Maternal Positive Parenting and the Development of Children's Later Empathy and

Externalizing Behavior

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Abstract

The main goal of my study was to examine how maternal positive parenting in early childhood was associated with children's later empathy and externalizing problem behaviors. I also determined whether specific forms of positive parenting had stronger associations with children's later outcomes than others. Participants included 241 children (118 girls) and their mothers, fathers, and teachers. At Time 1 (T1), children were approximately three years old, at Time 2 (T2), they were approximately six years old, and at Time 3 (T3), they were approximately 10 years old. At T1, maternal parenting was assessed through direct observations of mother-child interactions and maternal self-report questionnaires. To measure children's empathy, mothers completed a questionnaire that assessed several dimensions of their children's early conscience development at T2. At T3, mothers, fathers, and children's teachers reported children's externalizing problems. I found that the maternal positive parenting latent construct at T1 was positively associated with children's empathy at T2 and negatively associated with children's externalizing problems at T3. Furthermore, children's empathy at T2 was negatively associated with externalizing problems at T3. Lastly, maternal warm responsiveness and positive affect were the strongest maternal positive parenting factors. My findings have significant implications for understanding how parenting practices influence children's prosocial development as they transition from preschool to elementary school.

Keywords: early childhood, middle childhood, positive parenting, empathy, behavior problems

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The preschool and school-age years provide a compelling time to examine the

development of positive personality traits. One of these traits is empathy which develops in

early childhood and has been found in eighteen-month-old infants (Svetlova, Nichols, &

Brownell, 2010). In addition, the quality of parent-child interactions is especially important

when children are young since it has been associated with children's positive behavioral

adjustment (Chang, Olson, Sameroff, & Sexton, 2011). The main purpose of my study was to

examine associations between mothers' positive parenting when their children were three years

old, children's levels of empathy at age six, and children's externalizing problems at age 10. The

present study is unique because it uses longitudinal data that spans a seven-year time period

encompassing developmental transitions from early childhood through the late school-age years.

In addition, this study includes multiple measures of positive parenting that were collected

simultaneously using multiple methods (observations, self-reports), thereby providing a rich set

of data. Furthermore, children's levels of externalizing behavior at age 10 were assessed by

multiple informants (mothers, fathers, teachers). In what follows, I discuss the nature and

development of empathy in young children and show how parent-child relationships in early

childhood may provide a foundation for the development of multiple forms of positive

behavioral adjustment.

Defining Empathy

We are exposed to others' distress, pain, joys, and successes every day. But what allows

some of us to feel what others are feeling and envision ourselves "in their shoes?" This

understanding of others is the object of empathy (Wispé, 1986). According to Baron-Cohen and

Wheelwright (2004), empathy is the "glue" that draws us to help others in the social world.

According to one historical definition, empathy is the imaginative ability to transpose oneself into the thinking, feeling, and acting of another individual. It is sometimes referred to as "fellow feeling," "social awareness," or "insight" (Dymond, 1949). This cognitive role-taking view describes empathy as an intellectual process that involves social perceptiveness (Mehrabian, Young, & Sato, 1988) and imagining how other individuals experience things (Eisenberg, 1986).

A second definition views empathy as a basic interpersonal process of contagion (Mehrabian et al., 1988). For example, Stotland (1969) defined empathy as an emotional reaction to the perception of another individual who is about to experience or is already experiencing an emotion. In other words, an individual's own subjective and physiological reactions are an outcome of his or her perception of another individual.

The concept of empathy differs from the concept of sympathy, despite frequently being confused or interchanged. In contrast to empathy, the object of sympathy is others' well-being. Sympathy involves relating to others and being "moved by" them, whereas empathy involves reaching out to other people to know and understand them without prejudice (Wispé, 1986).

Early concern for others is important for the development of prosocial behaviors. Rhee et al. (2013) assessed same-sex twin pairs for concern and disregard for others in distress at 14, 20, 24, and 36 months of age. The Child Behavior Checklist was mailed to the twins' parents and teachers between the ages of four and 12 years, and conduct disorder symptoms were assessed at age 17. The researchers found that young children's observed disregard for distressed others significantly predicted antisocial behavior after controlling for concern for others.

Empathy has also been strongly and positively correlated to altruistic values. Persson and Kajonius (2016) examined middle-aged adults and found that empathy was positively correlated with altruistic values, and emotional empathy (empathic concern) explained the variance to a

greater degree than cognitive empathy (perspective-taking). Furthermore, Balliet, Joireman, Daniels, and George-Falvy (2008) found strong positive correlations between empathy and benevolence and strong negative correlations between empathy and power values such as wealth, authority, and social power. In addition, Carlo, Mestre, et al. (2012) found that empathy negatively predicted aggressive behaviors. Emotional stability was a predictor of problem-focused coping which positively predicted prosocial behaviors.

Additionally, because empathy permits the sharing of emotions with others, it drives other-oriented behavior and generally makes individuals less selfish (Singer & Fehr, 2005). Litvack-Miller, McDougall, and Romney (1997) studied school-aged children in two sessions that were separated by about one week, with a third session occurring four weeks after the second session. The researchers used an adapted version of the Interpersonal Reactivity Index, an altruism questionnaire, a social desirability scale, and teachers' ratings. They gave the children the opportunity to donate money or time after watching a film about a family in poverty. The results showed that empathic concern was the most significant predictor of prosocial behavior.

Development of Empathy in Early Childhood

Evidence of a rudimentary response to others' distress has been found in newborn infants. Singer and Fehr (2005) found that two- to three-day old infants cried intensely upon hearing the sound of another infant crying. The infants appeared to be genuinely upset, and they did not respond as vigorously to computer-simulated sounds or other equally-loud non-human noises. Furthermore, according to Field et al. (1983), newborns who are less than two days old can imitate others' emotions. The newborns watched a person model three facial expressions and their fixation time, head movements, eye movements, mouth movements, and brow movements were subsequently observed. Results showed that neonatal facial expression imitations were

present for happy, sad, and surprised facial expressions. These findings suggest that human

infants have an innate biological predisposition that contributes to learning empathic distress in

the first few days of life.

Components of empathy appear to develop in infancy. Field et al. (1983) found that

normally developing eight- and 10-month old infants displayed modest levels of affective and

cognitive empathy when exposed to simulated maternal distress and to a video depicting a

distressed peer. Affective empathy was measured by infants' emotional expression of concern

through facial expressions, gestures, and vocalizations. Cognitive empathy was measured by

inquiry behavior and attempts to comprehend the victim's state through vocalizations, non-vocal

explorations, or both. Individual differences in empathy measured at 10 months of age were

predictive of prosocial behavior in the second year of life.

Moreover, infants have a capacity for selectively considering others' internal states.

Hamlin, Wynn, Bloom, and Mahajan (2011) found that five-month-old infants consistently

preferred characters who acted positively, regardless of the broader context. However, by eight

months of age, infants preferred characters who acted positively toward prosocial individuals and

negatively toward antisocial individuals after assessing the global context. Therefore, the ability

to make appropriate social judgments surrounding others' intentions emerges at a very young

age.

The use of prosocial behaviors becomes more sophisticated by the third year of life. For

example, Svetlova et al. (2010) found that empathic helping is limited at 18 months of age.

However, by 30 months of age, children show prosocial helping in situations that require

complex inferences about others' feelings and internal states in order to determine others' needs.

During the preschool years, children's prosocial behaviors continue to develop. For

example, when three-year-old children viewed a person display distress that was justified or with

an unknown cause, they showed more concern and intervened sooner than when the distress was unjustified (Hepach, Vaish, & Tomasello, 2013). Thus, by the age of three, children show flexibility in their appraisals and prosocial responses, rather than simple automatic responses to signs of distress.

Explaining Individual Differences in Prosocial Behavior

There are strong individual differences in tendencies toward prosocial behavior. For instance, differences in self-regulation, emotional reactivity, and pubertal timing have been found to contribute to prosocial behaviors in adolescence (Carlo, Crockett, Wolff, & Beal, 2012). The largest genetic study of children's empathy revealed that dynamic changes in empathy were accompanied by shifts in genetic and environmental contributions to these individual differences. From 14 to 20 months of age, shared environmental influences accounted for most of the variance, and at 24 months of age, genetic factors accounted for one-quarter of the variance and remained stable through 36 months of age (Knafo, Zahn-Waxler, Van Hulle, Robinson, & Rhee, 2008).

Shyness may also impact children's inclination to help others. Broeren, Muris, Diamantopoulou, and Baker (2013) found a negative association between prosocial behavior and social anxiety in children at two time points. Liew et al. (2011) investigated how physiological regulation impacts young children's empathy-related behaviors. They examined fluctuations in heat rate that accompany breathing and found that RSA (respiratory sinus arrhythmia) suppression at 18 months of age predicted helping behaviors at 30 months of age. More broadly, shyness was associated with lower empathy and prosocial behavior toward distressed individuals, especially if the individuals were strangers.

Children's temperament and parenting may interact in the development of individual differences in empathy. Cornell and Frick (2007) found a significant interaction between

preschool children's temperament and parents' consistency of discipline in predicting children's empathy. For behaviorally uninhibited children, greater inconsistency in parental discipline was negatively related to empathy but not for behaviorally inhibited children. In addition, corporal punishment was negatively related to empathy in both inhibited and uninhibited children.

The Role of Parents

The quality of attachment between parents and children is important to children's development of empathy. Panfile and Laible (2012) found that three-year-old children who were the most securely attached to their mothers had greater emotion regulation skills, lower levels of negative emotionality, and higher levels of empathy than others. Children with higher levels of empathy also showed more observed prosocial behavior than others. In addition, a parenting style that fosters cognitive growth in young children has been linked to the development of empathy. Frequent praise directed toward children and parental behavior that supported consistent life rhythms were correlated with children's empathy development at 18 months of age (Tong et al., 2012).

Observational modeling has been found to impact children's learning of prosocial acts. When exposed to a model of an adult performing a novel prosocial behavior in response to another's distress, two-and-a-half-year-old children were more likely to display generous behaviors than were children who were exposed to a control condition (Williamson, Donohue, & Tully, 2013). Furthermore, parental talk about emotions has been associated with toddlers' prosocial behavior. Brownell, Svetlova, Anderson, Nichols, and Drummond (2013) found that toddlers who shared and helped more quickly than others had parents who elicited talk about emotions by encouraging them to attend to, label, and explain others' emotions. The quality, rather than the quantity of these conversations is what mattered for early prosocial behavior. Maternal talk about emotions has been found to be positively related to two-year-olds' attempts

to understand others' emotional states. Mothers' directives toward their toddlers to label others'

emotions were positively related to their toddlers' expressed emotional concern for others

(Garner, 2003). This is evidence for children's early receptiveness to emotion-based parental

talk which can foster children's empathy-based reactions.

Kochanska, Koenig, Barry, Kim, and Yoon (2010) used a longitudinal study to examine

children at 25, 38, 52, 67, and 80 months of age. Children who showed stronger internalization

of their parents' rules and were more empathic from 25 to 52 months of age were seen as more

prosocial and less disruptive than others. Specifically, children who showed stronger

internalization of their mother's rules from 25 to 52 months of age rated themselves as more

moral at 67 months of age, thereby predicting ratings of well-socialized conduct by parents and

teachers at 80 months of age. Interestingly, these findings were not consistent for the children's

internalization of their father's rules. Lastly, after viewing their mother and father in a simulated

distress event, 25-, 38-, and 52-month-old children who showed high levels of empathic

responding toward their mother had fewer antisocial problems at early school age.

Parental responses to children's emotions are also important. These responses can range

from negative responses through hostility and dismissiveness to positive responses through

sensitivity and providing comfort (Davidov & Grusec, 2006). Researchers found that mothers'

responsiveness to their children's distress was a predictor of six- to eight-year-old children's

empathy and prosocial behaviors toward distressed individuals. However, the direction of this

association could not be determined, and further research is needed to determine whether

children's dispositional traits elicit warm responsiveness in their parents.

Zhou et al. (2002) examined how parental warmth related to children's empathic

responding. They defined parental warmth as being supportive, affectionate, and sensitive

toward children's needs. Parents' situational facial expressivity was rated as they viewed

pleasant, unpleasant, and neutral slides with their children present, thereby reflecting expressivity in view of the children but not directed toward their children. Parental warmth was rated based on child-directed smiling, laughing, positive tone of voice, and physical and verbal affection. Longitudinal data were collected from children who were in the second to fifth grades and again two years later. The researchers found that parental warmth was positively associated with parental positive expressiveness which was a moderator of children's empathy. In other words, warmer, more supportive parents tended to express more positive emotions, and their children showed greater amounts of empathy. However, an alternative hypothesis could be that children's empathic responding is what elicited parental warmth.

Children's Externalizing Problems

Getting along with others is a crucial task in the development of preschool-aged children. It requires the ability to share, follow directions, inhibit aggression, and delay immediate desires (Olson, Choe, & Sameroff, 2017). Persistent, high levels of aggressive, disruptive behavior have been associated with long-term social, emotional, and academic adjustment problems (Broidy et al., 2003). Although externalizing problems are relatively common in early childhood, a subgroup of children have shown problem behavior throughout their progression from preschool to elementary school (Campbell et al., 2010; Olson et al., 2017). According to Broidy et al. (2003), a small group of children show notably more physically aggressive behavior than their same-age peers throughout childhood, and these patterns tend to be relatively stable across genders. Furthermore, even early non-aggressive conduct problems can increase the risk of later violent delinquency (Broidy et al.).

Parent-child interactions can also influence children's behaviors as they transition across the crucial time period between preschool and elementary school. Campbell et al. (2010) found that mother-child relationship difficulties predicted patterns of aggressive behavior in children

across the preschool and school-age years. Mothers who showed early harsh control and less

sensitivity (among girls) had children who showed more aggression in elementary school and

difficulties with school adjustment in sixth grade. In addition, mothers who showed high levels

of harsh control toward their children at 54 months predicted higher and more stable aggression

in elementary school through teacher ratings.

According to Olson, Bates, Sandy, and Lanthier (2000), children who were at risk for

later externalizing problems engaged in caregiver-child relationships that lacked warmth and

empathy. Unresponsive mother-child interactions have also been implicated in self-regulation

problems throughout middle childhood which can lead to disruptive behaviors (Olson et al.).

Bernier, Carlson, and Whipple (2010) found that responsive caregiving was crucial for children's

development of self-regulation. Mothers who showed relatively high levels of sensitivity and

mindfulness when working with their 12-month-old children and were supportive of autonomy

with their 15-month-old children had children who showed better conflict resolution skills and

impulse control than others. This is meaningful because a substantial body of research has

shown that children with good self-regulation skills manifest fewer externalizing problems than

others (Olson et al., 2017).

Current Study

My primary goal is to examine associations between maternal warm and responsive

parenting and children's later empathy-related and externalizing behavior profiles. I hypothesize

that (1) maternal positive parenting at T1 will be positively associated with children's levels of

empathy at T2 (Brownell et al., 2013; Panfile & Laible, 2012; Tong et al., 2012). My second

hypothesis is that (2) maternal positive parenting at T1 will be negatively associated with

children's externalizing problems at T3 with children's empathy mediating this association

(Bernier et al., 2010; Olson et al., 2000). In addition, I hypothesize that (3) children's empathy

at T2 will be negatively associated with children's externalizing behavior at T3 (Litvack-Miller et al., 1997; Singer & Fehr, 2005). Lastly, I hypothesize that (4) maternal warm responsiveness at T1 will be more highly associated with children's empathy at T2 than other aspects of early positive parenting behavior (Zhou et al., 2002).

Method

Participants

This research was fully approved by the Institutional Review Board, and participating families provided informed consent and child assent prior to the beginning of the study. Participants were 241 children (118 girls) and their parents who were part of an ongoing longitudinal study examining young children at risk for conduct problems (Olson, Sameroff, Kerr, Lopez, & Wellman, 2005). Children were approximately three years old ($M = 3.14$ years, $SD = 0.23$) at Time 1 (T1), six years old ($M = 5.28$ years, $SD = 0.23$) at Time 2 (T2), and 10 years old ($M = 10.42$ years, $SD = 0.63$) at Time 3 (T3). Families were recruited from local and regional preschool centers and newspaper ads regarding both normative and hard-to-manage toddlers; others were referred by pediatricians and teachers (for more details, see Olson et al.). Children were recruited to represent the full range of externalizing symptom severity on the Child Behavior Checklist/2–3 (CBCL/2–3; Achenbach, 1992) with an oversampling of young children in the upper range of the Externalizing Problems scale who were expected to have greater risk for developing conduct problems.

Children were predominantly European American (86%), with smaller numbers identifying as African American (5%) or biracial (8%). Most mothers were married (89%), 3% were cohabiting, 5% were single (never married), and 3% were divorced. Nineteen percent of mothers and 24% of fathers had received high school educations; 46% of mothers and 34% of fathers had completed 4 years of college; 35% of mothers and 42% of fathers had continued their

education beyond college in graduate or professional training. The median annual family income was $52,000, ranging from $20,000 to more than $100,000. Parents were paid for participating in the study.

Procedure

Children were assessed at three time points over approximately seven years. At T1, all children in the study were about three years old. At T2, all children had made the transition to kindergarten and were about six years old. At T3, all children were attending grade school and were about 10 years old.

Home assessment. Families engaged in a home visit when the child was three years of age. Those who did not participate for various reasons were not significantly different from the rest of the sample in sociodemographic or child qualities. Home assessment was administered by a female social worker (i.e., examiner) and began with a parent interview followed by a series of activities. One of which was the specific parent-child dyadic task used in this study called the block design task. In this activity, mothers and children were asked to work together to complete three block designs that were provided in turn by the examiner. Task materials were borrowed from the Block Design subtest of the Wechsler Intelligence Scale for Children–Third Edition (WISC–III; Wechsler, 1991), a standardized intelligence test for children aged six to 16 years. The goal of this subtest is to copy small geometric designs using four or nine plastic cubes. For this study, we used three of the four block designs that increased in difficulty. The task was expected to tap the child's regulatory capacities because it had a clear goal above the child's cognitive ability level. Thus, it required the child's active control of attention and behavior to stay focused as well as parental support for successful completion. The plastic cubes were introduced to the child with an explanation that they each consisted of six sides, with two sides of the same color (i.e., red, white, and half red and half white). Parents and children were told

that each design could be made using only four blocks. The examiner demonstrated the first design as an example. Mothers were allowed to assist the child in any way they desired. There was no set time limit for, or the required completion of, a particular design or the task as a whole.

At three years of age, mother-child interactions in the block design task were videotaped and coded by a team of coders (three graduate and two undergraduate students in psychology) who were unaware of the study hypotheses and of each other's coded data. Coding included both molecular (i.e., coded every 30-second intervals) and global (i.e., coded after the completion of the entire task) variables.   Interrater reliability was established on 40% of the sample, and disagreements in coding were resolved by team consensus. Reliability was excellent (range α = .82 – .95).

Measures

Maternal warm responsiveness. Mothers completed the Parenting Dimensions Inventory (PDI; Power, 1993), a 47-item multidimensional measure of parental support, control, and structure. The PDI has been shown to have high levels of reliability, and numerous studies have supported its validity by showing significant concurrent and predictive correlations between PDI scales and behavioral and parent-report measures of similar parenting constructs (see Power). In the current study, we averaged standardized scale scores for two intercorrelated dimensions of support most theoretically related to maternal warmth (Eisenberg et al., 2005), nurturance and responsiveness, into the composite variable maternal warm responsiveness. Mothers rated their personal views or behaviors surrounding their parenting practices on a six-point scale (1 = not at all descriptive of me; 6 = highly descriptive of me) for items that constituted the nurturance (6 items such as, "I respect my child's opinion and encourage him/her to express it") and responsiveness (4 items such as, "I encourage my child to express his/her opinions") scales.

Maternal behavioral and emotional responsiveness. The two global codes of maternal responsiveness (i.e., behavioral responsiveness, emotional responsiveness; adapted from Matas, Arend, & Sroufe, 1978) were rated after the coders finished watching the entire block design task. Thus, they reflect how mothers responded to their child throughout the task in general. *Maternal behavioral responsiveness* was defined as the mother's ability to help the child master a cognitively challenging task in terms of behavioral cues, timing, and appropriate feedback. Maternal behavioral responsiveness was rated as one of four levels: 1 (*poor*) = mother failed to anticipate the child's need for help at all, followed their own agenda, and was very inflexible; 2 (*fair*) = mother responded to the child's needs but did not anticipate them, generally followed their own agenda, and was fairly inflexible; 3 (*good*) = mother responded well to the child's needs by providing mostly well-timed cues, was flexible for the most part, and adjusted their agenda as necessary; 4 (*excellent*) = mother provided clear, well-timed assistance that fostered the child's learning without compromising the child's autonomy (e.g., breaking the task down into smaller steps). Both mothers who were disengaged from the child and those who were overly intrusive received lower scores on behavioral responsiveness. *Maternal emotional responsiveness* was defined as the mother's ability to sensitively attend to the child's emotional needs while engaged in a difficult task that could elicit negative affect (e.g., frustration, boredom). This code was also rated on a four-point scale: 1 (*poor*) = mother was unresponsive to the child's feelings (e.g., disinterested, withdrawn, highly critical); 2 (*fair*) = mother was involved with the child but did not anticipate negativity or generate enthusiasm in the child; 3 (*good*) = mother was oriented toward the child most of the time and generally anticipated the child's frustration or loss of interest by labeling feelings, responding sympathetically, or offering encouragement to keep up the child's motivation; 4 (*excellent*) = mother created a positive

emotional context to facilitate task completion and proactively responded to early signs of frustration or loss of interest using various effective strategies.

Maternal motivational statements. Motivating comments are maternal statements that help maintain the child's motivation in persisting with the block design task or comments that keep the child interested and engaged in the task. Maternal motivating comments were coded as frequency counts calculated by dividing the number of motivating comments by the number of minutes that the mother-child dyad spent engaging in the block design task (e.g., "come on," "a couple more pieces," "you had it," "getting there," "you're close," "I think you figured it out," "we don't have too many more pieces left do we," "uh huh").

Maternal positive affect. Maternal positive affect was coded every 30 seconds while the mother-child dyad engaged in the block design task. Positive affect was coded independently of the content of the mother's verbalizations. This variable was rated on a three-point scale: 1 *(none)* = mother did not show any positive affect (e.g., smiles, laughs); 2 *(medium)* = mother showed mild positive fluctuations in voice tone and/or facial expression, 1-2 instances of high intensity neutral affect (e.g., mother shouts "OK" but without facial expression or inflection in the voice, mother is loud or intense with no change in facial expression), 1-2 instances of low intensity positive affect (e.g., mother gives a fleeting smile), and 1-2 instances of high intensity positive affect (e.g., laughing, giggling, hugging, clapping, large grin); 3 *(high)* = high intensity positive affect occurs in the context of consistent positive affect or 3 or more instances of high intensity positive affect.

Maternal praise statements. Praise statements are positive comments that the mother made about the child during the block design task. Maternal praise statements were coded as frequency counts calculated by dividing the number of praise statements by the number of minutes that the mother-child dyad spent engaging in the block design task. The praise

statements included positive statements about the child or the work the child had produced. They also included direct praise statements (e.g., "right," "correct," "good," "I think you're right," "you got it," "wow," "there you go," "good job," "yay," "excellent," "what a smart kid you are," "all right") and implied praise statements (e.g., "you surprised me" (with just how well you did), "you did the hardest part first," "that was pretty").

Child conscience. At ages three and six years, mothers completed a parent report questionnaire designed to assess multiple dimensions of early conscience development (My Child; Kochanska, DeVet, Goldman, Murray, & Putnam, 1994). The My Child Questionnaire consists of 100 items which parents rate from 1 = untrue, not at all characteristic, to 7 = extremely true, very characteristic, of their child. Maternal ratings on the My Child Questionnaire have been shown to be reliable and valid with children ranging in age from 21 to 70 months (Kochanska et al.). There are eight subscales: Empathy (13 items), Affective Discomfort after Wrongdoing (18 items), Concern over Good Feeling with Parent (8 items), Confession (7 items), Apology (6 items), Reparation (9 items), Internalized Conduct (20 items), and Concern about Other's Transgressions (7 items). Affirming Kochanska et al.'s report, these scales were found to have good internal consistency (mean α = .80; range α = .73 – .86). The Empathy scale was extracted for use in this study. Sample items included: will try to comfort or reassure another in distress, likely to offer toys or candy to a crying playmate even without parental suggestion, and will feel sorry for other people who are hurt, sick, or unhappy.

Child externalizing behavior. Mothers and fathers rated children's externalizing behavior at age 10 using the Child Behavior Checklist/6–18 (CBCL/6–18; Achenbach & Rescorla, 2001). The CBCL is a commonly used rating inventory that measures a child's behavioral and emotional problems based on parents' observations over the previous two months. The externalizing subscale of the CBCL (with subscales Aggressive Behavior and

Destructive Behavior) was used to measure child externalizing behavior. Teachers completed

the Teacher Report Form/6–18 (TRF/6–18; Achenbach & Rescorla) at age 10. Similar to the

CBCL/6–18, the TRF/6–18 has two broadband, factor-analytically derived dimensions of child

problem behavior, internalizing and externalizing. The Externalizing Problems scale used in this

study was defined by the aggressive behavior (e.g., argues a lot) and rule-breaking behavior (e.g.,

lying or cheating) subscales. The CBCL/6–18 and TRF/6–18 have been shown to have high test-

retest reliability and sound validity (Achenbach & Rescorla).

Results

Missing Data and Attrition

Missing data were more present for fathers' reports of externalizing behavior than

mothers' or teachers' reports. The percentage of missing data among maternal positive parenting

variables ranged from .05% to .07%. The percentage of missing data from maternal ratings of

child empathy was .14%. The percentage of missing data from maternal and teacher reports of

externalizing behavior ranged from .20% to .21% and was .62% for paternal reports of

externalizing behavior. Two hundred twelve mothers rated children's empathy at T2. One

hundred ninety-seven mothers rated children's externalizing behavior at T3. Ninety-four fathers

and 194 teachers rated children's externalizing behavior at T3.

Preliminary Analyses

Means and standard deviations for maternal positive parenting variables, maternal

empathy ratings, reports of children's externalizing behaviors, and covariates are presented in

Table 1. Next, Pearson correlations were used to determine the direction and strength of

associations between concurrent measures of maternal positive parenting at T1, mothers' ratings

of child empathy at T2, and mothers', fathers' and teachers' reports of children's externalizing

behavior at T3. As shown in Table 2, maternal behavioral responsiveness was positively

associated with maternal emotional responsiveness at T1. Maternal emotional responsiveness

was also positively associated with maternal positive affect at T1. In addition, maternal positive

affect at T1 was positively associated with maternal praise statements at T1. Next, maternal

warm responsiveness at T1 was positively associated with maternal ratings of empathy at T2 and

negatively associated with paternal reports of externalizing behavior at T3. Contrary to

expectation, maternal motivational statements at T1were positively associated with paternal

reports of externalizing behavior at T3. Finally, as expected, maternal ratings of empathy at T2

were negatively associated with mothers,' fathers,' and teachers' reports of externalizing

behavior at T3.

Maternal Parenting Construct

Before testing the hypothesis that children's empathy would mediate the effects of

maternal parenting on children's later externalizing behavior, a confirmatory factor analysis was

conducted to create a latent variable for maternal parenting at T1 and child externalizing

problems at T3 using Mplus 7.2. Multiple fit statistics are reported and interpreted as outlined by

Kline (2004): (a) Pearson χ^2 for which nonsignificant values signify good fit; (b) Comparative

Fit Index (CFI; Bentler, 1990) for which a value > .90 is considered a good fit; and (c) Root

Mean Square Error or Approximation (RMSEA; Steiger, 1990) for which a value of <= .08 is

considered acceptable and <= 0.5 is considered good. As shown in Figure 1, maternal parenting

as a latent construct was defined in a CFA model as including maternal warm responsiveness (*b*

= .17), maternal behavioral responsiveness (*b* = .45), maternal emotional responsiveness (*b* =

.87), maternal motivational statements (*b* = .08), maternal positive affect (*b* = .62), and maternal

praise statements (*b* = .33). All factor loadings were significant except maternal motivational

statements, and the parenting model had a good fit: $\chi^2(7) = 9.10$, *p* = .25, CFI = .99, RMSEA =

.04. Maternal motivational statements were excluded from the latent maternal parenting variable in subsequent analyses due to the non-significant factor loading.

Maternal Parenting, Child Empathy, and Later Externalizing Behavior

Next, structural equation modeling was used to examine associations between maternal parenting at T1, children's empathy at T2, and children's externalizing problems at T3 using Mplus 7.2. Child age at T1, child gender, maternal education, and family income were included as covariates. The model had a good fit: $\chi^2(85) = 500.33$, $p = .00$, CFI $= .97$, RMSEA $= .03$. As shown in Figure 2, T1 maternal parenting was positively associated with T2 child empathy ($b = .16$, $p = .05$). However, T1 maternal parenting did not significantly predict later child externalizing problems at T3 ($b = -.13$, $p = 0.16$). I then examined the association between T2 child empathy and T3 child externalizing problems. I found that T2 child empathy was negatively associated with T3 child externalizing problems ($b = -.19$, $p = 0.04$).

Child Empathy as a Mediator of Associations between Maternal Parenting and Later Externalizing Behavior

I also examined the indirect effect of child empathy linking maternal parenting and later externalizing problems. The mediating links between maternal parenting at T1 and children's externalizing problems at T3 could not be tested because the association was not significant.

Differential Associations between Specific Parenting Variables and Child Empathy

Because the association between T1 maternal parenting and T2 child empathy was marginal, I also examined whether specific maternal parenting factors at T1 were differentially associated with child empathy at T2. The model had a good fit: $\chi^2(20) = 19.42$, $p = .49$, CFI $= 1.00$, RMSEA $= .00$. As shown in Figure 3, after accounting for child gender, maternal education, and family income, only maternal warm responsiveness ($b = .17$, $p = .01$) and maternal positive affect ($b = .16$, $p = .05$) at T1 were associated with child empathy at T2.

Maternal behavioral responsiveness ($b = -.03$, $p = .77$), maternal emotional responsiveness ($b = -.02$, $p = .80$), and maternal praise statements ($b = -.02$, $p = .81$) were not significantly associated with child empathy at T2. Thus, the association between T1 maternal parenting and T2 child empathy was driven by early maternal warm responsiveness and positive affect.

Discussion

My primary goal was to examine whether maternal positive parenting in early childhood was associated with children's later empathy and externalizing behaviors. Parental talk about emotions has been associated with toddlers' prosocial behavior (Brownell et al., 2013), and the quality of mother-child relationships has been found to predict children's aggressive behaviors from preschool through the school-age years (Campbell et al., 2010). My aim was to determine whether positive parenting behaviors in early childhood were precursors of individual differences in empathy at early school-age and of aggressive and disruptive behavior in preadolescence.

Maternal Positive Parenting and Child Empathy

In previous work, investigators have identified multiple dimensions of parenting behavior that are associated with children's empathy and prosocial behavior. Parents who talk about others' emotions with their children rather than producing their own emotion labels are integral in the development of children's early prosociality (Brownell et al., 2013). Encouraging children to reason and reflect on others' emotions and the causes of their emotions has been implicated in children's empathic helping (Brownell et al.). In addition, parents' positive responsiveness to their children's needs and use of praise has been associated with relatively high levels of empathy in young children (Tong et al., 2012). One way to explain these associations is that children who frequently receive positive responses from their parent have an intensified emotional relationship with their parent that potentiates greater levels of empathy (Tong et al.).

In the current study, I incorporated a latent maternal parenting construct that included maternal emotional responsiveness (mothers' responsiveness and sensitivity to their children's emotions). In addition, the maternal praise measure accounted for positive feedback from the mother to the child in the context of a challenging block design task. My findings revelated that early maternal parenting was associated with relatively high levels of child empathy following the transition to school. Therefore, they confirmed my hypothesis that early warm and positive parenting between mothers and their three-year-old children would predict children's empathy three years later.

Maternal Positive Parenting and Child Externalizing Behavior

Second, I hypothesized that early maternal positive parenting would be negatively associated with children's externalizing problems in preadolescence. Sensitive and responsive caregiving is important for children's development of self-regulation (Bernier et al., 2010). For example, parental talk about children's mental states can build executive functioning skills, thereby giving children the tools that they need to broaden their self-regulatory abilities (Bernier et al.). Olson et al. (2000) found that caregiver relationships that lacked warmth and empathy were risk factors for early onset externalizing problems. However, my findings showed that early maternal parenting was not significantly associated with children's externalizing behavior at age 10 years, thereby disconfirming my hypothesis. There are several possible reasons why my findings did not reveal associations between early positive parenting and children's later externalizing behavior.

First, I did not consider the moderating effects of child gender in this study. In previous studies, low parental warmth and sensitivity has been found to predict persistent levels of early onset externalizing problems, but with mixed findings regarding the strength of these associations in boys and girls. For example, using an observational index of maternal warmth,

Campbell et al. (2010) found that low levels of maternal sensitivity in early childhood predicted high levels of physical aggression across the school-age years, but only for girls. Miner and Clarke-Stewart (2008) found that low levels of maternal sensitivity modestly predicted higher levels of externalizing problems for both sexes, but results were strongest for boys. Given these inconsistent findings, the extent to which child gender moderates pathways between early parental warmth and long-term patterns of externalizing problems remains an issue for further study.

Second, I did not consider constructs of early negative parenting. Parents' frequent use of harsh discipline toward their preschool-aged children has been linked to persistent aggressive behaviors throughout children's development (Olson et al., 2017; Campbell et al., 2010). In addition, children who experienced persistent harsh discipline had heightened levels of externalizing problems in preschool, despite previously showing only modest levels of these problem behaviors (Olson et al., 2017). Therefore, including parental harsh discipline as a parenting variable could have strengthened the link between early maternal parenting and children's later externalizing problems in my study.

Finally, child externalizing problems were measured using a heterogeneous index that included rule-breaking, emotion dysregulation, overt aggression, destructive behaviors, cruelty to others, and noncompliance/defiance to authority figures. It is conceivable that early sensitive parenting might be most strongly linked to narrower aspects of children's later externalizing behavior that reflect abnormally low levels of sensitivity to others, such as callous, manipulative behaviors (Frick, Ray, Thornton, & Kahn, 2014; Waller & Hyde, 2017).

Child Empathy and Externalizing Behavior

My third research question was whether children's empathy at age six years would be negatively associated with children's externalizing behavior at age 10. According to Singer and

Fehr (2005), since empathy allows for the sharing of feelings and emotions with other indiviudals, it drives other-oriented behavior and generally makes indiviudals less selfish which can protect against externalizing behaviors. In addition, the same brain circuits are activated when we feel pain and when we witness others feeling pain, so the other-regarding emotions that we feel drive us to behave in positive other-oriented manners. Litvack-Miller et al. (1997) studied school-aged children and found that empathic concern and perspective taking were the most significant predictors of prosocial behavior. Therefore, I predicted that children who showed greater amounts of empathy would display fewer externalizing problems in preadolescence. My hypothesis was supported: Six-year-old children with relatively high levels of empathy tended to show lower levels of externalizing behavior than others at age 10 years. In the current study, I examined externalizing behavior through a robust measure of mother, father, and teacher reports which included ratings from subscales of children's aggressive behavior, destructive behavior, and rule-breaking behavior. These problem behaviors stray from prosocial behaviors. In other words, children who more readily comfort others and show compassion toward others display fewer negative other-oriented behaviors such as physical aggression. As mentioned above, however, the associations between empathy and low levels of later externalizing behavior may have been even stronger if I had singled out narrower aspects of child externalizing behavior that reflect callous and manipulative behaviors toward others (Frick, et al., 2014; Waller & Hyde, 2017).

Specific Maternal Parenting Variables and Child Empathy

Finally, I questioned whether early maternal warm responsiveness would be more highly associated with children's later empathy than other aspects of positive parenting behavior. In this study, I created a latent maternal positive parenting construct by combining mothers' self-reports of warm responsiveness with direct observational measures of behavioral responsiveness,

emotional responsiveness, positive affect, and praise statements during a challenging parent-child interaction task. The construct of positive parenting is extremely heterogeneous and has been measured using diverse self-report and observational formats. My findings showed that observational and self-report measures of positive maternal parenting cohered into a single latent construct. However, it is possible that some components of positive parenting are more strongly associated with children's later empathy than others. Based on earlier research, I hypothesized that maternal warm responsiveness would be more strongly linked with children's levels of empathy than other measures. Zhou et al. (2002) also used a longitudinal design to examine how parental warmth related to children's empathic responding in second through fifth grades and again two or four years later. They proposed a parent-driven model in which warm and supportive parents expressed greater positive emotions which resulted in greater empathic responses in their children. My findings showed that early maternal warm responsiveness and maternal positive affect were most highly associated with later child empathy, therefore supporting the findings by Zhou et al. My findings are unique because they go beyond maternal warm responsiveness to also offer maternal positive affect as a highly influential factor for the development of children's empathy. However, the current study did not offer insight as to the direction of the association. One possible explanation is that parental warmth is related to a secure parent-child attachment which is known to encourage children's empathic responding (Hoffman, 1982; Staub, 1979). However, Tong et al. (2012) suggested an alternative hypothesis that children's empathic responding could be the catalyst for parental warmth.

My findings have implications for early childhood prevention programs that aim to optimize parenting practices in parents of young children. They indicate the importance of warmth, sensitivity, and praise with children as precursors of the development of empathy and as important protective factors for low levels of antisocial behavior.

Strengths and Limitations

This study had several strengths, the most important being the seven-year longitudinal design. An additional strength of this study is that children's later externalizing behavior was measured using three different informants who observed the child in different settings. Responses from mothers, fathers, and teachers provide several perspectives which may prevent rater bias (Kerr, Lunkenheimer, & Olson, 2007). Another strength is that maternal positive parenting was assessed using a broad range of measures that were derived from both self-report and direct observations of parent-child interactions.

My study also had multiple limitations. First, the majority of the children involved in this study came from intact, two-parent, middle-class families, thereby limiting the generalizability to children who have differing family backgrounds. Furthermore, the families who participated were from primarily European-American backgrounds which reflected the local populations. Thus, the findings from this study may have limited generalizability to children and families from diverse racial and ethnic backgrounds. Future studies should include diverse samples of families in order to improve the generalizability of these findings.

Another limitation of this study was the potential for maternal bias. Since mothers were the only reporters of their children's empathy, and one of the positive parenting variables also consisted of a maternal self-report, a large amount of the data was dominated by mothers' perspectives. Although I also included diverse measures derived from direct observation, this could have introduced potential bias into the associations between early parenting and later empathy. Furthermore, an alternative explanation could be that children who tend to be more empathic simply elicit greater levels of the positive parenting variables from their mothers. Future studies should include a wider array of measures, such as parenting and empathy

measures from fathers, and they should investigate possible bidirectional relationships between parental responsiveness and child empathy.

In future work, it also would be helpful to examine direct measures of how parents of young children teach them about emotion. Currently, our research team is in the midst of such a study (the Emotion Stories Project) which is designed to reveal information about the strategies mothers and fathers use to teach their preschoolers about the nature, causes, and outcomes of strong (primarily negative) emotional expressions in everyday life.

Finally, it would be helpful to include measures of later child internalizing as well as externalizing problems. There is a small body of literature that proposes a model in which empathic tendencies may actually be "risky strengths" that put children at risk for internalizing problems such as anxiety and depression through personal distress and interpersonal guilt (Tone & Tully, 2014). Future research should examine early parenting behaviors that may contribute to the apparent association between empathy and internalizing problems.

Conclusion

Multiple positive parenting behaviors present at age three predicted children's empathy at age six with maternal warm responsiveness and maternal positive affect being the driving factors. Individual differences in school-age children's empathy, in turn, predicted externalizing problems in preadolescence as reported by mothers, fathers, and teachers. By indicating the importance of positive parenting behaviors as promotive factors for children's prosocial development, my findings have compelling implications for future research on the prevention of antisocial behavior.

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Tables

Table 1

Means and standard deviations

Variables	*M*	*SD*
Child gender	.49	.50
Child age (months), T1	41.40	2.10
Maternal education	6.15	.85
Income level	9.34	3.02
Maternal warm responsiveness, T1	.01	1.71
Maternal behavioral responsiveness, T1	2.71	.84
Maternal emotional responsiveness, T1	2.79	.76
Maternal motivational statements, T1	.16	.21
Maternal positive affect, T1	1.59	.38
Maternal praise statements, T1	.98	.80
Maternal ratings of empathy, T2	5.46	.67
Maternal reports of externalizing behavior, T3	5.62	6.38
Paternal reports of externalizing behavior, T3	5.62	5.73
Teacher reports of externalizing behavior, T3	3.39	6.12

Note. T1 = Time 1, age 3; T2 = Time 2, age 6; T3 = Time 3, age 10.

Table 2

Correlations between covariates, parenting variables, empathy ratings, and child externalizing behavior

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Child gender	-													
2. Child age (months), T1	.049	-												
3. Maternal education	.004	-.052	-											
4. Income level	-.118	.054	.448**	-										
5. Maternal warm responsiveness, T1	.076	-.019	.085	.066	-									
6. Maternal behavioral responsiveness, T1	-.005	-.065	.128	.079	.139*	-								
7. Maternal emotional responsiveness, T1	.009	-.041	.114	.098	.157*	.574**	-							
8. Maternal motivational statements, T1	-.106	-.130	-.014	.101	-.009	-.052	.046	-						
9. Maternal positive affect, T1	-.007	-.094	.004	.103	.090	.251**	.535**	.101	-					
10. Maternal praise statements, T1	.001	-.008	.035	.017	-.005	.235**	.297**	.028	.360**	-				
11. Maternal ratings of empathy, T2	.321**	-.032	.084	-.038	.207**	.032	.061	-.097	.140*	.059	-			
12. Maternal reports of externalizing behavior, T3	-.143*	-.092	-.119	-.211**	-.072	-.115	-.074	.093	-.053	-.112	-.186*	-		
13. Paternal reports of externalizing behavior, T3	-.099	-.062	-.052	-.057	-.308**	.078	-.001	.205*	.008	-.099	-.404**	.773**	-	
14. Teacher reports of externalizing behavior, T3	-.228**	-.093	-.195**	-.141	-.124	-.147*	-.105	.081	-.169*	-.088	-.206**	.598**	.483**	-

Note. T1 = Time 1, age 3; T2 = Time 2, age 6; T3 = Time 3, age 10.
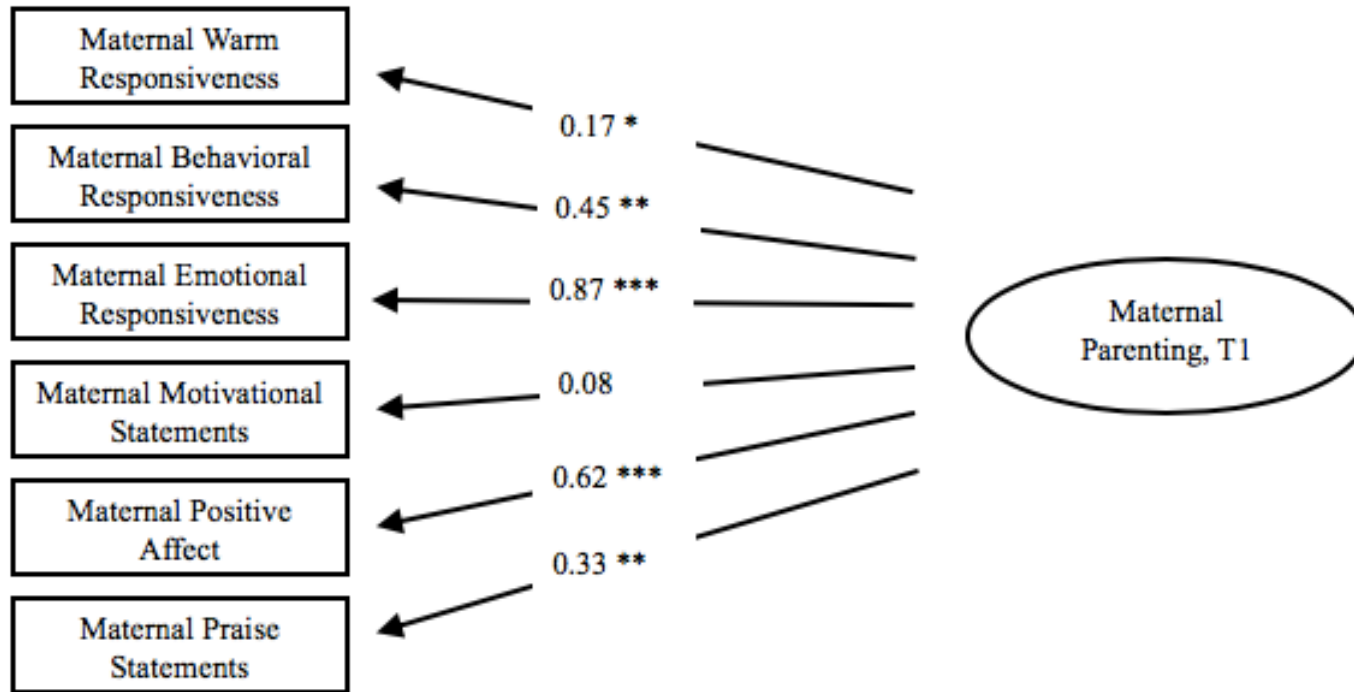* $p < .05$. ** $p < .01$.

Figures

Figure 1. Confirmatory factor analysis for latent maternal parenting variable at T1. Fit statistic: $\chi^2(7) = 9.10$, $p = .25$, CFI = .99, RMSEA = .04. Squares represent manifest variables and circles represent latent.
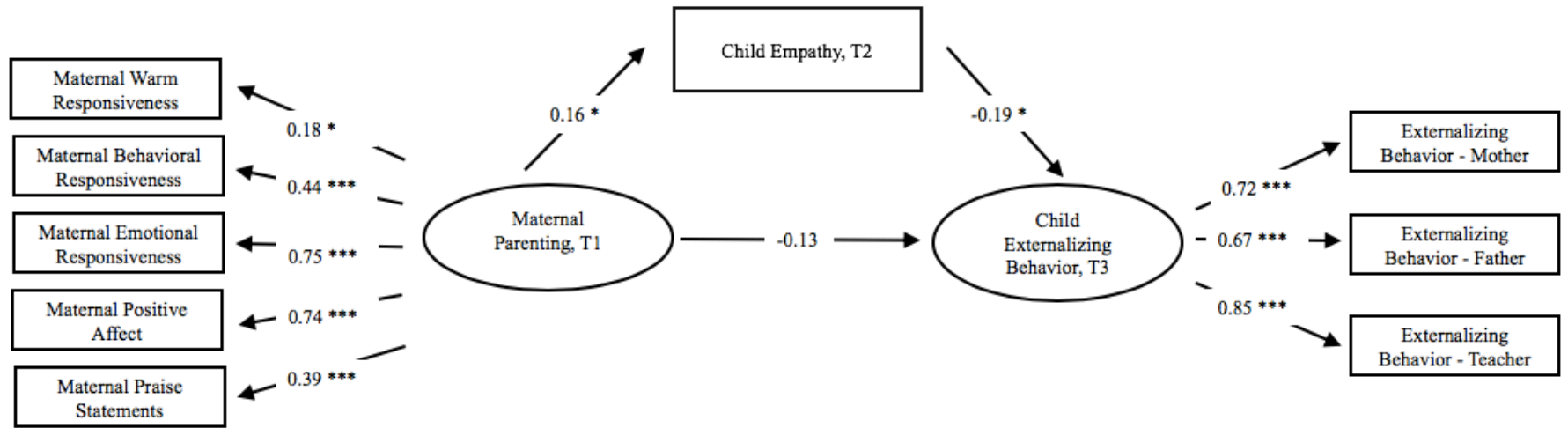* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 2. Associations between maternal parenting at T1, children's empathy at T2, and children's externalizing problems at T3. Fit statistic: $\chi^2(85) = 500.33$, $p = .00$, CFI = .97, RMSEA = .03. Squares represent manifest variables and circles represent latent.
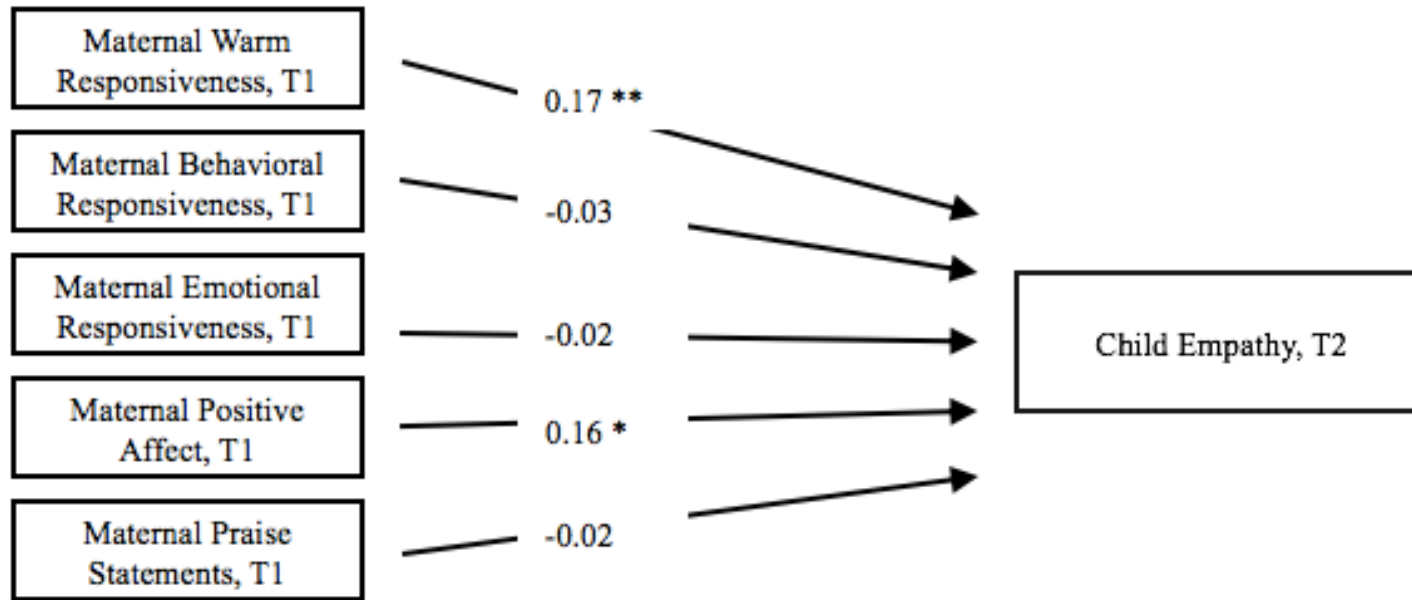* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 3. Differential associations between specific parenting variables at T1 and child empathy at T2. Fit statistic: $\chi^2(20) = 19.42$, p = .49, CFI = 1.00, RMSEA = .00. Squares represent manifest variables and circles represent latent.
* $p < .05$. ** $p < .01$. *** $p < .001$.