Brief article

THE PARENTAL STRESS SCALE: INITIAL PSYCHOMETRIC EVIDENCE

Judy O. Berry

The University of Tulsa

Warren H. Jones

University of Tennessee

ABSTRACT

The development of a measure of parental stress, the Parental Stress Scale, is presented. All participants (total $N = 1276$) completed the Parental Stress Scale and some also completed the Parenting Stress Index, a generic measure of stress called the Perceived Stress Scale, relevant measures of emotions and role satisfaction (e.g. loneliness, marital satisfaction, guilt, etc.), and one group completed the Parental Stress Scale twice. Analyses suggested that the Parental Stress Scale is highly reliable, both internally and over time, and related to the general measure of stress. Also, results were consistent across parents of differing parental characteristics, suggesting the stability of scale characteristics. The validity of Parental Stress Scale scores was supported by predicted correlations with measures of relevant emotions and role satisfaction and significant discrimination between mothers of children in treatment for emotional/behavioral problems and developmental disabilities vs mothers of children not receiving treatment. Finally, a factor analysis suggested that a 4-factor structure underlies responses to the Parental Stress Scale, despite its high internal reliability.

KEY WORDS • parenting • parents • stress

Research indicates that vulnerability to stress has important implications for adjustment and well-being and recent evidence emphasizes the uniqueness of stress responses to individuals and specific stressors (cf. Lazarus & Folkman, 1984). In this regard, the measurement of parental stress has received limited attention. Although some general stress inventories (e.g. Kanner et al., 1981) include items related to parenting, it is not possible to differentiate the stress

Address correspondence to Judy O. Berry, Department of Psychology, The University of Tulsa, 600 South College, Tulsa, OK 74104–3189, USA. e-mail: berryjo@utulsa.edu

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associated with the role of being a parent specifically in these measures. A few scales examine family stress (e.g. McCubbin et al., 1987), but either confound marital stress with parental stress or fail to assess the perceived stress of an individual parent.

The only measure of any direct relevance to parental stress, the Parenting Stress Index (PSI) (Abidin, 1986), is a lengthy instrument designed to measure stress in a parent–child system. Although the PSI has adequate reliability and validity, it has been criticized as not measuring the construct of stress (Conoley & Kramer, 1989). The PSI has been used with parents of children without clinical problems, but is used much more extensively with clinical populations. Furthermore, the PSI is highly invasive, making its suitability questionable for parents of children without special needs and in some cases for clinical populations as well. An additional problem with the PSI is the sex difference, with fathers earning significantly lower stress scores than mothers. The recent increases in fathers' involvement with their children (e.g. due to maternal employment, paternal custody) would support the need for an instrument which measures parental stress for both mothers and fathers. As yet, however, there are no widely available and easily administered measures with which to assess the stress associated with the role of the parent in ordinary families.

Another problem is that research regarding the parent–child relationship has continued to focus almost exclusively on the impact of parents on their children rather than the reverse. When parental stress is studied, it is specifically in families with children with clinical problems such as hyperactivity (e.g. Breen & Barkley, 1988) or developmental disabilities (e.g. Quittner et al., 1990). As a consequence, we know little about the stress of being a parent of children generally. The parental role involves both care-giving and development of an intimate relationship and these can be both taxing and rewarding. For example, although greater marital satisfaction is associated with children leaving home, White & Edwards (1990) found that the 'empty nest' was significantly associated with improvement in overall life satisfaction only when post-launching contact with children was frequent, suggesting that the parental role is one of rewards as well as demands.

Yet the demands are important and ubiquitous as well as multifaceted. Pearlin & Schooler (1982: 111) urged the study of stress and coping responses which emerge from 'very ordinary — indeed, required — pursuits'. The parental role is an everyday behavior that occurs within the family, influencing and being influenced by other family roles (Menaghan, 1983) and roles outside the family (Quittner, 1992). The result can be role strain (Barnett & Baruch, 1985), which involves both overload and conflict. In their study of role strain in employed mothers, Barnett & Baruch (1985: 137) suggested that the parental role may be the 'most important source of stress in women's lives' because of the responsibilities and obligations involved.

Available research evidence does provide general support for the conclusion that parenthood may have negative consequences on psychological well-being (McLanahan & Adams, 1987) and that children exert negative influence on the quality of other family relationships. For example, Belsky (1990: 172) noted a reciprocal process of influence within the family system: 'We discover repeatedly that children's presence and marital quality tend to be inversely related'.

Clearly there is a need for better understanding of the connections between parental stress and both well-being and the quality of other relationships such as marriage, taking into account both the rewards and demands of parenthood.

One step forward would be development of a more direct measure of individual differences in the level of stress associated with raising children.

Methods and Results

Initial scale development involved two groups of respondents. The first group consisted of 125 parents (75 mothers, 50 fathers) with at least one child under the age of 18 living at home. Participants were recruited through school and day-care programs and university classes. The mean age of the participants was 34.4. The median number of children was 2 and the mean child age was 6.7. Respondents had a mean education level of 15.5 years, and 91 percent were white. Family incomes in excess of $40,000 were reported by over half of the participants.

A second group of respondents consisted of 233 (116 women, 117 men) additional parents recruited in the same manner as above. Participants' ages ranged from 20 to 50 (mean age = 36.8). The median number of children was 2, and the range was 1 to 5. The mean age of the children was 7.8. Ninety-five percent of the respondents were white and 91 percent were married at the time of the survey. The sample was generally well educated (50% had completed college degrees), and many held managerial and professional occupational positions (44%). Over half of the sample reported annual family incomes in excess of $40,000. The children of the parents in these two groups had typical development with no clinical problems.

The first group completed the initial version of the Parental Stress Scale, described below, and demographic items only. The second group completed the Parental Stress Scale, demographic items and the Perceived Stress Scale (Cohen et al., 1983), a 14-item instrument measuring life stress with adequate internal (coefficient $\alpha > .84$) and test–retest reliability ($rs = .85$ for 2 days, .55 for 6 weeks). Finally, a subset of the second sample ($N = 61$) completed the Parental Stress Scale a second time after 6 weeks.

Relevant empirical literature (e.g. on stress, parenting, etc.) was surveyed in order to identify potential themes and concepts which might be involved in parental stress. Item selection sought to address the dichotomy of parenthood — that it is a source of both pleasure and strain. Pleasure or positive themes of parenthood include emotional benefits (love, joy, happiness, fun) and sense of self-enrichment and personal development. Negative components include demands on resources such as time, energy and money, and opportunity costs and restrictions (Belsky et al., 1984). Hobfoll's (1989) conservation of resources model for conceptualizing stress provided a theoretical framework to address this dichotomy. The focus of this model is stress as reaction to the environment in which loss occurs. Actual resource loss is reflected in items addressing time, energy, finances, etc., or loss of self-esteem (embarrassment) or control. Other items reflect the presence or absence (loss) of expected or anticipated gains from the parenting role such as happiness, closeness, affection. Research on relationships has suggested that the most salient feature to be measured in any relationship is satisfaction or happiness (e.g. Heller & Lakey, 1985), so this was also considered.

Initially, 20 items were composed on the basis of their apparent validity in measuring the construct of parental stress specifically. An effort was made to generate items which would pertain to the perception of parental stress among

most individuals, rather than specific and potentially idiosyncratic stressful events and behaviors. Half of the items were worded so as to indicate greater stress, whereas the remaining items indicated lesser stress. Instructions indicated that each item was to be answered using a 5-point response format with each response choice verbally anchored, e.g. 'strongly disagree', 'disagree', 'strongly agree'.

The scale was initially administered to the first group of 125 parents described above. On the basis of low internal reliability (i.e. item-whole correlations), two items were eliminated from further consideration. The resultant 18-item version of the scale is presented in Table 1. The 18-item version of the scale was then presented to the 233 additional parents. The 18-item version of the Parental Stress Scale was found to have adequate reliability. Coefficient α was 0.83 for the total sample, and the mean inter-item correlation was .23. Item-whole correlations varied from .27 to .59 with a mean of .43. It was not expected that item–total correlations would be high because a broad construct is being measured and the items cover a variety of examples of the construct. Test–retest correlation was .81 over a period of 6 weeks. Differences between Parental Stress Scale scores of mothers and fathers were not significant.

TABLE 1
The Parental Stress Scale

*1.	I am happy in my role as a parent.
*2.	There is little or nothing I wouldn't do for my child(ren) if it was necessary.
3.	Caring for my child(ren) sometimes takes more time and energy than I have to give.
4.	I sometimes worry whether I am doing enough for my child(ren).
*5.	I feel close to my child(ren).
*6.	I enjoy spending time with my child(ren).
*7.	My child(ren) is (are) an important source of affection for me.
*8.	Having children gives me a more certain and optimistic view for the future.
9.	The major source of stress in my life is my child(ren).
10.	Having children leaves little time and flexibility in my life.
11.	Having children has been a financial burden.
12.	It is difficult to balance different responsibilities because of my child(ren).
13.	The behavior of my child(ren) is often embarrassing or stressful to me.
14.	If I had it to do over again, I might decide not to have children.
15.	I feel overwhelmed by the responsibility of being a parent.
16.	Having children has meant having too few choices and too little control over my life.
*17.	I am satisfied as a parent.
*18.	I find my child(ren) enjoyable.

* Items reversed in scoring.

The validity of the Parental Stress Scale was assessed in various ways. Scores on the scale were compared to the Perceived Stress Scale to determine the magnitude of covariation between Parental Stress Scale scores and responses to this generic measure of stress. Resulting correlations were all significant and

in the expected direction as follows: mothers, $r(116) = .46, p. < .01$; fathers, $r(117) = .53, p < .01$; total sample, $r(233) = .50, p < .01$.

In addition, subsets of the sample yielded the following coefficients: parents of children under 6, $r(126) = .53, p < .01$; parents of children 6 or older, $r(107) = .47, p < .01$; parents of one child $r(69) = .52, p < .01$; parents of two or more children, $r(164) = .47, p < .01$. It was expected that parents of children under 6 years would report more stress because of the greater responsibilities involved with young children. The correlation was higher for this group, although the difference was small. The effect of family size on parental stress was examined to determine if increased family size was related to more stress because of the increased demands on resources or less stress due to experience in the parental role. A higher correlation was found for parents of only one child (again the difference was small), perhaps indicating the value of experience. These issues need further study, because the differences between corrrelations in these circumstances were not significant.

A third group of parents completed the Parental Stress Scale and the Perceived Stress Scale. This group consisted of 51 mothers whose children were receiving services in schools or outpatient psychiatric clinics for emotional and/or behavior problems. The participation of these respondents was solicited through therapists and special education teachers. This group was comparable to the group of parents of children with typical development (group 2) in terms of number and ages of children, respondent's age and level of education and income. The correlation between the Perceived Stress Scale and the Parental Stress Scale for this clinical sample was $r(51) = .41, p < .01$. In addition, Parental Stress Scale scores for this clinical sample were compared to those of the non-clinical sample (the 116 mothers of children with typical development previously described) with the expectation that parental stress would be greater for the clinical group. The mean Parental Stress Scale score for the mothers in the clinical group (behavior problems) was 43.2 (SD = 9.1). The mean for the mothers in the non-clinical sample was 37.1 (SD = 8.1). A comparison of the difference between the non-clinical group and the clinical group ($t(165) = 4.29, p < .01$) indicated that the Parental Stress Scale significantly differentiates between mothers of children who were receiving treatment for behavioral problems as compared to mothers of children who were not in treatment, and thereby supports the validity of the scale.

Additional data, also supporting validity, were available for 78 demographically matched mothers of children with developmental disabilities (e.g. mental retardation, cerebral palsy) who were receiving special education services. Comparison of these mothers (mean = 40.1, SD = 9.3) and the mothers in the non-clinical group indicated increased parental stress for this clinical (disability) group ($t(161) = 2.03, p. < .05$). This finding is consistent with findings using the Parenting Stress Index with parents of children with disabilities (Beckman, 1991).

Two discriminant analyses were performed to observe the ability of the Parental Stress Scale to discriminate between parents of typically developing children and parents of children with both developmental and behavioral problems. With both data sets, only Parental Stress Scores were entered into the discriminant equation. In considering the data set with parents of children with behavior problems, parental stress significantly entered into the discriminant equation with a Wilk's λ of .90, $p < .01$. Overall, the percentage of correctly classified cases was 66.5 percent (69.0% for typical development and 60.8% for

behavior problems). For the sample of parents of children with disabilities, parental stress again significantly entered the equation with a Wilk's λ of .97, $p < .02$, with 54.6 being the overall percentage of cases correctly classified using the discriminant analysis (55.2% for typical development and 53.8% for disabilities).

To further assess validity the Parental Stress Scale (PSS) was compared to the Parenting Stress Index (PSI) in an additional study. Parental Stress Scale and Parenting Stress Index scores were compared for a group of parents ($N = 43$) of children without special needs. Participants for this study were recruited from a childcare center. The majority of the sample was white (72.1%), and almost all (93%) respondents were female. The mean age was 33.8 years, and the mean education level was 15 years. Family income level was reported to be over $40,000 annually for 68 percent of the sample. These parents had, on average, 1.7 children, with a range of 1–5 and with a mean child age of 5.5 years. For this sample, the correlation between the PSS and the Total Parenting Stress Index of the PSI was .75, $p < .01$. The correlation with the PSI Total Child Domain Subscales was .62, $p < .01$ and the correlation with the PSI Total Parent Domain Subscales was .72, $p < .01$. Table 2 provides correlations between the PSS and each of the subscales of the PSI. Significant relationships were found between all of the subscales except parent health and parent relationship to spouse.

TABLE 2
Correlations between PSS and PSI scores

PSI scores	PSS
PSI total	.75*
PSI child domain total	.62*
PSI parent domain total	.72*
PSI subscales (child domain)	
Child distractibility/hyperactivity	.45*
Child reinforces parent	.42*
Child mood	.47*
Child acceptability	.34*
Child adaptability/plasticity	.33*
Child demandingness	.61*
PSI subscales (parent domain)	
Parent's sense of competence	.70*
Parental attachment to child	.51*
Parent restriction of role	.49*
Parent depression	.65*
Parent relationship to spouse	.13
Parent social isolation	.56*
Parent health	.20

* $p. < .01$; ** $p. < .05$.

To further locate parental stress within the domain of relevant constructs and as a further test of convergent validity, the Parental Stress Scale was compared to selected measures of emotions and role satisfaction with the expectation that greater parental stress would be related to more negative emotions and less role satisfaction. An independent sample of 746 parents (540

mothers, 206 fathers) with at least one child aged under 6 years living at home completed the Parental Stress Scale (coefficient α for this group was .84). Participants for this study were recruited from preschool and mothers'-day-out programs. The majority of the sample (89%) was white. The mean age was 32.9 years, and the mean education level was 15.5 years. Family income level was reported to be over $40,000 annually for 62.1 percent of the sample.

In addition to the Parental Stress Scale, these parents also completed measures of loneliness, anxiety, marital satisfaction, marital commitment, job satisfaction, state guilt, trait guilt, social support satisfaction and number in the social support network. In selecting these measures, we hypothesized that several dimensions of psychological well-being would be related to parental stress. Specifically, persons experiencing more parental stress were expected to experience greater guilt and anxiety stemming from the demands of balancing the parental role with other social roles, as suggested by Barnett & Baruch (1985) and Greenberger & O'Neil (1993). Greater loneliness, smaller networks and less satisfying social support were predicted to be associated with greater parental stress. Previous research (e.g. Greenberger & O'Neil, 1993) indicated the importance of social support as a buffer to parental stress, but restrictions imposed by the parental role can increase social isolation.

The broad and overlapping demands of the salient social roles of spouse, employee and parent can increase stress, and the relationship between parenthood and decreased marital satisfaction has been well documented in the literature (e.g. Belsky, 1990). A relationship was also expected between stress in the employment role and parental stress, which was found in studies by Anderson-Kulman & Paludi (1986) and Baruch & Barnett (1986).

These measures of psychological well-being and role satisfaction were correlated with scores from the Parental Stress Scale for men and women separately and combined as shown in Table 3. As may be seen, Parental Stress Scale scores were significantly related to all measures in the expected direction with

TABLE 3
Correlations between Parental Stress Scale scores and measures of emotion and role satisfaction

Variable	Mothers	Fathers	Combined
Loneliness	.35*	.46*	.37*
Anxiety	.44*	.51*	.46*
Marital satisfaction	−.29*	−.31*	−.30*
Marital commitment	−.21*	−.22*	−.22*
Job satisfaction	−.18*	−.27*	−.21*
State guilt	.41*	.38*	.40*
Trait guilt	.32*	.35*	.33*
Social support satisfaction	−.36*	−.34*	−.35*
Number in support network	−.17*	−.12	−.14*

Notes: * = $p < .01$. Loneliness = the Revised UCLA Loneliness Scale (Russell et al., 1980); anxiety = State Anxiety Scale (Spielberger et al., 1970); marital satisfaction and commitment = the Marital Satisfaction and Commitment Scale (Monroe & Jones, 1990); job satisfaction = Job Diagnostic Survey (Hackman & Oldham, 1975); trait and state guilt = the Guilt Inventory (Kugler & Jones, 1992); social network number and satisfaction = the Social Support Scale (Sarason et al., 1983).

only one exception — number of people in the social support network for fathers. Validation of the Parenting Stress Index has focused primarily on child characteristics. However, comparisons between measures of anxiety and husband support and the PSI are similar in direction and magnitude to PSS correlations.

Factor analysis: in order to investigate the structure underlying responses to the Parental Stress Scale, data from the sample described above (N = 746) were subjected to a principal axis factor analysis with varimax rotation. This analysis yielded four interpretable factors with eigenvalues greater than 1.0, which accounted for 53.8 percent of the explained variance. Inspection of item content for items loading greater than 0.40 on each factor (see Table 4) suggested the following factor labels: Factor I (31.4% of variance) Parental Rewards; Factor II (11.1%) Parental Stressors; Factor III (6.0%) Lack of Control, and Factor IV (5.3%) Parental Satisfaction. Only two items (numbers 16 and 18) yielded significant loadings (i.e. > .40) on more than one factor, but an additional two items (numbers 2 and 4) failed to load significantly on any of the four observed factors. These factors support the dichotomy of the parenting experience and the theoretical bases of the Parental Stress Scale.

TABLE 4
Factor analysis of Parental Stress Scale items

Factor I		Factor II		Factor III		Factor IV	
Item	**loading**	**Item**	**loading**	**Item**	**loading**	**Item**	**loading**
6	.71	10	.66	14	.58	18	.47
5	.70	12	.60	16	.54	17	.47
7	.60	3	.50	15	.46	13	−.47
18	.50	9	.48				
1	.48	11	.46				
8	.46	16	.43				

Discussion

These studies support the validity and reliability of the Parental Stress Scale scores. Analyses revealed comparable results for both mothers and fathers, as well as respondents representing different family constellations, thus suggesting the stability of scale characteristics. Therefore, with respect to parental stress, the Parental Stress Scale has certain advantages over other measures. It is specific to the construct of interest, it is appropriate for both mothers and fathers and for parents of children with and without clinical problems, and it is brief and easy to administer and score.

Results further suggested that Parental Stress Scale scores are related to a variety of emotional (e.g. guilt, anxiety) and role satisfaction (e.g. marital and job satisfaction, social support) variables as would be expected, which also supports the validity of the Parental Stress Scale score interpretations.

Results from the factor analysis suggested the relevance of considering specific components of parental stress (e.g. rewards, stressors, control, etc.), but also suggested that the major proportion of the variance is captured by the concept of finding the role of being a parent a pleasant and rewarding experi-

ence as was reflected by items tapping happiness, enjoyment, optimism, intimacy and satisfaction with the child.

Additional data are needed to assess the covariation between the Parental Stress Scale and other measures of interpersonal functioning, attitudes and emotions (e.g. relational competence, friendship, family attitudes, social anxiety, etc.) and to determine if the Parental Stress Scale is an appropriate measure for broader socioeconomic and ethnic groups, for single parents, for various clinical populations, and for fathers of children with special needs. More data on fathers of children with typical development will also be important to support the preliminary finding that this scale is appropriate for both female and male parents. On the other hand, these data suggest the utility of the Parental Stress Scale as a brief, valid and reliable measure of the important construct of parental stress. Furthermore, the Parental Stress Scale can serve as an adequate replacement for the Parenting Stress Index as a research tool and holds promise for use as a clinical instrument.

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