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The prospective relationship between child personality and perceived parenting: Mediation by parental sense of competence



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ABSTRACT

This study examined the prospective relationship between childhood Big Five personality characteristics and perceived parenting in adolescence. In addition, we investigated whether this relationship was mediated by parental sense of competence, and whether associations were different for mothers and fathers. For 274 children, teachers reported on children's Big Five personality characteristics at Time 1, mothers and fathers reported on their sense of competence at Time 2, and the children (who had now become adolescents) rated their parents' warmth, overreactivity and psychological control at Time 3. Mediation analysis revealed both direct and indirect effects. No differences in associations were found for perceived parenting of mothers and fathers. This study demonstrates that child personality in late childhood is significantly related to perceived parental warmth, overreactivity and psychological control in adolescence. In addition, parental sense of competence mediates the relationship between child conscientiousness and perceived parental warmth, overreactivity and psychological control.

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1. Introduction

The role of parenting in the socialization process of children has been widely studied (Collins, Maccoby, Steinberger, Hetherington, & Bornstein, 2000). Although much is known about the importance of parenting in this process, less attention has been paid to factors that might determine how parents come to rely on particular parenting behaviors; the determinants of parenting (Belsky, 1984; Belsky & Jaffee, 2006). This study aims to increase knowledge on these determinants by examining the relationship between child personality characteristics and perceived parenting behaviors. Moreover, in an attempt to explain this relationship, we examine to what extent parental competence mediates this relationship.

1.1. Child personality and parenting behaviors

In his parenting process model, Belsky (1984) proposed that parenting is influenced by three general sources: parents' personal psychological resources, children's characteristics, and contextual sources of stress and support. Ample empirical evidence has

provided support for this model (for an overview, see Belsky & Jaffee, 2006). The present study focuses on specific parts of children's characteristics and parents' psychological resources which, to our knowledge, have not yet been examined in the same study: child personality and parental sense of competence.

Personality can be described along five dimensions, which have traditionally been labeled as extraversion, agreeableness (labeled benevolence in children), conscientiousness, emotional stability and openness to experience (labeled imagination in children) (Shiner & Caspi, 2003). With regard to parenting behaviors, three global, relatively independent dimensions can be distinguished; support (responsiveness and connectedness to the child), behavioral control (regulation of the child's behavior through firm and consistent discipline) and psychological control (control of the child's behavior through psychological means such as love withdrawal and guilt induction) (Prinzie, Stams, Deković, Reijntjes, & Belsky, 2009). Although determinants of these parenting behaviors have been studied (e.g., de Haan, Prinzie, & Deković, 2012), there is a very limited body of research examining determinants of all three parenting behaviors in the same study. Of these three dimensions, psychological control has been mostly neglected (Barber, 1996).

Child Big Five characteristics have been related to parental warmth and overreactivity in previous studies. For example,

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benevolence has been related to more parental warmth and less overreactive parenting (de Haan et al., 2012), and harsh discipline (O'Connor & Dvorak, 2001; Prinzie et al., 2004). Compared to these studies on parental warmth and overreactivity, research on predictors of parental psychological control is limited to behavior problems (Laird, 2011). Given that psychological control has negative consequences for children, such as internalizing problems (Barber, 1996), it is important to investigate determinants of this parenting behavior. This study aims to increase knowledge on determinants of parenting by examining its long-term associations with children's Big Five personality characteristics, using a comprehensive assessment of parenting, including warmth, overreactivity and psychological control.

1.2. Mediation by parental sense of competence

Although some studies have indicated links between child personality and parenting behavior, these studies do not make clear *why* child personality is related to parenting (de Haan et al., 2012). In the present study we propose that parental sense of competence is a mechanism that can explain this relationship. Grounded in Bandura's (1997) social cognitive theory, parental sense of competence is the belief of parents that they can effectively manage parenting tasks (Coleman & Karraker, 1998). Similar to parenting behavior, predictors of parental sense of competence remain understudied (Jones & Prinz, 2005). In the few studies that have examined determinants of parental sense of competence, the focus has mainly been on parental characteristics, such as parent personality (de Haan, Prinzie, & Deković, 2009) or parental depression (Gross, Sambrook, & Fogg, 1999). Rather than examining factors within the parent that relate to parental sense of competence, this study investigates how child personality determines parental sense of competence. Dependent on their personality, some children may be easier to handle than others. For instance, children who are less benevolent and conscientious may be noncompliant, and demand more from parents in terms of skills to effectively deal with their behavior. This may in turn result in a lower sense of competence for these parents than for parents of very agreeable and conscientious children. To our knowledge, there are no studies that focus specifically on how child Big Five personality is related to parental sense of competence. However, several studies have examined other child characteristics. For example, mothers of school-aged children, who perceived their children to be less emotional and more sociable, reported higher parental sense of competence (Coleman & Karraker, 2000). Related to personality, evidence suggests that parents of more temperamentally "difficult" infants and toddlers generally have a lower parental sense of competence (e.g., Troutman, Moran, Arndt, Johnson, & Chmielewski, 2012). However, research concerning personality characteristics of older children is lacking.

In addition to being determined by child characteristics, parental sense of competence has in turn emerged as a critical determinant of parenting behavior (Coleman & Karraker, 1998). Some evidence indicates that higher parental sense of competence is associated with parents expressing warmth towards their children (Bogenschneider, Small, & Tsay, 1997), whereas lower parental sense of competence has been associated with the use of overreactive discipline (Gross et al., 1999) and psychological control (Bogenschneider et al., 1997). However, much of the research on this topic involves cross-sectional designs (Jones & Prinz, 2005). As a result, there is little evidence on prospective relationships with parenting.

1.3. Present study

We examined the prospective relationship between child personality and perceived parenting five years later. In addition, we investigated whether parental sense of competence mediated this relationship. Specifically, we hypothesized positive prospective associations of children's extraversion, benevolence, conscientiousness, and imagination, with warm parenting five years later (de Haan et al., 2012) whereas higher extraversion, and lower benevolence and conscientiousness were expected to relate to more perceived overreactive parenting (de Haan et al., 2012; O'Connor & Dvorak, 2001). Because of inconsistent findings, no specific hypotheses regarding emotional stability and psychological control were formulated. Additionally, we hypothesized that higher scores on benevolence, conscientiousness and emotional stability would be associated with higher parental sense of competence two years later (Jones & Prinz, 2005), and that parental sense of competence would in turn be associated with more warmth and less overreactive parenting and psychological control two years later (e.g., Bogenschneider et al., 1997). Finally, the moderating effect of parental gender was explored. Analyses concerning the moderating role of parental gender were exploratory, due to a lack of research on father's sense of competence.

2. Method

2.1. Participants

The study is part of a larger project: "The Flemish Study on Parenting, Personality, and Development" (FSPPD), in which a proportional stratified sample of elementary-school-aged children was randomly selected. To answer our questions, we used data from the fourth (2004; T1), fifth (2007; T2), and sixth (2009; T3) wave, as in those waves the data on the measures of interest were available. To avoid the problem of shared method variance, teachers rated children's personality at T1, both parents rated their sense of parental competence at T2, and adolescents reported on perceived parenting at T3, by rating their mothers' and fathers' warmth, overreactivity and psychological control. Teacher ratings of child personality were used because teachers are familiar with a broad range of children and have greater expertise regarding normative development (Goldberg, 2001). Teachers see children in different situations (e.g., highly structured, large peer groups) that are particularly challenging in the light of personality characteristics (e.g., Saudino, Ronald, & Plomin, 2005). Research has shown that children's personality characteristics can be validly reported by teachers (Prinzie & Deković, 2008). We selected children who were 11 or 12 years old at T1, since these children made the transition to adolescence in the period under study. The selection based on age resulted in a sample of 274 target children (51.1% girls, $M_{\text{age}} = 11$ years, 10 months at T1), their parents and teachers (T1: 274 teachers, T2: 209 mothers, 195 fathers, T3: children's ratings of mothers' ($n = 194$) and fathers' ($n = 190$) parenting). All parents were of Belgian nationality. Regarding socioeconomic status (SES), 46.4% of families were in the lower class, 28.8% in the middle class, and 19.7% in the upper class. Of 5.1%, no information on SES was available.

Data were missing completely at random, as indicated by Little's MCAR test ($\chi^2/df = 1.08$). Therefore, missing data were imputed using expectation maximization, which is a highly efficient way to use available data under the assumption that data are missing at random (Schafer & Graham, 2002).

Table 1
Intercorrelations and descriptive statistics for the study variables ($N = 274$).

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|--|--------|------|-------|--------|--------|-------|-------|--------|--------|--------|--------|-------|-------|-------|------|
| 1. Age | – | | | | | | | | | | | | | | |
| 2. SES | –.06 | – | | | | | | | | | | | | | |
| <i>Adolescent personality T1</i> | | | | | | | | | | | | | | | |
| 3. Extraversion | –.01 | –.07 | – | | | | | | | | | | | | |
| 4. Benevolence | .03 | –.07 | –.15* | – | | | | | | | | | | | |
| 5. Conscientiousness | –.04 | –.02 | .07 | .37** | – | | | | | | | | | | |
| 6. Emotional Stability | –.03 | –.01 | .46** | .01 | .16** | – | | | | | | | | | |
| 7. Imagination | –.03 | –.03 | .48** | .02 | .63** | .41** | – | | | | | | | | |
| <i>Parental sense of competence T2</i> | | | | | | | | | | | | | | | |
| 8. Sense of competence M | –.05 | –.06 | .12 | .09 | .20** | .07 | .12* | – | | | | | | | |
| 9. Sense of competence F | –.13* | –.08 | .07 | .13* | .16** | .17** | .17** | .43** | – | | | | | | |
| <i>Parenting T3</i> | | | | | | | | | | | | | | | |
| 10. Warmth M | –.02 | –.04 | .04 | .22** | .22** | –.04 | .17** | .30** | .14* | – | | | | | |
| 11. Warmth F | .08 | –.03 | .12 | .14* | .16** | –.02 | .17** | .17** | .11 | .54** | – | | | | |
| 12. Overreactivity M | .01 | .02 | .09 | –.15* | –.13* | –.05 | –.07 | –.27** | –.15* | –.45** | –.16** | – | | | |
| 13. Overreactivity F | .06 | .00 | .02 | –.09 | –.03 | .02 | –.06 | –.14* | –.27** | –.22** | –.30** | .09 | – | | |
| 14. Psychological control M | –.04 | .03 | .17** | –.22** | –.25** | .05 | –.13* | –.21** | –.19* | –.46** | –.24** | .53** | .26** | – | |
| 15. Psychological control F | .04 | –.04 | .15* | –.13* | –.07 | .08 | .02 | –.21** | –.25** | –.22** | –.29** | .55** | .56** | .55** | – |
| <i>M</i> | 142.47 | 1.72 | 3.11 | 3.66 | 3.51 | 3.56 | 3.37 | 5.01 | 5.06 | 3.33 | 2.73 | 3.52 | 3.61 | 2.45 | 2.28 |
| <i>SD</i> | 6.70 | .74 | .63 | .59 | .78 | .63 | .72 | .68 | .62 | .64 | .69 | .91 | .91 | .76 | .78 |

Note. Age = age in months at T1; SES = socioeconomic status; M = mother; F = father.

* $p < .05$.

** $p < .01$.

2.2. Measures

2.2.1. Child personality

Teachers' ratings on the Hierarchical Personality Inventory for Children (HiPIC; Mervielde & De Fruyt, 1999; Prinzie & Deković, 2008) were used to assess child personality. The HiPIC is an empirically derived questionnaire including 144 items. Teachers rated children's behavior on a five-point scale, ranging from 1 = *barely characteristic* to 5 = *very characteristic*. Cronbach's alphas ranged from .89 to .97.

2.2.2. Parental sense of competence

Mothers and fathers filled out the Sense of Competence scale of the Parenting Stress Index (Abidin, 1990). This scale, consisting of 13 items, measures parents' perceptions of their competence in terms of generally handling difficulties, coping with daily demands and exercising control over child behavior. Cronbach's alpha was .90 for both mothers and fathers.

2.2.3. Warmth

Adolescents rated their mothers' and fathers' warmth using the Parenting Practices Questionnaire (Robinson, Mandleco, Olsen, & Hart, 1995). This scale consists of 11 items, and measures adolescents' perceptions of warm parenting and parental involvement. Cronbach's alphas for mothers' and fathers' warmth were .89 and .90, respectively.

2.2.4. Overreactivity

Adolescents rated the overreactivity subscale of the Parenting Scale for their mothers and fathers (Arnold, O'Leary, Wolf, & Acker, 1993; Prinzie, Onghena, & Hellinckx, 2007). This scale consists of nine items and measures parents' tendency to respond with anger, frustration, meanness, and irritation, impatience and aversion, to problematic behavior of their children. Cronbach's alphas for mothers' and fathers' overreactivity were .84 and .83, respectively.

2.2.5. Psychological control

Adolescents rated their mothers' and fathers' psychological control using the Psychological Control Scale, Youth Self-Report

(PCS-YSR; Barber, 1996). This scale consists of eight items and measures several aspects of psychologically controlling parenting: invalidating feelings, constraining feelings, personal attack and love withdrawal. In this study, Cronbach's alphas for mothers' and fathers' psychological control were .79 and .84, respectively.

3. Results

Descriptives and intercorrelations of the measures are presented in Table 1. SES was not related to any of the variables under study and was not included in further analyses. Child age however, had a significant negative association with paternal sense of competence and was therefore included as a covariate in further analyses.

To investigate the mediating effects of parental sense of competence in the relation between child personality and parenting, a mediation model was fitted including the Big Five and all three parenting dimensions. This model was examined within a structural equation modeling framework, using Mplus 6.11 (Muthén & Muthén, 2010). In assessing mediation, the total effect (weight c) of the independent variable (IV) child personality, on the dependent variable (DV) parenting, can be apportioned into its direct effect on the DV (weight c') and its indirect effect (weight $a \times b$) on the DV through the proposed mediator (M) parental sense of competence (see Fig. 1). As recommended by Preacher and Hayes (2008), we employed a bootstrapping method (with $n = 5000$ bootstrap resamples) to assess the indirect effects.

The model was first fitted with reports on mothers' sense of parental competence and maternal parenting behaviors, as perceived by the adolescent.¹ Results of the mediation analysis are presented in Table 2. Since the mediation model was just-identified, to obtain absolute fit indices and gain degrees of freedom, the non-significant model-implied correlations between benevolence and emotional stability and between benevolence and imagination were constrained to zero. The model fit the data well: $\chi^2(2, N = 274) = .16, p = .92, CFI = 1.00, RMSEA = .00$ (CI: .00–.04). The

¹ We replicated the mediation analyses with mother ratings of child personality. In general, the model based on the mother reports showed the same pattern of findings compared to the model based on the teacher reports of child personality.

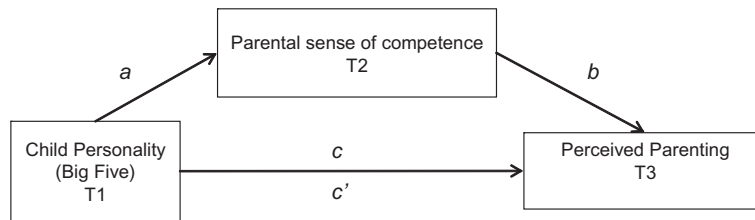


Fig. 1. Hypothesized model on the mediating effect of parental sense of competence on relation between child personality and parenting. Weight a = effect of IV on DV; Weight b = effect of M on DV; Path c' = direct effect; Path c = total effect.

Table 2

Total, direct, and indirect effects of child personality on maternal parenting through maternal sense of competence.

| | IV | DV | Effect of IV on M (a) | Effect of M on DV (b) | Direct effects (c') | Indirect effects ($a \times b$) |
|----|---------------------|-----------------------|---------------------------|---------------------------|-------------------------|-----------------------------------|
| 1. | Extraversion | Warmth | .15* | .27** | .01 | .04 [–.00 to .08] |
| | | Overreactivity | | –.28** | .19* | –.04 [–.09 to .00] |
| | | Psychological Control | | –.20** | .26** | –.03 [–.06 to .00] |
| 2. | Benevolence | Warmth | .03 | .27** | .20** | .01 [–.03 to .04] |
| | | Overreactivity | | –.28** | –.11 | –.01 [–.04 to .03] |
| | | Psychological Control | | –.20** | –.14* | –.01 [–.03 to .02] |
| 3. | Conscientiousness | Warmth | .23* | .27** | –.01 | .06 [–.01 to .12] |
| | | Overreactivity | | –.28** | .04 | –.07 [–.12 to –.01] |
| | | Psychological Control | | –.20** | –.06 | –.05 [–.09 to –.01] |
| 4. | Emotional Stability | Warmth | .00 | .27** | –.15* | .00 [–.04 to .04] |
| | | Overreactivity | | –.28** | –.07 | –.00 [–.05 to .04] |
| | | Psychological Control | | –.20** | .04 | –.00 [–.03 to .03] |
| 5. | Imagination | Warmth | –.10 | .27** | .19* | –.03 [–.09 to .03] |
| | | Overreactivity | | –.28** | –.13 | .03 [–.03 to .09] |
| | | Psychological Control | | –.20** | –.21* | .02 [–.02 to .06] |

Note. Standardized results based on 5000 bootstrap samples. Bias-corrected 95% confidence interval reported in brackets. Indirect effects that are statistically significant are in bold.

* $p < .05$.

** $p < .01$.

analysis revealed that benevolence and imagination were positively, and emotional stability was negatively related to perceived maternal warmth five years later (c' weights). Child extraversion was positively associated with overreactivity. Regarding the prediction of perceived psychological control, this parenting dimension was positively related to extraversion and negatively related to benevolence and imagination. Concerning the effects of the Big Five on maternal sense of competence (a weights), extraversion and conscientiousness had positive relations with sense of competence. With respect to the effects of parental sense of competence on the three parenting dimensions (b weights), there were positive relations with perceived maternal warmth, whereas the relations between sense of competence and perceived overreactivity and psychological control were negative. Concerning mediation (indirect effects $a \times b$), sense of competence completely mediated the relationship between child conscientiousness and perceived maternal warmth, overreactivity and psychological control. This model explained 16% of the variance in maternal warmth, 11% in overreactivity and 16% in psychological control.

Next, we examined whether the relationships in the model were similar for mothers and fathers. First, a multi-group model without equality constraints between mothers and fathers was tested. This model fit the data well: $\chi^2(4, N = 274) = .32, p = .99$, CFI = 1.00, RMSEA = .00 (CI: .00–.00), SRMR = .01. A comparison was made between this model and a parsimonious moderation model in which all associations were constrained to be equal for mothers and fathers. The fit of this parsimonious model was good, $\chi^2(30, N = 274) = 27.44, p = .60$, CFI = 1.00, RMSEA = .00 (CI: .00–.04), $\chi^2(30, N = 274) = 27.44, p = .60$. The difference between this

model and the baseline model was not significant: $\Delta\chi^2(26, N = 274) = 27.11, p = .40$, indicating that the direct and indirect relations were similar for mothers and fathers.

4. Discussion

In this study, significant direct effects were found from child personality and parental sense of competence to perceived parenting, as well as significant indirect effects of child conscientiousness to perceived parenting through parental sense of competence. Finding these relationships is especially relevant when taking into account that they exist above and beyond the impact of other personality characteristics, across a 5-year time span and that these effects cannot be explained by rater bias. This study revealed no differences between mothers and fathers.

Supporting Belsky's parenting process model (1984), in which children's characteristics are important determinants of parenting, child personality was directly related to perceived parenting. As hypothesized, children who were rated by their teacher as more benevolent and imaginative reported higher levels of parental warmth five years later. Unexpectedly, children who were rated as more emotionally stable, reported lower parental warmth. This effect only occurs when the impact of the other dimensions is taken into account, as the bivariate correlation between emotional stability and parental warmth was not significant. Child extraversion was positively related to both perceived parental overreactivity and psychological control. Concerning psychological control, our study is the first to demonstrate this relationship. An important component of extraversion is social dominance (Caspi,

Roberts, & Shiner, 2005). Social dominance may challenge parents' authority and hereby increase frustration, which may elicit more overreactive and psychologically controlling parenting. Moreover, extraverted adolescents often are more sociable and therefore spend more time with peers. As a consequence, parents have less opportunities to monitor their children and may fear that, within these peer groups, children engage in more risk-taking behaviors (Stattin & Kerr, 2000). Parents may turn to overreactive and psychologically controlling parenting to control their children. Finally, child benevolence and imagination were negatively associated with parental psychological control. More benevolent children may receive less psychologically controlling parenting because they are more compliant and cooperative in the interactions with their parents (Prinz et al., 2004). Contrary to our hypotheses, there was no direct relationship between child conscientiousness and perceived parenting. However, as outlined below, there were indirect effects.

In line with our hypotheses and the conceptual model described by Ardel and Eccles (2001), parents with a higher sense of competence were perceived by their children as displaying more warmth, and less overreactivity and psychological control two years later. Parents who feel competent as parents are apt to be those who are most engaged in promotive parenting strategies (Eccles et al., 1993). In contrast, when parents have a lack of confidence in their parenting skills, this likely increases frustration, distress, irritation and anger, which contributes to more negative parenting behavior (de Haan et al., 2009).

In this study, we found that more conscientious children had parents who reported a higher sense of competence three years later, and these parents were perceived by their children as warmer and less overreactive and psychologically controlling two years after that. To our knowledge, this study is the first to demonstrate this mediation effect. Individuals who are highly conscientious are well-organized, self-disciplined, planful and are more able to regulate their own behavior (Goldberg, 2001). Consequently, these children may be less difficult to handle than non-conscientious children, which might strengthen their parents' sense of competence. Parents may feel that with these children, there are more occasions to express warmth and fewer occasions in which overreactive discipline or psychological control is evoked.

When interpreting the results of this study, some limitations must be considered. First, in the FSPPD, perceived parenting was measured for the first time in 2009, and parental competence was not measured at each wave. This means that no conclusions can be drawn about reciprocal and recurrent interactions over time. Future research should investigate the stability of the variables under investigation. It is possible that parental sense of competence and perceived parenting changed from T2 to T3. For example, both adolescents' perceptions and objectively observed assessments of warmth in parent–adolescent relationships decline throughout childhood and adolescence (Loeber et al., 2000). However, parental sense of competence was related to child personality and parenting behaviors despite being measured at different time points. Compared to a purely cross-sectional model, this provides a more stringent test of prospective associations. However, future studies should focus on investigating to which extent changes in parenting behavior over time can be explained by (changes in) child personality and parental sense of competence. Second, due to a relatively large sample size, only questionnaires were used. Future studies could attempt to replicate findings with other assessment methods, such as observations. Third, the links found in this study were modest in size, with a substantial amount of the variance of parenting behavior remaining unexplained. This could be partly due to the use of different informants in our study, whereas other studies find higher amounts of explained variance, resulting from mono-informant data. However, with the use of dif-

ferent informants, we avoid the problem of shared method variance. Future research is needed to test for effects of other factors, such as contextual sources of stress and support (e.g., work, marital, and social relations) (Belsky, 1984), that could have an important influence on parenting.

This study has practical implications as parental sense of competence can be targeted in intervention programs, because it is relatively malleable (Deković et al., 2010). By targeting sense of competence in treatment programs that aim to directly increase warm parenting and decrease overreactive and psychologically controlling parenting, the effectiveness of these programs may improve considerably. Programs could help parents feel more effective at managing parenting tasks, by helping them focus on what they are doing right, as well as aid in finding more effective ways of dealing with potentially challenging characteristics of their children.

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