

MARJOLEIN VERHOEVEN *Utrecht University*

MARIANNE JUNGER *University of Twente**

CHANTAL VAN AKEN *Utrecht University***

MAJA DEKOVIĆ *Utrecht University****

MARCEL A. G. VAN AKEN *Utrecht University*****

Mothering, Fathering, and Externalizing Behavior in Toddler Boys

This study examined the effects of reported maternal and paternal support, psychological control, and spanking on externalizing behavior of toddler boys. Questionnaires were administered to both parents of 104 two-parent families with a 3-year-old son. Both maternal and paternal psychological control was related to boys' externalizing behavior. Interaction effects were found, in that the association between maternal spanking and boys' externalizing behavior was stronger when levels of maternal support were high. High levels of paternal support strengthened the association between maternal support and boys' externalizing behaviors.

Results suggest that the associations between specific parenting dimensions and children's externalizing behavior need to be considered within the context of other parenting dimensions that are displayed within the family.

Research has consistently shown that toddlers displaying high levels of externalizing behaviors are at risk for continuing behavioral problems throughout their life course (Campbell, Shaw, & Gilliom, 2000), particularly in male toddlers (Alink et al., 2006), highlighting the importance of studying these behaviors during early childhood. A range of parenting behaviors has been linked to children's externalizing behaviors at this early age (Maccoby, 2000). Direct empirical tests of the notion that the effects of individual parenting behaviors depend on the context of the parent-child relationship are surprisingly scarce, however. Moreover, in spite of the acknowledgment that children's development occurs in the broader context of the family (Feinberg, 2003), there is little research examining combined effects of mothering and fathering on children's externalizing behavior. The current study will expand existing knowledge on the role of parenting in externalizing behaviors of 3-year-old boys by examining (a) the relative

Department of Pedagogical and Educational Sciences,
Utrecht University, Utrecht, The Netherlands
(J.C.T.Verhoeven@uu.nl).

*University of Twente, Twente, The Netherlands.

**Department of Developmental Psychology, Utrecht
University, The Netherlands.

***Department of Pedagogical and Educational Sciences,
Utrecht University, Utrecht, The Netherlands.

****Department of Developmental Psychology, Utrecht
University, Utrecht, The Netherlands.

Key Words: antisocial behavior, early childhood, family interaction, fathers, mothers.

importance of concurrent parenting dimensions, (b) whether one parenting dimension moderates the effect of other parenting dimensions, (c) whether the effects of parenting on children's problem behavior are similar for mothers and fathers, and (d) the interaction effects between mothering and fathering.

Three parenting dimensions that have been the focus of many studies on the role of parents in children's externalizing behavior are support, psychological control, and spanking. *Support* (e.g., responsiveness, involvement) refers to parents' connectedness to the child and their interactional warmth and has been found to be associated with lower levels of externalizing behaviors in toddlers (Smith, Landry, & Swank, 2000). *Psychological control* refers to parents' attempts to control the child's behaviors through psychological means, such as by intrusive behavior (Barber, 1996), by the withdrawal of love (i.e., giving the message to the child that he is not loved when he misbehaves), or by yelling (i.e., intimidating the child). Although not often studied in early childhood, a growing body of evidence shows that this parenting dimension is associated with externalizing behavior in middle childhood and adolescence (Hart, Nelson, Robinson, Frost Olsen, & McNeilly-Choque, 1998; Mills & Rubin, 1998). *Spanking* has repeatedly been shown to be linked with high levels of externalizing behavior (DeKlyen, Speltz, & Greenberg, 1998; Stormshak, Bierman, McMahon, & Lengua, 2000), although this seems to apply mostly for middle-class White families and not necessarily for ethnic and racial minorities (Deater-Deckard & Dodge, 1997).

One of the gaps in the literature on the associations between parenting and child behavior is that past research often studied parenting dimensions separately, ignoring, first, the possibility that parenting dimensions may be interrelated and, second, the possibility that the effects of particular parenting dimensions might be dependent on the broader context of the parent-child relationship. This has limited existing knowledge in at least two ways. First, it becomes difficult to draw conclusions about the specificity of associations between a particular parenting dimension and children's behavior because studying parenting dimensions in isolation makes it impossible to judge the importance of specific parenting dimensions relative to other parenting dimensions. The first aim of the present study was therefore to examine the relative importance of

specific parenting dimensions by studying them simultaneously.

Second, it may be that the association between a parenting dimension and the child's externalizing behavior varies as a function of the level of the other parenting dimensions the parent displays (moderation). For example, supportive mothers may use physical punishment based on child-oriented, rather than parent-oriented, motives and combine spanking with follow-through on disciplinary warnings and absence of verbal insults and ridicule (Larzelere, 1996). Alternatively, the context of the parent-child relationship may change the child's interpretation of behavior. Using the same example, children might be less likely to interpret physical punishment as an indication of rejection when the relationship with the parent is generally warm and supportive (McLoyd & Smith, 2002). Indeed, Caron, Weis, Harris, and Catron (2006) found that a frequent use of psychological control was only related to more externalizing problems in 9-year-olds in the context of low levels of parental warmth. For children age 4–10 years, McLoyd and Smith showed that spanking was only associated with an increase in externalizing behaviors when displayed in a context of low emotional support. Likewise, McKee and colleagues (2007) found that parental warmth served to buffer the detrimental effects of verbal punishment (i.e., yelling) and harsh physical discipline (i.e., slapping or hitting) on externalizing and internalizing behavior of fifth- and sixth-grade children. We are not aware of studies that examined whether support, psychological control, and spanking interact in the prediction of children's externalizing behaviors in early childhood. The second aim of our study was to examine three two-way interaction effects of parenting dimensions on toddler's externalizing behaviors: support versus spanking, support versus psychological control, and spanking versus psychological control. We hypothesized that the association between psychological control/spanking and children's externalizing behavior would be stronger in a context of low support than in the context of high support. In addition, the relation between psychological control and children's externalizing behavior was expected to be stronger in a context of high levels of spanking and vice versa.

Another gap in the literature on the associations between parenting and child behavior is

the lack of knowledge concerning the effects of specific parenting dimensions within the context of the family. Evidence for the associations between parenting dimensions and externalizing behavior is largely derived from studies concerning the mother-child relationship, on the basis of the assumption that mothers are often the primary caregivers and will have the largest impact on children. The literature, however, is inconclusive as to whether fathers have less influence on children's development than mothers do. Some studies reported that only maternal support affected children's externalizing problems (Aunola & Nurmi, 2005; Brook, Zheng, Whiteman, & Brook, 2001), whereas others found that maternal and paternal support has similar effects on children's externalizing behavior (Davidov & Grusec, 2006). Brook and colleagues found that maternal, but not paternal, psychological control was positively related to aggression in toddlers. Casas and colleagues (2006), on the other hand, found a positive relationship between maternal psychological control and physical aggression in boys, whereas paternal psychological control was negatively associated with this aggressive behavior. Given the inconsistencies in results, the third aim of the present study was to examine whether maternal and paternal support, psychological control, and spanking are similarly related to children's externalizing behaviors.

The importance of including both mothers and fathers is also emphasized by the growing awareness that the association between parenting dimensions and children's behavior may be influenced by the interrelated components of the family system (Feinberg, 2003). According to family-system theories, the family is a complex, integrated whole, wherein individual family members and subsystems (i.e., mother-child, father-child, mother-father dyads) are interdependent, exerting a continuous and reciprocal influence on one another (Cox & Paley, 1997). Although studies have been focusing on the patterns of interactions across certain subsystems within the family (e.g., studies investigating the influence of the quality of the marital relationship on parenting behavior), few studies have focused on the combined effects of mothering and fathering on children's behavior. Two studies have shown that the association between parenting behavior of one parent with children's behavior is moderated by the parenting behavior displayed by the other parent, finding that high levels of positive parenting (i.e., parental warmth)

from either parent moderated the association between children's externalizing behaviors and harsh physical discipline of the other parent (Deater-Deckard & Dodge, 1997; McKee et al., 2007). The fourth aim of the current study was to move beyond the traditional dyadic parent-child relationship and to examine the effects of one parent's behavior on children's development in the context of the other parent's behavior.

On the basis of a sample of Dutch families, the current study examined the roles of concurrent maternal and paternal parenting dimensions in externalizing behavior displayed by toddler boys. As in most Western cultures, in The Netherlands mothers are most often the primary caregivers during early childhood. Moreover, all forms of physical punishment (including spanking) have been forbidden by the Dutch law since 2006. Because externalizing behaviors of children are likely to be influenced by the family's socioeconomic status (Patterson, Kupperschmidt, & Vaden, 1990), the hours of nonparental care (National Institute of Child Health and Human Development Early Child-care Research Network, 2003), the family size (Campbell et al., 2000), and the age of the mother, we controlled for these variables.

METHOD

Participants

Data for the present study were collected as a part of a broader longitudinal project concerning boys' externalizing problems and family development. A sample of 104 two-parent families with a toddler son (mean age = 34.9 months, range 33–37, $SD = 0.71$) was recruited. Only families with a son were included because boys displaying these early externalizing behaviors are at greater risk for continued behavior problems than girls (Alink et al., 2006). The parents in this study were primarily Dutch (97%) and college-educated (65.6% of the mothers and 89.5% of the fathers having a college degree or more). In 53.6% of the families, the target child was the firstborn child, and the average number of children in the participating families was 1.96.

Procedure

The recruitment of these families was based on the records of infant health clinics (i.e., clinics that monitor the growth and development of

all Dutch 0–4-year-old children) in three cities situated in the central region of The Netherlands. A recruitment letter explaining the goals of the project was sent to 192 families and was followed up by a telephone call; 117 families volunteered. A lack of time was the most common reason for refusal to participate. Self-report inventories were administered to both mother and father when the child was approximately 35 months of age. Completed questionnaires were collected by research assistants during home visits. Of the 117 families, 5 families (4.3%) were excluded as mothers and fathers lived separately, 4 families (3.4%) dropped out because of relocation, and another 4 families (3.4%) were excluded as one parent (3 mothers, 1 father) did not return the questionnaire, leaving complete data for 104 families (88.9%).

Instruments

Control variables. The education and occupation of both parents were used to classify the family's *socioeconomic status* (SES; $M = 11.10$, $SD = 2.01$), using the four-factor index developed by Brandis and Henderson (1970). Mothers were asked to indicate the number of *hours spent by the child in nonparental care* ($M = 14.77$, $SD = 8.57$) and the number of children living at home (*family size*: $M = 2.0$, $SD = 0.89$). When the children were 17 months (the first wave of the longitudinal project), the age of mothers ranged from 23 to 45 years (mean age = 34.1, $SD = 4.07$).

Child externalizing behavior. Parents filled out the complete version of the Child Behavior Checklist 1.5–5 (Achenbach & Rescorla, 2000), a widely used measure of children's problem behavior with satisfactory reliability and validity (Vignoe, Berube, & Achenbach, 2000). The current study used the broad externalizing scale. Parents responded on a 3-point scale, ranging from 0 = *never* to 2 = *often*, as to whether attention problems (5 items) and aggressive behaviors (19 items) were indicative of their child's behavior. Raw scores were used to indicate each boy's level of externalizing behavior. The internal reliability of this scale was .89 and .87 for maternal and paternal reports, respectively. According to these reports, 19.3% of the boys scored above the borderline clinical range of externalizing behaviors, which is representative for the Dutch population (Koot, 1993).

Mothers reported slightly higher levels of externalizing behavior ($M = 0.64$, $SD = 0.30$) than fathers ($M = 0.57$, $SD = 0.28$), $t(103) = 2.68$, $p < .01$. The correlation coefficient of .58, however, shows moderate to high agreement between mothers' and fathers' reports of boys' externalizing behaviors. In order to obtain a more complete picture of the child's externalizing behavior (Goodman, Ford, Simmons, Gatward, & Meltzer, 2000) and to reduce problems associated with informant bias, the mean scores of maternal and paternal reports on their son's externalizing behavior were averaged.

Parenting. A threefold classification of parenting was used consisting of support, psychological control, and spanking. This model was confirmed by a confirmatory factor analysis and was found to measure parenting invariant for mothers and fathers. In addition, the dimensions had satisfactory internal consistency and were related to parental personality, contextual features (e.g., SES and marital satisfaction), and children's temperament in the predicted direction (Verhoeven, Junger, Van Aken, Deković, & Van Aken, 2007). Scores were assigned by computing mean scores of all items in the scales, with a high score indicating higher levels of the parenting dimensions.

Support. Four items from the Nijmeegse Parenting Questionnaire (Gerris et al., 1993) measuring parental responsiveness and sensitivity (e.g., "When my child is upset, I am able to comfort him") and five items from the Parent Practices Scale (Strayhorn & Weidman, 1988) measuring parental involvement in positive interactions with the child (e.g., "How often do you do something special with your child that he enjoys?") were combined to assess parental support. Parents rated the frequency of their parenting behavior on a 5-point scale ranging from 1 = *never* to 5 = *always* and 1 = *never* to 5 = *many times each day*, respectively. Cronbach's alpha was .63 for mothers and .73 for fathers.

Psychological control. Four items (Nijmeegse Parenting Questionnaire; Gerris et al., 1993) measuring love withdrawal (e.g., "When my child misbehaves, I stop talking to him until he pleases me again") and five items (Parent Behavior Checklist; Fox, 1994) measuring parents' tendency to raise their voice as a response to their child's misbehavior (e.g.,

“I yell at my child for being too noisy at home”) were combined to assess psychological control. All items were measured on a 5-point scale (1 = *never* to 5 = *always*). Cronbach’s alpha was .73 for mothers and .77 for fathers.

Spanking. Five items drawn from the Parent Behavior Checklist (Fox, 1994) and three items from the Alabama Parenting Questionnaire (Shelton, Frick, & Wootton, 1996) assessed parental use of spanking. Seven of these items refer to light forms of spanking (i.e., a smack on the bottom), and one item refers to using an object to spank with. On a 5-point scale, parents had to indicate how often they use spanking as a disciplinary technique, ranging from 1 = *never* to 5 = *always*. Sample items are “When my child has a temper tantrum, I spank him” and “You smack your child on the bottom when he has done something wrong.” Chronbach’s alpha was .77 for mothers and .70 for fathers.

RESULTS

Preliminary Analyses

Descriptive statistics for the measures of externalizing behavior and parenting are presented in Table 1. Approximately 3% of the data were missing, and missing value analysis indicated these data were missing completely at random, maternal data Little’s MCAR $\chi^2(276) = 283.94$, *ns*, paternal data, and $\chi^2(559) = 586.32$, *ns* (Little & Rubin, 1987). Missing values were imputed on the basis of all study variables using the EM algorithm (Allison, 2002).

Paired *t* tests showed that the level of support differed significantly between mothers and fathers, with mothers rating themselves slightly higher on this parenting dimension, $t(103) = 5.52$, $p < .001$. Fisher *z* tests showed that the correlations between

externalizing behavior and the three parenting dimensions were not significantly different for mothers and fathers, $z_{\text{Support}}(102) = 1.68$, $p = .09$, $z_{\text{Spanking}}(102) = -1.68$, $p = .09$, $z_{\text{Psychological Control}}(102) = -1.55$, $p = .12$.

Three hierarchical regression models examined the main effects and the interaction effects of the three parenting dimensions: one model for maternal behavior, one model for paternal behavior (Table 2), and a combined model to examine the relative contributions of maternal and paternal behavior (Table 3). Control variables were entered in the first step. In the second step, standardized measures of the three parenting dimensions were added. In the third step, the multiplied term of the standardized measures of the parenting dimensions were added (Aiken & West, 1991); for the maternal and paternal model there were three interactive terms, and for the combined model there were six interactive terms (three for mothers and three for fathers).

The maternal model accounted for 42% of the variance in boys’ externalizing behavior, $F(11, 98) = 5.71$, $p < .001$ (Table 2). Maternal support was negatively related to externalizing behavior and maternal psychological control was positively related to externalizing behavior. A significant interaction effect was found for maternal support and spanking. To examine the nature of this interaction, the effects of the parenting dimensions on externalizing behavior are estimated at 1 *SD* below the mean and 1 *SD* above the mean of maternal support and spanking (Aiken & West, 1991). Figure 1 shows that maternal spanking is positively related to boys’ externalizing behavior, but this association is stronger in the context of high levels of maternal support than in the context of low levels of maternal support.

The paternal model accounted for 15% of the variance in boys’ externalizing behavior,

Table 1. *Correlations Between Child’s Behavior Problems and Maternal and Paternal Behavior at 35 Months (N = 104)*

Variables	1.	2.	3.	4.	5.	6.	7.	<i>M</i>	<i>SD</i>	Min	Max
1. Externalizing behaviors	—							0.60	0.26	0.02	1.17
2. Maternal support	-.26**	—						4.41	0.32	3.44	5.00
3. Maternal psychological control	.45***	-.21*	—					1.87	0.43	1.00	2.78
4. Maternal spanking	.27**	-.11	.34***	—				1.31	0.37	1.00	2.63
5. Paternal support	-.03	.19*	-.05	-.14	—			4.15	0.43	3.22	5.00
6. Paternal psychological control	.26**	-.03	.36***	.17	-.33**	—		1.87	0.48	1.00	3.22
7. Paternal spanking	.04	.03	.16	.31**	-.15	.32**	—	1.38	0.43	1.00	2.88

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 2. Hierarchical Regression Analysis for Maternal Behavior Predicting Child's Externalizing Behavior ($N = 104$)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Socioeconomic status	-.02	.02	-.13	-.01	.01	-.09	-.02	.01	-.11
Hours in care	-.00	.00	-.06	-.00	.00	-.07	-.00	.00	-.09
Family size	.06	.03	.21 [#]	.03	.03	.10	.02	.03	.07
Age mother	-.01	.01	-.08	-.00	.01	-.02	.00	.01	.00
Support				-.06	.02	-.24**	-.05	.02	-.21*
Psychological control				.11	.02	.42***	.11	.02	.42***
Physical punishment				.03	.02	.10	.02	.03	.08
Support \times Psychological control							.00	.03	.00
Support \times Physical punishment							.07	.03	.22*
Psychological control \times Physical punishment							.03	.03	.11
R^2		.07			.36***			.41***	
F for change in R^2		1.72			13.96			2.40	

[#] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.Table 3. Summary of Hierarchical Regression Analysis for Paternal Behavior Predicting Child's Externalizing Behavior ($N = 104$)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Socioeconomic status	-.02	.02	-.13	-.02	.02	-.15	-.02	.02	-.17
Hours in care	-.00	.00	-.06	-.00	.00	-.06	.00	.00	-.03
Family size	.06	.03	.21 [#]	.05	.03	.15	.05	.04	.17
Age mother	-.01	.01	-.08	-.01	.01	-.07	-.01	.01	-.07
Support				.03	.03	.10	.03	.03	.10
Psychological control				.07	.03	.27*	.07	.03	.28*
Physical punishment				-.02	.03	-.09	-.02	.03	-.07
Support \times Psychological control							-.00	.03	-.01
Support \times Physical punishment							.04	.03	.15
Psychological control \times Physical punishment							.00	.03	.02
R^2		.07			.12			.14	
F for change in R^2		1.72			1.98			0.66	

[#] $p < .10$; * $p < .05$.

$F(11, 98) = 1.38$, $p = .20$ (Table 2). Although the overall model did not yield significance, paternal psychological control was positively related to externalizing behaviors of the child. None of the interactive terms reached statistical significance.

The combined model accounted for 45% of the variance in children's externalizing behavior, $F(17, 98) = 3.89$, $p < .001$ (Table 3). Maternal behavior predicted a significant portion of the variance, $\Delta R^2 = .34$, $p < .001$, whereas paternal behavior did not, $\Delta R^2 = .03$, $p = .61$. Changing the order in which maternal and paternal behavior was entered in the regression

analysis (with paternal behavior entered first) led to similar results. Thus, maternal parenting contributed to children's externalizing behavior above and beyond paternal parenting. Note that the effect of paternal psychological control, which was statistically significant in the father model, no longer reached significance, indicating that paternal psychological control had no unique effect on boys' externalizing behavior after controlling for the effects of maternal parenting.

A fourth hierarchical regression model tested the interactive effects between maternal and paternal behavior. Control variables were

FIGURE 1. CHILD'S EXTERNALIZING BEHAVIOR AS A FUNCTION OF MATERNAL SUPPORT AND MATERNAL SPANKING.

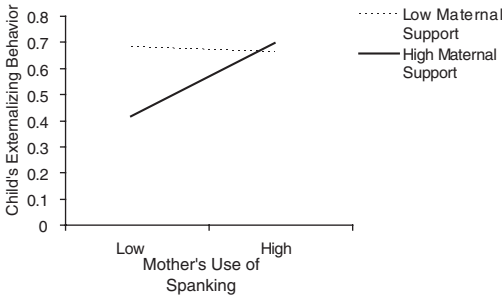
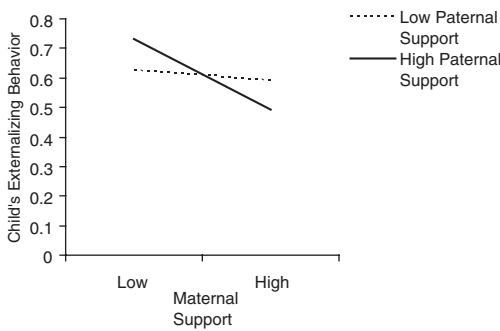


FIGURE 2. CHILD'S EXTERNALIZING BEHAVIOR AS A FUNCTION OF THE INTERPLAY BETWEEN MATERNAL AND PATERNAL SUPPORT.



entered in the first step. In the second step, standardized measures of the six maternal and paternal dimensions were added. In the third step, the nine multiplied terms of the standardized measures of maternal and paternal parenting dimensions were added ($\text{Support}_{\text{Mother}} \times \text{Support}_{\text{Father}}$, $\text{Support}_{\text{Mother}} \times \text{Spanking}_{\text{Father}}$, etc.).

This model accounted for 46% of the variance in children's externalizing behavior, $F(19, 99) = 3.54, p < .001$. A trend was found for the interactive term of maternal and paternal support, $\beta = -.17, p = .06$. The two lines depicted in Figure 2 illustrate that the positive association between maternal support and boys' externalizing behavior is stronger in the context of high paternal support than in the context of low paternal support. In the context of lower

levels maternal support, paternal support was positively related to children's externalizing behavior (Table 4).

DISCUSSION

The current study expanded existing knowledge regarding the role of parenting in toddler's externalizing behavior by examining the effects of three parenting dimensions in the context of the parent-child relationship and the family. Results indicated that boys' levels of externalizing behavior were positively related with maternal and paternal use of psychological control. The association between maternal spanking and boys' externalizing behavior was stronger when levels of maternal support were high. In addition, maternal and paternal support interacted when influencing boys' externalizing behaviors, indicating the importance of viewing the family from a system perspective. When interpreting these findings, it is important to keep in mind that this study was concerned with two-parent families with a toddler son. The results may not generalize to other family types.

In line with findings for older children (Hart et al., 1998), the current study found that toddler boys of mothers and fathers who engage in psychological control displayed higher levels of externalizing behavior. Although the role of psychological control in early childhood has not often been investigated, these results suggest that the use of psychological control is already evidently related to children's externalizing behavior during this period. It is thought that psychological control limits the child's opportunities to build a healthy self-image, which constrains the development of socially accepted behavior (Aunola & Nurmi, 2005; Brook et al., 2001). Toddlerhood is an important period in which self-image begins to develop (Harter, 1998). It is therefore not surprising that this parenting dimension plays a significant role in toddlers' externalizing behavior.

It is important to note that, once maternal behavior was controlled for, the effect of paternal psychological control no longer reached significance. Maternal psychological control contributed uniquely to the boy's externalizing behavior above and beyond the behavior of father. Thus, maternal behavior seems a more important predictor of the behavior of the child than paternal behavior, which is consistent with previous findings (e.g., Aunola & Nurmi, 2005;

Table 4. *Summary of Hierarchical Regression Analysis for Maternal and Paternal Behavior Predicting Child's Externalizing Behavior at 35 Months (N = 104)*

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Socioeconomic status	-.02	.02	-.13	-.02	.01	-.11	-.02	.01	-.15
Hours in care	-.00	.00	-.06	-.00	.00	-.09	-.00	.00	-.11
Family size	.06	.03	.21 [#]	.02	.03	.07	.03	.03	.12
Age mother	-.01	.01	-.08	.00	.01	.00	.00	.01	.00
Maternal parenting									
Support				-.05	.02	-.21*	-.07	.03	-.26*
Psychological control				.11	.02	.42***	.10	.03	.38***
Physical punishment				.02	.03	.08	.02	.03	.08
Support \times Psychological control				.00	.03	.00	.01	.03	.02
Support \times Physical punishment				.07	.03	.22*	.06	.03	.18 [#]
Psychological control \times Physical punishment				.03	.03	.11	.03	.03	.10
Paternal parenting									
Support							.03	.03	.11
Psychological control							.02	.03	.09
Physical punishment							-.02	.03	-.08
Support \times Psychological control							-.01	.03	-.03
Support \times Physical punishment							.03	.03	.12
Psychological control \times Physical punishment							-.01	.03	-.02
<i>R</i> ²		.07			.41***			.44***	
<i>F</i> for change in <i>R</i> ²		1.72			8.50			0.72	

[#] $p < .10$; * $p < .05$; *** $p < .001$.

Brook et al., 2001), suggesting that the primary roles of maternal and paternal psychological control differ. Children prefer to seek affection and warmth from mothers (Paquette, 2004). This may explain why the use of psychological control by mothers, which is characterized by rejection and manipulation, is more detrimental to the child than when fathers use psychological control.

For mothering, we found that support and spanking interacted in predicting children's externalizing behaviors. The nature of this interactive effect, however, is counterintuitive; instead of diminishing the negative effects of spanking, high levels of support strengthened the association between maternal spanking and boys' externalizing behavior. It is possible that the ambiguous signals that mothers send to their child by being both supportive and aggressive at the same time may negatively affect child adjustment by arousing internal distress and negative emotions leading to externalizing behaviors (Olsen et al., 2002). Another explanation is that children of warm and supportive mothers

are more open to parenting behavior and as such are more influenced by other parenting behavior the parent displays (Darling & Steinberg, 1993).

Maternal and paternal support interacted in the prediction of boys' externalizing behavior. High levels of paternal support strengthened the association between maternal support and boys' externalizing behavior. Surprisingly, in the context of low levels of maternal support, paternal support was positively related to externalizing problems displayed by the child. One possible explanation for this counterintuitive finding is that mothers experience higher levels of stress than fathers when their child displays externalizing problems, which then leads to lower levels of support of these mothers (Baker & Heller, 1996). In addition to these increased stress levels, mothers might also feel more need for assistance in dealing with their child (Baker & Heller). Mothers needing more help with child rearing may spur fathers into becoming more involved and supportive in an effort to assist the mother in dealing with a difficult child and to compensate for the dysfunctional maternal

behaviors (Lindsey, Caldera, & Collwell, 2005). This result suggests that in two-parent families, one parent may try to compensate for the dysfunctional behavior of the other parent.

The finding of our study that the relationship between the caregiving of one parent and children's behavior is influenced by the caregiving of the other parent is in accordance with recent findings by McKee and colleagues (2007) and suggests that processes at the family level are uniquely related to children's development. To gain a better understanding of the associations between parenting and child behavior it seems important to look beyond dyadic parent-child relationships. Future studies focusing on triadic relations are required to investigate these family-level processes more thoroughly, for example, by observing coparenting processes between parents and children.

When interpreting the results of this study one should be aware of some limitations. First, the sole reliance on questionnaires may have resulted in parenting and children's externalizing behavior being not reliably assessed because of social desirability effects (Nederhof, 1985) and may have inflated the relationship between variables due to shared method bias. In addition, our reliance on multiple reports regarding the child's externalizing behavior decreases but does not eliminate the problem of reporter bias. Second, the data of this study were obtained at a single moment in time, limiting the ability to determine the direction of the effects. Third, the results of the interaction effects should be interpreted carefully given the number of statistical tests that were conducted. Fourth, the focus on a relatively homogeneous sample, consisting of Dutch, two-parent, middle-class families with a male toddler, limits the ability to generalize the results to families in different circumstances, such as one-parent families or stepfamilies. Future research with a larger and more heterogeneous sample and samples from different cultures is needed.

This study is valuable in expanding our knowledge regarding the associations between three specific parenting dimensions and children's externalizing behavior within the family context. First, parents' use of psychological control as a discipline technique was shown to be related with more externalizing behaviors in toddlers. Second, high levels of maternal support did not deteriorate but strengthened the association between spanking and children's

externalizing behavior, supporting the notion that concurrent parenting dimensions should be studied simultaneously. Third, paternal support strengthened the association between maternal support and boys' externalizing behaviors, suggesting that future studies should examine triadic relationships. In conclusion, the results of the current study suggest that fathers as well as mothers play an important role in understanding children's externalizing behavior and that the associations between specific parenting dimensions and children's externalizing behavior need to be considered within the context of other parenting dimensions that are displayed within the family.

NOTE

This study was based on a part of the first author's dissertation at the University of Amsterdam. We are grateful to the mothers, fathers, and children for their valuable time and information.

REFERENCES

- Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA preschool forms and profiles*. Research Center for Children, Youth, & Families.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Alink, L. R. A., Mesman, J., Van Zeijl, J., Stolk, M. N., Juffer, F., Koot, H. M., Bakermans-Kranenburg, M. J., & van Ijzendoorn, M. H. (2006). The early childhood aggression curve: Development of physical aggression in 10- to 50-month-old children. *Child Development*, 77, 954–966.
- Allison, P. D. (2002). *Missing data*. Thousand Oaks, CA: Sage.
- Aunola, K., & Nurmi, J. E. (2005). The role of parenting styles in children's problem behavior. *Child Development*, 76, 1144–1159.
- Baker, B. L., & Heller, T. L. (1996). Preschool children with externalizing behaviors: Experience of fathers and mothers. *Journal of Abnormal Child Psychology*, 24, 513–532.
- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development*, 76, 3296–3319.
- Brandis, W., & Henderson, D. (1970). *Primary socialization, language and education: Social class, language and communication*. Oxford, UK: Sage.
- Brook, J. S., Zheng, L., Whiteman, M., & Brook, D. W. (2001). Aggression in toddlers: Associations with parenting and marital relations. *Journal of Genetic Psychology*, 162, 228–241.

- Campbell, S. B., Shaw, D. S., & Gilliom, M. (2000). Early externalizing behavior problems: Toddlers and preschoolers at risk for maladjustment. *Development and Psychopathology*, 12, 467–488.
- Caron, A., Weis, B., Harris, V., & Catron, T. (2006). Parenting behavior dimensions and child psychopathology: Specificity, task dependency, and interactive relations. *Journal of Clinical Child and Adolescent Psychology*, 35, 34–45.
- Casas, J. F., Weigel, S. M., Crick, N. R., Ostrov, J. M., Woods, K. E., Jansen Yeh, E. A., & Huddleston-Casas, C. A. (2006). Early parenting and children's relational and physical aggression in the preschool and home context. *Journal of Applied Developmental Psychology*, 27, 209–227.
- Cox, M. J. & Paley, B. (1997). Families as systems. *Annual Review of Psychology*, 48, 243–267.
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin*, 113, 487–496.
- Davidov, M., & Grusec, J. E. (2006). Untangling the links of parental responsiveness to distress and warmth to child outcomes. *Child Development*, 77, 44–58.
- Deater-Deckard, K., & Dodge, K. A. (1997). Externalizing behavior problems and discipline revisited: Nonlinear effects and variation by culture, context, and gender. *Psychological Inquiry*, 8, 161–175.
- DeKlyen, M., Speltz, M. L., & Greenberg, M. T. (1998). Fathering and early onset conduct problems: Positive and negative parenting, father-son attachment, and the marital context. *Clinical Child and Family Psychology Review*, 1, 3–21.
- Feinberg, M. E. (2003). The internal structure and ecological context of coparenting: A framework for research and intervention. *Parenting, Science and Practice*, 3, 95–131.
- Fox, R. A. (1994). *Parent behavior checklist*. Brandon, VT: Clinical Psychology Publishing Company.
- Gerris, J. R. M., Van Bostel, D. A. A. M., Vermulst, A. A., Janssens, J. M. A. M., Van Zutphen, R. A. H., & Felling, A. J. A. (1993). *Parenting in Dutch families*. Nijmegen, The Netherlands: University of Nijmegen, Institute of Family Studies.
- Goodman, R., Ford, T., Simmons, H., Gatward, R., & Meltzer, H. (2000). Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *British Journal of Psychiatry*, 177, 534–539.
- Hart, C. H., Nelson, D. A., Robinson, C. C., Frost Olsen, S., & McNeilly-Choque, M. K. (1998). Overt and relational aggression in Russian nursery-school-age children: Parenting style and marital linkages. *Development Psychology*, 34, 687–697.
- Harter, S. (1998). The development of self-representations. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology* (pp. 553–617). New York: Wiley.
- Koot, J. M. (1993). *Problem behavior in Dutch preschoolers*. Rotterdam, The Netherlands: Erasmus University.
- Larzelere, R. E. (1996). A review of the outcomes of parental use of nonabusive or customary physical punishment. *Pediatrics*, 98, 824–828.
- Lindsey, E. W., Caldera, Y., & Collwell, M. (2005). Correlates of coparenting during infancy. *Family Relations*, 54, 346–359.
- Little, R. J., & Rubin, D. B. (1987). *Statistical analysis with missing data*. New York: John Wiley.
- Maccoby, E. E. (2000). Parenting and its effects on children: On reading and misreading behavior genetics. *Annual Review of Psychology*, 51, 1–29.
- McKee, L., Roland, E., Coffelt, N., Olson, A. L., Forehand, R., Massari, C., Jones, D., Gaffney, C. A., & Zens, M. S. (2007). Harsh discipline and child problem behaviors: The role of positive parenting and gender. *Journal of Family Violence*, 22, 187–196.
- McLoyd, V. C., & Smith, J. (2002). Physical discipline and behavior problems in African-American, European American, and Hispanic children: Emotional support as a moderator. *Journal of Marriage and Family*, 64, 40–53.
- Mills, R. S. L., & Rubin, K. H. (1998). Are behavioural and psychological control both differentially associated with childhood aggression and social withdrawal? *Canadian Journal of Behavioural Science*, 30, 132–136.
- National Institute of Child Health and Human Development Early Childcare Research Network. (2003). Does amount of time spent in child care predict socio-emotional adjustment during the transition to kindergarten? *Child Development*, 74, 976–1005.
- Nederhof, A. J. (1985). Methods of coping with social desirability bias: A review. *European Journal of Social Psychology*, 15, 263–280.
- Olsen, S. F., Yang, C., Hart, C. H., Robinson, C. C., Wu, P., Nelson, D. A., Jin, S., & Wo, J. (2002). Maternal psychological control and preschool children's behavioral outcomes in China, Russia, and the United States. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 235–262). Washington, DC: American Psychological Association.
- Paquette, D. (2004). Theorizing the father-child relationship: Mechanisms and developmental outcomes. *Human Development*, 47, 193–219.
- Patterson, C. J., Kupersmidt, J. B., & Vaden, N. A. (1990). Income level, gender, ethnicity, and household composition as predictors of children's school-based competence. *Child Development*, 61, 485–494.
- Shelton, K. K., Frick, P. J., & Wootton, J. (1996). Assessment of parenting practices in families

- of elementary school-age children. *Journal of Clinical Child Psychology*, 12, 317–329.
- Smith, K. E., Landry, S. H., & Swank, P. R. (2000). The influence of early patterns of positive parenting on children's preschool outcomes. *Early Education and Development*, 11, 147–169.
- Stormshak, E. A., Bierman, K. L., McMahon, R. J., & Lengua, L. J. (2000). Parenting practices and child disruptive behavior problems in early elementary school. *Journal of Clinical Child Psychology*, 29, 17–29.
- Strayhorn, J. M., & Weidman, C. S. (1988). A parent practices scale and its relation to parent and child mental health. *Journal of the American Academy of Child and Adolescent Psychiatry*, 27, 613–618.
- Verhoeven, M., Junger, M., Van Aken, C., Deković, M., & Van Aken, M. A. G. (2007). Parenting during toddlerhood: Contributions of parental, contextual and child characteristics. *Journal of Family Issues*, 28, 1663–1691.
- Vignoe, D., Berube, R. L., & Achenbach, T. M. (2000). *Bibliography of published studies using the Child Behavior Checklist and related materials* (1999 ed.). Burlington: University of Vermont, Department of Psychiatry.