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Longitudinal Relations among Parental Emotional Expressivity and Sympathy and Prosocial Behavior in Adolescence

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Abstract

Concurrent and longitudinal relations among parental emotional expressivity, children's sympathy, and children's prosocial behavior were assessed with correlations and structural equation modeling when the children were 55 months to 97 months old (n = 214; M age = 73 months, SD = 9.59) and 8 years later (n = 130; ages 150 to 195 months old, M = 171 months, SD = 10.01). Parent emotional expressivity (positive and negative) and children's sympathy were stable across time and early parent-reported sympathy predicted adolescents' sympathy and prosocial behavior. Parents' positive expressivity was positively related to sympathy and prosocial behavior, but in adolescence, this was likely due primarily to consistency over time. Early observed parental negative expressivity was negatively related to adolescents' prosocial behavior. Reported negative expressivity in childhood was negatively related to boys' sympathy in childhood and positively related to girls' sympathy behavior in adolescence. The later relation remained significant when controlling for the stability of parental expressivity and sympathy, suggesting an emerging positive relation between the variables for girls.

Prosocial behavior and empathic reactions exhibit some stability from childhood into adolescence (e.g., Eisenberg et al., 1999); moreover, their development appears to be affected by (or at least related to) environmental influences such as parental socialization, including the socialization of emotion (see Eisenberg, Fabes, & Spinrad, 2006). However, the bulk of the research available on processes involved in the socialization of prosocial development, or on prosocial development more generally, has been conducted with children rather than adolescents (see Eisenberg et al., 2006). Thus, the three primary purposes of this study were: 1) to examine the stability of parents' emotional expressivity (negative and positive emotions) and children's sympathy and prosocial behavior from childhood into adolescence, 2) to examine the concurrent and longitudinal relations among parents' expressivity, children's sympathy, and children's prosocial behavior (we use the word "children" when we are referring to a either younger children or the participants during both childhood and adolescence), and 3) to test the moderating effects of children's gender on these relations.

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[2]In supplemental analyses, we examined if there might be inverse U-shaped quadratic relations (as at T1; Valiente et al., 2004) between parent-reported negative expressivity and adolescent sympathy and prosocial behavior. There were few significant quadratic relations when predicting T2 sympathy or prosocial behavior from T1 parent-reported negative expressivity and none indicated that a moderate level of parental negative expressivity was most highly related to prosocial behavior/sympathy. High levels of negative expressivity were particularly detrimental for boys when predicting T2 teacher-reported prosocial behavior and sympathy; for girls, the positive relation between T1 parental negative expressivity and T2 child-reported sympathy was strongly positive from low to average levels of sympathy and then the slope increased at a slower rate.

The predictions one makes about the pattern of relations between parental expressivity and prosocial characteristics as children move from childhood into adolescence vary depending on one's conceptual orientation—in particular, one's conceptual model regarding whether or not there are abrupt changes in parent-child relationships in early adolescence. A common view, especially in the past, has been that the quality of the parent-child relationship changes fairly abruptly in adolescence. This conceptual framework likely has roots in the notion that adolescence is a time of tumultuous change and stress (Hall, 1904) and in traditional psychoanalytic theory (see Collins & Laursen, 2004;Freud, 1955). Biological approaches that emphasize changes in parent-child relationships as a consequence of the biological changes in puberty (see Laursen, Coy, & Collins, 1998; e.g., Steinberg, 1987) are also consistent with this view. According to more contemporary versions of this approach, transition periods such as adolescence are turning points that provide opportunities for the emergence of new behaviors, the discontinuation of behaviors, the alteration of behaviors, or the repatterning of behaviors, all in response to the contextual demands - including changes in parent-child relationships - brought forth by the transition points (Graber & Brooks-Gunn, 1996).

In contrast, according to social relationships models that have flourished since the 1980s (Grotevant, 1998), there is considerable stability in the quality of parent-child relationships and, hence, in the quality of their interactions, even into adolescence (Collins & Laursen, 2004). Thus, one would expect consistency in the relation between indices reflecting the quality of parent-child relationships or parenting more generally, as well as some consistency in aspects of children's socioemotional development that are linked to parenting. Although the data are somewhat limited, findings from longitudinal research provide some support for this perspective (Collins & Laursen, 2004;Conger & Ge, 1999).

These contrasting theoretical approaches generate different hypotheses in regard to the degree to which one expects consistency in relations between parenting variables and children's socioemotional outcomes. If there is an abrupt change in the quality of parent-child relationships in adolescence, one might expect relatively little stability in parental expressivity in the family (especially in the presence of an adolescent) and that the pattern of relations between parental expression of emotion and adolescents' prosocial tendencies would not be accounted for by the analogous pattern of relations in childhood. In contrast, if there is considerable stability in the quality of parent-child interactions from childhood into adolescence, any association between parental expressivity and adolescents' prosocial tendencies might be accounted for by similar relations in childhood and stability of the constructs across time.

Prosocial Behavior and Sympathy

Prosocial behavior typically is defined as voluntary behavior intended to benefit another (Eisenberg et al., 2006). Some psychologists have suggested that prosocial behaviors (e.g., helping, sharing, comforting) often are motivated by emotion, especially empathy-related emotions (e.g., Batson, 1991;Eisenberg et al., 2006;Hoffman, 2000). Empathy has been defined as an affective response that stems from the apprehension or comprehension of another's emotional state or condition, and that is identical or very similar to what the other person is feeling or would be expected to feel (Eisenberg et al., 2006). Sympathy is thought to stem from empathy or cognitive processes (e.g., perspective taking, accessing relevant information from memory), but consists of feelings of sorrow or concern for the distressed other rather than experiencing the same emotion as the other person (although a person may first empathize and then experience sympathy).

Consistent with theory, there is empirical support for the relation of empathy-related reactions, especially sympathy, with prosocial behavior in childhood and adolescence (e.g., Eisenberg,

Miller, Shell, McNalley, & Shea, 1991;Krevans & Gibbs, 1996). However, there are few, if any, data on the relation of sympathy in early childhood to sympathy and prosocial behavior in adolescence.

The Socialization of Sympathy and Prosocial Behavior

Heredity has been linked to individual differences in empathy/sympathy and prosocial behaviors; nonetheless, behavioral genetics research indicates that environmental influences are also important (see Eisenberg et al., 2006; e.g., Zahn-Waxler et al., 2001). Although teachers and peers likely influence children's prosocial development (see Eisenberg et al., 2006), parents are believed to be primary socialization agents in its development. Parents probably affect prosocial development through a variety of mechanisms and processes, including their modeling, teaching, and emphasizing prosocial behaviors and values (McLellan & Youniss, 2003), their use of discipline that promotes learning (primarily induction; Hoffman, 2000;Krevans & Gibbs, 1996), and the quality of their relationships with their children (see Eisenberg et al., 2006).

Parental expression of emotion may also be one of the ways that parents contribute to children's prosocial development. Parental emotional expressivity generally is linked to the quality of the parent-adolescent relationships and adolescents' adjustment (e.g., Bronstein, Briones, Brooks, & Cowan, 1996;Cook, Kenny, & Goldstein, 1991;Flannery, Montemayor, Eberly, & Torquati, 1993), both of which tend to be correlated with children's prosocial development (Eisenberg et al., 2006). Moreover, parents, through their own expression of emotion, likely teach their children if and when it is acceptable to experience emotions and provide opportunities for learning about others' emotions (Eisenberg, Cumberland, & Spinrad, 1998;Halberstadt, Crisp, & Eaton, 1999). However, if parents express high levels of negative emotions—especially those that are assertive and/or hostile—children are likely to become overaroused by vicariously induced negative emotion, which is believed to contribute to personal distress reactions and, consequently, to low levels of other-oriented prosocial behavior (Eisenberg, Cumberland, & Spinrad, 1998;Eisenberg et al., 2006). High levels of negative emotional arousal likely also undermine children's learning and attention to others' needs in emotional contexts (Blair, Granger, & Razza, 2005;Hoffman, 2000). Moreover, because children who experience secure, warm relationships with their parents tend to be more sympathetic and prosocial (Eisenberg et al., 2006), parents who tend to express positive rather than harsh negative emotion in the family and with their children would be expected to foster prosocial development.

In fact, parental expressivity has been linked to children's sympathy and prosocial behavior, although the findings are not highly consistent. Parental positive emotional expressivity has been positively related to preschoolers' displays of prosocial behaviors towards their siblings (Garner, Jones, & Miner, 1994), peers (Denham & Grout, 1992;Iannotti, Cummings, Pierrehumbert, Milano, & Zahn-Waxler, 1992), and adults (Iannotti et al., 1992). However, parental positive expressivity sometimes has not been linked with children's sympathy (e.g., Denham & Grout, 1992;Eisenberg et al., 1992), or has been linked to young adults' sympathy for females but not males (Eisenberg, Fabes, Schaller, Carlo, & Miller, 1991). To our knowledge, there is little research on the relation between parental positive expressivity and adolescents' sympathy or prosocial behavior.

Findings in regard to parental negative expressivity are even more inconsistent. Some investigators have not found significant relations between mothers' reports of dominant negative affect or their own anger directed toward the child and children's observed prosocial behaviors (Garner & Estep, 2001;Garner et al., 1994). In contrast, Eisenberg et al. (1992) found that negative submissive emotions (i.e., sadness) expressed in the home were positively related

to elementary school girls' concerned facial reactions, whereas negative-dominant emotions (i.e., anger) were associated with personal distress reactions for girls and lower sympathy for boys. Similarly, high levels of familial or maternal dominant negative emotion (e.g., anger) have been linked to low levels of sympathetic concern for toddlers (Crockenberg, 1985) and Indonesian school children (Eisenberg, Liew, & Pidada, 2001). Preschoolers who were exposed to higher levels of maternal anger or sadness were less prosocial in the classroom, except for those children who responded prosocially towards their mother's anger (Denham & Grout, 1992;Denham, Renwick-DeBardi, & Hewes, 1994) or those that received rational explanations of their mothers' negative emotion (Denham & Grout, 1992). Consistent with the notion that relations between negative parental expressivity and children's sympathy are not always simple, Valiente et al. (2004) found that the relation between reported parental negative expressivity and children's reports of sympathy in response to an evocative videotape was quadratic (inverse U-shaped), with the association being strongest and positive for moderate levels of parental negative expressivity. Some exposure to negative emotion may sensitize children to others' negative feelings and, hence, foster emotional and behavioral responsiveness to others. Thus, it is somewhat unclear if there is a relation between parental negative expressivity and children's or adolescents' sympathy and prosocial behavior

Relations between parental expressivity and prosocial behavior or sympathy may change with age because early adolescence is associated with an increase in the intensity of parent-adolescent conflict (Laursen et al., 1998), less positive affect, and more negative affect between parent and child (Flannery et al., 1993;Larson & Lampman-Petraitis, 1989;Larson, Richards, Moneta, Holmbeck, & Duckett, 1996). If there is a relatively abrupt change in affect expressed toward, and in the presence of, adolescents, parental expressivity at an earlier age may not predict later developmental outcomes for adolescents. However, if, consistent with a social relationships model, there is some consistency in the quality of the parent-child relationship across childhood and adolescence, one might expect parental emotional expressivity in childhood to predict developmental outcomes in adolescence, even if the mean level of negative and positive emotion expressed changes in early adolescence.

Children's gender may also be a factor in the relation between parents' emotional expressivity and children's sympathy and prosocial behavior and may account for some inconsistencies found in the literature. Consistent with gender stereotypes, mothers may believe that girls are supposed to be more empathic and emotionally involved with others and, thus, may be more concerned that daughters, in comparison to sons, understand others' negative emotions. A number of researchers have found that parents, both mothers and fathers, discuss emotions, particularly negative emotions (besides anger), and use more varied emotion language with girls from a very early age (Adams, Kuebli, Boyle, & Fivush, 1995;Fivush, Brotman, Buckner, & Goodman, 2000). Discussion of emotion may contribute to attention to others' emotions and needs. In addition, parent-child conversations about emotions have also been found to be more interpersonally oriented for daughters than sons (Fivush et al., 2000). Larson et al. (1996) found that the proportion of family communication about interpersonal issues increased across adolescence for daughters but not sons, suggesting that gender differences in socialization about others' emotions and related issues may increase in adolescence. An interpersonal or other-orientation has been linked to several correlates of sympathy and prosocial behavior, including perspective-taking and moral reasoning (Blasi, 1980;Carlo, Allen, & Buhman, 1999); in addition, maternal clarification of negative emotional expressions has been found to predict girls' (but not boys') prosocial responding (Boyum & Parke, 1995). Thus, parental expression of emotion, which may often be associated with parental discussion of emotion and interpersonal issues, may relate differently to emotionality for boys and girls, especially by adolescence. Furthermore, because the expression of negative emotion (e.g., in conflict) between parents and adolescents generally is highest in mother-daughter dyads (Laursen & Collins, 1994;Steinberg & Silk, 2002), daughters' interpretations of what is normative and the

significance of parents' negative expressivity may differ from those of sons, which could affect relations of parental negative expressivity to developmental outcomes.

The Study

The primary goal of this study was to examine the stability of, and relations among, parental expression of emotion (i.e., expressivity) and adolescents' sympathetic and prosocial responding. Parental expressivity and children's sympathy were measured both at the initial assessment (when the children were aged 4.5 to turning 8 years) and 8 years later in adolescence (when the adolescents were aged 12 to 16). Children's prosocial behavior was measured only in adolescence.

In the initial assessment of this sample, parents' (mostly mothers') self-reported expressivity in the family was weakly positively related to children's self-reported situational and dispositional sympathy, whereas reported parental negative expressivity was not significantly linearly related, and some quadratic relations were obtained (Valiente et al., 2004). In addition, using slightly different measures of child-reported sympathy and observed negative expressivity (as well as a few more families), positive parental expressivity (aggregated across tasks) was positively related to girls' reported sympathy (but not empathy), whereas negative expressivity was negatively related to boys' reported sympathy (but not empathy; Spinrad et al., 1999). In the present study, we focused on dispositional measures of sympathy during childhood, and included parents' and teachers' reports of children's sympathy. We examined whether observed and reported parental expressivity in early childhood would predict children's sympathy and prosocial behavior concurrently, as well as eight years later in adolescence. It was hypothesized that parental negative expressivity would predict low levels of children's concurrent and future sympathy and prosocial behavior, whereas the reverse pattern of findings would be obtained for positive expressivity.

In addition, we examined whether both parental expressivity and sympathy exhibited correlational stability across time, and if there was prediction of prosocial behavior and sympathy in adolescence from earlier parental expressivity when controlling for the stability of sympathy and parent-reported expressivity over time. If not, the findings would indicate that any significant relation between parental expressivity and prosocial/sympathetic tendencies in adolescence was likely due to relations that were already established years earlier. Such a finding would support a social relationships view of adolescence, especially if relations of parental expressivity and sympathy were stable across time. Finally, because of the somewhat stronger relations between parental expressivity and sympathy in the literature for females (e.g., Eisenberg et al., 1992) and some gender differences in the socialization of emotion, we tested for sex differences in the strength of the aforementioned relations. We speculated that relations between parental expressivity and prosocial behavior or sympathy would be stronger for daughters than sons in adolescence.

Methods

Participants

The sample comes from an eight-year longitudinal study of socioemotional development (e.g., Eisenberg, Gershoff et al., 2001;Eisenberg et al., 2005). Participants were recruited at Time 1 (T1) through newspaper ads, letters sent to parents through schools, and flyers posted at local schools. To obtain a diverse sample from the families that expressed initial interest in participating, one parent, usually the mother, was administered the Child Behavior Checklist (CBCL; Achenbach, 1991) over the phone and children with borderline and clinical levels of problem behaviors were oversampled (although the range of scores on the CBCL was continuous; see Eisenberg, Gershoff et al., 2001;Valiente et al., 2004). The selection process

resulted in a sample of 214 children 4.5 years to 8 years old (55 to 97 months old) at Time 1 (T1; *N* = 96 girls, 118 boys, *M* age = 73 months, *SD* = 9.59). To maintain consistency, seven parents who participated were excluded from the T1 analyses because they were not the primary parent (as indicated by self-reports) and only primary parents provided data at the 8-year follow-up. Therefore, the total number of parents included in T1 analyses was 207 (203 mothers, 4 fathers). The majority of children were of white/non-Hispanic origin (74%); the rest were Hispanic (13%), American Indian (5%), African American (3%), of mixed origin (4%), and Asian (< 1%). Mean parental educational level was 14.11 years (some college) for mothers (*SD* = 2.49, range = 7 [did not receive 8th grade diploma] to 20 [3+ years of graduate school]) and 14.06 (some college) for fathers (*SD* = 3.05, range = 8 [completed 8th grade] to 20). Family income ranged from $6,000 to $160,000 (*M* = $40,000, *Mdn* = $35,000, *SD* = $24,000).

Approximately eight years after the initial data collection (labeled Time 2 in this paper, although it actually was Time 5), 125 parents, 122 adolescents, and 101 teachers participated in the follow-up study (there were some data for 130 adolescents; *N* = 61 girls, 69 boys; range = 150 to 195 months old; *M* = 171 months, *SD* = 10.01). Note that the variation in responses from different reporters resulted in variation in degrees of freedom in the analyses. No parents were excluded from Time 2 (T2) data analyses because the parent respondents were the primary parent (123 mothers, 2 grandmothers). Again, participants were primarily white/non-Hispanic (82%); most mothers (85%) and fathers (70%) had some college; and family income ranged from less than $20,000 to greater than $100,000 (*M* = $55,800, *Mdn* = $60,000 – $80,000). Families who participated at T2 had higher incomes than families who did not (*M*s = $30,000 – $44,999 and $15,000 – $29,999, respectively), $t(192) = -3.10$, $p < .01$, likely because fathers in families that participated at T2 were more educated (*M* = some college) than those who did not participate (*M* = high school diploma), $t(204) = -2.83$, $p < .01$. However, children in families that attrited and those that participated at T2 data did not differ on any T1 measures of sympathy or parenting so attrition likely did not affect the results substantially.

Procedures

At T1, the children and one parent, usually the mother (see Participants), came to a laboratory to participate in a variety of tasks. An experimenter of the same sex as the child led them through the tasks. Observed parental emotional expressivity was videotaped and coded during three segments: 1) a two-minute interaction period, 2) the hookup of physiological equipment to the child, and 3) the completion of a puzzle task. For T1, the parent usually completed questionnaires during the session, as did the child (with the experimenter). In addition, with parental permission, questionnaires were sent to the child's teacher. At T2, questionnaire data were collected from parents, teachers, and children, typically by mail (but occasionally by phone). Parents, teachers, and children were paid for their participation.

Measures

Parent Emotional Expressivity

Parental expressivity was assessed with parents' reports (at T1 and T2), as well as with observations at T1. Parents completed a shortened version of the Self Expressiveness in the Family Questionnaire at T1 and T2 (SEFQ; Halberstadt, Cassidy, Stifter, Parke, & Fox, 1995), a self-report measure of frequency of verbal and nonverbal expression of positive, negative-submissive, and negative-dominant emotion. We used 14 positive expressivity items (e.g., "Praising someone for good work," alphas = .86 and .87 at T1 and T2) and 10 negative dominant items (e.g., "Expressing anger at someone else's carelessness"; alphas = .80 and .78), all rated on a nine-point scale (1 = *rarely*; 9 = *frequently*). The original questionnaire included 20 positive items, but six items on the positive expressivity scale that were not

recommended by Halberstadt et al. (1995) for use in a shortened subscale were not included in the measure. The negative-dominant (but not Halberstadt's negative-submissive) subscale was used as an index of parents' self-reported negative emotional expressivity because previous studies utilizing this sample have only included negative-dominant expressivity (Eisenberg, Gershoff et al., 2001;Valiente et al., 2004), dominant negative expressivity is more aversive than submissive expressivity and expected to relate more strongly with low prosocial behavior and sympathy, and empirical findings in regard to relations with sympathetic tendencies are more consistent for the dominant than submissive negative expressivity subscale (see Eisenberg et al., 2006;Eisenberg et al., 1992).

Observational measures of expressivity were obtained from several videotaped tasks at T1. At the beginning of the session, the experimenter left the parent and child alone in the laboratory for a two-minute period, right before a slightly stressful procedure (so the child might be nervous). Then the experimenter returned and proceeded to hook the child up to physiological equipment while the parent remained in the room. The two-minute interaction and hookup segments were coded every 30 seconds using a 5-point scale (1 = *no positive affect*; 5 = *very frequent or intense positive affect*); mean positive affect scores were created by averaging scores for each epoch across each segment. The expressivity scores for the two-minute interaction and hookup segments were related, $r(200) = .35$, $p < .01$, and were averaged to create a positive expressivity composite (two-minute interaction/hookup). Interrater reliability (Pearson *r)* at T1 (based on 23% of participants) for the combined hookup and two-minute interaction was .81. Negative interaction (coded in an analogous manner) occurred very infrequently and was not included in the analysis.

Later in the session, the parent and child worked together to complete a mildly stressful five-minute puzzle task. The parent and child were seated opposite each other at a table with a wooden box that contained the puzzle. The side of the box that the parent faced was made of clear Plexiglass and the side the child faced was covered with a cloth with arm-holes for the child to insert his/her arms and manipulate the puzzle pieces. The parent was instructed to verbally, but not physically, assist the child in completing the puzzle. The puzzle task was coded in 30-second intervals for parents' positive (1 = *no positive affect*; 5 = *high positive affect majority of the time*) and negative (1 = *no negative affect*; 5 = *negative affect high in intensity and/or duration*) vocal, body, and facial emotional expressions. Interrater reliabilities (*r*s; based on 25% of the sample) at T1 were .83 and .74 for positive and negative expressivity.

Child and Adolescent Sympathy

Children's sympathy was assessed with parents' (T1 and T2), adolescents' (T2)[1], and teachers' (T2) reports. Adolescents completed five items from Eisenberg, Fabes, Schaller et al.'s (1991) sympathy scale (e.g., "I feel sorry for other people who don't have the things I have"; 1 = *really like you*; 3 = *not like you*; alphas at T1 and T2 = .76 and .86). Parents and teachers completed an eight-item scale (Eisenberg, Fabes, Murphy et al., 1996; e.g., "My child (this student) usually feels sympathy for others"); items were rated from 1 = *really false* to 4 = *really true*. Alphas for parents at T1 and T2 and teachers at T2 were .82, .86, and .86, respectively.

Adolescent Prosocial Behavior

Adolescents reported the frequency of their prosocial behaviors (1 = *never*; 5 = *very often*) on the 23-item Self-Report Altruism Scale (Rushton, Chrisjohn, & Fekken, 1981) at T2 only (e.g.,

[1]Children also completed this measure at T1 (see Valiente et al., 2004), but T1 child-reported sympathy was unrelated, or only marginally related, to parents' (T1 and T2) and teachers' (T2) reports of child sympathy. In addition, child self-reported sympathy would not load on the T1 sympathy construct in the structural equation models; thus, it was dropped from the analysis.

"I have given directions to a stranger," "I have helped a classmate who I did not know that well with a homework assignment when my knowledge was greater than his or hers"; alpha = .90). At T2, parents and teachers responded to Crick's (1996) 4-item measure of prosocial behavior (e.g., "This child (student) says supportive things to peers," "This child (student) is kind to peers"; rated 1 = *almost never true*; 5 = *almost always true*; alphas = .89 and .91, respectively).

Results

Preliminary Analyses

Table 1 contains the means and standard deviations for the T1 and T2 variables. Based on the criteria of Curran, West, and Finch (1996; i.e., variables with skewness > 2.0 and kurtosis > 7.0 should be transformed), none of the study variables was transformed.

A series of MANOVAs/ANOVAs (grouping by construct at both T1 and T2) was conducted to assess differences across sex and race/ethnicity in the major variables. Parents' reported that girls ($M = 3.29$) were more sympathetic than boys ($M = 3.04$) at T1, $F(1,203) = 12.80$, $p < .01$ ($\eta^2 = .06$). The multivariate F approached significance for T2 child sympathy and prosocial behavior, $F(6,84) = 2.04$, $p = .07$. Parents and teachers rated girls ($M = 3.28$ and 2.99) as more sympathetic than boys ($M = 3.02$ and 2.60), Fs(1,89) = 4.32 and 11.34, $p = .04$ and $p < .01$ ($\eta^2 = .05$ and .11). Girls ($M = 3.84$) were also considered more prosocial than boys ($M = 3.34$) by teachers at T2, $F(1,89) = 6.46$, $p < .01$ ($\eta^2 = .07$). There were no sex differences for parental expressivity or significant differences in regard to race/ethnicity.

Correlational Relations among the Study Variables

To examine relations among the study variables, correlations were computed, both within and across time. Because significant sex differences were found (differences were assessed using Fisher's r to Z transformation procedure) for a number of the variables, the significant differences are indicated in Tables 2, 3, and 4. Partial correlations controlling for sex, age, SES, children's social desirability (measured at T1 with 14 items from Crandall, Crandall, & Katkovsky, 1965; alpha = .64; see Valiente et al., 2004) and parent-reported internalizing/externalizing problem behaviors (CBCL scores; composite of primary parent and father reports [if father data was not available, primary parent was used alone]; T1 and T2 alphas = .91 and .94 [internalizing], .94 and .93 [externalizing]) were also calculated. Because the zero-order and partial correlations were very similar, only zero-order correlations are included in Tables 2 to 4. Findings in relation to the T2 adolescent data are emphasized below.

Consistency across reporter and stability and change of constructs across time —Within T2 (Table 3), and from T1 to T2 (Table 4), all reports of child and adolescent sympathy were significantly, positively related, as were all reports of adolescent prosocial behavior within T2 and from T1 child sympathy to T2 adolescent prosocial behavior. In addition, both positive and negative parent-reported expressivity were significantly related across time. Although the T1 observed measures of parental emotional expressivity (both positive and negative) were not related to T2 parent-reported emotional expressivity, the observed measures of parent positive expressivity were significantly correlated with analogous parents' reports within Time 1 for at least one sex, whereas observed and reported negative parental expressivity were only near significantly related at T1 (see Table 2).

Relations between parental positive and negative expressivity—At T1 only, parental positive and negative expressivity (reported and observed) generally were negatively related for boys, but not girls.

Concurrent relations between parental expressivity and child sympathy/prosocial behavior in middle childhood—At T1, parent-reported parental positive expressivity and one observed index were correlated with higher sympathy, albeit primarily for girls, whereas reported parental negative expressivity was negatively related to boys' sympathy (see Table 2).

Concurrent relations between parental expressivity and adolescent sympathy/prosocial behavior—At T2, parents' positive expressivity was positively related to both parent-reported adolescent sympathy and prosocial behavior and with boys' reported sympathy and prosocial behavior. Parents' negative expressivity was positively related to teacher-reported sympathy for girls only.

Prediction of adolescents' sympathy and prosocial behavior from parental expressivity during childhood—There also were some relations of T1 parental expressivity measures with T2 measures of adolescents' sympathetic and prosocial proclivities (see Table 4). For example, T1 parent-reported positive expressivity was positively related to adolescent-reported sympathy and prosocial behavior. Although not shown in the table, it is important to note that one of the measures of T1 observed parental positive expressivity (during two-minute interaction/hookup) was positively related to parent-reported adolescent prosocial behavior for girls and adolescent-reported sympathy for girls, rs (56 and 55) = .30 and .27, *p*s < .05, respectively. Unexpectedly, T1 parent-reported negative expressivity was fairly consistently positively related to females' T2 sympathy and prosocial behavior, especially for teachers' and adolescents' reports (for which the positive correlations for females differed significantly from the correlations for males, which tended to be negative in direction). In contrast, T1 observed parental negative expressivity with the child was negatively related to T2 adolescent prosocial behavior as reported by teachers.

Structural Equation Modeling

Longitudinal structural equation models were used to test the hypothesized relations between parent expressivity (positive or negative) and child sympathy and prosocial behavior. Mplus 3.1 was used to analyze the data because it allows for missing data by using a maximum likelihood estimation method with a missing at random assumption. As the results of our attrition analysis indicated that attrited families differed from families that continued to participate only in SES (income and father education levels) and not on any of the study variables, Mplus' missing at random assumption (but not the totally missing at random option) was most appropriate. The chi-square statistic (χ^2), comparative fit index (CFI), root mean square of approximation (RMSEA), and the standardized root mean squared residual (SRMR) were used to evaluate the model fit. CFIs above .90 (Kline, 1998), RMSEAs less than .08 (Browne & Cudeck, 1993), and SRMRs less than .10 (Kline, 1998) indicate an adequate fit for a model and were used as the criteria for evaluating model fit beyond the chi-square statistic, which is affected by sample size. In all models, the measurement error was estimated for the factors with single indicators using the calculation (1-alpha)*(variance). When specified by the modification indices, error terms were allowed to covary within reporter.

Confirmatory Factor Analyses (CFA): Measurement Models

Positive expressivity CFAs—To examine unidimensionality of the latent constructs in the models, CFAs were conducted for each time, separately for positive and negative models. Separate models were also computed for T2 prosocial behavior and for T2 sympathy; T2 sympathy and prosocial behavior were not included in the same model due to multicollinearity problems encountered in running the longitudinal models. The indicators included in the CFAs were those at T1 or T2 in the structural models (see Figures 1 and 2). In the T1 positive expressivity measurement model (including sympathy; there was no measure of prosocial

behavior at T1), all of the indicators loaded at least marginally significantly and the model fit the data well, χ^2 (1, N =207) = .97, p = .33, CFI = 1.00, RMSEA = .00 (90% CI = .00 to .18), SRMR = .02. The latent constructs of child sympathy and parent positive emotional expressivity were significantly related in the model (unstandardized estimate = .09, $p < .05$). Similarly, in the two T2 positive measurement models for prosocial behavior and sympathy, all loadings were significant and the models fit well: χ^2 (2, N = 130) = 2.21, p = .33, CFI = .99, RMSEA = .03 (90% CI = .00 to .18), SRMR = .03 for prosocial behavior and χ^2 (2, N = 130) = .94, p = .62, CFI = 1.00, RMSEA = .00 (90% CI = .00 to .14), SRMR = .02 for sympathy. The constructs of parent expressivity and adolescent prosocial behavior were not correlated, whereas the constructs of parent expressivity and adolescents' sympathy were significantly correlated in the model (unstandardized estimate = .11, $p < .05$).

Negative expressivity CFAs—At T1, parent-reported and observed negative expressivity were put on separate factors because they would not load on the same factor and obviously related quite differently to the T2 outcomes (see Table 2). Therefore, a measurement model was not warranted. For T2, separate measurement models were run for prosocial behavior or sympathy. The indicators in the resulting two-factor T2 model all loaded significantly and the model fit well, for both the prosocial behavior and sympathy models, χ^2 (2, N = 130) = 2.30 and 1.72, ps = .31 and .42, CFIs = .99 and 1.00, RMSEAs = .03 and .00, SRMRs = .03. The latent construct parent negative expressivity was not significantly related to either adolescent prosocial behavior or sympathy.

Longitudinal Structural Models

All of the presented models were run using the default Mplus estimator (maximum likelihood parameter estimates with conventional standard errors and chi-square statistic) and using the maximum likelihood parameter estimates with robust standard errors. The factor loadings and standard errors were very similar across estimation methods so the models using the robust estimator are not presented. Unstandardized and standardized (in parentheses) coefficients are presented in Figures 1 and 2; only the former are presented in Figure 3 due to limitations in space.

The positive models examining prediction across time—The positive model with T2 adolescent prosocial behavior (Figure 1) fit well, χ^2 = 21.63 (16, N = 210), p = .16, CFI = .96, RMSEA = .04 (90% CI = .00 to .08), SRMR = .05, as did the model including T2 sympathy, χ^2 = 27.22 (15, N = 210), p = .03, CFI = .92, RMSEA = .06 (90% CI = .02 to .10), SRMR = .06. As indicated by the modification indices, the errors between the T1 observed tasks were allowed to covary. In both models, all of the indicators loaded at least marginally onto their respective factors and all autoregressive paths (paths across time for the same indicator) were significant. Parental positive expressivity and children's sympathy were significantly positively related at T1 in both models. Thus, in both models, although there were positive relations among parent positive expressivity and children's sympathy at T1, prediction of T2 adolescent prosocial behavior or sympathy was only from T1 sympathy (despite the relations between the latent constructs of sympathy and parental positive expressivity at T2 in the CFA).

The negative structural models examining prediction across time—The model including parental negative expressivity and prosocial behavior fit the data well (without correlating factor errors), χ^2 = 10.80 (8, N = 210), p = .21, CFI = .98, RMSEA = .04 (90% CI = .00 to .10), SRMR = .04 (see Figure 2), as did the model including sympathy instead of prosocial behavior, χ^2 = 13.28 (8, N = 210), p = .10, CFI = .96, RMSEA = .06 (90% CI = .00 to .11), SRMR = .04 (Figure 2; coefficients are in brackets). In both models, all of the indicators loaded significantly and the autoregressive paths were significant. In the prosocial model, the path from T1 observed negative emotional expressivity to T2 adolescent prosocial behavior

was negative and significant. A number of other paths and correlations among constructs were near significant (see Figure 2).[3]

Multiple group models testing moderation—Box's M tests indicated that there was not moderation by age for either the positive or negative models, but that there might be moderation by SES and sex for the negative models (with T2 adolescent prosocial behavior and T2 sympathy; *p*s < .10). In order to test for moderation in the negative models, a sequence of models was run to test the differences in model fit ($\Delta\chi^2$). First, a model was run fixing all of the factor loadings and paths to be equal across groups (high vs. low SES and sex). This model was used as the basis for comparison with models in which the factor loadings or paths were allowed to vary across groups. If either model was at last marginally significantly different than the first model, indicating a group difference, the paths were then released one at a time and the model fit examined to determine if releasing a path resulted in a significant change in chi-square. Chi-square difference tests indicated that moderation by SES was not present in the models, but there were differences across sex.

In the multi-group models, the chi-square difference tests for the negative model that included T2 prosocial behavior indicated differences between boys and girls for the paths, $\Delta\chi^2$ (10) = 17.27, $p < .10$, but not the loadings. Subsequent chi-square difference tests showed that one path was significantly different across boys and girls ($\Delta\chi^2$ (1) = 4.80, $p < .05$). The resulting moderated model fit the data well (see Figure 3), χ^2 = 31.61 (27, N = 210), p = .25, CFI = .96, RMSEA = .04 (90% CI = .00 to .09), SRMR = .09. All of the indicators loaded significantly onto their respective factors. Within T1, parent-reported negative expressivity was significantly negatively related to T1 sympathy for boys, but was not significant for girls. No other paths were moderated, and the significant negative relation between observed parental negative expressivity and adolescents' prosocial behavior was still evident.

When examining moderation for the alternative negative model (with T2 adolescent sympathy), the baseline model in which the loadings and paths were held equal across groups was marginally different (fit less well) than the model in which the paths were allowed to vary across groups, $\Delta\chi^2$ (12) = 18.70, $p < .10$. The error term for T2 parent-reported sympathy was allowed to covary with both T1 parent-reported sympathy and T2 parent-reported negative expressivity per the modification indices (these were fixed to be equal across groups in the subsequent models). Chi-square tests indicated that two paths were moderated: T1 parent expressivity to T2 child sympathy, $\Delta\chi^2(1)= 4.03$, $p < .05$, and the correlation between T1 parent expressivity and T1 child sympathy, $\Delta\chi^2(1) = 4.14$, $p < .05$. The moderated model fit well, χ^2 = 31.04 (24, N = 210), p = .15, CFI = .94, RMSEA = .05 (90% CI = .00 to .10), SRMR = .09, and all of the indicators loaded on their respective factors (see Figure 3). In the moderated model, the relation between T1 parent-reported expressivity and T2 sympathy was positive and significant for girls, but negative and nonsignificant, for boys. In addition, as in the model with prosocial behavior, the correlation between parents' reported negative expressivity and children's sympathy at T1 was negative for boys, but nonsignificant for girls.

Discussion

Dix (1991) suggested that parents' emotional expressivity is perhaps the best barometer of the effectiveness and functionality of the parent-child relationship. Parents' emotions not only reflect the quality of the parent-child relationship, but also teach children about the experience

[3]When the positive parental expressivity model was recomputed using only subjects with no missing data (*n*s = 86–90), the only substantial change was that observed positive parental expressivity on the two-minute hookup no longer loaded marginally significantly on the positive expressivity factor. In the negative models, the marginally significant correlations between latent constructs at T1 became nonsignificant (recall the *n* dropped in half) and the near significant path from T1 reported parental expressivity to T2 sympathy became significant. We did not recompute the multi-group models with the smaller sample because of the sample size.

and expression of emotion and predict positive and negative developmental outcomes. In this study, we examined the stability parent positive and negative expressivity and concurrent and prospective relations with adolescents' sympathy/prosocial behavior.

As predicted, both T1 parent positive and negative emotional expressivity were positively related to analogous T2 parent emotional expressivity, suggesting that parenting practices are consistent from the time children are fairly young into early adolescence. Children's sympathy was also stable across time. The findings of stability are important in this study because the hypothesized relations between parent expressivity and sympathy or prosocial behavior sometimes were found concurrently but not across time, likely due to the stability of the constructs (and their interrelations) across time (consistent with a social relationships model).

In interpreting the patterns of relations between parental expressivity and children's prosocial behavior or sympathy, it is important to consider the following: (a) if there were relations between parental expressivity and the prosocial constructs at T1 and/or T2 when looking only at the concurrent relations (in the correlations and in correlations between the latent constructs), (b) if T1 parenting variables predicted T2 prosocial behavior or sympathy in the correlations, (c) if relations between parental expressivity and sympathy/prosocial behavior at T2 disappeared then controlling for stability of the variables in the longitudinal SEM analyses, and (d) if there were significant paths from T1 parenting to T2 sympathy (or vice versa) when controlling for stability of the variables across time. Because prosocial behavior was assessed only at T2 whereas observed negative expressivity was assessed only at T1, controlling for stability across time was not possible for these two variables. Findings were different for parent positive expressivity, parent observed negative expressivity, and parent-reported negative expressivity; thus, we examine findings for each separately.

It was hypothesized that parents' positive emotional expressivity would be associated with higher levels of sympathy and prosocial behavior in childhood and adolescence. Consistent with some previous findings (e.g., Denham & Grout, 1992;Garner et al., 1994), at both T1 and T2, there were some within-time correlations between parents' positive expressivity and both sympathy and prosocial behavior. In the models, parents' positive expressivity was significantly related to children's sympathy at T1; moreover, the latent constructs for parents' positive expressivity and sympathy (but not prosocial behavior) were significantly correlated in the T2 CFA. However, when stability of the two constructs was taken into account in the longitudinal SEM model, parents' positive expressivity was no longer related to sympathy at T2, although the relation was suggested in the correlations. Thus, the data suggest that the relation between parental positive expressivity and sympathetic tendencies was established by early elementary school and that this early relation likely accounted for the positive association between these constructs observed in adolescence. These findings are consistent with social relationships models that predict stability and consistency in parenting, the parent-child relationship, and hence in children's developmental outcomes that are related to parenting. In contrast, although there were some correlations between parents' positive expressivity and adolescents' prosocial behavior, they were not robust enough to be observed in adolescence in the SEM model. Because sympathy by definition involves a concerned emotional reaction toward another whereas prosocial behavior often is performed for nonsympathetic, nonemotional reasons, parental positive expressivity may be more closely associated with sympathy than prosocial behavior.

The findings regarding the relations between negative expressivity and sympathy or prosocial behavior were more complex and differed across time for observed and reported parent negative expressivity, and sometimes by sex. Consider observed parental negative expressivity, which was assessed only at T1. Within the T1 models, the negative relation between observed negative parental expressivity with sympathy did not attain significance. There were some

negative correlations between T1 observed parental negative emotionality and T2 prosocial behavior (but not sympathy), and in the longitudinal model, the path between the two was significant and negative. Thus, observed parental negative expressivity in childhood predicted low prosocial behavior in adolescence. Because observed negative expressivity was assessed only at T1, we could not examine whether parents' observed negative expressivity in interactions with adolescents would also predict adolescents' prosocial behavior. Nonetheless, the across-time findings suggest that early parental negativity in interactions with children may affect their child's prosocial tendencies years later (although perhaps only through the stability of this relation). This finding is consistent with other literature indicating that parental negative expressivity when interacting with school-aged children is linked to low social competence (e.g., Eisenberg, Gershoff, et al., 2001), sympathy, and prosocial behavior (see Eisenberg et al., 2006).

The findings for parent-reported negative expressivity were unexpected, but are perhaps the most intriguing. Parents' reported negative expressivity was *negatively* related to boys' (but not girls') sympathy at T1 (Figure 3). In contrast, at T2 parental negative expressivity sometimes was *positively* correlated with sympathy for girls. In addition, there was a fairly consistent pattern of positive correlations between T1 parent-reported negative expressivity and girls' (but not boys') sympathy (and sometimes prosocial behavior) in adolescence, a pattern that was reflected in the significant path for girls between the latent constructs of T1 parent-reported negative expressivity and sympathy at T2 when the stability of the construct was taken into account in the longitudinal model. Thus, parents' reported negative expressivity in the family was negatively related to boys' sympathy in childhood, but was unrelated to boys' sympathy or prosocial behavior in adolescence. In contrast, parents' reported negative expressivity was not related to daughters' sympathy in childhood, but the relation of parents' negative expressivity to sympathy (and to a lesser degree, prosocial behavior) became somewhat positive by adolescence. In brief, based on the correlations and the models, it appears that parents who reported expressing relatively high levels of negative emotion in the home, in adolescence and especially in childhood, had daughters who were relatively sympathetic as adolescents, and that this relation between parental expressivity and daughters' sympathetic tendencies changed over time. Perhaps, with maturity, girls are less disturbed by their parent's expression of negative emotion and better able to learn from observing others' negative emotions.

The fact the parent-reported dominant negative expressivity is usually related to low levels of sympathy and other negative outcomes in childhood (e.g., Eisenberg et al., 1992;Halberstadt et al., 1999) but was positively related to prosocial outcomes for adolescent girls suggests that relations between parental negative expressivity and developmental outcomes may change rather markedly with age for females. Nonetheless, a few other researchers have found positive relations between negative expressivity and child outcomes. Cassidy and Parke (as cited in Parke, Cassidy, Burks, Carson, & Boyum, 1992) found that maternal and paternal positive, negative, and total expressivity were positively related to prosocial behavior; this relation was positive for boys and girls. In addition, although findings regarding the relation between parents' expressivity in the family and children's expressivity are mixed in childhood, by early adulthood, there is evidence that high parental negative expressivity is associated with young adults' tendency to experience negative emotion (Halberstadt et al., 1999). Exposure to some negative emotion in the home may, over time, foster offspring's awareness of, and attention to, others' negative emotions. In this study, such parental negative emotion predicted later prosocial behavior and sympathy only for females, perhaps due to their greater ability to self-regulation and, hence, not be overwhelmed by negative emotion (e.g., in mid-elementary school in this sample; Eisenberg et al., 2005).

The positive relation between parent-reported negative expressivity and daughters' but not sons' prosocial and sympathetic tendencies in adolescence suggests that this type of parental expressivity had a different meaning for daughters and sons. Of interest, at T1 and when predicting from T1 to T2, parents' reported positive expressivity was significantly negatively correlated with parents' reported negative expressivity for sons, but nonsignificantly positively correlated for daughters (and this sex difference was significant); the two types of expressivity were unrelated for both sexes in adolescence. Because parents' reported negative expressivity with daughters was not coupled with low positive expressivity in childhood (as it was for boys), girls may have been more receptive to attending to, sharing, or trying to understand parents' negative emotions. This may be especially true if parental negative expressivity is not excessively high, which seems to be the case in this study (based on the means). Parents, especially mothers, who express negative emotions with their daughters may also tend to communicate about negative emotions, which, if done in a constructive manner, would be expected to foster prosocial tendencies (see Eisenberg et al., in press; Gottman, Katz, & Hooven, 1996).

It is likely that the observed and reported measures of parental negative expressivity tapped different aspects of negative emotionality, especially for girls. The parent-reported measure assesses the general emotional climate in the home, not necessarily emotion directed at the child. Witnessing negative emotions in the home, and perhaps effective ways to deal with negative emotions that are not directed at the child, may be beneficial for the development of emotion understanding and sympathy, especially if accompanied by explanations or other forms of teaching (see below). If the emotions are not directed at the child, the child is relatively unlikely to become over-aroused and experience distress in the situation, and more likely to process relevant information. In contrast, the observed measure of parental negative expressivity reflected emotion observed in the parent-child interaction and likely included frustration with, and disapproval of, the child. Exposure to hostile negative emotion directed at the child may cause overarousal, a self-focus, and failure to process information about others' emotions and needs in evocative contexts.

Strengths of the present study include the use of a longitudinal sample and structural equation modeling; with this approach, relations across time, even when taking into account the consistency of constructs, could be examined. Although one cannot prove causality with longitudinal modeling, such an approach provides more information in regard to inferring causal relations. Another strength was the use of multiple informants and observed parent-child interactions. Limitations include the significant degree of attrition in the sample over the eight years (especially for lower SES families) and the fact that observed parental expressivity was measured only at T1 whereas prosocial behavior was assessed only at T2. Another limitation is that reports of some constructs may have partly reflected the desire to appear in a socially desirable manner. Multiple reporters (including a third-party, non-partisan reporter) were obtained for some constructs to reduce this problem, but it may have affected some results. Moreover, caution is warranted when generalizing the findings to other populations because the participants were primarily Caucasian and working and middle-class.

Despite these limitations, several important findings on the socialization of emotion and its relation to prosocial tendencies emerged from this longitudinal study that spanned 8 years. First, parents' expression of positive emotion relates to children's sympathy in childhood and adolescence, and this relation in adolescence appears to be accounted for by the stability of the positive association between these constructs observed in childhood. Second, observed parental negative emotion directed toward a child in the early school years is related to low prosocial behavior in adolescence for girls; this finding extends similar findings obtained in childhood or concurrently in adolescence. Finally, although parents' reports of expressing negative dominant emotion in the family were negatively related to sympathy in childhood for

sons, they predicted somewhat higher levels of sympathy and prosocial behavior for daughters in adolescence, perhaps due to such parental expressivity being associated with other socialization practices that heighten girls' awareness of others' emotions and needs. Thus, our results suggest that early parental expressivity is associated with adolescents' prosocial tendencies, but the association depends on the sex of the child and valence of the emotion, as well as the context in which negative emotion is expressed.

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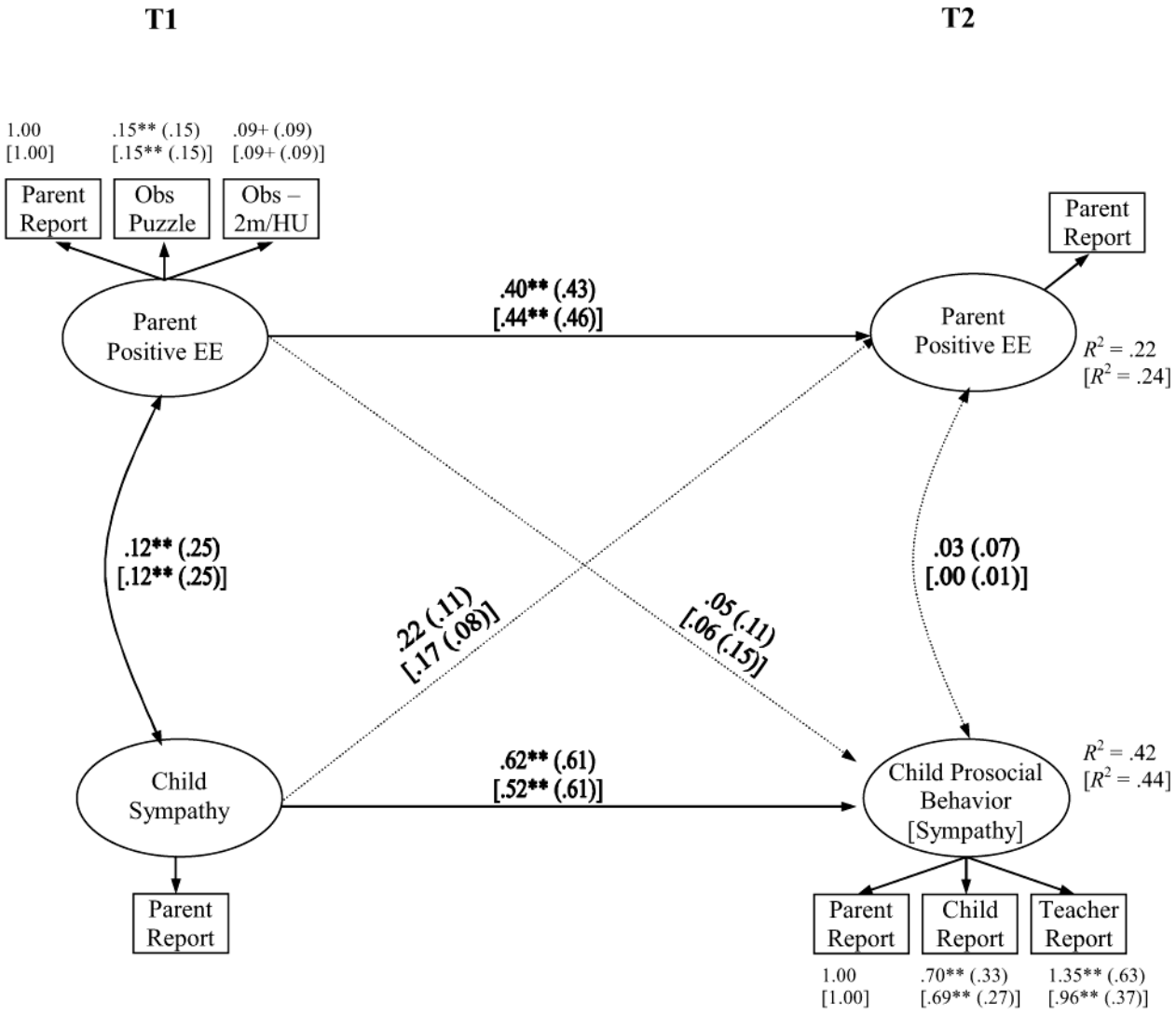

Figure 1.

Positive Model with T2 Adolescent Prosocial Behavior [Alternative Positive Model with T2 Adolescent Sympathy below in brackets]. Solid lines represent significant paths and dotted lines represent nonsignificant paths. Unstandardized coefficients are not in parentheses; standardized coefficients are in parentheses.

$^{+}p < .10$, $*p < .05$, $**p < .01$. Model with T2 Adolescent Prosocial Behavior: $\chi^2 = 21.63$ (16, $N = 210$), $p = .16$, CFI = .95, RMSEA = .04 (90% CI = .00 to .08), SRMR = .05. Model with T2 Adolescent Sympathy: $\chi^2 = 27.22$ (15, $N = 210$), $p = .03$, CFI = .92, RMSEA = .06 (90% CI = .02 to .10), SRMR = .06.

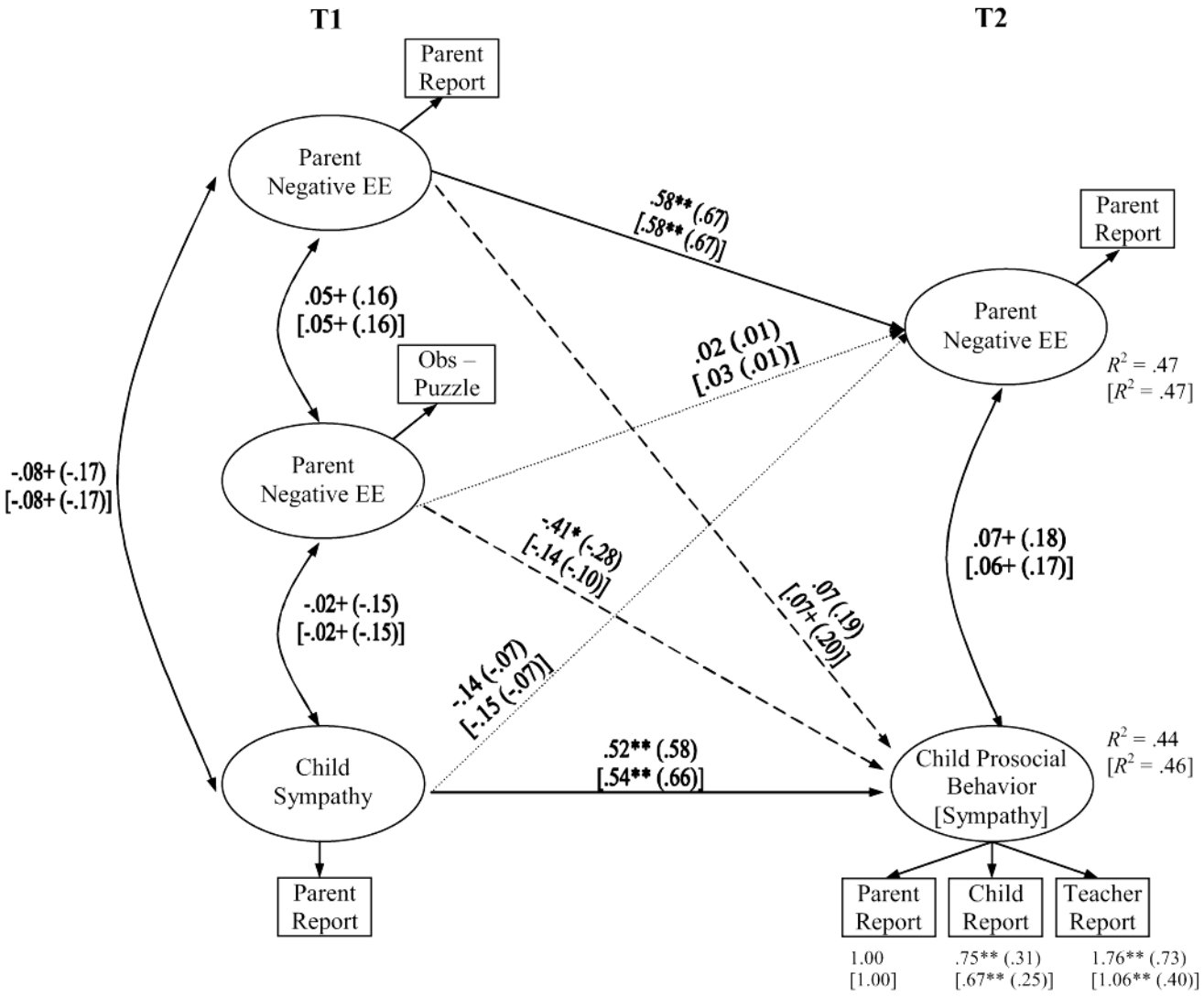

Figure 2.

Negative Model with T2 Adolescent Prosocial Behavior [Alternative Negative Model with T2 Adolescent Sympathy below in brackets]. Solid lines represent significant paths, dotted lines represent nonsignificant paths, and dashed lines represent significant paths for either prosocial behavior or sympathy. Unstandardized coefficients are not in parentheses; standardized coefficients are in parentheses.

$^{+}p < .10$, $*p < .05$, $**p < .01$. Model with T2 Adolescent Prosocial Behavior: $\chi^2 = 10.80$ (8, $N = 210$), $p = .21$, CFI = .98, RMSEA = .04 (90% CI = .00 to .10), SRMR = .04. Model with T2 Adolescent Sympathy: $\chi^2 = 13.28$ (8, $N = 210$), $p = .10$, CFI = .96, RMSEA = .06 (90% CI = .00 to .11), SRMR = .04.

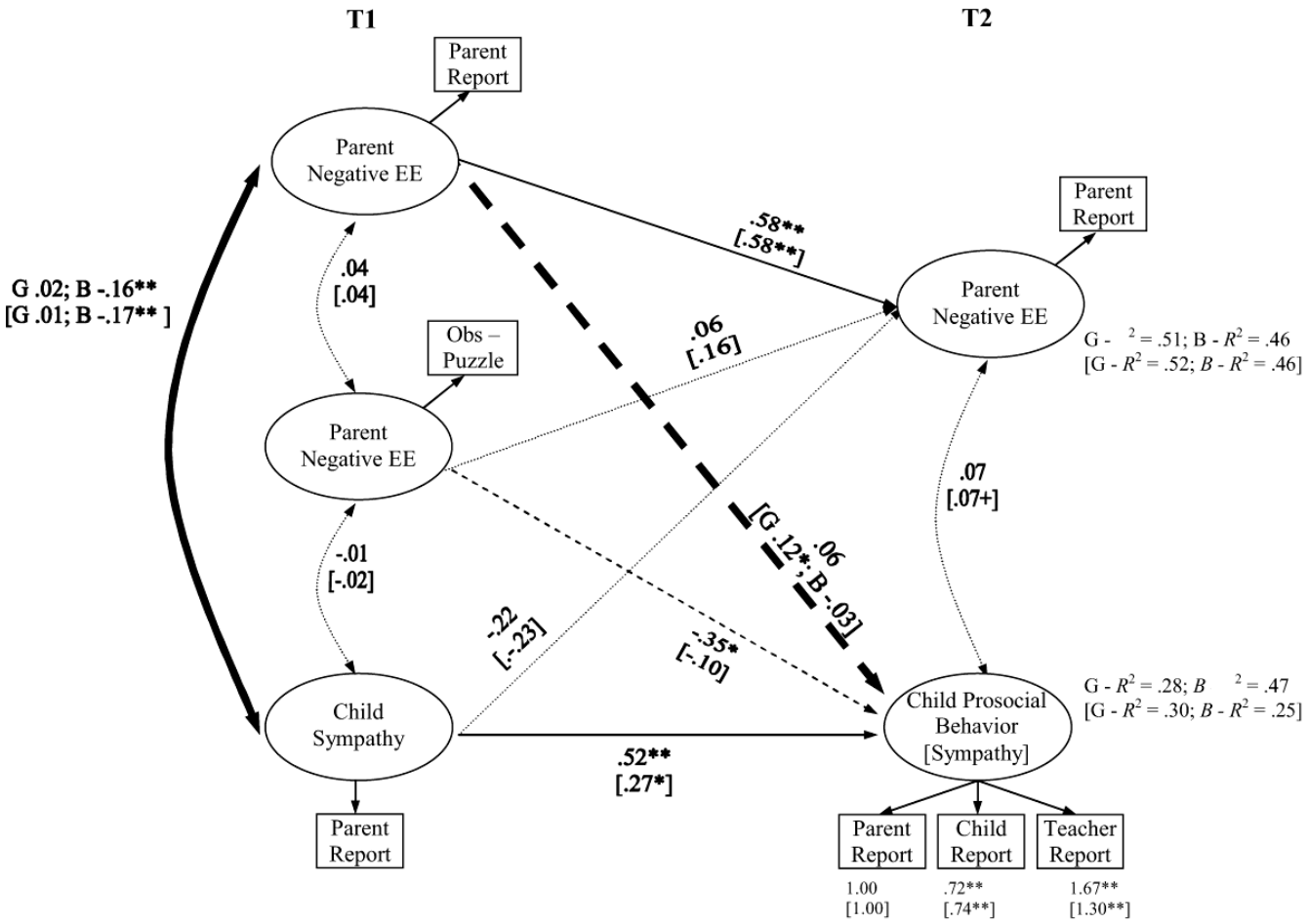

Figure 3.

Negative Model with T2 Adolescent Prosocial Behavior Testing Moderation by Sex [Alternative Negative Model with T2 Adolescent Sympathy below in brackets]. Bold lines represent moderated paths, solid lines represent significant paths, dotted lines represent nonsignificant paths, and dashed lines represent significant paths for either prosocial behavior or sympathy. Unstandardized coefficients are presented for all paths.

$^{+}p < .10$, $*p < .05$, $**p < .01$. Model 3 with Adolescent Prosocial Behavior: $\chi^2 = 31.61$ (27, $N = 210$), $p = .25$, CFI = .96, RMSEA = .04 (90% CI = .00 to .09), SRMR = .09. Model 3 with Adolescent Sympathy: $\chi^2 = 31.04$ (24, $N = 210$), $p = .15$, CFI = .94, RMSEA = .05 (90% CI = .00 to .10), SRMR = .09.

Table 1

Means and Standard Deviations of the Study Variables

Variables	Sample		Boys		Girls	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Parent Report and Observed						
T1 Positive Expressivity	7.28	.99	7.19	1.04	7.39	.92
Negative Expressivity	3.97	1.23	3.98	1.22	3.96	1.24
Observed Positive THK[a]	2.96	.70	3.00	.67	2.92	.73
Observed Positive Puzzle	1.68	.64	1.68	.68	1.69	.58
Observed Negative Puzzle	1.21	.31	1.23	.35	1.18	.25
Child Sympathy	3.15	.51	3.04	.53	3.29[b]	.44
T2 Positive Expressivity	7.15	.99	7.30	.83	6.99	1.13
Negative Expressivity	4.16	1.08	4.13	1.09	4.19	1.08
Child Sympathy	3.15	.58	3.03	.59	3.29[c]	.54
Child Prosocial Behavior	4.05	.76	3.95	.78	4.15	.72
Teacher Report						
T2 Child Sympathy	2.76	.57	2.59	.59	2.97[b]	.46
Child Prosocial Behavior	3.51	.99	3.27	.97	3.80[c]	.93
Child Report						
T2 Child Sympathy	2.41	.51	2.30	.52	2.54	.46
Child Prosocial Behavior	2.58	.62	2.48	.57	2.69	.66

[a] THK = combined two-minute interaction and hookup procedure.

[b] Girls were significantly higher than boys, $p < .01$.

[c] Girls were significantly higher than boys, $p < .05$.

Table 2

Correlation Matrix of Time 1 (T1) Variables

Variables	1	2	3	4	5
Parent Report and Observed					
1. Positive Expressivity	--				
2. Negative Expressivity	−.12 +[a]	--			
3. Observed Positive THK	.12 +[b]	.02	--		
4. Observed Positive Puzzle	.22 **	.07	.29 **[c]	--	
5. Observed Negative Puzzle	.00	.12 +	−.14 +	−.25 **	--
6. Child Sympathy	.22 **	−.13 +[d]	.11	.08[e]	−.11

*Note. N*s ranged from 199 – 206 for parent reported and observed variables.

[a] Significant difference ($p < .01$) between boys and girls; *r*s (112 and 90) = −.30 and .13, *p*s < .01 and ns.

[b] Near significant difference ($p < .10$) between boys and girls; *r*s (112 and 89) = .23 and −.02, *p*s < .05 and ns.

[c] Near significant difference ($p < .10$) between boys and girls; *r*s (111 and 92) = .40 and .16, *p*s < .01 and ns.

[d] Significant difference ($p < .05$) between boys and girls; *r*s (113 and 92) = −.26 and .06, *p*s < .01 and ns.

[e] Near significant difference ($p < .10$) between boys and girls; *r*s (111 and 92) = −.02 and .23, *p*s ns and < .05.

+ $p < .10$.

* $p < .05$.

** $p < .01$.

Table 3

Correlation Matrix of Time 2 (T2) Variables

Variables	1	2	3	4	5	6	7
Parent Report							
1. Positive Expressivity	--						
2. Negative Expressivity	.07	--					
3. Child Sympathy	.22*	.05	--				
4. Child Prosocial Behavior	.18*	−.02	.61**	--			
Teacher Report							
5. Child Sympathy	.16	.18 +a	.46**	.50**	--		
6. Child Prosocial Behavior	.09	.20+	.38**	.42**	.78**	--	
Child Report							
7. Child Sympathy	.09b	.05	.37**	.35**	.38**	.30**	--
8. Child Prosocial Behavior	.09c	.03	.33**	.25**	.41**	.43**	.47**

Note. *N*s ranged from 123 – 125 for parent reported variables, from 100 – 101 for teacher reported variables, and 122 for adolescent reported variables.

[a] Significant difference ($p < .05$) between boys and girls; *r*s (51 and 45) = −.03 and .40, *p*s ns and < .01.

[b] Significant difference ($p < .05$) between boys and girls; *r*s (63 and 57) = .31 and −.05, *p*s < .05 and ns.

[c] Near significant difference ($p < .10$) between boys and girls; *r*s (63 and 57) = .31 and −.01, *p*s < .05 and ns.

+ $p < .10$.

* $p < .05$.

** $p < .01$.

Table 4

Correlation Matrix of Time 1 (T1) and Time 2 (T2) Variables

	T2 Variables							
	Parent Report				Teacher Report		Adolescent Report	
T1 Variables	**Positive Expressivity**	**Negative Expressivity**	**Child Sympathy**	**Child Prosocial Behavior**	**Child Sympathy**	**Child Prosocial Behavior**	**Child Sympathy**	**Child Prosocial Behavior**
Parent Report and Observed								
1. Positive Expressivity	.38**	−.10^{a}	.06	.06	.19^{+}	.10	.28**	.23*
2. Negative Expressivity	.06	.53**	.08	.06	.03^{b}	.04^{c}	.06^{d}	−.02^{e}
3. Observed Positive THK	.13	−.09	.06	.18^{+}	.11	.12	.16^{+}	.03
4. Observed Positive Puzzle	.02	.00	−.14	−.05	.07	.10	−.06	.07
5. Observed Negative Puzzle	−.04	.12	.04	−.08	−.17^{+}	−.25*	−.11	−.13
6. Child Sympathy	.15^{+}	−.12	.44**	.41**	.41^{**f}	.34^{**g}	.25**	.30**

Note. *N*s ranged from 116 – 122 for parent reported and observed variables, 96 – 99 for teacher reported variables, and 114 – 118 for adolescent reported variables.

^{a}Significant difference ($p < .05$) between boys and girls; *r*s (64 and 54) = −.30 and .14, *p*s < .05 and ns.

^{b}Significant difference ($p < .01$) between boys and girls; *r*s (53 and 45) = −.24 and .39, *p*s ns and < .01.

^{c}Significant difference ($p < .01$) between boys and girls; *r*s (54 and 45) = −.25 and .36, *p*s < .10 and 05.

^{d}Significant difference ($p < .01$) between boys and girls; *r*s (62 and 55) = −.17 and .40, *p*s ns and < .01.

^{e}Significant difference ($p < .05$) between boys and girls; *r*s (62 and 55) = −.24 and .21, *p*s < .10 and ns.

^{f}Significant difference ($p < .05$) between boys and girls; *r*s (53 and 45) = .50 and .00, *p*s < .01 and ns.

^{g}Near significant difference ($p < .10$) between boys and girls; *r*s (54 and 45) = .40 and .08, *p*s < .01 and ns.

$^{+}p < .10$.

$^{*}p < .05$.

$^{**}p < .01$.