

A Prospective Study on Father Involvement and Toddlers' Behavioral and Emotional Problems: Are Sons and Daughters Differentially Affected?

Using data from the Dutch cohort study Generation R (N = 1,523), we investigate to what extent the association between father involvement and toddler's behavioral and emotional problems varies by child's gender. This research addresses important limitations in prior work by (a) differentiating between different father involvement tasks, (b) incorporating a diverse set of behavioral and emotional problems, and (c) using a prospective design to answer our research question. Our findings reveal that the negative association between father involvement and toddler's behavioral and emotional problems only holds for boys, and mainly for behavioral problems. The results showed that it is fathers' relatively stronger involvement in tasks labeled as "responsibility" which contributed to toddlers' lower levels of behavioral problems.

Keywords: father involvement, gender differences, problem behavior, toddlers

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A cultural shift in the image of fatherhood during the past three decades has enhanced and diversified fathers' roles in family life. Although historically fathering was largely defined by being a good provider, 'good' fathering today also encompasses being directly involved in childrearing in numerous ways, including nurturing and caregiving, and engaging in leisure and play activities (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000). These changes have occurred against the backdrop of increasing numbers of mothers who have remained in the work force after childbirth, changed attitudes towards the fatherhood role, and increasing numbers of fathers living apart from their children. These trends, and the accompanying changes in the roles and expectations of fathers (and mothers), have demanded a closer look at fatherhood and the implications of paternal involvement for children's development and well-being (Eggebeen, 2002; Marsiglio, Amato, Day, & Lamb, 2000; Pleck, 2004).

With a general consensus in the literature that fathers' involvement in childcare is related to children's behavioral and emotional problems (e.g., Aldous & Mulligan, 2002; for reviews see Cabrera et al., 2000; Lamb, 2000; Sarkadi, Kristiansson, Oberklaid & Bremberg, 2008), scholars are now gradually moving away from broadly linking fathers' involvement in childcare to their children's behavioral and emotional problems and looking instead for specificity: understanding the conditions under which and for whom father involvement has positive consequences (for a review, see Flouri, 2010). Based on social learning and gender socialization theory, scholars not only expected that father involvement would vary by the gender of the child, but also that the association between father involvement and children's outcomes would be stronger for sons than for daughters. Both theories emphasize that, in particular, sons learn by observing their fathers and modeling problem-solving strategies, organization of aggressive impulses, and other behavior. In addition, these theories pose that fathers have a stronger influence on their sons than their daughters due to their comparative advantage in doing so (Harris & Morgan, 1991) and societal expectations (Morgan, Lye, & Condran, 1988).

Despite strong theoretical expectations, both strands of research yield inconclusive findings. First, findings are disparate when examining whether fathers spend more time with their sons than with their daughters. Some studies show that fathers are more involved with their sons than daughters (Bronte-Tinkew, Moore, Capps, & Zaff, 2006; Bronte-Tinkew, Moore, & Carrano, 2006; Harris & Morgan, 1991; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001) and that fathers prefer to interact with their sons rather than with their daughters (Barnett & Baruch, 1987). Others find that fathers are more involved with their daughters (Lamb et al., 1988), while still others find no differences in the hours spent or in the types of activities undertaken with sons and daughters (Snarey, 1993). Second, the results of studies on gender differences in the association between father involvement and children's behavioral and emotional problems are inconclusive. Some studies indeed show that sons, not daughters, exhibited fewer problems when their fathers were more involved (e.g., Aldous & Mulligan, 2002). Yet some found that father involvement was actually more beneficial for daughters than for sons (e.g., the meta-analysis of Amato & Gilbreth, 1999); whereas others found no evidence that father involvement affects the outcomes of sons and daughters differently (e.g., Carlson, 2006).

In the current study, we aim to address these discrepant findings by investigating the association between father involvement and child behavioral and emotional problems in more detail than has been done before. Our reasoning borrows insight from the findings of Yeung et al. (2001) and Sarkadi et al. (2008) who suggested that fathers spend their time differently with sons than with daughters (Yeung et al.) and that father involvement is differentially ben-

eficial for offspring, affecting areas of sons' and daughters' greater vulnerabilities respectively (Sarkadi et al.). We therefore propose that a more thorough understanding of gender differences in the association between father involvement and toddler's outcomes asks for more detail in two areas: (1) the conceptualization of father involvement, and (2) the range of outcome variables. In the current paper we differentiate between two aspects of father involvement; we incorporate six measures of behavioral and emotional problems; and we make use of a prospective design which has greater potential for prediction. In addition, we address important limitations in prior work on the general association between father involvement and children's behavioral and emotional problems by focusing on father's relative—rather than absolute—childcare involvement and by controlling for influences from the family system. We focus specifically on behavioral and emotional problems in toddlerhood because toddlerhood is an important developmental period for children as it sets the foundation for later growth and development. We make use of the Dutch population-based cohort study Generation R ($N = 1,523$) to answer our research question.

THEORETICAL AND EMPIRICAL BACKGROUND

A Focus on Different Aspects of Father Involvement

Not only are fathers involved with their children in other activities than mothers are—a much higher proportion of fathers' than mothers' care time is spent in recreational activities rather than in physical and logistical tasks (e.g., Craig, 2006; Kazura, 2000; Maume, 2008; McBride & Mills, 1993)—but fathers also spend more time with sons in recreational activities than with daughters (e.g., Yeung, Sandberg, Davis-Kean, & Hofferth, 2001). Although the literature thus suggests that fathers spend their time differently with sons than with daughters, the question of whether the influence of father involvement on their child's behavioral and emotional outcomes is dependent on the type of task performed by fathers has seldom been addressed. Scholars often merely take father involvement into account as either (a) a sum-score of different parental tasks or (b) the total amount of time spent by the father on childcare tasks. However, such a general focus on father involvement may obscure gender differences in the association between father involvement and children's behavioral and emotional problems if the type of involvement is influenced by the gender of the child (see Flouri & Buchanan, 2003, p. 94 for a similar argument). In the current study, we distinguish between two types of father involvement based on Lamb, Pleck, Charnov, and Levine's (1987) distinction between "engagement" and "responsibility" in his model of three parental involvement components (the third component "accessibility," which according to Lamb implies being available for interaction with the child, could not be ascertained in the current study). Engagement involves time spent in actual one-on-one interactions with the child in the form of caretaking (feeding, bathing and dressing the child) or play. Responsibility involves tasks such as making child-care and baby-sitting arrangements and making arrangements for care and nurturance when the child is sick.

A Focus on Multiple Indicators of Toddlers' Behavioral and Emotional Problems

The fact that research on gender differences in the association between father involvement and children's behavioral and emotional problems is equivocal may also stem from scholars' one-dimensional focus on emotional and behavioral problems. Scholars merely investigate emotional, or only behavioral problems or make use of a total score of problem

behavior. The disadvantage of these three approaches is that they may mask gender differences in the association between father involvement and children's behavioral and emotional problems. There are significant gender differences in the expression of behavioral and emotional problems; girls exhibit higher rates of emotional problems (such as anxious/depressed and withdrawn), whereas boys exhibit higher rates of behavioral problems (such as attention problems and aggressive behaviors) (e.g., Skaggs & Jodl, 1999). As findings from a recent meta-study suggest that daughters also *react* to their fathers' involvement in different ways than sons do (Sarkadi et al., 2008), we expect that a multidimensional focus on toddler's behavioral and emotional problems is needed in order to obtain a thorough understanding of the presence of gender differences in the association between father involvement and outcomes in toddler. In the current study, we therefore focus on six outcome scores: a total sum score of behavioral and emotional problems, two outcomes for behavioral problems (attention problems and aggressive behavior) and three outcomes for emotional problems (emotionally/reactive, anxious/depressed, withdrawn).

A Focus on Fathers' Relative Involvement

The few studies that have examined the association between father's involvement in childcare and children's behavioral and emotional problems focused on the hours fathers spend on childcare tasks. However, focusing only on the hours spent on childcare masks that mothers may undertake different types of childcare tasks than fathers may do (Hook, 2010). If fathers' involvement in childcare consists mainly of recreational activities performed alongside their partner, and if only women's hours spent in childcare are compared with men's, we would obtain a distorted understanding of the extent to which men are involved in childcare, and with that, our understanding of how fathers' involvement in childcare may be related to their children's behavioral and emotional problems is likely incomplete. Scholars have therefore argued that it is important to know (1) father's relative contribution in childcare tasks and (2) on what dimension of childcare fathers are taking their share (Craig & Mullan, 2011). In the current study, we therefore focus on men's relative involvement in the areas of "engagement" and "responsibility."

Controlling for Influences from the Family System

Researchers have increasingly recognized the importance of taking the family system – including reciprocal and transactional relationships within families – into account when examining the relationship between father involvement and children's behavioral and emotional problems (e.g., Malmberg & Flouri, 2011; Meadows, McLanahan, & Brooks-Gunn, 2007; Schacht, Cummings, & Davies, 2009). From a family systems perspective, the behavior of fathers, mothers and children are interdependent, so one individual cannot be fully understood outside the context of other individuals in the family (e.g., Cox & Paley, 1997). A person's behavior and experiences have the capacity to influence the outcomes of his or her partner and child, and vice versa. This suggests that fathers' share in childcare tasks influences and is influenced by characteristics of his partner, his child, and the couple relationship, with consequences for the child and the family as a whole (Arditti & Kelly, 1994). In the current study we therefore control for important aspects of the couple and the family, namely the extent to which there are conflicts between the two parents and the extent to which there is stress in the family.

We also take important individual characteristics into account, for example parental psychopathology and child characteristics. We take child's age, weight at birth, gestational age,

and Apgar score at birth into account. We also control for a number of potentially confounding factors to better isolate the association between father involvement and child's outcomes. We control for father type (biological father versus stepfather), partner status, ethnicity, age, and educational attainment of both parents, their employment and work hours, the hours the child spends at daycare, and the household income.

METHODS

Setting

The present study was conducted within the Generation R Study, a population-based cohort study in Rotterdam, the Netherlands (Jaddoe et al., 2012). Enrollment occurred in early pregnancy. All children were born between April 2002 and January 2006 and form a prenatally enrolled birth cohort. The study was conducted in accordance with the guidelines proposed in the World Medical Association Declaration of Helsinki and has been approved by the Medical Ethics Committee of the Erasmus Medical Center, Rotterdam. After complete description of the study was provided to the adult subjects, written informed consent was obtained.

Study Population

In total 7,654 live born children, their mothers, and fathers, who were prenatally included in Generation R, were approached for postnatal consent. Of the children, 36 died in the first few months after birth. Mothers of 924 children refused full consent for postnatal participation. Another 2,785 mothers did not complete the first postnatal questionnaire (at six months). In addition, 500 mothers did not complete the 18-month questionnaire.

The question on father involvement was asked with respect to the current cohabiting partner of the mother of the child, irrespective of whether this person was the biological or the non-biological father of the child. Four hundred and six mothers did not have a current partner; 160 mothers did not live with their current partner; 407 partners did not participate in the study; and 408 families did not report their parental involvement. Therefore, information on father involvement at age six months was available for 1,992 children.

Some of the mothers participated with two children ($n = 238$), and another two mothers participated with three children. To avoid bias due to paired data and since results did not differ after random exclusion of one or two of these siblings, we decided to randomly keep only one of these children in the survey. For 469 families we had severe incomplete data (missing on more than half of our control variables), and we therefore decided to exclude these families. Our final sample consisted of 1,523 children (753 boys and 770 girls) and their families.

Measurement

CBCL. The Child Behavior Checklist for toddlers (CBCL/1½-5; Achenbach & Rescorla, 2000) is a self-administered questionnaire and was used to obtain standardized parent reports of children's problem behaviors. In the current study, we focus on six outcomes: two measures of behavioral problems (attention problems and aggressive behavior), three measures of emotional problems (emotionally reactive, anxious/depressed, withdrawn) and a total sum score which is the sum of all 99 problem items.

The CBCL consists of two other subscales, namely “sleep problems” and “somatic complaints.” For theoretical reasons, these two subscales were not the focus of the current paper. We decided not to focus on “sleep problems,” as these problems are not considered to be either emotional or behavioral problems and represent a separate syndrome at this age (e.g., Koot, Van den Oord, Verhulst, & Boomsma, 1997). We therefore perceived an investigation of these problems to be beyond the scope of the current investigation. “Somatic complaints” are sometimes considered to be emotional problems, but researchers have been hesitant to include them as such. The rationale is that “somatic complaints” are shown to have a different cause than anxiety, depression, and withdrawal. For example, Franić, Dolan, Borsboom, van Beijsterveldt and Boomsma’s study (2013) revealed a common genetic basis only for anxiety, depression, and withdrawal, with a different genetic structure for somatic complaints. For these reasons, we did not investigate “somatic complaints” in addition to the three more obvious emotional problems.

Each item is scored 0 = *not true*, 1 = *somewhat or sometimes true*, and 2 = *very true or often true* based on the preceding 2 months. Good reliability and validity have been reported for the CBCL (Achenbach & Rescorla, 2000). At 18 months only the mother, not the father, was asked to fill in the CBCL-questionnaire. Thus, our CBCL-scores are based on mother-reports.

Father involvement in childcare tasks was measured at six months by the question: “In what way are the following tasks divided between you and your partner?” Respondents gave answers on 5 items: a) Bathing the child and helping it dress, b) Getting out of bed at night, c) Staying at home when the child is ill, d) Playing with the child, and e) Taking the children to the day care center or babysitter. Answers ranged from 1 = “*nearly always by me*” up to 5 = “*nearly always by my partner.*” Engagement was measured by averaging the scores on “bathing the child and helping it dress,” “taking the child to the daycare center or babysitter,” and “playing with the child.” Responsibility was measured by averaging the scores on “getting out of bed at night” and “staying at home when the child is ill.” The father involvement in childcare tasks questions were asked to the mother of the child, which is common in studies on father involvement. We return to this and the issue of informant bias in the discussion section of our article.

Covariates

Date of birth, birth weight, APGAR score, and gender of the infant were obtained from midwives and hospital registers at birth. Information about the age of the child at the time of the 18-month interview, birth order, parental age, type of father, marital status, ethnicity, educational level, occupational background, hours spent at daycare, household income, psychopathology of parents, family stress, and relationship problems were obtained by questionnaire.

Gestational age at birth was measured in weeks; birth weight was measured in grams. Age of the child was measured in months at the 18-month questionnaire, as there was variation in the exact timing of the survey. Birth order was measured in number of live born children at the time of the first prenatal interview, gestational age 18-25 weeks. Parental age was measured in years, at the time of the first prenatal interview.

The current partner was asked at the time of the first prenatal interview whether or not he had biological ties to the focal child. A dichotomous variable was constructed indicating that the current partner was the biological father (= 1) or not. The number of current partners without biological ties was very small ($n = 36$; 2.4%). Most of the current partners in the sample are the biological fathers of the child.

Partner status was assessed at the time of the prenatal questionnaire. Respondents who were married were coded 1. Respondents who were in an unmarried cohabitation were coded 0.

The Generation R study uses the ethnicity categorization of Statistics Netherlands, whereby parents who themselves were, and whose parents were born in the Netherlands are considered indigenous Dutch. Parents who themselves were born outside the Netherlands or whose parents were born outside the Netherlands are considered ethnic minorities. Mothers and fathers were both asked about their ethnicity at the time of the first prenatal interview. Answer categories were: Dutch, Antillean/Aruban—Creole, Antillean/Aruban—Other, Cape Verdean, Moroccan—Arab, Moroccan—Berber, Surinam—Creole, Surinam—Hindustani, Turkish, Kurdish, and Other. Due to the fact that the number of respondents for each ethnicity group was quite low, we were not able to conduct analyses on the different ethnic groups. Therefore we decided to create two dichotomous variables indicating whether the mother and the father were of Dutch (= 1) or non-Dutch origin (= 0).

With respect to educational attainment, both the mother and the father were asked at the time of the first prenatal interview about the highest level of education they had finished with a diploma. Following the definitions of Statistics Netherlands (2004), we divided parental education into three categories: low education (no education, primary school or up to 3 years secondary school), medium education (more than three years of secondary school, intermediate vocational training), and high education (higher vocational training or university degree). Higher education was the reference category.

Regarding work hours of the mother, when the child was six months old, mothers were asked the following question: "How many hours per week do you work at the moment?" Answer categories were: 1 = "I don't work," 2 = "Less than 8 hours per week," 3 = "8 to 16 hours per week," 4 = "16 to 24 hours per week," 5 = "24 to 32 hours per week," and 6 = "More than 32 hours per week." Mothers were labeled as unemployed when they reported that they did not work.⁶ They were labeled as having a small part-time job when they worked up to 24 hours a week. They were labeled as having a large part-time job when they reported to work between 24 and 32 hours a week. Finally, mothers were reported to work full-time when they worked more than 32 hours a week. Preliminary results (available upon request) revealed that results did not differ between a model with a continuous measure of mother's work hours and one with dummy variables. For reasons of parsimony, we decided to merely include the continuous variable.

Information on fathers' work hours was only available from the prenatal questionnaire. The hours the father worked at the moment of the prenatal questionnaire (about 20 weeks pregnant) was included in the model as a continuous variable. When the child was six months old, the mothers were asked to state whether the father had reduced his work hours after the birth of his child. This dichotomous variable (1 = *yes*, 0 = *no*) was added to the analyses. In addition, mothers were asked to report whether their current partner was currently employed. A dichotomous variable was created indicating whether the current partner was unemployed (= 1) or not (= 0). Only 17 men (1.1%) were unemployed reflecting the low unemployment rate in the Netherlands in this age group. Based on the answers to these questions, we know the hours the father worked before the birth of the child, whether he reduced his hours after the birth of this child, and whether he is unemployed. Unfortunately, we did not directly assess the exact number of hours fathers worked when the child was six months old. Furthermore, we included the number of hours spent at daycare/babysitter reported by mother at age six months.

We also controlled for household income, defined as the total net monthly income of the

household, measured during the first prenatal interview. Household income was divided into three categories: less than 1200 euros a month (i.e., below the Dutch social security level), between 1200 and 2000 euros a month, and more than 2000 euros a month (more than modal income). Preliminary results (available upon request) revealed that results did not differ when we included a continuous measure of income compared to when we included two dummy variables. For reasons of parsimony, we decided to merely include the continuous variable.

To assess maternal and paternal psychopathology, we used the Brief Symptom Inventory (BSI; De Beurs, 2004; Derogatis & Melisaratos, 1983). Mother's and father's scores were standardized and used as continuous variables. At child's age six months, only data on maternal psychopathology were available. We decided to include this measure, as maternal psychopathology might not only be associated with mothers' reports of their child's problem behavior, but it may also be associated with their report of the division of childcare tasks. For paternal psychopathology, we take the question asked to men while their partner was in mid-pregnancy (gestational age 18-25 weeks).

Family stress reported by father was assessed during pregnancy by the 7th subscale General Functioning (GF) of the Family Assessment Device (Byles, Byrne, Boyle, & Offord, 1988). GF is a validated 12-item self-report measure of family health and pathology.

Relationship problems experienced by fathers during pregnancy were assessed with the question "In the past year, have there been difficulties between you and your partner (e.g., doubt as to whether he/she is the right partner for you, conflicts concerning the upbringing of the children, etc.)?" Answer categories were 1 = *no*, 2 = *slight*, 3 = *moderate*, and 4 = *serious*. We added this variable as a continuous variable to our models.

Analyses

We conducted OLS regression analyses to answer our research questions. Six different regression models, for each of the dependent variables, were performed.

RESULTS

Table 1 shows the means for our dependent and key independent variables by gender of the child. Sons and daughters did not significantly differ on the total number of problems reported. The results for the five specific behavioral and emotional problems showed gender-specific responses; however, most differences did not reach the conventional level of statistical significance. Sons did have significantly higher scores on aggressive behavior than daughters. For attention problems and all emotional problems (emotionally reactive, anxious/depressed, withdrawn), sons and daughters did not differ significantly. Contrary to our expectations, the mean level of father involvement for each of the two types of involvement, engagement and responsibility, did not differ significantly between sons and daughters.

In our primary analyses, we examined whether father involvement was differently associated with toddler's behavioral and emotional problems for sons than for daughters. Table 2 depicts the results for total number of problems and for behavioral problems. The first two columns in Table 2 show that the expected association between father's relatively higher father involvement and toddler's lower total number of problems only exists for sons. Fathers who took on a relatively larger share of responsibility had sons with a significantly lower total number of problems.

Table 1
Means and Standard Deviations of Key Variables by Gender of the Child

	Sons (<i>n</i> = 753)		Daughters (<i>n</i> = 770)		<i>t</i> -test
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Behavioral and emotional problems</i>					
Total problems	21.12	0.44	20.73	0.42	0.51
Attention problems	2.10	0.03	1.96	0.03	1.57
Aggressive behavior	8.30	0.46	7.74	0.42	2.17*
Emotionally reactive	1.39	0.25	1.52	0.25	-1.63
Anxious/depressed	0.87	0.02	0.94	0.03	-1.04
Withdrawn	0.58	0.02	0.58	0.02	-0.16
<i>Father involvement</i>					
Engagement	2.57	0.11	2.57	0.12	-0.07
Responsibility	2.32	0.08	2.30	0.08	0.32

**p* < 0.05.

The third and fourth columns, and also the fifth and sixth columns, show a strikingly similar picture—the expected association between father’s relatively higher father involvement and toddler’s attention problems and aggressive behavior, respectively, only held for sons. Fathers who took on a relatively larger share of responsibility had sons with fewer attention problems (column 3) and with lower behavioral problems scores (column 5).

In Table 3 the results for emotional problems are reported. The first two columns depict the results for being emotionally reactive. We did not find significant associations with father involvement, neither for sons nor daughters. In the third and fourth columns of Table 3, we turn to being anxious/depressed. There, we only found a significant relationship with father involvement for sons. Fathers who took a relatively larger share in tasks labeled as “engagement” had sons with lower scores on being anxious/depressed. For being withdrawn, depicted in the last two columns of Table 3, we did not find significant associations with father involvement, neither for sons nor daughters.

DISCUSSION

In this study, we aimed to contribute to the literature on gender differences in the associations between father involvement and children’s behavioral and emotional problems by (a) differentiating between different father involvement tasks, (b) incorporating a diverse set of behavioral and emotional problems, and (c) making use of a prospective design to answer our research question.

In line with social learning and gender socialization theory, our results revealed that fathers’ contribution to childcare makes a difference in the lives of their children, albeit only for sons. Differentiating between different child outcomes, we found that the implications of fathers’ involvement are not uniform across the two domains of behavioral and emo-

Table 2
OLS Regression Analyses for Total Problems, Attention Problems, and Aggressive Behavior

	Total problems sons	Total problems daughters	Attention problems sons	Attention problems daughters	Aggressive behavior sons	Aggressive behavior daughters
Engagement	-0.38 (-2.05, 1.29)	0.23 (-0.59, 2.05)	0.02 (-0.20, 0.24)	-0.15 (-0.39, 0.08)	-0.23 (-0.88, 0.43)	0.24 (-0.44, 0.93)
Responsibility	-1.62* (-2.52, -0.28)	-0.56 (-2.03, 0.90)	-0.18* (-0.36, -0.00)	0.03 (-0.16, 0.22)	-0.57* (-1.09, -0.04)	-0.35 (-0.91, 0.20)
Constant	-3.70	41.47	0.91	7.82	-2.24	12.97

Note: Results are controlled for educational attainment mother and father, age mother (age father was removed due to multicollinearity issues), age child, gestational age child, weight child at birth, APGAR score, birth order, family stress, psychopathology mother and father, relationship problems, employment status father, work hours father, whether father reduced work hours after birth, day care hours, household income, work hours mother, type of father, ethnicity mother, ethnicity father, and finally partner status. Confidence interval (95%) in brackets.
 * $p < 0.05$.

Table 3
OLS Regression Analyses for Being Emotionally Reactive, and Anxious/Depressed

	Emotionally reactive sons	Emotionally reactive daughters	Anxious/depressed sons	Anxious/depressed daughters	Withdrawn sons	Withdrawn daughters
Engagement	-0.06 (-0.27, 0.14)	0.05 (-0.18, 0.28)	0.19* (-0.33, -0.04)	0.08 (-0.07, 0.23)	0.01 (-0.11, 0.13)	-0.01 (-0.13, 0.11)
Responsibility	0.00 (-0.16, 0.17)	-0.04 (-0.23, 0.14)	0.03 (-0.09, 0.15)	-0.08 (-0.20, 0.04)	0.01 (-0.09, 0.11)	0.06 (-0.04, 0.15)
Constant	-3.70	0.36	-1.08	1.27	-1.01	3.14

Note: results are controlled for educational attainment mother and father, age mother (age father was removed due to multicollinearity issues), age child, gestational age child, weight child at birth, APGAR score, birth order, family stress, psychopathology mother and father, relationship problems, employment status father, work hours father, whether father reduced work hours after birth, day care hours, household income, work hours mother, type of father, ethnicity mother, ethnicity father, and finally partner status. Confidence interval (95%) in brackets.
 * $p < 0.05$.

tional problems. The contribution of fathers' involvement to their sons' difficulties is most prominent in the domain of behavioral problems. Fathers who took on relatively more responsibility had sons who exhibited less attention problems and fewer aggressive behaviors. Interestingly, although some scholars argue that fathers may mainly influence their children's developmental outcomes via (physical) play (e.g., Paquette, 2004), our results revealed that fathers may help reduce behavioral problems in their children by taking on a larger share of childcare tasks that are typically performed by the mother – such as staying at home when the child is ill.

Fathers' involvement makes less of a contribution in the domain of emotional problems. We find no associations between father involvement and children's emotionally/reactive behavior or withdrawn behavior. Fathers' relatively stronger involvement in childcare did contribute to their sons' –but not their daughters' –lower levels of being anxious/depressed. Noteworthy, on this domain of emotional problems, it is fathers' relatively stronger involvement in engagement that matters. These results emphasize the importance of acknowledging that father involvement is a multidimensional concept and incorporating it as such in empirical analyses in order to obtain a comprehensive understanding of (the impact of) father involvement (Schoppe-Sullivan, McBride, & Ringo Ho, 2007)

In interpreting our findings, we ask the reader to keep in mind that we used a relative measure of father involvement—implying that in families in which fathers are more involved in childcare, mothers are comparatively less involved. Might the families in which fathers are relatively strongly involved be “atypical” families? Do any circumstances in the lives of these mothers push fathers into involved fatherhood? In the current study, we controlled for influences such as (long) work hours of the mother and mother's psychopathology. More research is needed to understand what fuels father involvement in these families and to what extent these families stand out.

Our study showed that father involvement is only beneficial to the problem behavior of sons. This suggests that the impact of father involvement is gender-specific. However, fathers' contribution to childhood development could also be outcome-specific and may mainly be in the area of behavior-regulation rather than emotion-regulation. This alternative explanation could explain why we only found an impact on the problem behavior of sons, who are more likely to externalize their problems compared to daughters.

In contemplating the findings, we feel that specifics of Dutch society should be noted. The Netherlands have the highest share of part-time working women of all European countries (Portegijs & Keuzenkamp, 2008). Moreover, in the Netherlands a rather strong male breadwinner ideology coincides with a strong motherhood ideology; most Dutch men and women agree with the statement that fathers and not mothers should work full-time and that mothers are better at taking care of their children than are fathers (Portegijs & Merens, 2010). Dutch men spend the least time with their children of all OECD countries (with the exception of Austria) (Fatherhood Institute, 2010). Dutch mothers spend, on average, twice as much time with their children as Dutch fathers do (Portegijs & Merens, 2010). It is encouraging to see that even in a country in which fathers are relatively weakly involved in childcare, a small increase in fathers' involvement is able to make a significant difference in the lives of their children.

Some limitations of our study should be mentioned here. For one, our measures of father involvement are based on the mother's report. Studies reveal that mother reports of fathers' involvement are lower than father reports of their own involvement (e.g., Coley & Morris, 2002; Mikelson, 2008). This may be particularly so the case of the Netherlands, a country with a strong social desirability of involved motherhood. However, we feel that there is less

reason for concern regarding underestimation of father involvement in the current study for two reasons. First, comparisons of mothers' and fathers' reports on the division of household labor generally yield similar aggregate results. Further, the level of agreement between mothers and fathers is high, even in the Netherlands (e.g., Van der Lippe, 1994). Although generalizations about the division of involvement with children must be made with care, we do not believe our effects are biased by asking only the mother to report on childcare involvement. Second, even when our reports of involvement do underestimate actual involvement of the father, we have no reasons to believe that this bias differs by child's gender. In other words, mothers of both sons and daughters will then likely have underreported the involvement of their partner, and we therefore feel that there is little reason to question our main finding that the impact of father involvement differs by gender of the child.

As not only the measure of father involvement but also our measures of children's behavioral and emotional problems are reported by mother, our results may be affected by single source bias. As such, it might be that both the answers to the division of childcare tasks and the answers to children's problem behavior are colored by the perception/feelings of the mother. We have tried to control for this influence by taking into account mothers' psychopathology and fathers' perception of the existence of relationship problems. Future research should preferably make use of full multi-actor reports to be able to investigate the association between father involvement and children's problem behavior more accurately.

Despite these limitations, our results demonstrate that fathers' involvement in childcare contributes to their children's lower levels of behavioral and emotional problems. In particular, using a prospective design with greater potential for prediction, we showed that when fathers take on relatively more responsibility regarding childcare when their sons are six months old, they exhibit fewer behavioral problems when they are 1.5 years old. Given that toddlerhood is an important developmental period for children that sets the foundation for later growth and development, our study suggests that it is very important to encourage fathers to take a large share in childcare tasks from an early age onwards.

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