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Assessment of preschoolers' positive empathy: concurrent and longitudinal relations with positive emotion, social competence, and sympathy

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Abstract

The purpose of this study was to examine a new measure of children's dispositional positive empathy (i.e., reactions to others' positive emotions) and its concurrent and longitudinal relations with positive emotion, social competence, and empathy/sympathy with negative emotions. At Time 1, 192 3.5-year-olds (88 girls) participated; at Time 2, 1 year later, 168 4.5-year-olds (79 girls) participated. Children's positive empathy was reported by mothers and observed in the laboratory at Time 2. Additionally, mothers, fathers, and non-parental caregivers completed questionnaires at Time 1 and Time 2 regarding children's positive emotion, empathy/sympathy, and social competence. Children's positive emotion was observed at both assessments. There was evidence of reliability of the new reported measure of positive empathy. Additionally, there were numerous positive relations between positive empathy and social competence and between positive empathy and empathy/sympathy with negative emotions. This study provides unique insight into children's positive empathy and relations to socio-emotional functioning.

Keywords

positive empathy; positive emotion; social competence; empathy/sympathy

Introduction

Researchers studying empathy typically have focused on empathic responses to others' negative emotions rather than positive emotions. Positive affect has been related to benefits in a variety of domains of functioning (e.g., physical, cognitive, social; Fredrickson, 2001), but the relations of vicariously induced positive affect (positive empathy) to other socio-emotional competencies, such as social adjustment, seldom have been examined. The main purpose of this study was to examine the reliability of a new measure of children's dispositional positive empathy and to examine the concurrent and longitudinal relations of positive empathy to positive emotion, empathy/sympathy, and social competence.

Defining positive empathy

Eisenberg and colleagues have defined empathy as 'an affective response that stems from the apprehension or comprehension of another's emotional state or condition, and that is identical

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or very similar to what the other person is feeling or would be expected to feel' (Eisenberg & Fabes, 1998, p. 702). Many researchers examining empathy have focused on sympathy, which often may stem from empathy, and has been defined as an 'other-oriented emotional reaction (such as concern) to another's emotional state or condition' (Eisenberg et al., 1989, p. 55). A lack of empathy regarding others' negative emotions in early childhood is believed to contribute to psychopathology later in life (e.g., conduct disorder and psychopathy; Cohen & Strayer, 1996; Pardini, Lochman, & Frick, 2003). Moreover, empathy/sympathy (often measured as a reaction to others' negative emotions) has been positively related to prosocial behavior, social competence, low levels of aggression, and higher-level moral reasoning (Eisenberg, Fabes, Murphy, Karbon, Smith, & Maszk, 1996; Eisenberg, Fabes, & Spinrad, 2006; Eisenberg & Miller, 1987; Eisenberg, Miller, Shell, McNally, & Shea, 1991; Miller & Eisenberg, 1988). Thus, empathy is a critical element of children's socio-emotional development.

In contrast to empathy/sympathy with others' negative emotions or states, positive empathy (an expression of happiness or joy that results from comprehending another person's positive emotional state or condition) has not been extensively investigated. Assessing children's positive empathy should provide a unique insight into how children experience and/or express positive emotion and approach positive situations. Most of the studies that measured positive empathy in children used a picture-story method (e.g., De Weid, Goudena, & Matthys, 2005; Feshbach & Feshbach, 1969; Roberts & Strayer, 1996; Strayer, 1993); this method has been found to be problematic because children's answers vary as a function of the experimenter's gender (see Eisenberg & Lennon, 1983; Lennon, Eisenberg, & Carroll, 1983). In the present study, positive empathy was assessed with a new reported measure containing an array of scenarios that typically elicit vicarious positive affect and with an observed measure of positive empathy targeting a specific scenario (i.e., the experimenter receiving a surprise gift).

Emotion and empathy/sympathy

Emotions can be experienced in two ways: (1) directly (i.e., generated based on one's own experiences) and (2) indirectly (i.e., generated by others' emotions and/or experiences). Some researchers examining the relation between direct and indirect negative emotion have found a negative relation (especially when intense negative emotions were assessed) between negative emotionality and empathy with negative emotions but other researchers have found a positive relation (when non-intense negative emotions were assessed) between negative emotionality and empathy with negative emotions (see Eisenberg et al., 2006). Although, to our knowledge, researchers specifically have not investigated the relation between positive empathy and positive emotionality, it is likely that they are related positively because both involve the experience of positive affect. Strayer (1980) found a positive relation between children's observed positive affect to a film containing positive content and their empathic responses (empathic responses, a match between facial reactions and context of the films, were a composite of responses from positive and negative emotion-eliciting situations). Additionally, a positive relation between positive affect and positive empathy is logical because positive emotions have been associated with attending to situations (Aspinwall & Richter, 1999); thus, children's awareness and sensitivity to the context may become heightened as they experience positive affect which, in turn, may increase the likelihood of an empathic reaction.

With regard to direct emotional experiences, researchers have found that negative and positive emotionality are best represented as two dimensions rather than one dimension (Belsky, Hsieh, & Crnic, 1996) and that the two types of emotions typically elicit differential patterns of brain activity (Harmon-Jones, 2003). One cannot simply assume, therefore, that positive and negative empathy are related or represent the same underlying continuum; indeed, some of the limited existing research on the topic suggests they are not equivalent in their relations to other

constructs, such as social adjustment (Feshbach, 1982; Zhou et al., 2002). Thus, even though empathy with negative emotions and empathy with positive emotions both involve vicariously induced emotion, they may be orthogonal processes. The examination of the association between the two types of empathy is necessary. In the present study, empathy with negative emotions was included as an index of possible convergent validity of empathy with positive emotions.

Social competence

Empathy frequently has been viewed as contributing to individuals' social competence and the quality of their social relationships (see Davis, 2004; Eisenberg & Miller, 1987). Social competence is necessary for social adjustment and successful social interactions. Researchers have found positive emotion to be related positively to the quality of social interactions (Denham, McKinley, Couchoud, & Holt, 1990; McDowell & Parke, 2005; Sroufe, Schork, Motti, Lawroski, & LaFreniere, 1984) and inducing positive emotion (through reminiscing about happy events) can facilitate prosocial behavior (related to social competence; Rosenhan, Underwood, & Moore, 1974). In regard to empathy, experiencing another person's emotional state likely has implications for the quality of one's social relationships and social interactions. For example, empathy (regardless of valence) would be expected to be rewarding to others and to foster continued interaction because of the likely connectedness with the person initially experiencing an emotional response that is facilitated from an empathic reaction (see Davis, 2004). Consistent with this argument, Davis and Oathout (1987, 1992) found that adults' empathic concern (i.e., sympathy) was related to warmth (e.g., affectionate, generous), a positive outlook, and, for women only, low levels of insensitivity (in the 1987 but not 1992 study).

Researchers examining the constructs of empathy with negative emotions or sympathy and social competence have found a positive relation between this type of empathy and social competence (e.g., popularity, socially appropriate behavior, and constructive social strategies) in childhood (Denham, 1986; Eisenberg & Fabes, 1998; Eisenberg et al., 1996, ²⁰⁰⁶; Garner, 1996; Zhou et al., 2002) and in adolescence (e.g., Laible, Carlo, & Raffaelli, 2000). For example, Zhou et al. (2002) found that children's empathy with negative emotions (assessed in response to viewing emotion-eliciting slides) was positively related to children's social competence (i.e., social skills and popularity) concurrently and 2 years later.

When researchers have examined positive empathy, findings on its relation to social competence have been mixed. Zhou et al. (2002) also examined the relation between children's positive empathy (response to viewing slides with positive emotion-eliciting content) and adult-reported (parent and teacher) social competence. At the initial assessment and 2-year follow-up, there was not a significant relation between children's facial display of positive affect in reaction to positive emotion eliciting slides and social competence (as reported by parents and teachers). However, there was a significant relation between children's self-reported positive affect in response to viewing the slides at the first assessment and teacher-reported social competence at the later assessment. In another study, De Weid et al. (2005) examined positive empathy in response to filmed vignettes and found no mean differences between boys with and boys without deficits in social competence (i.e., disruptive behavior; girls were not assessed).

Other researchers have found a negative relation between positive empathy and social competence. Feshbach (1982) found that aggressive and antisocial boys who are typically rated low in social competence tended to respond with excitement during a positive emotion-eliciting video; no relation between excitement and aggressive behavior was found with girls. Feshbach (1982) suggested that the aggressive boys responded with extremely high levels of vicarious

joy because of their desire to heighten their own positive affect through sensation seeking. Children who respond with either slight or intense joy may be lower in social competence than children who respond with moderate happiness. It is important to study a more normative group of children than the group used by Feshbach (1982) in order to understand the relation of positive empathy to social competence.

In adults, the relation between positive empathy and related aspects of social competence (e.g., prosocial behavior) has been found to depend on the target of the positive emotion-eliciting situation. More specifically, Rosenhan, Salovey, and Hargis (1981) examined differences between participants who received a self-oriented elicitation of positive affect condition (receiving a trip to Hawaii) and participants who received an other-oriented elicitation of positive affect condition (friend receives a trip to Hawaii). After the participants read their assigned scenario and completed a mood questionnaire, they were allowed to leave or stay as long as they wanted to help in another study. Based on the results, participants in the self-oriented condition helped more (i.e., completed more questions for the other study) than participants in the other-oriented condition. Thus, the induction of positive affect likely facilitated a prosocial response.

The present study

This study had two major goals. The first goal was to assess the reliability and validity of a new parent-report measure of children's positive empathy. In order to address this goal, in addition to examining the internal reliability (i.e., alpha), a confirmatory factor analysis was conducted in order to confirm that a single-factor model represented the reported measure. Additionally, the relation between the reported measure of positive empathy and observed measure of positive empathy was examined. The second major goal was to assess the relations of children's positive empathy with longitudinal and concurrent measures of children's positive emotion, empathy/sympathy, and social competence.

According to Hoffman's theory of the development of empathy, children who are at least 3 years old have the ability to empathize and sympathize with others through rudimentary perspective taking (Hoffman, 1990). Moreover, 3-year-olds are quite able to recognize and label positive emotion (e.g., Saarni, 1999). Therefore, the children in this study were expected to have the cognitive abilities necessary to empathize in the situations that their mothers rated and in the observed situation.

Because both positive emotion and positive empathy involve the display of positive affect, it seemed likely that the pattern of relations of positive empathy to empathy/sympathy and social competence would be similar to that with dispositional positive emotionality (i.e., positive relations between the constructs). In addition, we expected children high in positive empathy to be relatively high in social competence. Some researchers have found a negative relation between positive affect and social adjustment (Lengua, 2003; Lengua & Long, 2002). However, within the context of the present study, positive empathy (e.g., smiling when someone else receives a gift or responding with positive affect to someone else's good news) could be considered socially appropriate. Furthermore, if children experience positive empathy, it is likely a sign that they are attending to their surroundings (e.g., others' socio-emotional behavior); thus, socially competent behavior might stem from, or at least be related to, positive empathy.

Positive empathy and negative empathy/sympathy were expected to be related positively because both involve the vicarious experiences of emotion. We assumed that attention to others and emotional receptivity and perspective taking underlie both positive and negative empathy. However, a relation between the two might not be found if a child's positive empathy is

generated by something other than responding from genuine vicarious joy. For example, children viewing another person receive a prize or gift might smile because they think they will receive something too or become excited because they think they might get to play with the object.

Sex differences also were examined. Researchers have found that girls, in comparison to boys, typically exhibit higher levels of certain socially competent behaviors (see Eisenberg et al., 2006), empathy/sympathy (see Eisenberg et al., 2006; Roberts & Strayer, 1996), and certain types of positive emotion (Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006). Thus, girls were expected to be higher in mean levels of these constructs. Also, because girls' display positive emotion might be seen as more socially appropriate than boys (Eisenberg et al., 2006; LaFrance, Hecht, & Paluck, 2003), it seemed possible that the relations among constructs would differ for girls and boys.

Method

The numbers of families participating in the assessments were 192 when children were approximately 3.5 years old ($M = 3.48$ years, $SD = 0.05$; 88 girls; 191 mothers and 1 grandmother; henceforth labeled T1) and 168 children 1 year later ($M = 4.49$ years, $SD = 0.07$; 79 girls; 167 mothers and 1 grandmother; henceforth labeled T2). Additionally, fathers and non-parental caregivers (e.g., babysitter, daycare teacher) completed questionnaires at T1 and T2 ($ns = 136$ and 119, for fathers; $ns = 151$ and 145, for caregivers). Correlations among variables were similar with and without the grandmother who participated; henceforth, we often use the term 'mother' for simplicity when referring to the primary caregivers.

Initially, families were recruited at local hospitals shortly after the child's birth. Mothers' average age at the birth was approximately 29 years (range = 19 to 44 years). At T1, the children who participated were non-Hispanic, Caucasian ($n = 142$, 74%); Hispanic, Caucasian ($n = 22$, 11%); non-Hispanic, African American ($n = 7$, 4%); Asian American ($n = 2$, 1%); non-Hispanic, Native American ($n = 3$, 2%); non-Hispanic, other racial minority or mix of two races ($n = 13$, 7%); Hispanic, Native American ($n = 1$, <1%); and Hispanic, mix of two races or other race ($n = 1$, <1%; missing data: $n = 1$, <1%). Mother-reported family income ranged from less than US\$15,000 to over US\$ 100,000 ($n = 161$; 31 mothers did not report annual income; median = US\$45,000 to US\$60,000). For mothers, approximately 4% attended some high school, 9% graduated high school, 41% attended some college, 32% graduated college, and 11% attended graduate school ($n = 5$, missing data, 3%). At T2, percentages for demographic variables were similar.

Attrition analyses

A series of attrition analyses was conducted in order to examine if there were differences among the demographic variables or observed variables between participants at T2 and those who dropped out after T1. There were no significant multivariate or univariate effects.

Procedure

Children and their primary caregivers came to a research laboratory room at a university in a large metropolitan area. A trained female undergraduate experimenter conducted all of the laboratory tasks. Children's positive emotions were videotaped during emotion-eliciting situations at T1 and T2. Mothers reported on children's positive emotion (at T2 only), social competence, and empathy/sympathy. Mothers also provided demographic information (e.g., ethnicity, family income level, and maternal education) and contact information for another caregiver (non-parental) who knew the child well. The additional caregiver was contacted and, after consent was obtained, was mailed a questionnaire (with a return envelope) pertaining to

children's socio-emotional behaviors. Fathers also were mailed similar questionnaires. For participation, children received a small toy and mothers received a moderate payment. The caregivers and fathers received moderate and small payments, respectively.

Measures

Children's positive empathy was observed and reported with new measures at T2. Positive emotion, social competence, and empathy/sympathy were assessed at T1 and T2. The observed tasks were coded by two separate assistants per task. One research assistant coded all of the videotapes for a particular task and the other coded between 25% and 30% of the videotapes for reliability.

Children's positive empathy

Observed positive empathy—Children's situational positive empathy was observed at T2 during a simulation of the experimenter joyfully responding to receiving a gift. The task began immediately after a research assistant knocked on the door, informed the experimenter that a present was dropped off for her, and handed the gift bag to the experimenter. The experimenter responded with, 'Really? I wonder what it is.' The research assistant remained in the room and pretended to look busy so that the child could not receive nonverbal cues from the research assistant. For 30 seconds, the experimenter smiled and responded with positive vocalizations (e.g., 'This is so cool'; 'This was such a surprise'; 'Wow') as she looked inside the bag and rustled the tissue paper. The experimenter was trained to focus on the gift so that children would not contingently respond to someone smiling directly at them. Additionally, the gift remained in the bag the entire task so that the desirability of the object would not influence children's reactions. Children's intensity of positive emotion displayed during the situation was reliably coded in 5-second intervals (intraclass $r = .80$; 1 = *no display of emotion* to 4 = *extremely intense, prolonged display of emotion*).

Reported positive empathy—At T2, children's positive empathy was reported by mothers. We created a new measure to assess children's dispositional positive empathy. Seven items are included in the Dispositional Positive Empathy Scale (DPES; e.g., my child is likely to show happiness when she/he sees another child receive a gift; see Appendix A for scale items). Mothers were asked to select a response (1 = *really untrue* to 4 = *really true*) that best fit their children ($\alpha = .81$).¹

Children's positive emotion

Children's positive expressivity was observed at T1 and T2. Additionally, at T2, mothers and non-parental caregivers rated children's positive emotionality.

Positive expressivity during bubbles—At T1 and T2, intensity of positive expressivity was reliably coded in 5-second intervals while the experimenter blew bubbles for 1 minute (1 = *no display* to 4 = *intense display*; intraclass $r_s = .71$ and $.71$). This task is often used by researchers to examine children's positive expressivity (Goldsmith, Reilly, Lemery, Longley, & Prescott, 1999). Children's positive affect during the bubbles task at T1 and T2 were significantly related, $r(165) = .40, p < .01$.

Reported positive emotionality—At T2, mothers and non-parental caregivers rated their children's positive emotionality with the smiling/laughter subscale of the Child Behavioral Questionnaire (CBQ; Rothbart, Ahadi, Hershey, & Fisher, 2001) on a 7-point scale (1 =

¹The DPES was piloted with parents ($N = 19$) whose children ($M = 4.56$ years, $SD = 0.61$) attended two local daycares. The measure had good internal validity, $\alpha = .79$.

never to 7 = *always*; alphas = .79 and .81; to minimize the number of questionnaires, fathers were not asked to complete this questionnaire). The smiling/laughter scale contains 13 items examining the amount of positive affect in response to changes in stimulus intensity, rate, complexity, and incongruity (e.g., smiles a lot at people s/he likes). Mothers' and other caregivers' ratings were not significantly correlated, $r(142) = .13$, *ns*.

Children's empathy/sympathy

Mothers, non-parental caregivers, and fathers rated children's empathy/sympathy using the empathy/sympathy subscale (7 items; e.g., is aware of other people's feelings, is worried or upset when someone is hurt; 1 item was related to positive emotion, jokes or gives you things to make you smile or laugh²) of the Infant-Toddler Social and Emotional Assessment (ITSEA; Briggs-Gowan & Carter, 1998) at T1 (alphas = .76, .78, and .78, respectively) and at T2 (alphas = .78, .76, and .81, respectively). Adults' ratings of empathy/sympathy at T1 and at T2 were significantly related within reporter, $rs(97-179) = .20-.66$, $ps < .05$, and all ratings were significantly related to mothers' ratings at T1, $rs(114-143) = .24-.40$, $ps < .01$. There also was a significant relation between mothers' and fathers' ratings at T2, $r(116) = .33$, $p < .01$.

Children's social competence

At T1 and T2, parents and non-parental caregivers rated (1=*not true* to 3 = *very true*) children's social competence using the ITSEA (Briggs-Gowan & Carter, 1998). A composite of social competence was formed with two subscales, imitation/play (6 items; e.g., rolls a ball back to you or someone else, imitates playful sounds when you ask him/her to) and compliance (8 items; e.g., is well behaved, obeys when asked to stop being aggressive), for mothers', non-parental care-givers', and fathers' reports (alphas = .69, .73, and .81 at T1; alphas = .71, .74, and .73 at T2). Typically, empathy/sympathy is included in the composite with imitation/play and compliance; however, empathy/sympathy was kept separate because of the conceptual differences between social competence (i.e., imitation/play and compliance) and emotional competence (i.e., empathy/sympathy) and the conceptual overlap between children's reported positive empathy and the empathy/sympathy subscale. Adults' ratings of social competence were significantly interrelated within and across time, $rs(88-179) = .19-.55$, $ps < .05$, except for a non-significant relation between caregivers' and fathers' ratings at T1. Social competence and empathy/sympathy were moderately correlated within T1 and within T2 for mothers, $rs(204; 187) = .56$ and $.46$, $ps < .01$, for caregivers, $rs(147; 141) = .56$ and $.48$, $ps < .01$, and for fathers, $rs(133; 117) = .60$ and $.56$, $ps < .01$.

Results

As previously mentioned, the study had two major goals: (1) to examine the reliability of a new measure of children's dispositional positive empathy and (2) to examine the relations of positive empathy to positive emotion, empathy/sympathy, and social competence. Descriptive analyses are presented first, followed by a confirmatory factor analysis (CFA) of the DPES and the relations among child outcomes.

Descriptive and preliminary analyses

Means and standard deviations of the measures for the total sample and by children's sex are provided in Table 1. All variables met normality criteria (see Curran, West, & Finch, 1996). Additionally, the time difference between the completion dates of parents' and caregivers' questionnaires (i.e., a proxy for the difference in children's age between the completions of

²Analyses were computed without this item included in the empathy/sympathy scale. The results from the ANOVAs and all correlations were similar when this item was and was not included. Therefore, the complete subscale (7 items) was used.

questionnaires) was used as a covariate in correlations among parents' and caregivers' reports of positive emotion, empathy/sympathy, and social competence. The time difference was calculated by subtracting the date of the laboratory visit or date of the completion of questionnaires sent to the parents' houses (if they did not come for a laboratory visit) from the date of completion of the caregivers' questionnaires. There were no differences in the significance level of the partial correlations among these variables; therefore, the time lag between parents' and caregivers' questionnaires was not used as a covariate.

Relations between socio-economic status and major constructs—Mothers' education and family income were standardized and averaged to form a measure of socio-economic status (SES). There were several relations between SES and the major study variables. SES was positively related to mothers' and fathers' reports of social competence at T1, $r_s(195 \text{ and } 126) = .15 \text{ and } .22, p_s = .03 \text{ and } .01$, and with mothers', fathers', and caregivers' reports of social competence at T2, $r_s(180, 111, \text{ and } 137) = .17, .21, \text{ and } .23, p_s = .03, .03, \text{ and } .01$. At T2, SES was positively related to the DPES, $r(180) = .18, p = .01$. There were no significant relations between SES and positive emotion, empathy/sympathy, or observed positive empathy. There were no differences in the pattern of findings when SES was covaried; thus, SES was not covaried in further analyses.

Sex differences—ANOVAs were computed to examine sex differences in mean levels of all major variables. Overall, the mean levels of the DPES, observed positive empathy, caregiver-reported social competence at T1 and T2, and mother-reported empathy/sympathy at T1 and T2 were similar for boys and girls. Observed positive emotion was higher in girls than boys at T2, $F(1, 166) = 11.70, p < .01$. There were numerous differences in social competence and empathy/sympathy; in all cases, girls were significantly higher than boys: (1) mothers' ratings of social competence at T1 and T2, $F_s(1, 203; 1, 187) = 6.66 \text{ and } 5.49, p_s = .01 \text{ and } .02$; (2) fathers' ratings of social competence at T1 and T2, $F_s(1, 133; 1, 117) = 10.95 \text{ and } 9.38, p_s < .01$; (3) caregivers' ratings of empathy/sympathy at T1 (but not T2), $F_s(1, 147) = 4.70, p_s = .03$; and (4) fathers' ratings of empathy/sympathy at T1 and T2, $F_s(1, 133; 1, 117) = 5.54 \text{ and } 7.13, p_s = .02 \text{ and } .01$. Significant sex differences in all correlations were assessed using the Fisher r -to- z transformation formula (Steiger, 1980). There were no significant sex differences among the correlations. Thus, the correlations are presented for the entire sample.

Confirmatory factor analysis

Muthén and Muthén's (1998–2007) Mplus 4.2 was used to confirm that the DPES represented one factor. The cut-points for fit indices recommended by Hu and Bentler (1999) were used. Based on the CFA, the one-factor model fit the data well (after measurement error among three items was accounted for in the model; i.e., the addition of three correlations among the error variances of items 1 and 4, items 4 and 6, and items 6 and 7): $\chi^2(11) = 15.85, ns$; $CFI = .99$; $RMSEA = 0.05$ (90% Confidence Interval = 0.00, 0.10); $SRMR = 0.04$. All items loaded significantly, unstandardized, $\beta_s = .55 \text{ to } 1.08$, completely standardized $\beta_s = .42 \text{ to } .77, p_s < .01$.

Relations of positive empathy with empathy/sympathy, positive emotion, and social competence

There was some evidence of the usefulness of the DPES beyond that of finding high internal reliability. In regard to the measures of vicarious emotional experiences, there were positive relations between positive empathy and empathy/sympathy (see Table 2). At T1 and T2, mothers' and fathers' reports of empathy/sympathy were positively related to the DPES. Caregivers' reports of empathy/sympathy were unrelated to the DPES. There also were relations between children's positive empathy and positive affect (see Table 2). Children's parent-reported positive empathy was related positively to mother-reported positive emotion

but was unrelated to caregiver-reported positive emotion. The DPES also was related positively to observed positive emotion at T1 but was unrelated to observed positive emotion at T2.

There were numerous relations between children's social competence and positive empathy (see Table 2). At T1 and at T2, mothers' and caregivers' reports of social competence were positively related to the DPES. Father-rated social competence was unrelated to the DPES. In regard to the observed measure of positive empathy, this measure was marginally positively related to the DPES; however, this finding was only with girls, $r(75) = .22, p < .10$ (for boys, the two measures were unrelated). Children's observed positive empathy was not significantly related to any of the other constructs.

Discussion

In the present study, the reliability of the DPES and its relations with empathy/sympathy, positive emotion, and social competence were examined. Based on the CFA, we confirmed that the DPES represented one factor. In regard to the two measures of positive empathy, there was a marginal relation between observed positive empathy and the DPES, which provides additional support (although somewhat weak because the relation only was marginal and only for girls) for convergent validity. Additionally, there were several correlations of the DPES with empathy/sympathy and social competence for multiple reporters at both assessments.

The observed measure of positive empathy, however, was unrelated to the other measures in the present study. Zhou et al. (2002) also found a lack of relations between observed positive empathy and social adjustment. Perhaps, in the present study, children responded with positive affect towards the experimenter because they thought they might receive something or get to play with the object (throughout the laboratory visit children played with toys and objects and received small prizes for their participation). Additionally, the lack of a significant relation between the two measures of positive empathy could be in part attributed to the measurement context; the observed measure was based on one situation (and only 30 seconds in length) whereas the score on the DPES was based on an average rating from an array of situations.

Relations of positive empathy with similar constructs

There was support for an association between positive empathy and empathy/sympathy. The DPES was positively related to mothers' and fathers' ratings of empathy/sympathy at T1 and T2. The relation between these constructs suggests that empathy with positive emotions and empathy with negative emotions are not completely orthogonal processes. However, the association does not mean that they are the same. When both positive empathy and sympathy have been investigated, researchers have found that these constructs relate somewhat differently to other constructs (see Feshbach, 1982; Zhou et al., 2002). In contrast, we found support for a positive association between positive empathy and social competence that is similar to researchers' findings for empathy with negative emotions (e.g., Zhou et al., 2002).

There also was support for a relation between reported positive empathy and positive emotion. The DPES at T2 was positively related to mother-reported positive emotionality at T2 and observed positive emotion at T1. It was surprising that the relation between observed positive emotion and reported positive empathy at T2 was not significant, especially given the moderate positive correlation between the observed measure of positive affect at T1 and T2 and other researchers' findings of rank-order consistency in laboratory measures of this construct (Durbin, Hayden, Klein, & Olino, 2007; Kochanska, Aksan, Penney, & Doobay, 2007). It is difficult to draw conclusions about this unexpected finding (or lack thereof) because positive empathy was not measured at T1. Perhaps, observing positive affect across several situations would result in a more trait-like construct than state-like construct and, in turn, result in a more consistent relation between positive emotion and positive empathy.

Relations of positive empathy with social competence

Overall, there was evidence for positive relations within and across time between positive empathy and social competence. More specifically, the DPES was positively related to adults' ratings of social competence (mothers' and caregivers' reports) at T1 and T2. Researchers have found that children's positive emotion during social exchanges is beneficial for their peer relations (e.g., Lengua, 2003; Sroufe et al., 1984). Additionally, researchers have found positive relations between children's sympathy and social competence (e.g., Eisenberg et al., 1996; Garner, 1996; Zhou et al., 2002). In the present study, it is interesting that even though the scenarios in the DPES did not directly assess positive emotion (like the smiling/laughter subscale), the relation between positive empathy and social competence was found. Thus, this study provides support for the relation of vicarious positive emotion with children's social competence. Positive empathy might promote social competence through the facilitation of positive social interactions as a result of approach and exploration tendencies (e.g., display of positive affect; Frijda, Kuipers, & ter Schure, 1989). On the other hand, social competence might promote positive empathy because successful social interactions likely engender positive feelings and, thus, enhance one's susceptibility to positive empathy. The relation between positive empathy and social competence is likely transactional. More research examining the longitudinal relations of these constructs is needed.

Sex differences

Although there were no significant sex differences in the correlations and no mean-level sex differences in positive empathy, there were mean level differences for children's social competence, empathy/sympathy, and observed positive emotion (with girls scoring higher than boys on all three constructs). Overall, the results in regard to sex differences were consistent with previous research. Other researchers have found that girls are rated higher in social competence and empathy/sympathy (Eisenberg, Fabes, Murphy, Maszk, Smith, & Karbon, 1995; Eisenberg et al., 2006; Mpofu, Thomas, & Chan, 2004). Researchers also have found that girls are rated higher in certain types of positive emotion compared to boys; however, the difference favoring girls has typically been found with moderated positive affect and not intense positive emotions (Else-Quest et al., 2006). Even though the bubbles task, a task on which girls exhibited more positive emotion, typically elicits intense positive affect, it also involves a social interaction with a female adult. In research involving affective responses, children sometimes respond with more affect to same-sex experimenters or targets than opposite-sex (e.g., Eisenberg & Lennon, 1983; Feshbach & Roe, 1968). Girls, compared to boys, also may recognize and more freely express positive emotion in social settings (e.g., in the bubbles context) but not in situations that vicariously evoke positive affect (recall that there were no sex differences on the DPES or observed measure of positive empathy).

Strengths and limitations

The present study investigated positive empathy, a construct that has been understudied. Even though the study had numerous strengths with its multi-method and longitudinal design, there also were some limitations. One limitation was the use of only one rater for the DPES. In the future, now that this adult-reported measure demonstrated initial evidence of acceptable reliability and relations with other conceptually-related variables, it would be advantageous to replicate findings with another sample and with reports from multiple raters. Additionally, with the reported measures, relations were not consistent across all three reporters; this is likely because reporters view children in different contexts or situations. Another limitation was the report of positive emotion at T2 and not at T1. Further longitudinal research examining positive emotion and positive empathy would be beneficial to aid in the understanding of the relation between these constructs. In addition, it is quite possible that the findings may not generalize

to samples from other cultures because the expression of positive emotion is viewed differently in different cultures (e.g., Eisenberg, Liew, & Pidada, 2001).

In the future, assessing positive empathy across an array of contexts would be beneficial in order to rule out confounds of specific objects in situations and social norms. Additionally, it would be beneficial to have multiple reporters and observations of positive empathy to examine the consistency across contexts, especially because the strongest support for the DPES was the relation within reporter (i.e., mothers' ratings) and the marginally significant correlation between observed and reported positive empathy for girls. In the future, exploring more aspects of social competence would be beneficial (recall that our construct of social competence contained only compliance and imitation/play) as well as other aspects of socio-emotional development. In summary, the present study provides initial evidence for a measure of children's positive empathy and provides insight into the role of children's positive empathy in aspects of socio-emotional development.

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Appendix A. Children's positive empathy: Dispositional Positive Empathy Scale

Items were rated on a 4-point scale (1 = *really untrue*; 2 = *sort of untrue*; 3 = *sort of true*; 4 = *really true*).

1. My child is likely to show happiness when she/he sees another child receive a gift.
2. My child typically becomes happy when seeing others in happy situations on TV or in a movie.
3. My child often feels happy for other children who receive good news.
4. My child often laughs when others laugh even if she/he does not know what other children are laughing about.
5. My child is usually happy when she/he sees other children succeed.
6. My child usually gets excited when other children around him/her are excited.

7. My child typically feels happy when other children around him/her are smiling.

Table 1

Means and standard deviations of measures for total sample and by child's sex.

	N	Mean	Standard deviation
Positive empathy (T2)			
DPES	189	3.44	.41
Boys	106	3.44	.41
Girls	83	3.44	.41
Observed	167	1.78	.71
Boys	89	1.72	.67
Girls	78	1.85	.76
Positive emotion			
Bubbles (T1)	192	2.37	.53
Boys	104	2.33	.57
Girls	88	2.41	.48
Bubbles (T2)	168	2.56	.72
Boys	89	2.38	.76
Girls	79	2.76	.63
Mother-reported (T2)	188	5.90	.67
Boys	106	5.86	.66
Girls	82	5.95	.67
Caregiver-reported (T2)	145	5.29	.73
Boys	80	5.24	.80
Girls	65	5.35	.63
Empathy/sympathy			
Mother-reported (T1)	205	2.47	.37
Boys	113	2.46	.38
Girls	92	2.48	.37
Caregiver-reported (T1)	149	2.24	.42
Boys	86	2.18	.43
Girls	63	2.33	.38
Father-reported (T1)	144	2.42	.39
Boys	70	2.34	.38
Girls	65	2.50	.39
Mother-reported (T2)	189	2.45	.37
Boys	106	2.48	.35
Girls	83	2.42	.39
Caregiver-reported (T2)	144	2.26	.39
Boys	79	2.24	.39
Girls	65	2.28	.39
Father-reported (T2)	135	2.40	.41
Boys	67	2.31	.40
Girls	52	2.51	.40
Social competence			

	N	Mean	Standard deviation
Mother-reported (T1)	205	2.52	.24
Boys	113	2.48	.22
Girls	92	2.56	.24
Caregiver-reported (T1)	150	2.44	.30
Boys	86	2.42	.32
Girls	64	2.47	.29
Father-reported (T1)	135	2.50	.25
Boys	70	2.44	.25
Girls	65	2.58	.24
Mother-reported (T2)	189	2.57	.24
Boys	106	2.53	.25
Girls	83	2.62	.22
Caregiver-reported (T2)	144	2.44	.31
Boys	79	2.40	.31
Girls	65	2.49	.30
Father-reported (T2)	119	2.51	.25
Boys	67	2.45	.26
Girls	52	2.59	.23

Note: T1 = Time 1; T2 = Time 2.

Table 2
Correlations of positive empathy at T2 with empathy/sympathy, positive emotion, and social competence at T1 and T2.

		Measures					
		Empathy/sympathy					
		Mother (T1)	Caregiver (T1)	Father (T1)	Mother (T2)	Caregiver (T2)	Father (T2)
DPES	.34** (179)		.05 (127)	.23* (117)	.43** (187)	.13 (141)	.19* (116)
		Positive emotion					
		Observed (T1)		Observed (T2)	Mother (T2)	Caregiver (T2)	
DPES		.16* (167)		.08 (164)	.47** (186)	.12 (138)	
		Social competence					
		Mother (T1)	Caregiver (T1)	Father (T1)	Mother (T2)	Caregiver (T2)	Father (T2)
DPES	.28** (179)		.17 + (128)	.11 (117)	.35** (187)	.24* (141)	.11 (116)

+ $p < .10$;
** $p < .05$;
* $p < .01$.
Note: T1 = Time 1; T2 = Time 2; DPES = Dispositional Positive Empathy Scale. The degrees of freedom are in parentheses.