Infant Behavior and Development 50 (2018) 28–41

Contents lists available at ScienceDirect

Infant Behavior and Development

journal homepage: www.elsevier.com/locate/inbede

Full Length Article

Self-control, parenting, and problem behavior in early childhood: A multi-method, multi-informant study

Dionne L. van Prooijen[a], Roos Hutteman[a], Hanna Mulder[b], Marcel A.G. van Aken[a], Odilia M. Laceulle[a,c,*]

[a] Department of Developmental Psychology, Utrecht University, The Netherlands
[b] Department of Cognitive Development, Utrecht University, The Netherlands
[c] Department of Medical and Clinical Psychology, Tilburg University, The Netherlands

ARTICLE INFO

Keywords:
Self-control
Parenting
Internalizing problems
Externalizing problems
Fathers/mothers

ABSTRACT

Background: Early childhood self-control and parenting are suggested to play key roles in the development of child problem behavior. The current study aims to 1) replicate earlier work by examining the unique and combined effects of child self-control and parenting on child problem behavior and 2) extend earlier work by including both mother and father reports.

Methods: Data were used from 107 Dutch families: mothers, fathers, and their two-year old child. Child self-control was measured using both father's and mother's reports of effortful control and with an observed behavioral task (i.e., gift-in-bag task). Similarly, parenting (i.e., emotional availability and discipline) and child problem behavior (i.e., externalizing and internalizing problems) were measured by using both father's and mother's reports.

Results: Child self-control reported by fathers and mothers, but not observed self-control, was related to fewer externalizing and (mother-reported) internalizing problems. Paternal emotional availability showed a modest association with fewer child externalizing problems, maternal emotional availability was related to fewer internalizing problems. Finally, there was an interaction between father- (but not mother) reported self-control and paternal emotional availability in the prediction of child internalizing problems. No main or interaction effect was revealed for discipline.

Conclusion: Findings confirm prior work on self-control, parenting, and child problem behavior. Most importantly however, the current study adds to the literature by highlighting the need for additional research including maternal as well as paternal data. Specifically, insight in the unique role of fathers may shed light on aspects of child adjustment not covered by mother reports alone.

1. Introduction

Research has consistently shown an association between problem behavior in early childhood and later development of mental disorders (Bornstein, Hahn, & Haynes, 2010; Campbell, 1995). Given the long-term consequences of childhood emotional and behavioral problems (Campbell, 1995; Denham et al., 2000), it is important to reveal factors relating to problem behavior at an early age. Today, a range of risk and protective factors has been suggested for the development of problem behavior in early childhood. In particular, the links between child temperament (e.g., self-control) and child problem behavior, and between parenting and child problem behavior are well established (e.g., Aunola & Nurmi, 2005; Brook, Zheng, Whiteman, & Brook, 2001; Caspi et al., 2004;

* Corresponding author at: Department of Developmental Psychology, Utrecht University, The Netherlands.
E-mail address: o.m.laceulle@uu.nl (O.M. Laceulle).

http://dx.doi.org/10.1016/j.infbeh.2017.11.001
Received 19 April 2017; Received in revised form 30 October 2017; Accepted 2 November 2017
Available online 07 November 2017

Eisenberg et al., 2001, 2004, 2009; Karlisch, 1999; Raby et al., 2014; Rothbart & Bates, 2006). Increasing evidence, however, suggests that the complexity of developmental processes can be captured best by taking into account the interaction between temperament and parenting, in addition to examining the unique effects of the individual factors (Bates, Pettit, Dodge, & Ridge, 1998; Belsky, 2005; Bradley & Corwyn, 2008; Gartstein & Fagot, 2003; Karreman, van Tuijl, van Aken, & Dekovic, 2009; Kochanska, 1997; Magnusson & Stattin, 1998). The present study aims at examining both the unique and combined effects of child self-control (i.e., parent-reported effortful control and observed behavioral control) and parenting (i.e., emotional availability and discipline) on problem behavior (i.e., externalizing and internalizing problems) in early childhood. In the current study, two aims can be distinguished. First, this study aims to replicate prior findings on the predictions from parenting behavior, child self-control and the interaction between these variables, to child problem behavior. Second, the study aims at extending earlier research by including not only mother reports, but also father reports of child self-control and problem behaviors. The merit of studying both father and mother reports is two-fold: it allows us to test the potentially crucial differential role of fathers and mothers (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; DeKlyen, Biernbaum, Speltz, & Greenberg, 1998; Rinaldi & Howe, 2012) and it provides us with multi-informant data which enables cross analyses and reducing informant bias.

1.1. Self-control in early childhood

Self-control is the ability to control one's impulsive feelings, thoughts, and behavior in order to comply with social and personal standards and to achieve long-term goals (Moffit et al., 2011; Waegeman et al., 2014). In young children, self-control is often operationalized in terms of effortful control (Kochanska & Knaack, 2003; Kochanska, Murray, & Harlan, 2000), and defined as a temperamental feature reflecting "the efficiency of executive attention, including the ability to inhibit a dominant response and/or to activate a subdominant response, to plan, and to detect errors" (Rothbart & Bates, 2006, p. 129). Self-control has been suggested to encompass both an attentional aspect (i.e., the ability to shift and/or focus attention), and a behavioral aspect (i.e., the inhibition of impulsive or undesirable behavior; Duckworth & Kern, 2011; Eisenberg et al., 2001, 2009; Waegeman et al., 2014). Individual differences in self-control (generally operationalized in terms of child effortful control) emerge during the first years of life and further develop across childhood and adolescence (Rothbart & Bates, 2006; Eisenberg et al., 2009).

Self-control, and effortful control specifically, has usually been measured using either parent questionnaires (often filled out by the mother; Gartstein & Fagot, 2003; Lemery, Essex, & Smider, 2002) or observed behavioral tasks (at home or in a lab; Kochanska & Knaack, 2003; Kochanska et al., 2000). Nonetheless, only relatively weak associations have been found between questionnaire data and actual observed behavioral control, with correlations rarely exceeding 0.40 (Duckworth & Kern, 2011; Karreman et al., 2009). This suggests rather low convergent validity of parent-reported and observed behavioral control, and as such including both measures may provide a more comprehensive indication of self-control than the use of one instrument only (Duckworth & Seligman, 2005).

1.2. Self-control and child problem behavior

A prominent finding in earlier literature is the predictive value of self-control for greater health, wealth, and success in general (Duckworth & Seligman, 2005; Moffit et al., 2011) and fewer behavioral problems more specifically (Brody & Ge, 2001). Problem behavior can be manifested in externalizing and internalizing problems, which both tap independent aspects of early problem behavior (Carter, Briggs-Gowan, Jones, & Little, 2003). In toddlers, externalizing problems (i.e., disinhibited and unsocial behavior directed towards others) include high activity, impulsivity, aggression, and defiance; whereas internalizing problems (i.e., inhibited behavior directed towards oneself) include depression, social withdrawal, anxiety, separation distress, and extreme inhibition/shyness (Carter et al., 2003; Eisenberg et al., 2001).

The association between self-control and externalizing problems has been studied more often than the association between self-control and internalizing problems. The studies on self-control and externalizing problems have shown stronger and more consistent findings than those on self-control and internalizing problems (Eisenberg et al., 2001). A relation between low self-control and externalizing problems in children has been reported abundantly, when investigated in terms of parent-reported child self-control (i.e., effortful control; e.g., Eisenberg et al., 2001, 2004, 2009; Eisenberg, Sadovsky et al., 2005; Eisenberg, Zhou et al., 2005; Gartstein & Fagot, 2003; Lemery et al., 2002; Olson, Sameroff, Kerr, Lopez, & Wellman, 2005; Spinrad et al., 2007) and also in studies on observed behavioral control (Karreman et al., 2009; Kochanska & Knaack, 2003; Krueger, Caspi, Moffitt, White, & Stouthamer-Loeber, 1996; Murray & Kochanska, 2002; Olson et al., 2005; Rapport, Tucker, DuPaul, Merlo, & Stoner, 1986; Spinrad et al., 2007).

Results on the association between self-control and internalizing problems are relatively limited and seemingly inconsistent. Some studies found parent-reported child self-control to relate negatively to child internalizing problems (Eisenberg et al., 2001, 2004, 2009; Lemery et al., 2002; Spinrad et al., 2007), whereas others found child self-control to relate positively to internalizing problems (Murray & Kochanska, 2002), or observed no relation between these constructs (Houck & Lecuyer-Maus, 2004; Krueger et al., 1996; O'Brien & Frick, 1996). Although much remains unknown on the factors contributing to these inconsistencies, these may partly be the result of differences in the definition and precise conceptualization of self-control. That is, self-control is generally seen as an umbrella term encompassing an attentional, a behavioral and possibly also an emotional component (Duckworth & Kern, 2011; Eisenberg et al., 2001, 2004, 2009). It may be that the attentional aspect of self-control is related to the development of internalizing problems in particular. That is, attentional control (i.e., attentional shifting) has been found to facilitate self-control in young children (e.g., Mischel & Ayduk, 2002), and it has been suggested to be mostly the shift in attention from negative feelings, thoughts or environmental cues to more positive ones that is crucial in the prevention of internalizing problems (Derryberry & Reed, 2002;

Eisenberg et al., 2001, 2004, 2009). Indeed, whereas studies focusing on attentional control (Derryberry & Reed, 2002) or on effortful control (i.e., reflective of both behavioral and attentional self-control; Eisenberg et al., 2001, 2004, 2009) have found modest links with internalizing problems, studies with a strong focus on behavioral control alone (e.g., Murray & Kochanska, 2002) did not find such an association.

1.3. Parenting and child problem behavior

A second key correlate of child problem behavior is parenting (e.g., Denham et al., 2000). Alongside the strong focus on negative and harsh parenting practices in this field, also more common and positive parenting practices have been suggested to play an important role in child (mal)adaptive development (Baumrind, 1971; Raby et al., 2014; Pettit & Bates, 1989). These practices include both emotional availability/acceptance/nurturing (Biringen et al., 2005; Salo et al., 2009) and discipline/control (Rothbaum & Weisz, 1994). Emotionally available parents are supportive, acceptant, non-hostile, and responsive towards their child and able to truly understand their child's emotions (Biringen et al., 2005; Salo et al., 2009). Parents that exert positive discipline towards their child are restrictive (but not overly harsh) and regulate their child's behavior with clear rules and boundaries (Brody & Ge, 2001; Chronis et al., 2007).

Positive parenting practices (i.e., high emotional availability and/or positive discipline) have consistently been found to be related to fewer child externalizing problems (Boeldt et al., 2012; Caspi et al., 2004; Chronis et al., 2007; Gray & Steinberg, 1999; Lindahl, 1998; McKee, Colletti, Rakow, Jones, & Forehand, 2008; for meta-analyses see Rothbaum & Weisz, 1994). Just like with self-control, the relation between parenting and child internalizing problems has received far less scientific attention than the relation with externalizing problems (McKee et al., 2008). The available studies examining internalizing problems, however, also indicated an association between more positive parenting practices and fewer internalizing problems (Bayer, Sanson, & Hempshill, 2006; Chronis et al., 2007; Gray & Steinberg, 1999; Karlisch, 1999; McKee et al., 2008).

1.4. Self-control, parenting, child problem behavior

Over the last decade, it has increasingly been acknowledged that child and environmental characteristics can interact and as such, explain problem behavior above and beyond the unique effects of child characteristics and environmental characteristics (Belsky, 2005; Pluess, 2015). Child characteristics are often operatized in terms of temperament, which is defined by individual differences in emotional, motor and attentional reactivity (Posner, Rothbart, & Sheese, 2007; Rothbart, 2007). In general, children with a difficult temperament are characterized by more fearfulness, higher reactivity, and more negative emotionality, compared to children with a more easy temperament (Rothbart & Bates, 2006). Infant (difficult) temperament has been suggested to interact with environmental characteristics and these factors jointly influence child (mal-)adaptive development (Belsky, 1997). Various models have been proposed to explain person-environment interactions. The diathesis-stress model states that children with a difficult temperament are more vulnerable to the adverse effects of negative environmental influences than children with an easy temperament (Monroe & Simons, 1991). Alternatively, children with a difficult temperament may be more susceptible to both positive and negative environmental influences (e.g., Belsky, 1997). Support has been found for both models (Belsky, Hsieh, & Crnic, 1998; Bradley & Corwyn, 2008; Kochanska, 1997), accentuating the importance of evaluating the interaction between child temperament and parenting besides the evaluation of sole main effects.

Specifically, more positive parenting has been suggested to have a protective effect on problem behavior development, especially for children with a difficult temperament (Bradley & Corwyn, 2008; Denham et al., 2000; Van Aken et al., 2007). In a recent meta-analysis (Slagt, Dubas, Deković, & van Aken, 2016), it was found that self-control (i.e., effortful control) moderated the link between positive – but not negative – parenting and child problem behavior (Kiff, Lengua, & Bush, 2011; Slagt, Dubas, Deković, & van Aken, 2016; Thompson, Roemer, & Leadbeater, 2015). Similarly, interactions have been found between positive parenting and impulsivity, a construct closely related to self-control (Bates et al., 1998; Karreman et al., 2010). In particular, in this study, a weaker relation between child impulsivity and externalizing problems was observed when parents exerted more positive discipline. With regard to the specific interaction between positive parenting and child self-control, one study found that interaction effects in relation to externalizing problems (Karreman et al., 2009), although this was not found in earlier work (Gartstein & Fagot, 2003; Olson et al., 2005). So far, to the best of our knowledge, no research has yet been done to study the interaction between positive parenting and self-control in relation to both externalizing and internalizing problems.

1.5. Differential role of fathers and mothers

Traditionally, studies have almost exclusively focused on maternal parenting, largely neglecting the role of fathers in child development (Phares, 1992). Despite a growth in attention for the role of fathers in developmental research since the mid-1960s, fathers nowadays still continue to be underrepresented in the developmental literature (Day & Lamb, 2003; Kim & Hill, 2015; Lee, Bellamy, & Guterman, 2009; Phares, Fields, Kamboukos, & Lopez, 2005). Specifically, Shapiro and Krysik (2010) found in their meta-analysis that only 24% of the family-focused studies examined included fathers, and only 12,5% included fathers as actual participants in the study. Often mother-reports are used as a proxy for both parents, assuming that fathers hold the same views and show similar behavior as their spouse (Cabrera et al., 2000; Gray & Steinberg, 1999). This assumption has increasingly been criticized (Bornstein & Sawyer, 2005; Rinaldi & Howe, 2012), as the importance of fatherly influences on children's development has been emphasized by the available studies including fathers (Cabrera et al., 2000; DeKlyen et al., 1998; Lamb, 2004; Lamb, 2010;

Rinaldi & Howe, 2012). Additionally, correlations between mothers' and fathers' self-reported parenting style are rather low (Cowan, Powell, & Cowan, 1998; Gamble, Ramakumar, & Diaz, 2007; Rinaldi & Howe, 2012; Winsler, Madigan, & Aquilino, 2005), with fathers being more disciplinarian and controlling and mothers being more caregiving, nurturing (Gamble et al., 2007; Russell et al., 1998; Winsler et al., 2005) and sensitive towards their child (Verhoeven, Junger, van Aken, Dekovic, & van Aken, 2010). Other studies, however, found fathers and mothers to be largely similar in their responsiveness, affection, stimulation and teaching (Notaro & Volling, 1999; Tamis-Lemonda, Shannon, Cabrera, & Lamb, 2004). Additionally, the relation between parenting and child behaviors may be different for mothers and fathers. For example, there are differences between fathers and mothers in the association between permissive and authoritarian parenting, and child externalizing problems (e.g., Rinaldi & Howe, 2012). Taken together, these findings indicate that solely mother-reports do not give a full representation of parental influences, and emphasize that both mother- and father-reports should be examined in the prediction of child outcomes.

So far, however, findings from studies on parenting and problem behavior including both fathers and mothers have been highly inconsistent; indicating larger mothering effects (Aunola & Nurmi, 2005; DeKlyen et al., 1998; Rothbaum & Weisz, 1994), larger fathering effects (Cowan, Cohn, Cowan, & Pearson, 1996; Rinaldi & Howe, 2012) or no differential associations at all (Adamsons & Buehler, 2007; Davidov & Grusec, 2006; Tamis-LeMonda et al., 2004). Finally, some studies found that positive mothering and fathering behaviors were more strongly associated with different aspects of child problem behavior, although the nature of these differences yet remains unclear (Belsky et al., 1998; Cowan et al., 1996).

In addition to enabling to test the potentially crucial differential role of fathers and mothers (Cabrera et al., 2000; DeKlyen et al., 1998; Rinaldi & Howe, 2012), including both father and mother reports has a second merit. Using multiple informant data results in a reduction in informant bias and a better understanding of (child) behaviors across different context (De Los Reyes et al., 2015).

1.6. The current study

The current study examined the association between child self-control and parenting, and problem behavior in early childhood. Child self-control was measured with both a parent-reported questionnaire on effortful control and an observed behavioral task. We sought to extend previous research by including fathers in addition to mothers, thus evaluating their potentially distinctive role in child problem behavior and enable a multi-informant approach.

First, children low on effortful control and observed behavioral control were hypothesized to have higher levels of externalizing problems. As empirical support for the relation between behavioral control and internalizing problems has been more ambiguous, this link was examined exploratory. Second, it was expected that more positive parenting practices (i.e., high emotional availability and positive discipline) would be associated with fewer child externalizing and internalizing problems. Third, more positive parenting practices were hypothesized to have a buffering effect on the link between low self-control and externalizing problems. Interaction effects regarding internalizing problem behavior were investigated exploratory.

2. Methods

2.1. Participants and procedure

The sample of the study included 107 Dutch families with a child aged between 21 and 29 months ($M = 24.9$, $SD = 2.1$, 53 boys, 54 girls). 103 children (52 boys, 51 girls) participated in the behavioral task (in 4 cases the task could not be completed (for various reasons) and solely parental data were collected). This was slightly lower than the anticipated 109 families, adequate to conduct multiple regression analyses with 8 predictors (based on a medium effect size, $p < 0.05$ and 1-β error probability = 0.80). For 55 children both parents, for 38 children only the mother, and for 1 child only the father completed the questionnaire (for 13 children neither parent agreed to complete the questionnaire and solely behavioral data were collected). Mothers' ($N = 93$) mean age was 33.2 years ($SD = 4.0$, range = 23–42); fathers' ($N = 56$) mean age was 36.3 years ($SD = 5.9$, range = 28–55). 85% of the mothers and 75% of the fathers had an undergraduate or graduate degree.

Families were recruited through daycare centers in The Netherlands. Both parents were asked to complete the questionnaire, which was sent to the family on paper by regular mail. Observed self-control was tested during a home visit by two research assistants. The home visit, including a set up and clean up period, took an average of 45–60 min. The behavioral tasks were videotaped. Parents were informed regarding the study goals prior to the start of the study, provided written informed consent prior to the start, and were told that they could withdraw at any time and that they could contact the principle investigators of the study at any time both during and after the study.

2.2. Measures

2.2.1. Externalizing and internalizing problems

Toddlers' externalizing and internalizing problems were measured using the Child Behavior Checklist/1.5–5 (CBCL) (Achenbach & Rescorla, 2000). An example of an externalizing item is: "*My child has temper tantrums or hot temper*"; an example of an internalizing item is: "*My child is unhappy, sad or depressed*". Items were rated on a three-point scale: 'Not at all true' (0), 'Somewhat/sometimes true'(1) and 'Obvious/very true' (2). Higher total scores indicated more problem behavior. The validity and reliability of the translated version has been proven sufficient (Koot, van den Oord, Verhulst, & Boomsma, 1997), and the internal consistency has previously been found to be good (Achenbach & Rescorla, 2000). For the present sample, internal consistency was measured using

Cornbach's alpha, respectively: Externalizing Problems α = 0.85 (mother-report) and α = 0.86 (father-report); Internalizing Problems α = 0.68 (mother-report) and α = 0.67 (father-report).

2.2.2. Self-control

Child self-control was measured with two different instruments: the Effortful Control factor of the Dutch translated version of the Early Child Behavior Questionnaire (ECBQ) and an observed behavioral task (gift-in-bag task).

2.2.2.1. Parent-reported self-control. Parent-reported self-control was measured using the Effortful Control scale of the Early Child Behavior Questionnaire, an instrument widely used to assess temperamental traits in children aged between 1,5 and 3 years (Putnam, Gartstein, & Rothbart, 2006). The 32 items are phrased in the form of questions about the child's behavior in a given context during the past 1 or 2 weeks (e.g. *"When told 'no', how often did your child stop an activity quickly?"*). The items were rated on a seven-point scale ranging from 'never' (1) to 'always' (7), plus a 'not applicable' option. A higher total score on the factor indicated higher effortful control. Earlier research evaluations indicated the ECBQ to be a reliable instrument for the assessment of effortful control in 2-year olds (Putnam et al., 2006). For the present sample, the internal consistency of the factor Effortful Control was as follows: Cronbach's alpha = 0.81 for mother-reports and Cronbach's alpha = 0.62 for father-reports.

2.2.2.2. Observed self-control. A gift-in-bag task was used to measure observed behavioral control. The measure was a slightly adapted version of a task by Kochanska et al. (2000), and has previously been used in a study with three-year old children who were tested either at home or in daycare or preschool (Verhagen, Mulder, & Leseman, 2015). The parents were asked to exit the room, or otherwise pretend to be occupied and make no (non)verbal contact with their child during the task. Subsequently, the assessor showed the child a decorated gift bag and told him/her that the bag contained a gift for him/her. In a friendly voice they then instructed the child to '*try* and not touch the bag with the gift until I (i.e., the assessor) am finished writing something down'. Next, the gift bag was placed in front of the child (at a distance of 25 centimeters), after which the assessor moved away from the table and observed and coded the child's behavior for 90 s, while pretending to be writing on the scoring form. The child always received positive feedback at the end of the delay time and was allowed to open and keep the gift if they had not already done so. A total behavioral control score was computed by using the sum of the following coded behaviors: 'touching the bag', 'looking into the bag', 'putting hand in the bag', 'removing gift from the bag', and 'tearing the wrapping paper'. Coding was reversed so a higher total score on the task indicated higher self-control. Video observations were used to assess the reliability of the live coding for 34% of children (N = 35). Kappa was 0.78 between live and video observations for the task total score. Percentage agreement between live and video codes was 91.4%.

2.2.3. Parenting

Two scales of the Dutch translated version of the Self-Efficacy for Parenting Tasks Index Toddler Scale (SEPTI-TS) (Coleman & Karraker, 2003) were used: Emotional Availability (e.g. '*When my child needs me, I am able to easily put aside whatever else I may be doing*') and Discipline Limit (e.g. '*Setting limits for my toddler is relatively easy for me*'). Both subscales contained seven items rated on a six-point scale ranging from 'I strongly disagree' (1) to 'I strongly agree' (6). A higher total score indicated more positive parenting. Previous research found adequate internal consistency coefficients (Coleman & Karraker, 2003). For the current sample, internal consistency coefficients were respectively: Emotional Availability α = 0.44 (mother-report) and α = 0.61 (father-report); Discipline and Limit Setting α = 0.64 (mother-report) and α = 0.67 (father-report).

2.3. Statistical analysis

SPSS Windows version 22.0 was used for analyzing the data. First, descriptive and correlational analyses were conducted to explore the relations between all study variables. Second, eight hierarchical multiple regression analyses were conducted. The first four analyses, two regarding father-reports and two regarding mother-reports, examined the main and interaction effects of both measures of self-control and parenting in relation to externalizing problems. For both parents the analyses were performed twice to limit multicollinearity; the first including the interactions between parent-reported child self-control and parenting (separately for emotional availability and discipline) and the second including the interaction between observed behavioral control and parenting. The last four analyses, performed in the same manner, examined these effects on internalizing problems. To control for the gender of the child, this variable was added to the analyses in the first step. Both measures of child self-control and both measures of parenting were added in the second step and the concerned interaction was added in the final step. For all hierarchical multiple regression analyses, bootstrapping was performed to control for the lack of normality. Importantly, for all analyses bootstrapped 95% confidence intervals are reported to provide maximally robust and accurate estimates of the distribution of the various model coefficients. Rejection/confirmation of the results and interpretation of the findings is based on these bootstrapped confidence intervals (i.e., if the intervals contains zero the hypothesis is rejected) rather than on the p-values. Finally, to control for shared method-variance, all regression analyses were repeated, but now with the father- and mother-reported variables crossed (e.g., child self-control and parenting reported by mothers in relation to child problem behavior reported by fathers).

Table 1
Descriptive Statistics of all Study Variables for Mother-Reports (n = 93), Father-Reports (n = 56) and the Behavioral Task (n = 103).

		M	*SD*	Minimum	Maximum
Mothers	Externalizing problems	0.78	0.37	0.00	1.92
	Internalizing problems	0.17	0.12	0.00	0.56
	Effortful control	4.89	0.54	3.53	6.07
	Emotional availability	5.53	0.42	4.29	6.00
	Discipline	5.02	0.64	3.29	6.00
Fathers	Externalizing problems	0.74	0.38	0.00	1.75
	Internalizing problems	0.20	0.14	0.00	0.70
	Effortful control	4.80	0.56	3.56	6.09
	Emotional availability	5.38	0.53	3.86	6.00
	Discipline	5.10	0.62	3.57	6.00
Task	Behavioral control	3.84	1.83	0.00	5.00

3. Results

3.1. Descriptive statistics

Table 1 presents descriptive statistics of all study variables separately for mother- and father-reports. Correlations among all study variables are presented in Table 2. Given that the age of the toddler does not correlate with the other study variables (except for a moderate correlation with father-reported self-control), this variable was not further considered in the analyses.

3.2. Child self-control, parenting and externalizing problem behavior

Four hierarchical multiple regression analyses were conducted to examine main and interaction effects of child self-control and parenting in relation to child externalizing problems. The first two analyses included mother-reported variables (see Table 3); the second two included father-reported variables (see Table 4). Also, cross-analyses were performed with independent (IV) and dependent variables (DV) being rated by different raters (i.e., IV by fathers and DV by mothers and vice versa; see Tables 5 and 6).

First, parents who reported higher child self-control, reported lower child externalizing problems (see Tables 3 and 4). These effects were large in magnitude for mothers ($\beta = -0.67$) and medium in magnitude for fathers ($\beta = -0.36$; although the path coefficients did not differ significantly between mothers and fathers: $t(145) = 1.80, p = 0.074$). However, no main effect of observed behavioral control on externalizing problems appeared. Second, fathers' (but not mothers') emotional availability was related to fewer child externalizing problems. This effect was medium in magnitude ($\beta = -0.32$). For neither fathers nor mothers a main effect of discipline on externalizing problems was found. Third, no significant interaction effects were found, suggesting that the associations between parenting and externalizing problems did not differ for various levels of child self-control. Finally, the cross-analyses showed a negative relation between mother-reported child self-control and father-reported externalizing problems ($\beta = -0.60$; see Table 5). However, no relation between father-reported self-control and mother-reported externalizing problems was found (see Table 6. Father-reported emotional availability was related to (lower) mother-reported externalizing problems. This effect was medium in magnitude ($\beta = -0.37$). Again, no main effects of emotional availability reported by mothers or parental discipline were

Table 2
Correlations among all Study Variables for Mother-Reports (n = 93), Father-Reports (n = 56) and the Behavioral Task (n = 103).

	1	2	3	4	5	6	7	8	9	10	11
1. EXT ♀	–										
2. EXT ♂	0.62**	–									
3. INT ♀	0.47**	0.37**	–								
4. INT ♂	0.48**	0.50**	0.57**	–							
5. EC ♀	−0.58**	−0.49**	−0.32**	−0.39**	–						
6. EC ♂	−0.37**	−0.49**	−0.20	−0.23	0.46**	–					
7. BC	0.08	0.02	−0.01	−0.07	−0.03	0.15	–				
8. EA ♀	−0.24*	−0.19	−0.30**	−0.40**	0.19	0.06	−0.07	–			
9. EA ♂	−0.50**	−0.44**	−0.13	−0.29*	.31*	.47**	0.20	0.20	–		
10. DIS ♀	−0.27**	−0.16	−0.23*	−0.25	.42**	0.18	−0.08	0.30**	0.14	–	
11. DIS ♂	−0.36**	−0.22	−0.13	−0.31*	.38**	.35**	0.27	0.21	0.43**	0.35**	–
12. AGE	−0.12	−0.22	−0.16	0.09	0.18	.32*	0.10	−0.02	0.00	0.07	0.08

Note. EXT = externalizing problems, INT = internalizing problems, EC = effortful control, BC = behavioral control, EA = emotional availability, DIS = discipline, AGE = age of toddler, ♀ = mother-report, ♂ = father report.

* $p < 0.05$.

** $p < 0.01$.

Table 3
Hierarchical Regression Analyses of Mother-Reported Child Self-Control, Positive Parenting and Child Externalizing Problems.

Model		ΔR^2	*B*	*SE*	*β*	*t*	*p*	< 95% CI	> 95%CI
1.	EC	0.44	−0.46	0.06	−0.67	−7.10	0.000	−0.602	−0.327
	BC		0.01	0.02	0.05	0.56	0.575	−0.023	0.038
	EA		−0.06	0.08	−0.07	−0.76	0.451	−0.228	0.118
	DIS		0.01	0.05	0.02	0.25	0.806	−0.080	0.125
2.a	EC	0.02	−0.45	0.06	−0.66	−7.00	0.000	−0.592	−0.321
	BC		0.01	0.02	0.05	0.67	0.508	−0.022	0.038
	EA		−0.07	0.08	−0.07	−0.85	0.398	−0.231	0.105
	DIS		0.02	0.05	0.03	0.35	0.724	−0.068	0.133
	EC X EA		−0.10	0.14	−0.06	−0.66	0.510	−0.364	0.308
	EC X DIS		0.16	0.10	0.15	1.62	0.109	−0.084	0.343
2.b	EC	0.01	−0.46	0.07	−0.67	−7.04	0.000	−0.594	−0.314
	BC		0.01	0.02	0.06	0.68	0.496	−0.026	0.043
	EA		−0.06	0.08	−0.07	−0.79	0.431	−0.251	0.114
	DIS		0.01	0.05	0.03	0.27	0.791	−0.089	0.123
	BC X EA		0.02	0.04	0.05	0.56	0.576	−0.053	0.125
	BC X DIS		−0.02	0.03	−0.07	−0.80	0.428	−0.083	0.041

Note. EC = effortful control, BC = behavioral control, EA = emotional availability, DIS = discipline. a Analyses with the interaction between effortful control and positive parenting. b Analyses with the interaction between behavioral control and positive parenting. Analyses were controlled for child gender. CI = Bootstrapped 95% confidence interval

Table 4
Hierarchical Regression Analyses of Father-Reported Child Self-Control, Positive Parenting and Child Externalizing Problems.

Model		ΔR^2	*B*	*SE*	*β*	*t*	*p*	< 95% CI	> 95%CI
1.	EC	0.32	−0.25	0.10	−0.36	−2.54	0.014	−0.482	−0.079
	BC		0.03	0.03	0.13	1.06	0.294	−0.029	0.078
	EA		−0.22	0.11	−0.32	−2.12	0.040	−0.384	−0.060
	DIS		0.02	0.08	0.02	0.18	0.861	−0.149	0.183
2.a	EC	0.02	−0.26	0.10	−0.38	−2.61	0.012	−0.514	−0.075
	BC		0.03	0.03	0.16	1.22	0.231	−0.027	0.085
	EA		−0.24	0.11	−0.34	−2.12	0.040	−0.411	−0.072
	DIS		0.01	0.09	0.02	0.14	0.888	−0.171	0.177
	EC X EA		−0.05	0.20	−0.03	−0.25	0.803	−0.459	0.311
	EC X DIS		−0.18	0.18	−0.12	−0.97	0.337	−0.652	0.222
2.b	EC	0.00	−0.26	0.11	−0.37	−2.43	0.019	−0.499	−0.065
	BC		0.03	0.03	0.14	1.04	0.302	−0.051	0.095
	EA		−0.23	0.11	−0.32	−2.03	0.049	−0.423	−0.027
	DIS		0.02	0.09	0.03	0.22	0.824	−0.174	0.208
	BC X EA		−0.01	0.05	−0.02	−0.15	0.883	−0.105	0.174
	BC X DIS		0.01	0.05	0.03	0.20	0.842	−0.177	0.088

Note. EC = effortful control, BC = behavioral control, EA = emotional availability, DIS = discipline. a Analyses with the interaction between effortful control and positive parenting. b Analyses with the interaction between behavioral control and positive parenting. Analyses were controlled for child gender. CI = Bootstrapped 95% confidence interval

observed.

3.3. Child self-control, parenting and internalizing problem behavior

Another four hierarchical multiple regression analyses were conducted to examine main and interaction effects of child self-control and parenting in relation to internalizing problems. The first two analyses included mother-reported variables (see Table 7); the second two included father-reported variables (see Table 8). Again, cross-analyses were performed (see Tables 9 and 10).

First, there was a trend with regard to the link between mother-reported (but not father-reported) child self-control and child internalizing problems (see Table 7), with an effect small in magnitude ($\beta = -0.28$). No main effect of observed behavioral control on internalizing problems was found. Mother, but not father, emotional availability was related to fewer internalizing problems ($\beta = -0.22$). Positive discipline was not related to internalizing problems. Third, a medium sized ($\beta = -0.32$) effect was found for the association between father-reported self-control and emotional availability (see Fig. 1). That is, for children with low effortful control, internalizing problems did not seem to differ for various levels of emotional availability exerted by the father; while for children with high effortful control, high paternal emotional availability seemed to be associated with fewer internalizing problems. Finally, the cross-analyses indicated a relation between mother-reported self-control and less father-reported internalizing child

Table 5
Hierarchical Regression Cross-Analyses of Mother-Reported Child Self-Control, Positive Parenting and Father-Reported Child Externalizing Problems.

Model		ΔR^2	*B*	*SE*	*β*	*t*	*p*	*< 95% CI*	*> 95%CI*
1.	EC	0.29	−0.40	0.10	−0.60	−3.98	0.000	−0.116	−0.004
	BC		−0.00	0.03	−0.00	−0.03	0.974	−0.014	0.009
	EA		−0.04	0.12	−0.04	−0.30	0.765	−0.127	−0.009
	DIS		0.10	0.09	0.16	1.07	0.289	−0.053	0.032
2.a	EC	0.06	−0.32	0.11	−0.48	−2.90	0.006	−0.116	−0.004
	BC		0.00	0.03	0.01	0.05	0.960	−0.015	0.010
	EA		−0.10	0.13	−0.10	−0.75	0.456	−0.130	0.009
	DIS		0.11	0.09	0.17	1.16	0.251	−0.052	0.034
	EC X EA		−0.32	0.21	−0.22	−1.52	0.137	−0.123	0.145
	EC X DIS		0.31	0.17	0.30	1.88	0.067	−0.119	0.101
2.b	EC	0.01	−0.41	0.11	−0.60	−3.83	0.000	−0.116	−0.008
	BC		−0.01	0.03	−0.03	−0.21	0.835	−0.013	0.012
	EA		−0.04	0.13	−0.05	−0.33	0.743	−0.133	0.002
	DIS		0.10	0.10	0.16	1.09	0.282	−0.053	0.034
	BC X EA		0.01	0.08	0.02	0.13	0.900	−0.039	0.033
	BC X DIS		−0.03	0.05	−0.09	−0.65	0.519	−0.032	0.013

Note. EC = effortful control, BC = behavioral control, EA = emotional availability, DIS = discipline. a Analyses with the interaction between effortful control and positive parenting. b Analyses with the interaction between behavioral control and positive parenting. Analyses were controlled for child gender. CI = Bootstrapped 95% confidence interval

Table 6
Hierarchical Regression Cross-Analyses of Father-Reported Child Self-Control, Positive Parenting and Mother-Reported Child Externalizing Problems.

Model		ΔR^2	*B*	*SE*	*β*	*t*	*p*	*< 95% CI*	*> 95%CI*
1.	EC	0.29	−0.11	0.10	−0.16	−1.10	0.277	−0.108	0.063
	BC		0.02	0.03	0.12	0.88	0.379	−0.014	0.030
	EA		−0.26	0.11	−0.37	−2.41	0.020	−0.013	0.036
	DIS		−0.09	0.09	−0.15	−1.00	0.323	−0.114	0.015
2.a	EC	0.04	−0.11	0.10	−0.17	−1.11	0.272	−0.099	0.056
	BC		0.03	0.03	0.17	1.26	0.216	−0.012	0.030
	EA		−0.24	0.11	−0.35	−2.14	0.038	−0.156	0.011
	DIS		−0.11	0.09	−0.19	−1.28	0.209	−0.111	0.020
	EC X EA		0.11	0.20	0.08	0.55	0.588	−0.358	0.042
	EC X DIS		−0.30	0.19	−0.21	−1.57	0.123	−0.169	0.126
2.b	EC	0.04	−0.06	0.11	−0.09	−0.59	0.556	−0.094	0.067
	BC		0.02	0.03	0.09	0.69	0.494	−0.017	0.035
	EA		−0.25	0.11	−0.36	−2.27	0.028	−0.145	0.038
	DIS		−0.14	0.09	−0.24	−1.51	0.138	−0.132	0.030
	BC X EA		0.04	0.04	0.12	0.83	0.410	−0.070	0.026
	BC X DIS		−0.07	0.05	−0.25	−1.58	0.122	−0.052	0.031

Note. EC = effortful control, BC = behavioral control, EA = emotional availability, DIS = discipline. a Analyses with the interaction between effortful control and positive parenting. b Analyses with the interaction between behavioral control and positive parenting. Analyses were controlled for child gender. CI = Bootstrapped 95% confidence interval

behavior ($\beta = -0.35$; see Table 9). In addition, a medium sized association between mother-reported emotional availability and lower father-reported internalizing problems was found ($\beta = -0.30$). Again, no main effect of emotional availability reported by fathers or parental discipline, nor interaction effects were found.

4. Discussion

The current study aimed at extending earlier work by examining how parent-reported and observed child self-control, parenting, and their interaction are related to problem behavior in early childhood. This study extends previous studies by examining the crucial and differential role of fathers and mothers. The various associations are discussed in turn.

4.1. Child self-control and problem behavior

Based on earlier studies (e.g., Eisenberg et al., 2009; Spinrad et al., 2007), it was expected that both parent-reported and observed child self-control would be related to fewer externalizing problems. For internalizing problems, links were tested more exploratorily as previous research has shown rather ambiguous findings (e.g., Houck & Lecuyer-Maus, 2004; Murray & Kochanska, 2002; Spinrad

Table 7
Hierarchical Regression Analyses of Mother-Reported Child Self-Control, Positive Parenting and Child Internalizing Problems.

Model		ΔR^2	*B*	*SE*	*β*	*t*	*p*	< 95% CI	> 95%CI
1.	EC	0.18	−0.06	0.03	−0.28	−2.39	0.019	−0.576	−0.202
	BC		−0.00	0.01	−0.02	−0.21	0.838	−0.048	0.033
	EA		−0.06	0.03	−0.22	−2.11	0.038	−0.331	0.231
	DIS		−0.01	0.02	−0.06	−0.55	0.584	−0.080	0.275
2.a	EC	0.00	−0.06	0.03	−0.28	−2.34	0.022	−0.565	−0.100
	BC		−0.00	0.01	−0.02	−0.20	0.844	−0.058	0.039
	EA		−0.06	0.03	−0.22	−2.09	0.040	−0.353	0.129
	DIS		−0.01	0.02	−0.06	−0.54	0.592	−0.054	0.324
	EC X EA		0.01	0.06	0.01	0.10	0.921	−0.802	0.352
	EC X DIS		0.01	0.04	0.02	0.14	0.890	−0.290	0.641
2.b	EC	0.01	−0.06	0.03	−0.28	−2.40	0.019	−0.587	−0.166
	BC		−0.00	0.01	−0.00	−0.01	0.991	−0.098	0.032
	EA		−0.06	0.03	−0.23	−2.12	0.037	−0.383	0.255
	DIS		−0.01	0.02	−0.06	−0.53	0.597	−0.052	0.328
	BC X EA		0.00	0.02	0.01	0.13	0.901	−0.177	0.189
	BC X DIS		−0.01	0.01	−0.11	−0.99	0.327	−0.216	0.037

Note. EC = effortful control, BC = behavioral control, EA = emotional availability, DIS = discipline. a Analyses with the interaction between effortful control and positive parenting. b Analyses with the interaction between behavioral control and positive parenting. Analyses were controlled for child gender. CI = Bootstrapped 95% confidence interval

Table 8
Hierarchical Regression Analyses of Father-Reported Child Self-Control, Positive Parenting and Child Internalizing Problems.

Model		ΔR^2	*B*	*SE*	*β*	*t*	*p*	< 95% CI	> 95%CI
1.	EC	0.13	−0.01	0.04	−0.03	−0.19	0.853	−0.370	0.096
	BC		0.00	0.01	0.06	0.41	0.687	−0.032	0.079
	EA		−0.06	0.04	−0.22	−1.28	0.207	−0.476	0.003
	DIS		−0.04	0.03	−0.20	−1.25	0.216	−0.274	0.060
2.a	EC	0.10	−0.01	0.04	−0.06	−0.36	0.722	−0.385	0.098
	BC		0.01	0.01	0.07	0.51	0.611	−0.023	0.088
	EA		−0.08	0.04	−0.33	−1.94	0.059	−0.498	0.022
	DIS		−0.04	0.03	−0.17	−1.12	0.268	−0.279	0.050
	EC X EA		−0.16	0.08	−0.32	−2.14	0.038	−0.454	−0.089
	EC X DIS		−0.05	0.07	−0.09	−0.63	0.532	−0.608	0.098
2.b	EC	0.01	−0.00	0.04	−0.01	−0.06	0.951	−0.332	0.143
	BC		0.00	0.01	0.05	0.30	0.766	−0.053	0.086
	EA		−0.06	0.05	−0.24	−1.36	0.181	−0.483	0.032
	DIS		−0.05	0.04	−0.21	−1.23	0.224	−0.323	0.033
	BC X EA		−0.01	0.02	−0.07	−0.46	0.646	−0.071	0.169
	BC X DIS		−0.00	0.02	−0.03	−0.18	0.859	−0.210	0.024

Note. EC = effortful control, BC = behavioral control, EA = emotional availability, DIS = discipline. a Analyses with the interaction between effortful control and positive parenting. b Analyses with the interaction between behavioral control and positive parenting. Analyses were controlled for child gender. CI = Bootstrapped 95% confidence interval

et al., 2007). Results demonstrated that higher levels of both maternal and paternal reported child self-control were related to less externalizing behavior. High mother-reported self-control was also related to less internalizing child behavior. The findings on externalizing problems bolster the well-established link between low-self-control and externalizing problems (Eisenberg et al., 2001, 2004, 2009; Spinrad et al., 2007). An explanation for this relation could be that children with low self-control have difficulty shifting attention away from impulses, and maintain limited coping strategies for handling impulses, resulting in more externalizing problems (Olson et al., 2005). For internalizing problems it could be, as suggested in previous research (Derryberry & Reed, 2002; Eisenberg et al., 2001, 2004, 2009), that mostly the attentional aspect of self-control – for example the ability to shift attention from negative subjects to positive ones – can attribute to fewer internalizing problems. It remains unclear, however, why the association between low-self-control and internalizing problems only holds for mother-reported self-control and internalizing problems whereas, based on the descriptive statistics, fathers appear able to notice their child's internalizing problems as well as mothers. It might be that the features of self-control and internalizing problems noticed by fathers differ from those noticed by mothers, with those reported by fathers being unrelated to self-control. Larger samples are needed, allowing to investigate the associations at subscale level. Importantly, our findings hold in the robust cross-analyses (except for the relation between father-reported self-control and mother-reported externalizing problems) indicating that our findings were robust and not (or only partly) the result of shared method variance.

Table 9
Hierarchical Regression Cross-Analyses of Mother-Reported Child Self-Control, Positive Parenting and Father-Reported Child Internalizing Problems.

Model		ΔR^2	*B*	*SE*	*β*	*t*	*p*	< 95% CI	> 95%CI
1.	EC	0.25	−0.08	0.04	−0.35	−2.26	0.029	−0.184	−0.009
	BC		−0.01	0.01	−0.08	−0.61	0.547	−0.027	0.013
	EA		−0.10	0.05	−0.30	−2.13	0.038	−0.186	−0.010
	DIS		0.00	0.03	0.02	0.11	0.917	−0.066	0.080
2.a	EC	0.05	−0.05	0.04	−0.22	−1.29	0.203	−0.156	0.038
	BC		−0.00	0.01	−0.05	−0.40	0.695	−0.029	0.016
	EA		−0.11	0.05	−0.32	−2.25	0.029	−0.201	−0.011
	DIS		0.00	0.03	0.01	0.07	0.945	−0.057	0.094
	EC X EA		−0.01	0.08	−0.02	−0.16	0.876	−0.187	0.182
	EC X DIS		0.10	0.06	0.27	1.63	0.110	−0.172	0.236
2.b	EC	0.00	−0.09	0.04	−0.36	−2.19	0.034	−0.185	−0.005
	BC		−0.01	0.01	−0.10	−0.70	0.485	−0.031	0.014
	EA		−0.10	0.05	−0.30	−2.00	0.052	−0.200	0.000
	DIS		0.01	0.04	0.02	0.14	0.890	−0.064	0.099
	BC X EA		0.00	0.03	−0.00	−0.01	0.992	−0.070	0.067
	BC X DIS		−0.01	0.02	−0.07	−0.47	0.638	−0.060	0.027

Note. EC = effortful control, BC = behavioral control, EA = emotional availability, DIS = discipline. a Analyses with the interaction between effortful control and positive parenting. b Analyses with the interaction between behavioral control and positive parenting. Analyses were controlled for child gender. CI = Bootstrapped 95% confidence interval

Table 10
Hierarchical Regression Cross-Analyses of Father-Reported Child Self-Control, Positive Parenting and Mother-Reported Child Internalizing Problems.

Model		ΔR^2	*B*	*SE*	*β*	*t*	*p*	< 95% CI	> 95%CI
1.	EC	0.07	−0.04	0.04	−0.17	−1.02	0.315	−0.141	0.036
	BC		0.01	0.01	0.16	1.06	0.394	−0.010	0.032
	EA		−0.01	0.04	−0.03	−0.17	0.867	−0.076	0.070
	DIS		−0.02	0.03	−0.09	−0.53	0.598	−0.074	0.041
2.a	EC	0.09	−0.04	0.04	−0.20	−1.21	0.231	−0.151	0.032
	BC		0.01	0.01	0.18	1.17	0.250	−0.011	0.031
	EA		−0.03	0.04	−0.14	−0.74	0.463	−0.124	0.046
	DIS		−0.01	0.03	−0.06	−0.38	0.707	−0.070	0.066
	EC X EA		−0.13	0.07	−0.28	−1.76	0.086	−0.295	0.030
	EC X DIS		−0.05	0.07	−0.10	−0.68	0.503	−0.170	0.125
2.b	EC	0.05	−0.03	0.04	−0.11	−0.64	0.528	−0.127	0.053
	BC		0.01	0.01	0.12	0.81	0.421	−0.019	0.029
	EA		−0.02	0.04	−0.09	−0.47	0.642	−0.094	0.082
	DIS		−0.03	0.03	−0.13	−0.72	0.474	−0.085	0.043
	BC X EA		−0.02	0.02	−0.16	−0.94	0.351	−0.068	0.023
	BC X DIS		−0.01	0.02	−0.11	−0.63	0.533	−0.061	0.030

Note. EC = effortful control, BC = behavioral control, EA = emotional availability, DIS = discipline. a Analyses with the interaction between effortful control and positive parenting. b Analyses with the interaction between behavioral control and positive parenting. Analyses were controlled for child gender. CI = Bootstrapped 95% confidence interval.

In contrast, no associations between observed self-control and child problem behavior were found. For externalizing problems, this was inconsistent with our expectations as many earlier studies did find a relation between observed behavioral control and fewer externalizing problems (Kochanska & Knaack, 2003; Krueger et al., 1996; Murray & Kochanska, 2002; Olson et al., 2005; Spinrad et al., 2007). It might be that the behavioral task, in which the reward – the gift – was not in direct sight, but hidden in a bag, was a bit too abstract for the youngest children in our sample. As a consequence, these children may have not been inclined to touch the bag as they failed to understand that something interesting was hidden inside. Such a confound could perhaps explain the lack of association between the task scores, child age, and the questionnaires that we observed. In addition, as suggested by Mulder, Hoofs, Verhagen, van der Veen, and Leseman (2014) and Willoughby, Blair, Wirth, and Greenberg (2010), particularly in young children measurement error may be relatively large; working with a battery of multiple tasks and latent scores may be a solution to solve this issue.

4.2. Parenting and child problem behavior

It was expected that more positive parenting practices (i.e., high parent-reported emotional availability and discipline) would be associated with fewer child externalizing and internalizing problems (e.g., Chronis et al., 2007; McKee et al., 2008). The differences between positive fathering and mothering in their relation to child problem behavior – as prior studies have been inconsistent (Belsky

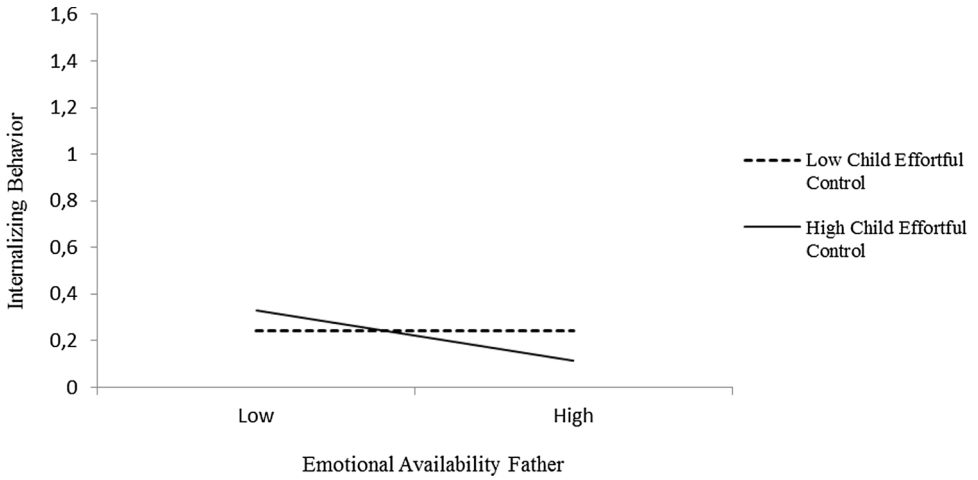

Fig. 1. The Interaction between Child Effortful Control and Emotional Availability Reported by Fathers. Low emotional availability reflects scores < 1 SD below the mean, high emotional availability reflects scores > 1 SD above the mean.

et al., 1998; Cowan et al., 1996) – were explored.

The results indicated a relation between father-reported emotional availability and fewer child externalizing problems. This finding was replicated in the cross-analyses, supporting the idea that fathers and mothers play a differential role in child problem development. Also, mother reported emotional availability was related to both mother and father reported internalizing problems. It could be that, because women more often cope with internalizing problems and men with externalizing problems (Connell & Goodman, 2002), mothers find it easier to be emotionally sensitive towards their child's internalizing emotions (i.e., anxiety, sadness, shyness), and fathers towards their child's externalizing emotions (i.e., anger, frustration), as there is a better comprehension of these emotions due to recognition. Contrary to our expectations, no associations between parental discipline and child problem behavior were found. It might be that parents exhibit less discipline than emotional availability when children are so young. Whereas parental emotional availability is important from birth throughout, parental structure, guidance and discipline become increasingly important during toddlerhood (ca. 12th–36th month) (Edwards & Liu, 2005). Possibly, earlier findings on the role for parental discipline in older children do not translate to this early toddler sample. Interestingly, although discipline was not related to problem behavior, higher levels of discipline were associated with higher levels of parent-reported child self-control. Possibly, high parental discipline contributes to the development of self-control in children, which in turn decreases the risk for the developmental of problem behavior over time. Longitudinal studies would be needed to disentangle such long-term sequences of parenting, self-control and problem behavior in detail.

4.3. Child self-control, parenting and child problem behavior

As it is known that parenting can influence children in a different manner as a function of their temperament (Belsky, 2005), the interaction between child self-control and parenting was examined. In line with the findings of Karreman et al. (2009), it was hypothesized that more positive parenting practices would especially buffer the risk of externalizing problems in children with low self-control. Associations between self-control and parenting in relation to internalizing problems were explored.

Contrary to our expectations, no interaction effects between self-control and parenting in relation to child externalizing problems were found. For internalizing problems, findings revealed that for children with low parent-reported self-control, internalizing problems were independent of positive fathering; as for children with high parent-reported self-control, positive fathering was associated with fewer internalizing problems. This finding contradicts the differential susceptibility theory stating that especially children with a difficult temperament (e.g., low self-control) are susceptible to positive parenting influences. A possible explanation might be that fathers find it harder to be emotionally available when their children exhibit low self-control. In accordance with this speculation, higher levels of both father- and mother-reported child self-control were related to more emotional availability reported by fathers, but not to emotional availability reported by mothers. This finding suggests that the interaction between child and parent behavior is different for mothers and fathers and supports the idea that fathers should be investigated separately from mothers. Relatedly, future research including both father and mother reports may further disentangle the potentially differential link between parenting and child problem behaviors (Rinaldi & Howe, 2012).

4.4. Limitations and strengths

The study contains some limitations, which should be kept in mind when interpreting the results. First, the sample existed mainly of white, highly educated and middle to upper class families. This generally low risk sample might explain the generally low scores for both externalizing and internalizing child behaviors. Relatedly, in particular internalizing problems had a restricted range and low

variability. This might have contributed to smaller effects which are not representative for the general Dutch population. Nonetheless, most effect sizes were medium to large, suggesting that larger samples, with more statistical power and more at-risk children, would allow to test (individual differences) in the effects of self-control in more detail in order to shed more light on the full spectrum of parenting, child self-control, child problem behaviors and their interrelations. Second, the current study solely focused on parents' own sense of parenting. In previous studies, actual parenting behavior has been found to be strongly influenced by parents' beliefs regarding their behavior and competence, and as such, measures aiming at assessing actual behavior and those aiming at assessing beliefs have been found to have largely similar associations with external concepts (Salo et al., 2009). However, future research may measure actual parenting behavior, preferably with observations, given their greater objectiveness compared to questionnaires. Third, the internal consistency (Cronbach's alpha) was rather low for some scales (i.e., internalizing problems, father reported effortful control and mother reported emotional availability), which might be another reason to opt for the use of multiple assessment methods. Fourth, not all questionnaires were filled in by both parents and the behavioral task was not completed by all children, leading to a reduction in sample size. Consequently, the number of tests performed was rather large for this modest sample size. To maximize the accurateness and robustness of the results, we used bootstrapped 95% confidence intervals (instead of p-values) for rejection/confirmation of the hypothesis. Nonetheless, caution is needed when interpreting the current findings, and replication in larger samples is certainly desirable. Larger samples would provide a test of the robustness and generalizability of the findings, but also allow to examine more subtle effects. Fifth, the inclusion of father and mother reports provides us with multi-informant data which may better capture child behavior across contexts. However, to fully understand the nature of informant and parent-observer discrepancy, further tests would be needed examining the link between discrepancy (i.e., residual difference scores) and the respective outcome variables (De Los Reyes et al., 2015). Unfortunately, the modest sample size and resulting statistical power did not allow for such additional tests in the current study. Finally, this current study has only studied the participants at one point in time. Though this study presented important information on the risk of low self-control and the protective effect of parenting, more sophisticated research designs are needed to shed more light on the causal mechanisms. This might include longitudinal research exploring sequences of parenting, self-control, and problem behavior and to investigate long-term development of children more generally. Additionally, (indicated) prevention and intervention programs aimed at optimizing parenting practices, may help us understand the mechanisms underlying the development of child problem behaviors as well as provide early help for at-risk families.

Notwithstanding these limitations, this study also knows several strengths. First, the study included two instruments to assess self-control: a parent-reported questionnaire and an observed behavioral task, thus providing a comprehensive indication of child self-control. Second, the study included fathers in addition to mothers, evaluating their potentially unique role in child problem development, which is important as the relation between parenting and child development seems different for mothers and fathers.

4.5. Conclusion

In conclusion, findings revealed that high maternal and paternal reported child self-control was related to less child problem behavior, whereas observed behavioral control was not. Paternal emotional availability was associated with fewer child externalizing problems, whereas maternal emotional availability was related to fewer internalizing problems. An interaction was found between father-reported child self-control and emotional availability in relation to internalizing problems. The effects that we observed was generally about medium in strength, with the largest effects occurring for the link between (in particular mother reported) effortful control and child externalizing problems. Taken together, the current study extends previous research on child self-control, parenting and the interaction between these factors in relation to child problem behavior, and highlights the importance of differentiating between maternal and paternal factors related to child adjustment. That is, father reports largely confirm findings on mother-reported child behavior (i.e., the link between self-control and problem behaviors). However, particularly with regard to the link between positive parenting and problem behavior (i.e., emotional availability and externalizing problems), father reports may shed light on the role of parenting in child adjustment in a way not covered by mother reports alone.

References

Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA preschool forms & profiles: An integrated system of multi-informant assessment; child behavior checklist for ages 1 1/2-5; language development survey; caregiver-teacher report form.* University of Vermont.

Adamsons, K., & Buehler, C. (2007). Mothering versus fathering versus parenting: Measurement equivalence in parenting measures. *Parenting: Science & Practice, 7*(3), 271–303. http://dx.doi.org/10.1080/15295190701498686.

Aunola, K., & Nurmi, J. E. (2005). The role of parenting styles in children's problem behavior. *Child Development, 76*(6), 1144–1159. http://dx.doi.org/10.1111/j.1467624.2005. 008-40. x-i1.

Bates, J. E., Pettit, G. S., Dodge, K. A., & Ridge, B. (1998). Interaction of temperamental resistance to control and restrictive parenting in the development of externalizing behavior. *Developmental Psychology, 34*(5), 982–995. http://dx.doi.org/10.1037/0012649.34.5.982.

Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology, 4*, 1.

Bayer, J. K., Sanson, A. V., & Hemphill, S. A. (2006). Parent influences on early childhood internalizing difficulties. *Journal of Applied Developmental Psychology, 27*(6), 542–559. http://dx.doi.org/10.1016/j.appdev.2006.08.002.

Belsky, J., Hsieh, K., & Crnic, K. (1998). Mothering, fathering, and infant negativity as antecedents of boys' externalizing problems and inhibition at age 3 years: Differential susceptibility to rearing experience? *Development and Psychopathology, 10*(2), 301–319.

Belsky, J. (1997). Theory testing, effect- evaluation and differential susceptibility to rearing influence. The case of mothering and attachment. *Child Development, 68*(4), 598–600.

Belsky, J. (2005). Differential susceptibility to rearing influences: An evolutionary hypothesis and some evidence. In B. Ellis, & D. Bjorklund (Eds.). *Origins of the social mind: Evolutionary psychology and child development* (pp. 139–163). New York, NY: Guilford.

Biringen, Z., Damon, J., Grigg, W., Pipp-Siegel, J., Skillern, S., & Stratton, J. (2005). Emotional availability: Differential predictions to infant attachment and kindergarten adjustment based on observation time and context. *Infant Mental Health Journal, 26*(4), 295–308. http://dx.doi.org/10.1002/imhj.20054.

Boeldt, D. L., Rhee, S. H., DiLalla, L. F., Mullineaux, P. Y., Schulz-Heik, R. J., Corley, R. P., & Hewitt, J. K. (2012). The association between positive parenting and externalizing behaviour. *Infant and Child Development, 21*(1), 85–106. http://dx.doi.org/10.1002/icd.764.

Bornstein, M. H., & Sawyer, J. (2005). Family systems. In K. McCartney, & D. Phillips (Eds.). *Blackwell handbook of early childhood development* (pp. 381–398). Malden, MA: Blackwell.

Bornstein, M. H., Hahn, C. S., & Haynes, O. M. (2010). Social competence, externalizing, and internalizing behavioral adjustment from early childhood through early adolescence: Developmental cascades. *Development and Psychopathology, 22*(04), 717–735. http://dx.doi.org/10.1017/S0954579410000416.

Bradley, R. H., & Corwyn, R. F. (2008). Infant temperament, parenting, and externalizing behavior in first grade: A test of the differential susceptibility hypothesis. *Journal of Child Psychology and Psychiatry, 49*(2), 124–131. http://dx.doi.org/10.1111/j. 1469-7610.2007.01829.x.

Brody, G. H., & Ge, X. (2001). Linking parenting processes and self-regulation to psychological functioning and alcohol use during early adolescence. *Journal of Family Psychology, 15*(1), 82–94. http://dx.doi.org/10.1037/0893-3200.15.1.82.

Brook, J. S., Zheng, L., Whiteman, M., & Brook, D. W. (2001). Aggression in toddlers: Associations with parenting and marital relations. *The Journal of Genetic Psychology, 162*(2), 228–241. http://dx.doi.org/10.1080/00221320109597963.

Cabrera, N. J., Tamis-LeMonda, C. S., Bradley, R. H., Hofferth, S., & Lamb, M. E. (2000). Fatherhood in the twenty-first century. *Child Development, 71*(1), 127–136.

Campbell, S. B. (1995). Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 36*(1), 113–149. http://dx.doi.org/10.1111/j.1469610.1995. tb01657.x.

Carter, A. S., Briggs-Gowan, M. J., Jones, S. M., & Little, T. D. (2003). The infant-toddler social and emotional assessment (ITSEA): Factor structure, reliability, and validity. *Journal of Abnormal Child Psychology, 31*(5), 495–514. http://dx.doi.org/10.1023/A:-1025449031360.

Caspi, A., Moffitt, T. E., Morgan, J., Rutter, M., Taylor, A., Arseneault, L., & Polo-Tomas, M. (2004). Maternal expressed emotion predicts children's antisocial behavior problems: Using monozygotic-twin differences to identify environmental effects on behavioral development. *Developmental Psychology, 40*(2), 149–161. http://dx.doi.org/10.1037/0012-1649.40.2.149.

Chronis, A. M., Lahey, B. B., Pelham, W. E., Williams, S. H., Baumann, B. L., & Kipp, H. (2007). Maternal depression and early positive parenting predict future conduct problems in young children with attention-deficit/hyperactivity disorder. *Developmental Psychology, 43*(1), 70–82. http://dx.doi.org/10.1037/0012-1649.43.1.70.

Coleman, P. L., & Karraker, K. H. (2003). Maternal self-efficacy beliefs, competence in parenting, and toddlers' behavior and developmental status. *Infant Mental Health Journal, 24*(2), 126–148.

Connell, A. M., & Goodman, S. H. (2002). The association between psychopathology in fathers versus mothers and children's internalizing and externalizing behavior problems: A meta-analysis. *Psychological Bulletin, 128*(5), 746. http://dx.doi.org/10.1037/0033-2909.128.5.746.

Cowan, P. A., Cohn, D. A., Cowan, C. P., & Pearson, J. L. (1996). Parents' attachment histories and children's externalizing and internalizing behaviors: Exploring family systems models of linkage. *Journal of Consulting and Clinical Psychology, 64*(1), 53. http://dx.doi.org/10.1037/0022-006X.64.1.53.

Cowan, P. A., Powell, D., & Cowan, C. P. (1998). Parenting interventions: A family systems perspective. In W. Damon (Ed.). *Handbook of child psychology. Child psychology in practice* (pp. 3–72). New York, NY: Wiley.

Davidov, M., & Grusec, J. E. (2006). Untangling the links of parental responsiveness to distress and warmth to child outcomes. *Child Development, 77*(1), 44–58.

Conceptualizing and measuring father involvement. In R. D. Day, & M. E. Lamb (Eds.). Routledge.

De Los Reyes, A., Augenstein, T. M., Wang, M., Thomas, S. A., Drabick, D. A., Burgers, D. E., & Rabinowitz, J. (2015). The validity of the multi-informant approach to assessing child and adolescent mental health. *Psychological Bulletin, 141*(4), 858.

DeKlyen, M., Biernbaum, M. A., Speltz, M. L., & Greenberg, M. T. (1998). Fathers and preschool behavior problems. *Developmental Psychology, 34*(2), 264. http://dx.doi.org/10.1037/0012-1649.34.2.264.

Denham, S. A., Workman, E., Cole, P. M., Weissbrod, C., Kendziora, K. T., & Zahn-Waxler, C. (2000). Prediction of externalizing behavior problems from early to middle childhood: The role of parental socialization and emotion expression. *Development and Psychopathology, 12*(01), 23–45.

Derryberry, D., & Reed, M. (2002). Anxiety-related attentional biases and their regulation by attentional control. *Journal of Abnormal Psychology, 111*(2), 225–236. http://dx.doi.org/10.1037/0021-843X.111.2.225.

Duckworth, A. L., & Kern, M. L. (2011). A meta-analysis of the convergent validity of self-control measures. *Journal of Research in Personality, 45*(3), 259–268. http://dx.doi.org/10.1016/j.jrp.2011.02.004.

Duckworth, A. L., & Seligman, M. E. P. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science, 16*(12), 939–944. http://dx.doi.org/10.1111/j.1467-9280.2005.01641.

Edwards, C. P., & Liu, W. (2005). *Parenting toddlers. Handbook of parenting, Vol. 1*, 45–71.

Eisenberg, N., Cumberland, A., Spinrad, T. L., Fabes, R. A., Shepard, S. A., Reiser, M., & Guthrie, I. K. (2001). The relations of regulation and emotionality to children's externalizing and internalizing problem behavior. *Child Development, 72*(4), 1112–1134. http://dx.doi.org/10.1111/1467-8624.00337.

Eisenberg, N., Spinrad, T. L., Fabes, R. A., Reiser, M., Cumberland, A., Shepard, S. A., & Thompson, M. (2004). The relations of effortful control and impulsivity to children's resiliency and adjustment. *Child Development, 75*(1), 25–46. http://dx.doi.org/10.1111/j.1467-8624.2004.00652.x.

Eisenberg, N., Valiente, C., Spinrad, T. L., Cumberland, A., Liew, J., Reiser, & Losoya, S. H. (2009). Longitudinal relations of children's effortful control, impulsivity, and negative emotionality to their externalizing, internalizing, and co-occurring behavior problems. *Developmental Psychology, 45*(4), 988–1008. http://dx.doi.org/10.1037/0012-1649.39.1.3.

Eisenberg, N., Sadovsky, A., Spinrad, T. L., Fabes, R. A., Losoya, S. H., Valiente, C., & Shepard, S. A. (2005). The relations of problem behavior status to children's negative emotionality, effortful control, and impulsivity: Concurrent relations and prediction of change. *Developmental Psychology, 41*(1), 193. http://dx.doi.org/10.1037/0012-1649.41.1.193.

Eisenberg, N., Zhou, Q., Spinrad, T. L., Valiente, C., Fabes, R. A., & Liew, J. (2005). Relations among positive parenting, children's effortful control, and externalizing problems: A three-wave longitudinal study. *Child Development, 76*(5), 1055–1071. http://dx.doi.org/10.1111/j.1467-8624.2005.00897.x.

Gamble, W. C., Ramakumar, S., & Diaz, A. (2007). Maternal and paternal similarities and differences in parenting: An examination of Mexican-American parents of young children. *Early Childhood Research Quarterly, 22*(1), 72–88. http://dx.doi.org/10.1016/j.ecresq. – 2006.11.004.

Gartstein, M. A., & Fagot, B. I. (2003). Parental depression, parenting and family adjustment, and child effortful control: Explaining externalizing behaviors for preschool children. *Applied Developmental Psychology, 24*(2), 143–177. http://dx.doi.org/10.1016/S0193-3973(03)00043-1.

Gray, M. R., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage and the Family, 61*(3), 574–587.

Houck, G. M., & Lecuyer-Maus, E. A. (2004). Maternal limit setting during toddlerhood, delay of gratification, and behavior problems at age five. *Infant Mental Health Journal, 25*(1), 28–46. http://dx.doi.org/10.1002/imhj.10083.

Karlisch, L. (1999). *The role of parenting in children's internalizing behavior problems. Dissertation abstracts international: Section B: The sciences and engineering, Vol. 60*, 1303.

Karreman, A., van Tuijl, C., van Aken, M. A. G., & Dekovic, M. (2009). Predicting young children's externalizing problems interactions among effortful control, parenting, and child gender. *Merill-Palmer, Quarterly, 55*(2), 111–134. http://dx.doi.org/10.1353/mpq.0.0020.

Karreman, A., de Haas, S., van Tuijl, C., van Aken, M. A., & Deković, M. (2010). Relations among temperament, parenting and problem behavior in young children. *Infant Behavior and Development, 33*(1), 39–49. http://dx.doi.org/10.1016/j.infbeh.2009.10.008.

Kiff, C. J., Lengua, L. J., & Bush, N. R. (2011). Temperament variation in sensitivity to parenting: Predicting changes in depression and anxiety. *Journal of Abnormal Child Psychology, 39*(8), 1199.

Kim, S., & Hill, N. E. (2015). Including fathers in the picture: A meta-analysis of parental involvement and students' academic achievement. *Journal of Educational Psychology, 107*(4), 919–934. http://dx.doi.org/10.1037/edu0000023.

Kochanska, G., & Knaack, A. (2003). Effortful control as a personality characteristic of young children: Antecedents, correlates, and consequences. *Journal of Personality, 71*(6), 1087–1112. http://dx.doi.org/10.1111/1467-6494.7106008.

Kochanska, G., Murray, K. T., & Harlan, E. T. (2000). Effortful control in early childhood: Continuity and change, antecedents, and implications for social development. *Developmental Psychology, 36*(2), 220–232. http://dx.doi.org/10.1037/0012-1649.36.2.220.

Kochanska, G. (1997). Multiple pathways to conscience for children with different temperaments: From toddlerhood to age 5. *Developmental Psychology, 33*(2), 228–240.

Koot, H. M., van den Oord, E. J. C. G., Verhulst, F. C., & Boomsma, D. I. (1997). Behavioral and emotional problems in young preschoolers: Cross-cultural testing of the validity of the Child Behavior Checklist/2-3. *Journal of Abnormal Child Psychology, 25*(3), 183–196. http://dx.doi.org/10.1023/A:1025791814893.

Krueger, R. F., Caspi, A., Moffitt, T. E., White, J., & Stouthamer-Loeber, M. (1996). Delay of gratification, psychopathology, and personality: Is low self-control specific to externalizing problems? *Journal of Personality, 64*(1), 107–129.

Lamb, M. E. (Ed.). (2004). *The role of the father in child development*(4th ed.). New York: Wiley.

How fathers influence children's development? Let me count the ways. In M. E. Lamb (Ed.). *The role of the father in child development* (pp. 1–26). (5th ed.). Hoboken, NJ: Wiley.

Lee, S. J., Bellamy, J. L., & Guterman, N. B. (2009). Fathers, physical child abuse, and neglect: Advancing the knowledge base. *Child Maltreatment, 14*, 227–231.

Lemery, K. S., Essex, M., & Smider, N. (2002). Revealing the relationship between temperament and behavior problem symptoms by eliminating measurement confounding: Expert ratings and factor analyses. *Child Development, 73*(3), 867–882. http://dx.doi.org/10.1111/1467-8624.00444.

Lindahl, K. M. (1998). Family process variables and children's disruptive behavior problems. *Journal of Family Psychology, 12*(3), 420–436.

Magnusson, D., & Stattin, H. (1998). Person–context interaction theories. In W. Damon (Series Ed.) & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (5th ed., Vol. 3, pp. 685–759). New York: Wiley.

McKee, L., Colletti, C., Rakow, A., Jones, D. J., & Forehand, R. (2008). Parenting and child externalizing behaviors: Are the associations specific or diffuse? *Aggression and Violent Behavior, 13*(3), 201–215. http://dx.doi.org/10.1016/j.avb.2008.03.005.

Mischel, W., & Ayduk, O. (2002). Self-regulation in a cognitive–affective personality system: Attentional control in the service of the self. *Self and Identity, 1*(2), 113–120.

Moffit, T. E., Arseneault, L., Belksy, D., Dickson, N., Hancox, R. J., Harrington, H., & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences, 108*(7), 2693–2698. http://dx.doi.org/10.1073/pnas.1010076108.

Monroe, S. M., & Simons, A. D. (1991). Diathesis-stress theories in the context of life stress research: Implications for the depressive disorders. *Psychological Bulletin, 110*(3), 406–425. http://dx.doi.org/10.1037/0033-2909.110.3.406.

Mulder, H., Hoofs, H., Verhagen, J., van der Veen, I., & Leseman, P. P. M. (2014). Psychometric properties and convergent and predictive validity of an executive function test battery for two-year-olds. *Frontiers in Psychology, 5*, 733.

Murray, K. T., & Kochanska, G. (2002). Effortful control: Factor structure and relation to externalizing and internalizing behaviors. *Journal of Abnormal Child Psychology, 30*(5), 503–514. http://dx.doi.org/10.1023/A:1019821031523.

Notaro, P. C., & Volling, B. L. (1999). Parental responsiveness and infant–parent attachment: A replication study with fathers and mothers. *Infant Behavior and Development, 22*(3), 345–352. http://dx.doi.org/10.1016/S0163-6383(99)00012-0.

O'Brien, B. S., & Frick, P. J. (1996). Reward dominance: Associations with anxiety, conduct problems, and psychopathy in children. *Journal of Abnormal Child Psychology, 24*(2), 223–240. http://dx.doi.org/10.1007/BF01441486.

Olson, S. L., Sameroff, A. J., Kerr, D. C. R., Lopez, N. L., & Wellman, H. M. (2005). Developmental foundations of externalizing problems in young children: The role of effortful control. *Development and Psychopathology, 17*(1), 25–45. http://dx.doi.org/10.1017/S0954579405050029.

Pettit, G. S., & Bates, J. (1989). Family interaction patterns and children's behavior problem from infancy to 4 years. *Developmental Psychology, 25*(3), 413–420. http://dx.doi.org/10.1037/0012-1649.25.3.413.

Phares, V. (1992). Where's poppa? The relative lack of attention to the role of fathers in child and adolescent psychopathology. *American Psychologist, 47*(5), 656. http://dx.doi.org/10.1037/0003-066X.47.5.656.

Phares, V., Fields, S., Kamboukos, D., & Lopez, E. (2005). Still looking for poppa. *American Psychologist, 60*(7), 735–736.

Pluess, M. (2015). Individual differences in environmental sensitivity. *Child Development Perspectives, 9*(3), 138–143. http://dx.doi.org/10.1111/cdep.12120.

Posner, M. I., Rothbart, M. K., & Sheese, B. E. (2007). Attention genes. *Developmental Science, 10*, 24–29.

Putnam, S. P., Gartstein, M. A., & Rothbart, M. K. (2006). Measurement of fine-grained aspects of toddler temperament: The early childhood behavior questionnaire. *Infant Behavior and Development, 29*(3), 386–401. http://dx.doi.org/10.1016/j.infbeh.2006.01.004.

Raby, K. L., Lawler, J. M., Shlafer, R. J., Hesemeyer, P. S., Collins, W. A., & Sroufe, L. A. (2014). The interpersonal antecedents of supportive parenting: A prospective, longitudinal study from infancy to adulthood. *Developmental Psychology, 51*(1), 115–123. http://dx.doi.org/10.1037/a0038336.

Rapport, M. D., Tucker, S. B., DuPaul, G. J., Merlo, M., & Stoner, G. (1986). Hyperactivity and frustration: The influence of control over and size of rewards in delaying gratification. *Journal of Abnormal Child Psychology, 14*(2), 191–204. http://dx.doi.org/10.1007/BF00915440.

Rinaldi, C. M., & Howe, N. (2012). Mothers' and fathers' parenting styles and associations with toddlers' externalizing, internalizing, and adaptive behaviors. *Early Childhood Research Quarterly, 27*(2), 266–273. http://dx.doi.org/10.1016/j.ecresq.2011.08.001.

Rothbart, M. K., & Bates, J. E. (2006). Temperament. In N. Eisenberg, & W. Damon (Eds.). *Handbook of child psychology: Vol 3. Social, emotional, and personality development* (pp. 99–166). (6th ed.). New York: Wiley.

Rothbart, M. K. (2007). Temperament, development, and personality. *Current Directions in Psychological Science, 16*(4), 207–212. http://dx.doi.org/10.1111/j.1467-8721.2007.00505.x.

Rothbaum, F., & Weisz, J. R. (1994). Parental caregiving and child externalizing behavior in nonclinical samples: A meta-analysis. *Psychological Bulletin, 116*(1), 55–74.

Russell, A., Aloa, V., Feder, T., Glover, A., Miller, H., & Palmer, G. (1998). Sex-based differences in parenting styles in a sample with preschool children. *Australian Journal of Psychology, 50*(2), 89–99. http://dx.doi.org/10.1080/00049539808257539.

Salo, S., Kivistö, K., Korja, R., Biringen, Z., Tupola, S., Kahila, H., & Kivitie-Kallio, S. (2009). Emotional availability, parental self-efficacy beliefs, and child development in caregiver-child relationships with buprenorphine-exposed 3-year-olds. *Parenting: Science and Practice, 9*(3–4), 244–259. http://dx.doi.org/10.1080/-15295190902844563.

Shapiro, A. F., & Krysik, J. (2010). Finding fathers in social work research and practice. *Journal of Social Work Values and Ethics, 7*(1), 1–8.

Slagt, M., Dubas, J. S., Deković, M., & van Aken, M. A. G. (2016). Differences in sensitivity to parenting depending on child temperament: A meta-analysis. *Psychological Bulletin, 142*(10), 1068–1110.

Spinrad, T. L., Eisenberg, N., Gaertner, B., Popp, T., Smith, C. L., Kupfer, A., & Hofer, C. (2007). Relations of maternal socialization and toddlers' effortful control to children's adjustment and social competence. *Developmental Psychology, 43*(5), 1170–1186. http://dx.doi.org/10.1037/0012-1649.43.5.1170.

Tamis-LeMonda, C. S., Shannon, J. D., Cabrera, N. J., & Lamb, M. E. (2004). Fathers and mothers at play with their 2- and 3-year-olds: Contributions to language and cognitive development. *Child Development, 75*(6), 1806–1820.

Thompson, K., Roemer, A., & Leadbeater, B. (2015). Impulsive personality, parental monitoring, and alcohol outcomes from adolescence through young adulthood. *Journal of Adolescent Health, 57*(3), 320–326.

Van Aken, C., Junger, M., Verhoeven, M., van Aken, M. H. G., Dekovic, M., & Denissen, J. J. A. (2007). The interactive effects of temperament and maternal parenting on toddlers' externalizing behaviours. *Infant and Child Development, 16*(5), 553–572. http://dx.doi.org/10.1002/icd.529.

Verhagen, J., Mulder, H., & Leseman, P. P. (2017). Effects of home language environment on inhibitory control in bilingual three-year-old children. *Bilingualism: Language and Cognition, 20*(1), 114–127.

Verhoeven, M., Junger, M., van Aken, C., Dekovic, M., & van Aken, M. A. G. (2010). Parenting and children's externalizing behavior: Bidirectionality during toddlerhood. *Journal of Applied Developmental Psychology, 31*(1), 93–105. http://dx.doi.org/10.1016/j.appdev.2009.09.002.

Waegeman, A., Declerck, C. H., & Boone, C. (2014). A psychometric study of cognitive self-regulation: Are self-report questionnaires and behavioural tasks measuring a similar construct? *Psychology, 5*(19), 2159.

Willoughby, M. T., Blair, C. B., Wirth, R. J., & Greenberg, M. (2010). The measurement of executive function at age 3 years: Psychometric properties and criterion validity of a new battery of tasks. *Psychological Assessment, 22*, 306–317. http://dx.doi.org/10.1037/a0018708.

Winsler, A., Madigan, A. L., & Aquilino, S. A. (2005). Correspondence between maternal and paternal parenting styles in early childhood. *Early Childhood Research Quarterly, 20*(1), 1–12. http://dx.doi.org/10.1016/j.ecresq.2005.01.007.