

## BRIEF REPORTS

# Parenting and Toddler Aggression in Second-Generation Immigrant Families: The Moderating Role of Child Temperament

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We investigated the influence of parenting practices in the prediction of child physical aggression in 94 second-generation Turkish immigrant families with 2-year-old toddlers, and the moderating role of child temperament. In a longitudinal study we tested both a dual-risk model and a differential susceptibility model. Observational data were obtained for mothers' positive parenting and authoritarian discipline, and maternal reports for child temperament and physical aggression. All measures were repeated 1 year later. Child temperament at age 2 years was a significant predictor of child aggression 1 year later. We found no main effects of positive parenting or of authoritarian discipline for the prediction of child aggression. However, we found support for the dual-risk hypothesis: Toddlers with difficult temperaments were more adversely affected by a lack of positive parenting than other children, but they did not benefit more from high levels of positive parenting than toddlers with more easy temperaments. We found no interaction effects with child temperament for authoritarian discipline. These findings provide support for the generalizability of the dual-risk model of parenting and temperament to non-Western immigrant families with young children.

*Keywords:* parenting, child aggression, temperament, second-generation immigrants

Individual differences in the rates of toddler aggression have been shown to be predicted by child difficult temperament, negative parenting, and lack of positive parenting. Several studies have reported interaction effects of parenting and temperament in the prediction of child problem behavior, showing that negative parenting (or lack of positive parenting) is more strongly related to problem behaviors in children with difficult temperaments (e.g., Belsky, Hsieh, & Crnic, 1998). Because the nature and effects of parenting may vary in different cultures (e.g., Bornstein, 1994), this study investigated whether the parenting-by-temperament interaction effect also exists in families with a non-Western cultural background.

Parental sensitivity (i.e., appropriate responsiveness to child signals) and control (i.e., how rules and limits are imposed on the child) are important factors in explaining the frequency and stability of aggressive behaviors. There is a general consensus about the positive effects of parental sensitivity on child outcomes in various ethnic and immigrant groups, but there is more controversy about the effects

of parental (authoritarian) control on child development. Studies conducted among middle-class Western families have shown adverse effects of authoritarian control on child development (e.g., Alink et al., 2008), but these effects have not always been confirmed in cross-cultural studies (e.g., Deater-Deckard, Bates, Dodge, & Pettit, 1996).

Children with difficult temperaments are more at risk to develop behavior problems because they have more difficulties in regulating their emotions, managing their impulses, and engage more often in novel and dangerous situations. Parenting-by-temperament interactions can be explained using either the dual-risk model or the differential susceptibility model (Belsky, Bakermans-Kranenburg, & Van IJzendoorn, 2007). The dual-risk hypothesis states that the co-occurrence of child difficult temperament and a poor-quality rearing-environment puts children at increased risk for aggressive behaviors. In the dual-risk model, children with difficult temperaments do not benefit more from positive child-rearing environments than children with easier temperaments. According to the differential susceptibility hypothesis, temperamentally difficult children are more sensitive to favorable and unfavorable environmental conditions. In addition to being more susceptible to negative child-rearing environments, they also benefit more from positive child-rearing environments. Thus, to distinguish between dual-risk and differential susceptibility in the study of temperament-by-parenting interactions, both negative and positive parenting needs to be examined.

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## Method

### Participants and Procedure

A sample of 94 second-generation Turkish immigrant mothers with 2-year-old children (49% boys) recruited from the municipal registers of several cities and towns participated in two videotaped 1-hr home visits (at age 2 and 3 years), during which mothers and children performed several tasks and mothers filled out questionnaires. Most children were reared in two-parent families (94%), with mothers who had a mean education of  $M = 2.98$  ( $SD = 0.72$ ) on a scale of 1 (*primary education*) to 5 (*Master's degree*). The mothers had a mean age of 27.18 years ( $SD = 3.07$ ). The majority of the children had no siblings (65%), 31% had one sibling and 4% had two or more siblings.

### Measures

**Mother-rated physical aggression.** The 11-item Physical Aggression Scale for Early Childhood (PASEC; Alink et al., 2006) was completed at Time 1 and Time 2. Mothers were asked whether their child had shown specific aggressive behaviors during the past 2 months. The items were scored on a 3-point Likert scale 0 (*not true*) to 2 (*very true or often true*). A physical aggression score was computed by summing the item scores. Cronbach's alphas were .85 for Time 1 and .82 for Time 2.

**Difficult temperament.** Child temperament was measured with the Infant Characteristics Questionnaire (ICQ; Bates, Freeland, & Lounsbury, 1979) at Time 1. Van Zeijl et al. (2006) showed that the overall difficultness factor for 2-year-olds consisted of 18 items on a 5-point scale, ranging from 0 (*not true*) to 4 (*true*). Scale scores were computed by averaging item scores. Cronbach's alpha for this scale was .64.

**Maternal sensitivity.** The mother's sensitive responsiveness to her child was observed during a series of problem-solving tasks. Dyads were given a construction task (at Time 1 and 2), a jigsaw puzzle (at Time 1 and 2), and a sorting task (only at Time 1) for 5 min per task. The observations were rated with the 7-point Erickson rating scales for supportive presence (1 *completely failing to be supportive* to 7 *skillfully providing support*) and intrusiveness (1 *not intrusive* to 7 *highly intrusive*) (Erickson, Sroufe, & Egeland, 1985). Scale scores were computed by averaging the scores for the separate tasks. All coders spoke both Dutch and Turkish fluently. The intraclass correlations for intercoder reliability (single rater, absolute agreement,  $n = 20$ ) were .71 for supportive presence and .76 for intrusiveness.

**Maternal discipline.** Specific maternal discipline strategies were observed during a 4-min clean-up task. Coding procedures were based on Kuczynski, Kochanska, Radke-Yarrow, and Girmius-Brown (1987). Maternal authoritative control (positive feedback, positive atmosphere, induction, and understanding) and authoritarian control (commanding and physical interference) were observed (see Alink et al., 2008, for the description of the scales). The number of times

the mother used a specific category was divided by the time of the episode and standardized to 3 min (see Alink et al., 2008). All coders spoke both Dutch and Turkish fluently. The mean intraclass correlations were .84 (range = .74 to .97,  $n = 20$ ) for authoritative control and .88 (range = .75 to .94,  $n = 20$ ) for authoritarian control.

**Positive parenting.** We computed an overall positive parenting variable by standardizing and then adding supportive presence and authoritative control and subtracting intrusiveness. Using model fitting, these scales were found to fit a single dimension (for a full description of this model, see Yaman, Mesman, Van IJzendoorn, Bakermans-Kranenburg, & Linting, in press). Authoritarian control was not included as this scale did not fit the model.

### Data Analyses

Zero to two outlying scores ( $|z| > 3.29$ ) were identified on each of the variables and winsorized by replacement with the next highest value in the distribution (Tabachnick & Fidell, 2001).

## Results

### Preliminary Analyses

Maternal education was correlated with Time 1 child physical aggression,  $r(94) = -.32$ ,  $p < .01$ . Number of siblings was associated with Time 1 child physical aggression,  $r(94) = .24$ ,  $p < .05$  and Time 1 positive parenting,  $r(94) = .23$ ,  $p < .05$ . In further analyses we controlled for maternal education and number of siblings. For positive parenting, authoritarian discipline, and physical aggression the mean scores at Time 1 were  $-0.01$  ( $SD = 2.30$ ),  $5.68$  ( $SD = 4.92$ ),  $3.76$  ( $SD = 3.97$ ), respectively, and at Time 2,  $0.04$  ( $SD = 1.96$ ),  $4.34$  ( $SD = 4.06$ ), and  $3.15$  ( $SD = 2.94$ ), respectively. Child temperament had a mean score of  $1.57$  ( $SD = 0.47$ ).

### Parenting, Child Physical Aggression, and Temperament

Positive parenting ( $r = .36$ ,  $p < .01$ ) and child aggression ( $r = .55$ ,  $p < .01$ ) were stable over time. Child temperament was associated with child aggression at Time 1 ( $r = .20$ ,  $p < .05$ ) and Time 2 ( $r = .37$ ,  $p < .01$ ). Positive parenting and authoritarian discipline at Time 1 were negatively correlated ( $r = -.37$ ,  $p < .01$ ). No other associations were found between these variables at either time of assessment.

### Multivariate Analyses Predicting Child Physical Aggression

**Positive parenting.** We performed a linear regression analysis (with centered predictors) to test the moderating effect of child temperament at Time 1 on the association between Time 1 positive parenting and Time 2 aggression. In the first step, we controlled for maternal education and number of siblings, Time 1 physical aggression and Time 2

positive parenting. In Step 2, we entered the main effects of Time 1 positive parenting and child temperament, and in Step 3 we entered the interaction term between Time 1 positive parenting and temperament.

Time 1 child physical aggression ( $\beta = .51, p < .01$ ) and Time 1 temperament ( $\beta = .30, p < .01$ ) showed a main effect in the prediction of child physical aggression at Time 2. We found no main effects of positive parenting (Time 2 positive parenting  $\beta = -.08, p = .38$ , Time 1 positive parenting  $\beta = .02, p = .86$ ). Adding the interaction term significantly improved the model,  $R^2_{\text{change}} = .03, F_{\text{change}}(1, 85) = 4.27, p < .05$ . For the interpretation a median split was applied to Time 1 child temperament (see Figure 1). The lines in Figure 1 were plotted using Time 1 positive parenting values of  $\pm 1$  standard deviation as recommended by Aiken and West (1991). To correct for Time 1 child aggression, maternal education, and the number of siblings, we used residual scores for Time 2 child aggression. In the difficult temperament group, less Time 1 positive parenting predicted more Time 2 physical aggression (see Figure 1). The results are indicative of a double risk model, in which children with difficult temperaments who also have mothers with lower levels of positive parenting show higher levels of aggressive behaviors. It should be noted that less positive parenting led to the lowest levels of aggression in the easy temperament group.

**Authoritarian discipline.** We also investigated the moderating effect of child temperament on the association between Time 1 authoritarian discipline (not a component of the positive parenting composite) and Time 2 child aggression. We found no main effects of authoritarian discipline (Time 2 authoritarian discipline  $\beta = .01, p = .88$ , Time 1 authoritarian discipline  $\beta = .15, p = .08$ ). Adding the interaction term did not significantly improve the model,  $R^2_{\text{change}} = .00, F_{\text{change}}(1, 85) = 0.22, p = .64$ .

### Discussion

We found that child difficult temperament predicted child aggression that is consistent with previous findings in several countries and immigrant groups. Lower levels of positive parenting at Time 1 predicted elevated child aggression

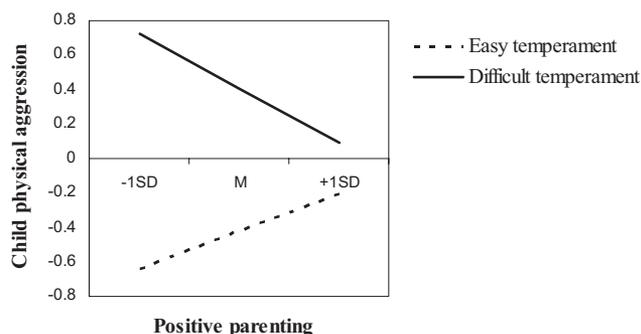


Figure 1. Positive parenting at Time 1 predicting child physical aggression at Time 2 for children with difficult and easy temperaments.

at Time 2, but only in the group of children with difficult temperaments. However, children with difficult temperaments did not benefit more from higher levels of positive parenting, supporting the dual-risk model and not the differential susceptibility model. No interaction effects were found for authoritarian discipline. Similar interaction effects were also found in previous studies in Western samples (e.g., Karreman, Van Tuijl, Van Aken, & Deković, 2009), however these studies did not distinguish between dual risk and differential susceptibility.

In the easy temperament group less positive parenting led to lower aggression. We speculate that this unexpected finding might be a suppression effect: Children with an easy temperament might suppress their feelings of distress and anger when their parents are punitive and crush any sign of protest in their mostly easy-going children. In this group of families with children with easy temperaments interventions enhancing positive parenting might lead to more aggression later on, as children may feel free to openly communicate their feelings of anger and distress to their nonpunitive parent. Of course, this speculative interpretation should be tested in experimental research.

We did not find an effect of authoritarian discipline on child aggression, nor did we find a moderating effect of child temperament in this relation. This may be due to the fact that no distinction was made between obedience-demanding and punishment-oriented aspects of authoritarian discipline. Obedience-demanding parenting behaviors are not necessarily unfavorable to child development in Turkish immigrant families, as obedience is highly valued and may be perceived as normative in the Turkish culture (Yağmurlu & Sanson, 2008). In our study authoritarian discipline consisted of commanding and physical interference that seem to reflect primarily obedience-demanding behaviors and may therefore not have had an adverse effect.

Although we used standardized observations of parenting behaviors, a limitation of our study was that we used mother reports to measure child temperament and aggression, so some shared method variance can not be excluded. However, the only modest associations between these constructs suggest sufficient differentiation. In conclusion, this study provides empirical evidence for the generalizability of the dual-risk hypothesis to second-generation immigrant families with a non-Western cultural background: Toddlers with difficult temperaments are more adversely affected by a lack of positive parenting than other children, but do not benefit more from high levels of positive parenting.

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