 2004, showed that 87% of women and 99.9% of men were paid workers, which are very similar percentages to those of our sample. Thus, although we did not use a random design for the data collection, our study may have produced quite similar data to that obtained in the target population. Moreover, assessment performance with the parents in this study confirms that the Spanish version of the questionnaire is easy to understand and quick to administer, supporting its feasibility in everyday clinical and research practice.

When factor structures of our Spanish version and of the original American version were compared, some differences were highlighted. Specifically, authors included four subscales in the original American version: the two subscales we found in our study (i.e., ‘baby’s rewards’ and ‘parental stressors’), and two additional short subscales (i.e., ‘lack of control’ and ‘parental satisfaction’). Nevertheless, these two subscales proved to be somewhat problematic because they showed a considerable empirical overlap with the two scales that also appeared in our study and furthermore, they are not based upon a clear theoretical distinction. Therefore, a two-dimensional structure seems much more appropriate in the design of an assessment tool for parental stress.

The transition to parenthood becomes a complicated period where changes and redefinitions take place in men and women’s lives in order to adjust to the new role of being a father or mother. In this adaptation process, members of the couple may experiment both negative and positive sides of parenthood, which Fawcett (1988) called «costs and benefits» of motherhood/fatherhood. In this respect, the two dimensions of PSS in our study —‘baby’s rewards’ and ‘parental stressors’— cover that combination of pros and cons that accompany the transition to parenthood. While the baby’s reward dimension refers to the satisfaction that mothers/fathers find in the parental role, parental stressors refers to the stress levels parents find in this new role. This cost-benefit idea also appears in the Parent Stress Index (PSI, Abidin, 1995), where two subscales, called «parental stress» and «child’s reinforcement of parent», also emerged.

The relationship of parental stress with both anxiety and depressive symptoms provided a basis for the criterion-related validity of the questionnaire. These results are in line with the extensive scientific literature that pointed out that the emotional expression of general stress is characterized by anxiety and depression (Bados, Solanas, & Andrés, 2005; Lazarus, 1993; Lovibond & Lovibond, 1995), and that parental stress is associated with anxiety (Wilkie & Ames, 1986) and with depressive symptoms (Windle & Dumenci, 1997).

Regarding the possible relationship between gender and parental stress, our data shows some differences in comparison with earlier findings with American samples (e.g., Belsky et al., 1985; Berry & Jones, 1995; Coltrane, 2000; Cox, 1985; Yogev, 1986). In these previous studies, when the core dimension of parental stress was examined, it seemed that women suffered higher levels of stress. This has been accounted for within a complex context, where women’s high levels of stress are a consequence of multiple individual, couple and social factors, such as work overload, conflict of family-work roles, and the involvement of the husband/partner in child-rearing (Lewis &...
Cooper, 1988). However, the much smaller differences found in our study might be explained in terms of a general growing involvement of men in child-rearing, and also a possible cultural distinctiveness may be underlying, as suggested by Hofstede's (1998) studies. According to Hofstede's ranking of countries as regards the masculinity/femininity dimension, Spain is a less masculine country than the United States, so the rigidity of gender roles should be somewhat lower in Spain — and especially in the Basque region (Alonso-Arbiol, Shaver, & Yárnoz, 2002) — leading to an equal involvement of men and women in child-rearing.

The Spanish version of the PSS is the first instrument that assesses the stress levels suffered by Spanish parents as a consequence of the parental role. Nevertheless, it is important to warn of the study’s limitations. The main limitation is the small size of the sample. Therefore, future research should focus on obtaining data from more specific samples, which should include other groups not represented in the study (i.e., parents with more than one child, parents of older children, adoptive parents). On the other hand, in future studies, temporal stability should be explored and confirmatory analyses carried out to ratify the model.

To sum up, the Spanish version of the PSS seems to be an accurate instrument for assessing parental stress in both clinical and social applied settings, and especially as a first screening to detect couples with high levels of stress or related difficulties in the transition to parenthood.

Acknowledgements

This research was supported by a grant from the Research Bureau of the University of the Basque Country to the first author for the completion of her doctoral dissertation under the second author’s supervision (1/UPV 00218.230-H-13680/2001). The authors wish to thank Bide Etxeberría, Aloña Goiburu, Vanesa Mangas, Idoia Otaegi, Laura Sepúlveda, Pilar Valor, Isabel Vila, Sandra Villagra, and Saioa Zarraquín for invaluable help collecting parents’ data.

Notes

1 Data from one man was not collected because he did not show up at the assessment interview.
2 The previous Spanish version of PSS was made up of the 17 items that were translated into Spanish.
3 These two items did not fit in any dimension of the English version of the PSS.

References


