

# Predicting Harsh Discipline in At-Risk Mothers: The Moderating Effect of Socioeconomic Deprivation Severity

Mariana Pereira · Mariana Negrão ·  
Isabel Soares · Judi Mesman

Published online: 6 December 2013  
© Springer Science+Business Media New York 2013

**Abstract** Socioeconomic disadvantage is an important predictor of maternal harsh discipline, but few studies have examined risk mechanisms for harsh parenting within disadvantaged samples. In the present study, parenting stress, family conflict, and child difficult temperament are examined as predictors of maternal harsh discipline among a group of 58 mothers from socioeconomically disadvantaged backgrounds and their young children between the ages of 1- to 4-years-old. Maternal harsh discipline was measured using standardized observations, and mothers reported on parenting stress, family conflict, and child temperament. Severity of socioeconomic deprivation was included as a moderator in these associations. Results showed that parenting stress and family conflict predicted maternal harsh discipline, but only in the most severely deprived families. These findings extend prior research on the processes through which socioeconomic deprivation severity and family functioning impact maternal harsh discipline within a high-risk sample of low-income families. They suggest that the spillover of negative parental functioning into parent–child interactions is particularly likely under conditions of substantial socioeconomic deprivation. Severity of socioeconomic stress seems to

undermine maternal adaptive forms of coping, resulting in harsh disciplining practices. Intervention efforts aimed at improving parenting and family relations, as well as an adaptive coping style assume especial relevance.

**Keywords** Harsh parenting · At-risk mothers · Family conflict · Parenting stress · Child temperament

## Introduction

It has been well documented that poverty adversely influences parental functioning and parent–child interactions, and increases the risk for offspring maladjustment (Conger and Donnellan 2007). The psychological distress resulting from the experience of financial problems has been associated with greater marital conflict and a harsh disciplinary style (Conger et al. 1992; Ricketts and Anderson 2008), which are in turn related to a range of damaging outcomes for children well-being (e.g., Gershoff 2002; Shelton and Harold 2008). Additionally, there is some evidence that family risk factors are more likely to predict less optimal parental functioning in the context of limited socioeconomic resources (Deater-Deckard et al. 2012). However, there is a paucity of studies on families living in poverty (Coll et al. 1995; McGroder 2000). It is therefore unclear to what extent such processes are also found *within* disadvantaged samples, or whether they only apply to comparisons between lower and higher levels of socioeconomic status (SES).

Harsh parenting reflects a physiological hyperresponsive trait to child stimuli characterized by negative child-centered attributions and parental perceptions of powerlessness (Bugental et al. 1999; Laskey and Cartwright-Hatton 2009; Lorber and O’Leary 2005), involving overreactive forms

---

M. Pereira · M. Negrão · I. Soares (✉)  
Department of Applied Psychology, School of Psychology,  
University of Minho, Campus de Gualtar, 4710-057 Braga,  
Portugal  
e-mail: isoares@psi.uminho.pt

M. Negrão  
Faculty of Education and Psychology, Catholic University,  
Porto, Portugal

J. Mesman  
Centre for Child and Family Studies, Leiden University, Leiden,  
The Netherlands

of non-empathic, power assertive and hostile discipline methods (Caselles and Milner 2000; Milner et al. 1995). There is substantial evidence for the pervasive and lasting impact of parents' use of physical, verbal, and psychologically controlling harsh discipline methods on the development of children and adolescents across various domains of functioning (e.g., Gershoff 2002; Laskey and Cartwright-Hatton 2009; Nanda et al. 2012; Nelson et al. 2013; Solomon and Serres 1999). Late infancy and toddlerhood are especially salient developmental periods within this area of research. Children's increasing bids for autonomy and growing resistance to parental control pose additional challenges for parents who are more prone to rely on anger and negative control behaviors (Aber et al. 1999; Kim et al. 2010). Thus, the early identification of factors that place parents at risk for punitive and coercive parenting is of particular importance for prevention and intervention purposes (Jansen et al. 2012).

Financial hardship and low educational levels have been found to be predictors of parental harshness (e.g., Dietz 2000; Jansen et al. 2012). Parental power assertive methods have been found to be more common among mothers receiving public assistance or those maintaining their poverty status despite leaving welfare assistance when compared to other mothers (Smith et al. 2001). In addition, lower-educated parents typically hold parenting attitudes that encourage children's depreciation, and physically and authoritarian disciplinary tactics (Frías-Armenta and McCloskey 1998; Jackson et al. 1999). It has been suggested that this is due to a lack of knowledge about the counterproductive outcomes of severe disciplining responses and appropriate alternatives to harsh discipline (Dietz 2000).

The Family Stress Model emphasizes the detrimental effect of economic pressures on parents' abilities to meet children's developmental needs (Conger and Donnellan 2007). The parents' psychological distress, resulting from the uncontrollable demands of financial insecurity, disturbs their emotional and behavioral functioning and operates as a mediational path to interparental conflict and violence among family members, and to disrupted child-rearing skills (Conger et al. 1992; Conger and Donnellan 2007; McLoyd 1990, 1998). Parents reporting higher levels of stress have indeed been shown to use less positive and nurturing parenting practices, and more aversive and punitive control-oriented exchanges with their children (Conger and Donnellan 2007; McCurdy 2005; Webster-Stratton 1988). Mothers who feel trapped by their circumstances in general and the challenges of their parenting task in particular are also more likely to endorse negative attributions for their children's behaviors and disturbed parental behaviors (Mäntymaa et al. 2006; Respler-Herman

et al. 2012; Webster-Stratton 1990). Moreover, distressed parents tend to experience greater marital conflict. The negative emotionality experienced within the marital system has been found to spill over into the parent-child relationship, resulting in maladaptive attachments and parenting, involving increased levels of parental rejection and hostility (Cummings 1994; Margolin et al. 1996; Shelton and Harold 2008; Stover et al. 2012). In addition, the transactional nature of the parent-child relationship underlines the role of the child as a key element in the family system (Belsky 1993). Children's temperamental reactivity has been found to predict less optimal parenting including corporal punishment, indicating that challenging child characteristics may also hamper parental functioning (Jaffee et al. 2004; Koenig et al. 2010).

Most studies documenting the impact of socioeconomic factors are based on comparative approaches between more and less affluent populations (McGroder 2000). However, several scholars have emphasized the need for studies focusing on differences *within* at-risk families (e.g., Coll et al. 1995). A recent study showed that even within a sample of low-income mothers, maternal sociodemographic risk and family conflict were related to harsh-punitive parenting (Rafferty and Griffin 2010). In addition, there is evidence that the risk for corporal punishment is most notable in the very lowest income groups (Dietz 2000). Thus, within deprived samples, different levels of deprivation severity can also distinguish between different risk levels for maladaptive parenting.

In addition to the clear direct negative effects of socioeconomic risk on parenting, SES has also been shown to be a powerful moderator of the relation between other risk factors and parenting outcomes. For instance, the association between household chaos and lower maternal executive function was only found in socioeconomically disadvantaged families (Deater-Deckard et al. 2012). In another study, the association between stressful life events and relationship dissatisfaction was stronger among the low SES participants (Maisel and Karney 2012). Finally, children's difficult temperament and negative parenting were more strongly associated in lower-SES families (Jenkins et al. 2003).

In the present study, we aim to examine the direct and moderating effects of socioeconomic disadvantage within a high-risk sample of low-income families with young children. We investigate severity of socioeconomic deprivation in relation to parenting stress, family conflict, child difficult temperament, and maternal harsh discipline. Additionally, we address the potential moderating effect of deprivation severity on the associations of parenting stress, family conflict, and child difficult temperament, with maternal harsh discipline.

## Method

### Participants

The present study uses data collected in the screening and pretest phase of the Portuguese VIPP-SD Randomized Clinical Trial study.

Staff members of social and health service agencies in the Northern region of Portugal, that predominantly work with low income families, were asked to fill in a *Portuguese short version (PRF; Pereira, Negrão, Soares, Almeida, and Machado 2009) of the Family Risks and Strengths Profile* (Rodríguez et al. 2006) for families with 1- to 4-year-old children in the case of concerns about the quality of the child's caregiving environment. The *PRF* Portuguese short version includes 62 items about family sociodemographic characteristics and family exposure to risk factors in seven risk clusters (financial conditions, housing conditions, mother and father risk status, family relations quality, parenting quality, pregnancy, child problems) and one protective cluster (social support system). For eligibility the families had to meet the following criteria at the *PRF*: exhibiting at least one item out of the 23 risk items related to family relations quality or parenting quality (e.g., negligence regarding child's health, emotional, or cognitive needs; coercive discipline practices; lack of parental flexibility/self-control/self-competence; domestic violence).

To ensure a homogeneous sample, only Portuguese children living with their biological mothers as the primary caregiver were eligible for the intervention study. Ethnic minorities and severe medical conditions for both mother and child were excluded as well as families receiving formal parenting training. This selection resulted in the exclusion of 24 cases, leaving a target selection sample of 135 mothers and their 1- to 4-years-old children with an average of 10.79 (SD = 5.67) risk items present on the total *PRF* and an average of 4.84 (SD = 3.67) risk items present on the two eligibility clusters of the *PRF*. Five mothers were not reachable, 35 mothers declined to participate at the first phone contact. Ninety-five mothers (70 %) agreed to participate in the study, but 32 mothers discontinued participation before the parent-child observations took place, leaving a final sample of 63 mothers and their children. In line with other high-risk sample studies, the reasons for dropping out were related to: (a) mothers' general disinterest; (b) obstruction against mother and child participation from other family members; (c) increased stress levels (e.g., state fund cut-off, need to return to work, severe clinical conditions or psychopathological symptoms of other family members); and (d) family crisis (e.g., divorce/separation, involvement in Child Protection Services, incarceration).

In the final sample of 63 families, 60 % were boys and 75 % had siblings. The mean age of the children at the pretest was 29.33 months (SD = 10.48; range 12–48) and the mean ages of the mothers and fathers were 29.90 (SD = 5.95; range 18–46) and 33.45 years (SD = 7.02; range 22–53), respectively. There were no significant differences between the targeted families who dropped out of the study and the ones that remained regarding child age and gender, maternal age and educational level, presence of siblings, family status and welfare assistance, total *PRF* number of risk indicators and total *PRF* risk indicators on the two eligibility clusters criteria (all *p* values were >.16).

For the current study, only those families for whom complete data were available on all variables of interest were included. This resulted in the exclusion of five families, leaving a sample of 58 families, whose 59 % of children were boys and 74 % had siblings. The mean age of the children at the pretest was 29.40 months (SD = 10.40; range 12–48) and the mean ages of mothers and fathers were 29.91 (SD = 6.00; range 18–46) and 33.59 years (SD = 7.25; range 22–53), respectively. Sociodemographic characteristics of the families confirm the highly deprived and high-risk nature of this sample: family educational attainment was low (62 % of mothers and 83 % of fathers did not complete the Portuguese mandatory educational level, i.e., 9 school years), many parents were unemployed (71 % for mothers and 53 % for fathers) and received welfare assistance (81 % of families).

### Procedure

Considering the severely disadvantaged nature of this sample, in particular the reduced mobility and accessibility of at-risk families, participating families were visited at home to enhance participation retention. The first home visit started with the presentation and explanation of the research procedures and the signing of the informed consent form. Then mothers were asked to fill in a set of questionnaires. The second home visit, approximately one week later, included the videotaping of several mother-child interaction tasks, including two discipline tasks (1 h). This study was approved by the Portuguese Data Protection Authority (CNPD), a Portuguese independent organization that supervises the respect and commitment to human rights established by the Constitution and the law in the area of personal data protection.

### Measures

#### *Maternal Socioeconomic Status (SES)*

The highest educational level completed by the mothers and the family financial problems were reported by the

professionals who filled in the *Portuguese short version of the Family Risks and Strengths Profile (PRF; Pereira et al. 2009, based on Rodríguez et al. 2006)* when referring the families for our study. Family financial problems were assessed using the following *PRF* items (i.e., precarious economic condition, professional instability, difficulties regarding household economic management, reception of welfare assistance). A scale reflecting maternal SES was computed by standardizing and summing the maternal level of education and the total score of the *PRF* financial problems cluster.

### Harsh Discipline

Maternal discipline was measured using standardized observations throughout two episodes: a clean-up task and a don't-touch task, as also used by others for a similar age range (e.g., Joosen et al. 2012; Kochanska 2002). In the clean-up task, children were required to put a set of toys that they had just played with back in the box. Mothers were instructed to help and support the child as they would normally do, but that the child should put away as many toys as possible. The clean-up task ended when all the toys were put in the box, or after a maximum of 4 min. For the don't-touch task the mothers were presented with a box full of interesting toys. They were asked to remove all the toys from the box and to put them in front of the child, not allowing the child to touch them. After 2 min, the child was allowed to play only with the least attractive toy (a simple stuffed animal). The task ended after another 2 min. Both tasks, and particularly the don't touch task, tend to increase maternal stress levels', giving rise to maternal overreactivity which is, in turn, extremely important to assess harsh disciplinary practices.

Standardized procedures for coding the discipline rating scales were used to measure different aspects of harsh discipline (adapted from Verschueren et al. 2006), including physical and verbal harsh discipline (as used by Joosen et al. 2012), and psychological control. *Harsh physical discipline* was coded when mothers showed unnecessary physical force (e.g., slapping, grabbing/holding the face of the child, pulling an arm too hard, grabbing toys from the child) that led to a clear physical impact on the child (e.g., body movement, facial/verbal expression of shock or discomfort). A 5-point rating scale was used ranging from subtle to severe harsh acts and including frequency criteria. *Harsh verbal discipline* referred to the way the mother addressed the child by showing irritation and anger in her tone of voice (e.g., impatient/irritated/unfriendly voice, screaming) and was also rated on a 5-point scale based on the intensity and frequency of these acts. *Psychological control* was coded on a 5-point rating scale reflecting the harshness of the content (rather than tone) of maternal

statements. Criteria included the extent to which the mother made the child feel guilty, ashamed or responsible for mishaps and/or the mother showed: (a) disregard for what the child was saying/feeling, (b) withholding of affection, (c) inconsistent emotional behavior (changing between warmth and attacking the child). The average intraclass correlation (single rater, absolute agreement) for intercoder reliability (for all separate pairs of four coders) was .80 (range .70–.91;  $n = 24$ ). The observations were independently coded by different coders who were unaware of other data concerning the participants. For the current study we computed a total harsh discipline score by standardizing and summing the three subscales scores for the clean-up and the don't touch task.

### Parenting Stress

The *parenting stress subscale* of the *Daily Hassles* questionnaire was filled in by the mothers (Kanner et al. 1981). This subscale consists of nine items rated on a 4-point scale (0 = no hassle to 4 = big hassle). Example items are 'having to keep an eye on what my children are doing', 'having to run extra errands for my children', and 'plans changing because of my child's needs'. The internal consistency (Cronbach's alpha) for this subscale was .74. A total score was computed by summing its item scores.

### Family Conflict

Mothers' perception of the quality of family conflict was assessed with the *conflict subscale* of the *Family Environment Scale (FES; Moos and Moos 1986)*. It refers to the degree that open expression of anger and disagreement characterizes family dynamics and encompasses nine items rated in a 6-point scale (1 = completely disagreement to 6 = completely agreement). Example items are 'we often criticize each other', 'we sometimes get so nervous that throw things in the air', and 'we sometimes harm ourselves physically'. Internal consistency (Cronbach's alpha) for this subscale was .66. A total score was computed by summing its item scores.

### Child Difficult Temperament

Mothers' perception of child difficult temperament were assessed with the *Infant Characteristics Questionnaire (ICQ; Bates et al. 1979)*. The *ICQ* addresses child temperamental characteristics in specific and concrete situations. According to the child developmental differences, we used the *ICQ Portuguese versions for 12–18 months* (Carneiro et al. 2013), *24–30 months* (Carneiro et al. 2013) and *33–71 months* (Veríssimo and Dias 2012). The *ICQ* consists of 32 items rated on a 7-point scale (1 = easy

**Table 1** Descriptive statistics

	<i>M</i>	<i>SD</i>	Range
Socioeconomic deprivation*	.00	1.29	−3.82 to 2.75
Parenting stress	6.78	5.52	0 to 22
Family conflict	24.44	7.05	12 to 43
Difficult temperament	32.40	7.88	19 to 54
Maternal harsh discipline*	.00	2.34	−3.95 to 8.09

\* These variables reflect the sum of standardized variables

**Table 2** Comparison of the most and the less severely deprived groups on variables of interest

	Most severely deprived ( <i>n</i> = 16)		Less severely deprived ( <i>n</i> = 42)		<i>t</i> test
	<i>M</i>	( <i>SD</i> )	<i>M</i>	( <i>SD</i> )	
Parenting stress	5.32	(3.87)	7.33	(5.98)	−1.25
Family conflict	24.25	(8.05)	24.52	(6.73)	−.13
Difficult temperament	32.13	(6.26)	32.50	(8.49)	−.16
Maternal harsh discipline	.21	(1.82)	−.16	(2.28)	.59

temperament to 7 = difficult temperament). An exploratory principal components analysis revealed a single difficulty factor (i.e., child negative emotionality including features such as crying and negative mood) consisted by 11 items for 12–18 months, 9 items for 24–30 months and 9 items for 33–71 months. Internal consistencies (Cronbach’s alphas) were .69, .68 and .67, respectively. A total score was computed by summing its item scores.

**Results**

Two outliers were identified in the harsh discipline variable and they were integrated in the dataset as suggested by Keppel and Wickens (2004). The outlying variables were winsorized by adding the difference between the two next highest values and adding this difference to the next highest value in order to bring them closer to the rest of the distribution (Tabachnik and Fidell 2001), after which they were no longer outliers.

Table 1 presents the descriptive statistics for all variables of interest. We computed correlations between the predictors parenting stress, family conflict and child difficult temperament, and observed maternal harsh discipline, but none of these were found to be significant. Only family conflict and parenting stress were significantly related,  $r(58) = .28, p < .05$ . Consistent with the literature, we dichotomized the SES variable using a median split to

**Table 3** Testing severity of socioeconomic deprivation as a moderator in the associations between risk factors and maternal harsh discipline

	$\beta$
Block 1 ( $R^2 = .01$ )	
Parenting stress	.29
Socioeconomic deprivation severity	−.16
Block 2 ( $\Delta R^2 = .11^*$ )	
Parenting stress $\times$ deprivation severity	−.48*
Block 1 ( $R^2 = .01$ )	
Family conflict	.05
Socioeconomic deprivation severity	−.08
Block 2 ( $\Delta R^2 = .11^*$ )	
Family conflict $\times$ deprivation severity	−.35*
Block 1 ( $R^2 = .02$ )	
Child difficult temperament	−.11
Socioeconomic deprivation severity	−.08
Block 2 ( $\Delta R^2 = .00$ )	
Child difficult temperament $\times$ deprivation severity	.00

Betas values are derived from the second block of the regression analysis

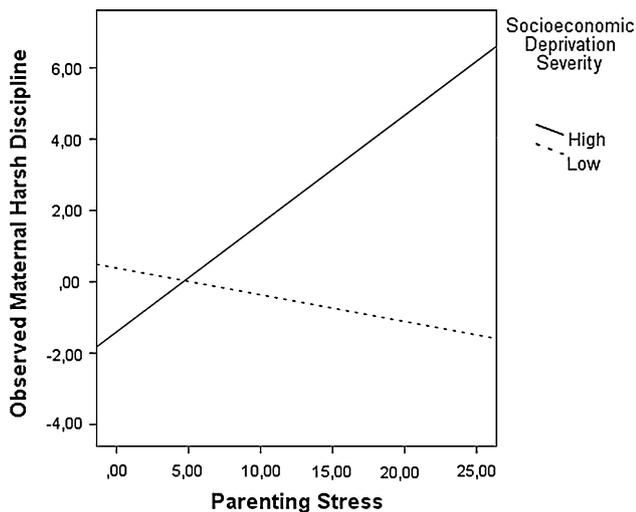
\*  $p < .05$

reflect a distinction between the most severely deprived mothers (lowest 30 %, *n* = 16) and the less severely deprived mothers (*n* = 42). Table 2 shows that these groups did not differ on the variables of interest.

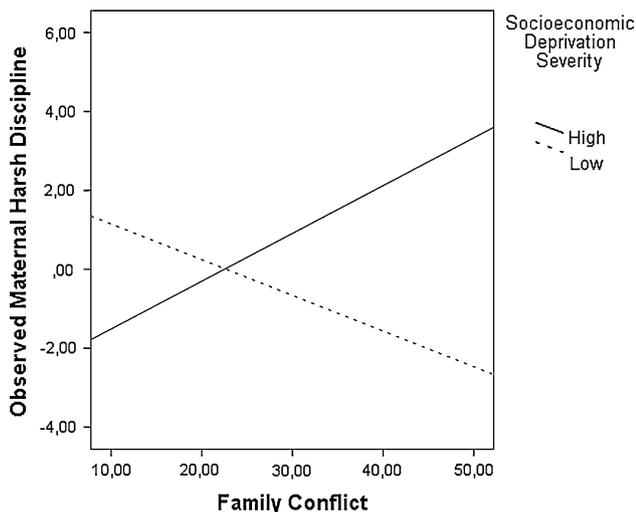
We then tested whether the severity of socioeconomic deprivation moderated the effects of parenting stress, family conflict, and child difficult temperament on maternal harsh discipline, by conducting three multiple regression analyses with an interaction term for each predictor. In the first step of these analyses, the predictor and moderator were entered, and in the second step, the interaction term between the predictor and the moderator was added. Before computing the interaction terms, the predictors and moderator were centered to reduce possible multicollinearity between the independent variables and the interaction terms, and to facilitate the interpretation of the interaction effect (Cohen et al. 2003).

The results of the regression analyses are presented in Table 3. Severity of socioeconomic deprivation moderated the effects of parenting stress and family conflict on maternal harsh discipline.

Figure 1 illustrates the interaction effect and shows that under conditions of more severe socioeconomic deprivation, parenting stress predicts higher levels of maternal harsh discipline, whereas in less severely deprived families this relation is absent. To further qualify this result we computed correlations between parenting stress and maternal harsh discipline for the most and the less severely



**Fig. 1** The moderating effect of socioeconomic deprivation severity on the associations between parenting stress and maternal harsh discipline



**Fig. 2** The moderating effect of socioeconomic deprivation severity on the associations between family conflict and maternal harsh discipline

deprived families separately. The correlation was significant in the former group,  $r(16) = .64$ ,  $p < .01$ , but not in the latter group,  $r(42) = -.20$ ,  $p = .21$ .

Figure 2 shows that under conditions of more severe socioeconomic deprivation, family conflict predicts higher levels of maternal harsh discipline, whereas in less severely deprived families this relation is absent. We computed correlations between family conflict and maternal harsh discipline for the most and the less severely deprived mothers separately. The correlation was significant in the former group,  $r(16) = .54$ ,  $p < .05$ , but not in the latter group,  $r(42) = -.27$ ,  $p = .09$ . Because of the relatively small sample sizes we checked for bivariate outliers in the two subgroups and none were found.

In addition, considering that children's gender and age, mothers' age, and total number of children tend to be seen as important factors for parental discipline, we checked them as possible predictors of maternal harsh discipline, but none of them were significant.

## Discussion

The results of the current analyses showed the severity of socioeconomic deprivation moderated the relations of parenting stress and family conflict, with maternal harsh discipline. The negative effects of parenting stress and family conflict on the use of harsh discipline were only found for the most severely deprived mothers.

In our study with a sample consisting only of socioeconomically disadvantaged families, we did not replicate previous findings of direct associations linking parental stressors to less positive and problematic parenting (e.g., Respler-Herman et al. 2012; Whipple and Webster-Stratton 1991). Most of this literature relied on group differences or comparative approaches discriminating parenting abilities between more and less affluent populations (McGroder 2000). However, we did find the expected associations between family risk and harsh discipline within the subgroup of most deprived mothers. This replicates evidence from other work that the effects of stressors are particularly toxic for those at most risk of socioeconomic hardship and weakest for those who experience fewer socioeconomic pressures (Deater-Deckard et al. 2012). The psychological distress of parents receiving the greatest welfare assistance was regarded to undermine parental perceptions of resource adequacy and their chances of activating adaptive forms of coping (Maupin et al. 2010). Therefore, economic insecurity hampers parents' ability to show more positive parenting practices and increases their risk for relying on harsh strategies (Conger et al. 1992; Evans 2004). Similarly, parenting stress has been strongly linked to maternal psychosocial functioning, namely fewer self-esteem and self-efficacy, and parental depression and anxiety disorders (Jackson and Huang 2000; Koeske and Koeske 1990). In turn, an unresponsive, harsh, and abusive childrearing pattern has been acknowledged, as well as added dyadic conflicts (Chan 1994; Conger and Donnellan 2007; Crnic et al. 2005; McCurdy 2005). Maternal physiological and psychological stress reactivity to marital negative events were also associated to maternal depression and rejecting, hostile or physically aggressive parental behaviors (Dehon and Weems 2010; Jouriles et al. 1987; Shelton and Harold 2008; Stover et al. 2012; Sturge-Apple et al. 2009). Unstable families tend to be caught in cycles of greater negativity and irritability being incapable of using repair processes so that they may keep on cycles of coercion

despite the escalation of problematic behaviors (Gottman 1993; Patterson 1982).

Consistent with previous work showing that multiple stressors have an enduring and pathogenic influence on parenting (Belsky 1993; Evans 2004), we found that the most severely disadvantaged mothers who perceive higher levels of parenting stress and family conflict, represent the most highly overwhelmed group with limited resources, fewer (in)formal support, higher parent–child relational frustration and more parental dissatisfaction. Such extremely stressful experiences may outweigh the few existing parental resources, resulting in maladaptive coping mechanisms manifested in a harsh discipline style. This is also consistent with previous findings that there is meaningful variation in the socioeconomic and demographic characteristics in adults' as well as children's health and educational attainment within deprived communities (Barnes et al. 2005).

Contrary to our expectations, there was no support for the hypothesis that children's negative emotionality predicts maternal harsh parenting (e.g., Jaffee et al. 2004), and the strength of this relation was not moderated by socioeconomic deprivation severity. Perhaps our results reflect findings that child temperamental traits are less consistent and stable in the early developmental stages (Roberts and DelVecchio 2000), which may explain a lack of impact on parenting. Similarly, it has been asserted that parental factors and increased stressful conditions pose the most salient risk for adverse family functioning, particularly when more serious and adverse forms of parenting are present (Belsky 1993; Jaffee et al. 2004; McCurdy 2005).

The lack of significant results on child's age and gender, and number of children as predictors of maternal harsh discipline may be due to our specific sample. It may be that in severely socioeconomically deprived families, these variables are less relevant in the ontogeny of maternal harsh parenting. It may be that within severely deprived circumstances these factors are not salient enough above and beyond daily stressors to influence parental discipline. The fact that maternal age did not predict harsh discipline may be due to the fact that our sample included only very few adolescent mothers (2 % under 20).

The study has some limitations. First, the number of referred participants who agreed to participate was relatively low because of the socioeconomically disadvantaged nature of the sample. This study also experienced a considerable attrition rate, although it is consistent with others including high-risk samples (e.g., Ammerman et al. 2006). Second, our sample only included ethnic majority families, whereas ethnic minorities are strongly overrepresented in the lower socioeconomic strata, suggesting that these groups may be especially important to include in research. Finally, the role of fathers was not taken into account,

whereas there is evidence that marital support may buffer the negative effects of family risk on maternal functioning (McCurdy 2005; Navaie-Waliser et al. 2000). In addition, it is also important to conduct experimental studies using parenting training to understand how useful interventions may be for the breaking of violent parent–child interaction cycles within severely disadvantaged families.

Important strengths of the present study are the inclusion of a socioeconomically deprived sample, a group that is underrepresented in parenting research, and the use of standardized observational measures to assess parenting. As such, the current study adds to the existing literature on the processes through which socioeconomic deprivation severity and family functioning influence maternal harsh discipline. We showed that parenting stress and family conflict predict maternal harsh discipline only among the most severely deprived mothers of younger children. The context of severe socioeconomic stress appears to hamper these mothers' ability to cope with family problems, resulting in harsh disciplining practices that are related to poor child outcomes. Thus, intervention programs aimed at enhancing positive parenting and family relations of the most socioeconomically disadvantaged families are especially important. Substantial efforts are required to educate severely socioeconomically deprived parents of young children about the negative outcomes of harsh parenting, and preferable alternatives for disciplining their children (Ateah et al. 2003). Finally, these families are in particular need of adequate coping strategies to deal with family problems, as these problems are particularly toxic to parent–child interactions in families experiencing more extreme levels of poverty.

**Acknowledgments** This study was approved and funded by the Portuguese Foundation for Science and Technology (grant reference: SFRH/BD/48411/2008). The authors specially thank to the participating families for opening their lives for observation, and to the welfare professionals for providing the support needed to conduct this study. We also gratefully acknowledge the collaboration of Maria João Carvalho, Sandra Nogueira and all the students who participated in the data coding or data collecting teams.

## References

- Aber, J. L., Belsky, J., Slade, A., & Crnic, K. (1999). Stability and change in mothers' representations of their relationship with their toddlers. *Developmental Psychology, 35*, 1038–1047.
- Ammerman, R. T., Stevens, J., Putnam, F. W., Altaye, M., Hulsmann, J. E., Lehmkuhl, H. D., et al. (2006). Predictors of early engagement in home visitation. *Journal of Family Violence, 21*, 105–115.
- Ateah, C. A., Secco, M. L., & Woodgate, R. L. (2003). The risks and alternatives to physical punishment use with children. *Journal of Pediatric Health Care, 17*, 126–132.
- Barnes, J., Belsky, J., Broomfield, K. A., Dave, S., Frost, M., Melhuish, E., et al. (2005). Disadvantaged but different:

- Variation among deprived communities in relation to child and family well-being. *Journal of Child Psychology and Psychiatry*, 46, 952–962.
- Bates, J., Freeland, C. A., & Lounsbury, M. L. (1979). Measurement of infant difficultness. *Child Development*, 50, 794–803.
- Belsky, J. (1993). Etiology of child maltreatment: A developmental-ecological analysis. *Psychological Bulletin*, 114, 413–434.
- Bugental, D. B., Lewis, J. C., Lin, E., Lyon, J., & Kopeikin, H. (1999). In charge but not in control: The management of teaching relationships by adults with low perceived power. *Developmental Psychology*, 35, 1367–1378.
- Carneiro, A., Dias, P., Magalhães, C., Soares, I., Rangel-Henriques, M., Silva, J., et al. (2013). Assessment of temperament at 13 and 24 months using maternal report: Validation of the Portuguese version of Infant Characteristics Questionnaire. *Journal of Human Growth and Development*, 23, 71–79.
- Caselles, C. E., & Milner, J. S. (2000). Evaluations of child transgressions, disciplinary choices, and expected child compliance in a no-cry and a crying infant condition in physically abusive and comparison mothers. *Child Abuse and Neglect*, 24, 477–491.
- Chan, Y. (1994). Parenting stress and social support of mothers who physically abuse their children in Hong Kong. *Child Abuse and Neglect*, 18, 261–269.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Coll, G. C., Meyer, E. C., & Brillon, L. (1995). Ethnic and minority parenting. In M. Bornstein (Ed.), *Handbook of parenting. Biology and ecology of parenting* (Vol. 2, pp. 189–209). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Conger, R. D., Conger, K. J., Elder, G. H., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescents boys. *Child Development*, 63, 526–541.
- Conger, R. D., & Donnellan, M. B. (2007). An interactionist perspective on the socioeconomic context of human development. *Annual Reviews Psychology*, 58, 175–199.
- Cmic, K. A., Gaze, C., & Hoffman, C. (2005). Cumulative parenting stress across the preschool period: Relations to maternal parenting and child behaviour at age 5. *Infant and Child Development*, 14, 117–132.
- Cummings, E. M. (1994). Marital conflict and children's functioning. *Social Development*, 3, 16–36.
- Deater-Deckard, K., Chen, N., Wang, Z., & Bell, M. A. (2012). Socioeconomic risk moderates the link between household chaos and maternal executive function. *Journal of Family Psychology*, 26, 391–399.
- Dehon, C., & Weems, C. F. (2010). Emotional development in the context of conflict: The indirect effects of interparental violence on children. *Journal of Child and Family Studies*, 19, 287–297.
- Dietz, T. L. (2000). Disciplining children: Characteristics associated with the use of corporal punishment. *Child Abuse and Neglect*, 24, 1529–1542.
- Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist*, 59, 77–92.
- Frias-Armenta, M., & McCloskey, L. A. (1998). Determinants of harsh parenting in Mexico. *Journal of Abnormal Child Psychology*, 26, 129–139.
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviours and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, 128, 539–579.
- Gottman, J. M. (1993). The roles of conflict engagement, escalation, and avoidance in marital interaction: A longitudinal view of five types of couples. *Journal of Consulting and Clinical Psychology*, 61, 6–15.
- Jackson, A. P., & Huang, C. C. (2000). Parenting stress and behavior among single mothers of preschoolers: The mediating role of self-efficacy. *Journal of Social Service Research*, 26, 29–42.
- Jackson, S., Thompson, R. A., Christiansen, E. H., Colman, R. A., Wyatt, J., Buckendahl, C. W., et al. (1999). Predicting abuse-prone parental attitudes and discipline practices in a nationally representative sample. *Child Abuse and Neglect*, 23, 15–29.
- Jaffee, S. R., Caspi, A., Moffitt, T. E., Polo-Thomas, M., Price, T. S., & Taylor, A. (2004). The limits of child effects: Evidence for genetically mediated child effects on corporal punishment but not on physical maltreatment. *Developmental Psychology*, 40, 1047–1058.
- Jansen, P. W., Raat, H., Mackenbach, J. P., Hofman, A., Jaddoe, V. W. V., Bakermans-Kranenburg, M. J., et al. (2012). Early determinants of maternal and paternal harsh discipline: The generation R study. *Family Relations*, 61, 253–270.
- Jenkins, J. M., Rasbash, J., & O'Connor, T. G. (2003). The role of the shared family context in differential parenting. *Developmental Psychology*, 39, 99–113.
- Joosen, K. J., Mesman, J., Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (2012). Maternal sensitivity to infants in various settings predicts harsh discipline in toddlerhood. *Attachment and Human Development*, 14, 101–117.
- Jouriles, E. N., Barling, J., & O'Leary, K. D. (1987). Predicting child behaviour problems in maritally violent families. *Journal of Abnormal Child Psychology*, 15, 165–173.
- Kanner, A. D., Coyne, J. C., Schaffer, C., & Lazarus, R. S. (1981). Comparison of two models of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine*, 4, 1–39.
- Keppel, G., & Wickens, T. D. (2004). *Design and analysis: A researcher's handbook (4th international)*. Upper Saddle River, NJ: Pearson Prentice-Hall.
- Kim, H. K., Pears, K. C., Fisher, P. A., Connelly, C. D., & Landsverk, J. A. (2010). Trajectories of maternal harsh parenting in the first 3 years of life. *Child Abuse and Neglect*, 34, 897–906.
- Kochanska, G. (2002). Committed compliance, moral self, and internalization: A mediational model. *Developmental Psychology*, 38, 339–351.
- Koenig, J. L., Barry, R. A., & Kochanska, G. (2010). Rearing difficult children: Parents' personality and children's proneness to anger as predictors of future parenting. *Parenting: Science and Practice*, 10, 258–273.
- Koeske, G. F., & Koeske, R. D. (1990). The buffering effect of social support on parental stress. *American Journal of Orthopsychiatry*, 60, 440–451.
- Laskey, B. J., & Cartwright-Hatton, S. (2009). Parental discipline behaviours and beliefs about their child: Associations with child internalizing and mediation relationships. *Child: Care, Health and Development*, 35, 717–727.
- Lorber, M. F., & O'Leary, S. G. (2005). Mediated paths to overreactive discipline: Mothers' experienced emotion, appraisals, and physiological responses. *Journal of Consulting and Clinical Psychology*, 73, 972–981.
- Maisel, N. C., & Karney, B. R. (2012). Socioeconomic status moderates associations among stressful events, mental health, and relationship satisfaction. *Journal of Family Psychology*, 26, 654–660.
- Mäntymaa, M., Puura, K., Luoma, I., Salmelin, R. K., & Tamminen, T. (2006). Mother's early perception of her infant's difficult temperament, parenting stress and early mother-infant interaction. *Nordic Journal of Psychiatry*, 60, 379–386.
- Margolin, G., Christensen, A., & John, R. S. (1996). The continuance and spillover of everyday tensions in distressed and nondistressed families. *Journal of Family Psychology*, 10, 304–321.
- Maupin, A. N., Brophy-Herb, H. E., Schiffman, R. F., & Bocknek, E. L. (2010). Low-income parental profiles of coping, resource

- adequacy, and public assistance receipt: Links to parenting. *Family Relations*, 59, 180–194.
- McCurdy, K. (2005). The influence of support and stress on maternal attitudes. *Child Abuse and Neglect*, 29, 251–268.
- McGroder, S. M. (2000). Parenting among low-income, African American single mothers with preschool-age children: Patterns, predictors, and developmental correlates. *Child Development*, 71, 752–771.
- McLoyd, V. C. (1990). The impact of economic hardship on black families and children: Psychological distress, parenting, and socioemotional development. *Child Development*, 61, 311–346.
- McLoyd, V. C. (1998). Socioeconomic disadvantage and child development. *American Psychologist*, 53, 185–204.
- Milner, J. S., Halsey, L. B., & Fultz, J. (1995). Empathic responsiveness and affective reactivity to infant stimuli in high- and low-risk for physical child abuse mother. *Child Abuse and Neglect*, 19, 767–780.
- Moos, R. H., & Moos, B. S. (1986). *Family environment scale manual*. Palo Alto, CA: Consulting Psychologists Press.
- Nanda, M. N., Kotchick, B. A., & Grover, R. L. (2012). Parental psychological control and childhood anxiety: The mediating role of perceived lack of control. *Journal of Child and Family Studies*, 21, 637–645.
- Navaie-Waliser, M., Martin, S. L., Tessaro, I., Campbell, M. K., & Cross, A. W. (2000). Social support and psychological functioning among high-risk mothers: The impact of the Baby Love Maternal Outreach Worker Program. *Public Health Nursing*, 17, 280–291.
- Nelson, D. A., Yang, C., Coyne, S. M., Olsen, J. A., & Hart, C. H. (2013). Parental psychological control dimensions: Connections with Russian preschoolers' physical and relational aggression. *Journal of Applied Developmental Psychology*, 34, 1–8.
- Patterson, G. R. (1982). *Coercive family process: A social learning approach*. Eugene, OR: Castalia.
- Pereira, M., Negrão, M., Soares, I., Almeida, A. T., & Machado (2009). *Portuguese short-version of the family risks and strengths profile*. Unpublished raw data.
- Rafferty, Y., & Griffin, K. W. (2010). Parenting behaviours among low-income mothers of preschool age children in the USA: Implications for parenting programmes. *International Journal of Early Years Education*, 18, 143–157.
- Respler-Herman, M., Mowder, B. A., Yasik, A. E., & Shamah, R. (2012). Parenting beliefs, parental stress, and social support relationships. *Journal of Child and Family Studies*, 21, 190–198.
- Ricketts, H., & Anderson, P. (2008). The impact of poverty on the interaction of Jamaican caregivers with young children. *International Journal of Early Years Education*, 16, 61–74.
- Roberts, B. W., & DeVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin*, 126, 3–25.
- Rodríguez, G., Camacho, J., Rodrigo, M. J., Martín, J. C., & Máiquez, M. L. (2006). Evaluación del riesgo psicosocial en familias usuarias de servicios sociales municipales [Psychosocial risk assessment in families using municipal social services]. *Psicohema*, 18, 200–206.
- Shelton, K. H., & Harold, G. T. (2008). Interparental conflict, negative parenting, and children's adjustment: Bridging links between parents' depression and children's psychological distress. *Journal of Family Psychology*, 22, 712–724.
- Smith, J. R., Brooks-Gunn, J., Kohen, D., & McCarton, C. (2001). Transitions on and off AFDC: Implications for parenting and children's cognitive development. *Child Development*, 72, 1512–1533.
- Solomon, C. R., & Serres, F. (1999). Effects of parental verbal aggression on children's self-esteem and school marks. *Child Abuse and Neglect*, 23, 339–351.
- Stover, C. S., Connell, C. M., Leve, L. D., Neiderhiser, J. M., Shaw, D. S., Scaramella, L. V., et al. (2012). Fathering and mothering in the family system: Linking marital hostility and aggression in adopted toddlers. *Journal of Child Psychology and Psychiatry*, 53, 401–409.
- Sturge-Apple, M. L., Davies, P. T., Cicchetti, D., & Cummings, E. M. (2009). The role of mothers' and fathers' adrenocortical reactivity in spillover between interparental conflict and parenting practices. *Journal of Family Psychology*, 23, 215–225.
- Tabachnik, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston: Allyn and Bacon.
- Verissimo, M., & Dias, P. (2012). *Validation of the Portuguese version of Infant Characteristics Questionnaire from 33 to 71 months of age*. Unpublished raw data.
- Verschueren, K., Dossche, D., Marcoen, A., Mahieu, S., & Bakermans-Kranenburg, M. J. (2006). Attachment representations and discipline in mothers of young school children: An observation study. *Social Development*, 15, 659–675.
- Webster-Stratton, C. (1988). Mothers' and fathers' perceptions of child deviance: Roles of parent and child behaviors and parent adjustment. *Journal of Consulting and Clinical Psychology*, 56, 909–915.
- Webster-Stratton, C. (1990). Stress: A potential disruptor of parent perceptions and family interactions. *Journal of Clinical Child Psychology*, 19, 302–312.
- Whipple, E. E., & Webster-Stratton, C. (1991). The role of parental stress in physically abusive families. *Child Abuse and Neglect*, 15, 279–291.