

Self-understanding in early childhood: associations with child attachment security and maternal negative affect

Rebecca Goodvin^{a*}, Sara Meyer^b, Ross A. Thompson^b and Rachel Hayes^c

^a*Western Washington University, Bellingham, WA, USA;* ^b*University of California, Davis, USA;*
^c*University of Nebraska, Lincoln, USA*

Although studies document that young children perceive themselves in psychologically-relevant ways, much remains to be understood about early self-concept development and how it is influenced by relational experience. This longitudinal study examines stability and change in the self-understanding of preschoolers, and its relation to children's security of attachment and maternal negative affect. Thirty-three children were studied with their mothers at ages 4 and 5; children's self-perceptions, attachment security, and maternal negative affect were assessed at each age. Secure attachment at 4 years old was associated with more positive self-concept at 5 years old (even with security at age 5 controlled), and secure children were more consistent in their self-perceptions over time. Maternal negative affect was associated with children's more negative self-perceptions and less consistent self-perceptions over time. Overall, these findings confirm the significance of early relational influences in how young children perceive themselves as psychological beings, particularly the importance of attachment security.

Keywords: self-concept; attachment security; parent–child relationships

Introduction

With growing attention to the importance of young children's mental representations of the social world (Dweck & London, 2004), developmental researchers are also reexamining early self-concept as an important mediator between social experience and social behavior. This is because of an expanding literature documenting the emergence of personality-like self-understanding in early childhood, and a longstanding interest in how early self-concept is influenced by the child's interactions with caregivers (e.g., Marsh, Ellis, & Craven, 2002; Verschueren, Marcoen, & Schoefs, 1996; Welch-Ross, Fasig, & Farrar, 1999). To attachment theorists, self-understanding is influenced by prior relational experience and, as it becomes incorporated into developing mental working models of experience, a mediator of future social interaction. The current study contributes to this understanding by examining, in a longitudinal context, consistency and change in the self-understanding of preschoolers, and its relation to the child's security of attachment and maternal emotional difficulties.

*Corresponding author. Email: Rebecca.Goodvin@wwu.edu

Self-concept in young children

Until recently, young children were believed to regard themselves primarily with concrete, behavioral self-descriptors, focusing on their abilities, size, and physical characteristics. One reason for this conclusion was researchers' reliance on open-ended questions, to which young children are inclined to respond by describing their physical characteristics or activities rather than personality attributes (see Keller, Ford, & Meacham, 1978; Livesley & Bromley, 1973). There has been longstanding concern that reliance on open-ended self-attributions may underestimate young children's capacities to represent themselves in more complex psychological ways that require greater verbal facility to convey. Further, developmental inquiry into early self-concept has been focused primarily on young children's perceptions of their abilities, or on their self-esteem, rather than on their self-perceived social, emotional, or psychological qualities.

Because even young children's self-perceptions can guide their preferences for activities and partners, influence their vulnerabilities to stress, and provide windows into understanding early personality development, researchers have developed methodological approaches that have enabled them to better explore self-understanding in preschoolers. One such measure, the Child Self-View Questionnaire (CSVQ; Eder, 1990) was developed based on adult personality theory (Tellegen, 1985), and has been used (in its original or modified form) to assess individual variability in 3.5- to 8.5-year-old children's self-reports of their psychological characteristics (for measures following a similar format, see also Marsh et al., 2002; Measelle, Ablow, Cowan, & Cowan, 1998). Rather than relying on open-ended questions, this measure presents children with bipolar statements representing opposite ends of personality dimensions, based on procedures devised for older children by Harter (Harter & Pike, 1984). Children are asked to identify which statements describe what they are like, so that consistent responses to groups of items indicate children's organized self-knowledge.

Although researchers have not assumed that young children have inherent in their use of psychological concepts the rich meaning of self-descriptors that adults do, recent studies indicate that preschoolers' use of psychological concepts shows internal consistency and convergent validity. Recent studies using adaptations of this measure have demonstrated, for example, that young children's conceptualizations of themselves in terms of their personality characteristics, verbal and mathematical abilities, general academic competence, achievement motivation, relationships with parents and peers, social competence, and even emotional vulnerability are consistent with children's observed behavior and standardized assessments of their academic performance, and that consistency with maternal and teacher reports is initially low but improves with increasing age (Brown, Mangelsdorf, Agathan, & Ho, 2008; Colwell & Lindsey, 2003; Marsh, Craven, & Debus, 1998; Marsh et al., 2002; Measelle et al., 1998). Not surprisingly, young children's personality self-descriptions also show greater stability and convergent validity with age, consistent with growth in children's understanding of personality characteristics more generally (Marsh et al., 1998). Evidence that young children perceive themselves in psychologically relevant ways is consistent with recent studies that young children also perceive others in terms of psychological motives and traits, and can predict future behavior on the basis of the traits they infer (Heyman & Gelman, 2000; Heyman, Gee, & Giles, 2003).

Although there is still much to learn about the nature of young children's self-understanding, these studies have permitted researchers to begin to explore the origins of individual differences in psychological self-understanding in preschoolers. Social influences

have been of paramount interest, especially in view of prominent theories of autobiographical memory development that emphasize the co-construction of the self in parent-child conversation (Nelson & Fivush, 2004), research in developmental psychopathology that highlights the challenges to early self-concept from living with a depressed mother (Radke-Yarrow, Belmont, Nottelmann, & Bottomly, 1990), and attachment theorists' views that self-concept is shaped by early relational experience (Bretherton, 1993; Cassidy, 1990). Our goal was to expand empirical understanding of relational influences on early self-concept development by studying two potential sources of influence: security of attachment and maternal negative affect.

Attachment security and self-concept

A central feature of the mental working models believed by Bowlby to arise from secure or insecure relationships is the perception of the self as worthy or unworthy of love. As a sense of self arises from and generalizes beyond the young child's direct experience with caregivers, it is likely to influence other features of developing self-understanding, including perceptions of the self as positive or negative, the interpretation of negative feedback about the self, and specific trait self-ascriptions. Until the development of new methodologies for exploring young children's psychological self-awareness, however, researchers have been unable to examine these provocative hypotheses in research with preschoolers and young grade-schoolers.

Relations between children's attachment security and self-concept have been studied in single-wave research designs. Cassidy (1988) studied the self-perceptions of 6-year-olds in relation to a behavioral measure of attachment, and used several measures of self-concept, including an innovative puppet interview designed to minimize children's defensiveness around self-related issues. Children's interview responses were coded as either perfect (refusing to make any negative statements about the self), negative (making globally negative self-statements), or open/flexible (willing to admit imperfection when pressed, but with a globally positive view of self). Secure children were primarily in the open or perfect categories, insecure/controlling children tended to fall into the negative category, and insecure/ambivalent children were either in the perfect or negative categories. Building on Cassidy's (1988) work, Verschueren and colleagues studied self-representations of 5-year-olds (Verschueren et al., 1996). They used an Attachment Story Completion Task (based on Cassidy, 1988, and Bretherton, Ridgeway, & Cassidy, 1990) to assess mother-child attachment security, and the puppet interview to concurrently assess self-representations. Children with a secure model of attachment tended to have a positive view of self, while children who evidenced insecure attachment representations tended to have a more negative self-regard. Finally, in the only longitudinal study to date, Clark and Symons (2000) found that a behavioral measure of attachment at 5 years old was associated with self-esteem as measured by Cassidy's (1988) puppet interview at the same age. Children who were open to an imperfect view of self were likely to have higher attachment security scores than children who refused to admit imperfections. Attachment security at 2 years old did not predict later self-esteem, however.

To summarize, there appears to be consistency in these findings that a more positive and open self-concept is related to a secure mother-child attachment relationship in early childhood. This is congruent with theoretical assertions that children's experiences in the parent-child relationship influence their representations of the self. The positivity of the self-concept of secure children is revealed not only in explicit self-descriptions, but also in implicit self-concept. Colman and Thompson (2002) found that when 5-year-olds were

presented with both manageable and difficult puzzle tasks, children with low security scores expressed more self-doubt about their abilities or negative self-appraisals during *both* tasks, such as saying “this is too hard for me.”

However, much remains to be understood regarding how attachment relationships contribute to the developing self-concept in young children. First, with the exception of the null findings by Clark and Symons (2000), there has been no further inquiry into the predictive association of attachment security with later self-concept, even though attachment theorists suggest that the developing working models associated with secure or insecure attachment would have important implications for developing self-concept over time (Bretherton & Munholland, 1999; Thompson, 2006). Second, research has focused on self-concept in 5- and 6-year-olds. A secure or insecure attachment may have more profound influences on developing self-concept at earlier ages, however, owing to the importance of felt security for young children’s developing sense of self (Thompson, 2000). Third, this research has tended to focus on self-esteem, but other dimensions of self-understanding also merit exploration in relation to attachment. Indeed, it would be important to know not only how attachment security is associated with the positivity of self-regard, but also with children’s perceptions of their personality characteristics, such as agreeableness or negativity. Finally, longitudinal research also permits examination of the *stability* of individual differences in self-understanding over time, and its association with the security of attachment. The more reliably supportive relationship of a secure attachment might be associated with greater consistency in young children’s self-understanding as well as a more positive tone to their conceptions of the self.

Maternal negative affect and child self-concept

As attachment theorists note, relational security and warmth are likely to influence children’s views of themselves. For example, when mothers are depressed or stressed, this can result in more aversive interactions that may contribute to more negative or self-denigrating portrayals of self by young children. There is an extensive research literature on the negative effects of depression on young children (see Goodman & Gotlib, 1999, for a review), and some investigation of the role of maternal depression in verbal comments directed toward children about their characteristics (Radke-Yarrow et al., 1990), but there is no research on the impact of maternal depression on young children’s explicitly expressed self-perceptions. The influence of maternal depression and stress, which we call “negative affect” in this study, is especially important given how these psychological experiences in the mother contribute to self-denigrating self-regard, criticism, and inconsistent emotional demands that can cause young children to perceive themselves more negatively or, indeed, to adopt the mother’s self-denigrating demeanor in their view of themselves. Consequently, we anticipated that heightened maternal negative affect would be associated with more negative and self-critical dimensions of self-understanding in offspring. Furthermore, we expected that because of inconsistent and challenging emotional demands, high maternal negative affect would be associated with less consistency in young children’s self-understanding over time.

Current study

To summarize, we anticipated that young children in secure attachment relationships would exhibit more positive self-regard and would portray their psychological characteristics in other constructive ways. Specifically, we anticipated that more securely

attached children would perceive themselves to be higher in agreeableness (e.g., sociability and compliance) and lower in negative affect (e.g., stress reaction and neuroticism), two dimensions of children's self understanding assessed in this study. We expected that attachment security would be associated with young children's self-understanding both in contemporaneous relations (which have been studied thus far) and also predictively, even with the effects of contemporaneous security controlled. This is because of the formative influence of early security hypothesized by attachment theorists (see Thompson, 2006). We anticipated also that when mothers were higher in negative affect, their children would have more negative and self-critical perceptions of their characteristics. Specifically, we anticipated that children whose mothers reported more negative affect would perceive themselves to be higher in negative affect and lower in agreeableness. No hypotheses concerning attachment security and children's self-perceived timidity, a third self-concept dimension assessed in this study, were delineated because attachment theory does not generate specific predictions regarding this characteristic.

In light of the longitudinal design of this study, we were also interested in the stability of children's self-concept from ages 4 to 5. Eder (1990) reported short term (i.e., 1-month) stability of CSVQ dimensions, however, examinations of stability and change in specific dimensions of young children's self-concept over longer periods have been rare (but see Measelle et al., 1998). Given the young ages of children in this study and the significant advances in psychological understanding and representation across this period (e.g., theory of mind, emotion understanding), we expected that stability in self-concept would be moderate but that there would also be wide individual variation in the stability of self-concept, consistent with variability in other aspects of developing representation. Finally, we examined whether individual differences in consistency of children's self-perceptions over time were associated with relational variables of this study, specifically attachment security and maternal negative affect.

Method

Participants

Thirty-three children (16 girls) and their mothers participated in this study. Families were recruited when children were 4 years old (M age = 4.12 years, range = 3.42 to 4.95 years), and were contacted again after approximately 1 year (M = 1.09 years later), when children were on average 5 years old (M age = 5.26 years, range = 4.39 to 6.16 years). Reflective of the community in which the study was conducted, children were primarily White (82%). The sample also included African American (3%), Asian American (3%), and bi-racial (12%) children. At the first assessment, children were living primarily in two-parent households (84.9%), although four mothers (12%) were divorced or separated over the 1 year period between assessments. Mothers' average age at the first assessment was 32.8 years (SD = 7.3 years, range = 21 to 57 years), and a majority of the mothers had a college or advanced degree (69.7%). All participants came from a mid-sized, Midwestern city. Although 46 mother-child dyads completed the first assessment, five mothers declined to participate in the second assessment because of time constraints, and we were unable to contact eight mothers (at least three of these eight families had moved out of state). Participants who completed only the first assessment were compared on a number of demographic variables and study measures with those who completed both assessments; groups differed significantly on only two measures. Children who completed only the first assessment had significantly higher attachment security scores at that assessment (M = .36) than did children who completed both assessments (M = .23);

$F(1, 44) = 4.25, p < .05$, as well as significantly lower self-reported timidity ($M = .94$ compared to $M = 1.31$); $F(1, 44) = 6.21, p < .05$.

Procedure

Participants were recruited through local child care centers or referrals from previous research participants. Mothers with children in the target age range were invited to participate with their child in a study of self-concept development. Research procedures and measures were nearly identical at the first and second assessments (T1 and T2, respectively). At each assessment, children and mothers were first observed during a 2-hour home visit, after which a researcher completed the Attachment Q-Sort (AQS; Waters & Deane, 1985). During the home visits, mothers completed a demographic questionnaire and a questionnaire pertaining to beliefs about the child's characteristics.

Following the home visit by approximately 1 week, mother-child dyads visited a University child development lab; visits lasted approximately 1.5 hours at each assessment. Participants were escorted to a large, cheerfully decorated playroom where the researcher provided both mother and child with an overview of the visit; subsequent instructions were given to the mother while the child was engaged with a puzzle or toy. After participants had completed some preliminary tasks, the researcher escorted the child to a nearby playroom where the measure of child self-concept was completed. Following completion of the self-concept measure, and a brief snack break, a mother-child conversation was initiated. Data from these conversations will be reported elsewhere.

Data were collected by two female graduate student researchers at T1, and three female graduate student researchers at T2. The same researcher worked with families during the home visit and the lab visit within assessments to increase children's comfort level in the lab environment. To ensure that T2 researchers were blind to children's T1 scores on study measures, a different researcher worked with each family at each age.

Measures

Attachment security (AQS; Waters & Deane, 1985)

The 90-item Attachment Q-Sort (AQS), a commonly used measure of attachment in children from 1 to 5 years, was completed at both ages by one of three trained observers following a 2-hour home visit. Reliability for observers was calculated by correlating sorts over 10 observations completed prior to collecting study data ($r = .71$). Mothers were given short questionnaires to complete during the home visit, but aside from that were asked to behave as they normally would at home. Children's security scores ranged from $-.25$ to $.58$ ($M = .23, SD = .21$) at T1, and from $-.29$ to $.74$ ($M = .38, SD = .21$) at T2. Mean attachment security scores are comparable to those found in other middle class, low-risk samples (van IJzendoorn, Vereijken, Bakermans-Kranenburg, & Riksen-Walraven, 2004).

Child self-concept (CSVQ; Eder, 1990)

At both ages, children completed the Child Self-View Questionnaire (CSVQ), a 62-item forced choice measure. This measure has been used successfully with children between 3.5 and 8.5 years old across several research labs (e.g., Brown et al., 2008; Buckner & Fivush, 1998; Eder, 1990; Welch-Ross et al., 1999). Based on pilot testing, we determined that

many of the younger children in our sample at T1 would not be able to complete the full measure due to fatigue and a relatively short attention span. Thus, at T1, a reduced 49-item CSVQ was used. Most of the items omitted were from a subscale developed after Eder's (1990) original study. No published study has used the full 62-item scale with children as young as 3.5 years, so this is consistent with previous research. The full 62-item scale was used at T2, and all children completed the measure without any difficulty.

At both assessments, children were taken to a room with a puppet theater, and introduced by the experimenter to two identical puppets. Children were then told that "these puppets are writing a story about children your age, and they want to find out all about you. They will tell you about themselves, and then you can tell them about yourself." After presenting two practice items to ensure the child understood the procedure, the puppets presented the measure items. For each item, one puppet described itself as anchoring the high end, and the other puppet described itself as anchoring the low end of a personality characteristic (e.g., "I like to play by myself" and "I like to play with friends"). Following each item, children were asked by the experimenter "How about you?" and were encouraged to restate the entire statement in making their selection. No feedback was given to the child during the measure after the practice items were completed. Items were presented in a fixed order, and the puppet speaking first was alternated. High and low points of the dimensions were also alternated across puppets.

Following Kochanska (2002), children's responses were scored as 0 if they chose the statement on the low end of the dimension, as 2 if they chose the high end, and as 1 if they endorsed both statements (e.g., "sometimes I like to play by myself and sometimes I like to play with friends"). This procedure, rather than scoring binary responses (1 if endorsing the high end of a dimension, and 0 if endorsing the low end), was used to account for children's recognition that they were equally well described by both statements. At each age, self-concept dimension scales *timidity* (e.g., "I don't climb up on things that are high"; "It's not fun to scare people"), *agreeableness* (e.g., "I usually do what mommy or the teacher says"; "It's more fun to do things with other people than by myself"), and *negative affect* (e.g., "People always say mean things to me"; "I am usually not very happy") were constructed. These scales are based on those derived by Brown et al. (2008) through exploratory factor analysis using promax rotation in a larger but demographically similar sample of 114 5-year-olds. Brown and colleagues tested three, four, and five factor solutions, and found that the three factor solution yielded (1) an acceptable goodness-of-fit statistic (RMSEA = .016), (2) conceptually coherent factors, and (3) adequate internal reliability as indicated by Cronbach's alpha, ranging from .68 to .72. The alphas obtained for CSVQ scales in the current study are comparable to those reported by Brown. Although very similar, CSVQ scales were not comprised of identical items at T1 and T2; scales were adapted slightly to preserve conceptual clarity and maintain adequate internal reliability at each age (see Table 1 for descriptive statistics and scale alphas).

In addition, to test the theoretically relevant hypothesis that securely attached children hold a more globally positive self-concept (e.g., Cassidy, 1988; Verschueren et al., 1996), three steps were taken to develop a rationally derived positive self-concept scale. First, several developmental psychologists not involved with the current study rated each CSVQ item as indicating either a positive, negative, or neutral valence. Second, correspondence across raters was high (agreement = 86%, Cohen's kappa = .78), so items rated as either positive or negative (reversed) were tested for scale reliability using Cronbach's alpha. Third, several items that did not load on this scale were removed, leaving a 19-item positive self-concept scale at T1 ($\alpha = .71$), and a 20-item scale at T2 ($\alpha = .76$). Sample items include "I am a good boy/girl" and "I really like myself." The positive self-concept

Table 1. Descriptive statistics for T1 and T2 child attachment security and self-concept, and maternal negative affect.

Variable	Time 1 Assessments				Time 2 Assessments			
	# Items (α)	<i>M</i>	<i>SD</i>	Range	# Items (α)	<i>M</i>	<i>SD</i>	Range
<i>Child Measures</i>								
Attachment security	–	.23	.21	–.25–.58	–	.38	.21	–.29–.74
Timidity	9 (.69)	1.31	.48	.44–2.00	6 (.62)	1.39	.45	.33–2.00
Agreeableness	12 (.74)	1.55	.39	.67–2.00	13 (.63)	1.68	.31	.92–2.00
Negative affect	8 (.65)	.47	.45	.00–1.50	10 (.73)	.46	.44	.00–1.70
Positive self-concept	19 (.71)	1.48	.33	.42–2.00	20 (.76)	1.57	.33	.75–2.00
<i>Maternal Report Measures</i>								
Maternal negative affect	–	.00	1.72	–3.08–3.56	–	–.06	1.70	–2.72–3.82

scale shares several items with the agreeableness (8 items) and negative affect (6 items) scales, and is thus not considered independent of these original dimensions.

Maternal negative affect

During the lab visit at both ages, mothers completed a series of brief questionnaire measures, including reports of their depressive symptoms and parenting stress, to provide an index of their own negative affect. Maternal depressive symptoms were assessed at T1 and T2 using the Centers for Epidemiological Study of Depression inventory (CES-D; Radloff, 1977). The 20-item CES-D is a widely used inventory measuring the extent to which mothers have experienced depressive symptoms over the previous week. Mothers indicated on a 4-point scale (1 = rarely, 0–1 days; 4 = most/all, 5 or more days) how often they had experienced each symptom (e.g., “your life had been a failure”; $\alpha = .86$ at T1 and $\alpha = .85$ at T2). Maternal stress was assessed at T1 and T2 using the 12-item parenting distress subscale of the short form of the Parenting Stress Index (PSI; Abidin, 1995). Mothers indicated on a 5-point scale (1 = strongly agree; 5 = strongly disagree) the degree to which a series of statements corresponded with their experiences (e.g., “I feel trapped by my responsibilities as a parent”; $\alpha = .78$ at T1, and $\alpha = .85$ at T2). The depressive symptomatology and parenting stress scales were consistently intercorrelated at each age (average $r = .52$), suggesting that a more parsimonious measure of maternal negative affect could be derived. Composite measures of maternal negative affect were thus created by summing standardized scale scores for each scale within each age (see Table 1 for descriptive statistics).

Results

Results are organized around three sets of analyses. First, analyses of CSVQ data at T1 and T2 address the organization of children’s self-concept, stability and change in children’s self-concept dimensions, and individual differences in consistency of self-perceptions over time. Second, analyses of AQS and CSVQ data at T1 and T2 focus on the concurrent and longitudinal associations of children’s attachment security and self-concept. Third, analyses of maternal negative affect and CSVQ data at T1 and T2 focus on the concurrent and longitudinal associations of maternal negative affect and children’s self-concept. For the second and third sets of analyses, associations are examined initially

in bivariate correlations, followed by hierarchical multivariate regression models constructed to establish the unique contribution of early relational factors (AQS and maternal negative affect) to children's later self-concept.

Preliminary data analysis

Child attachment security and self-concept were largely unrelated to child age, with the exception of a significant association between child age and positive self-concept at T1 ($r = .37, p < .05$), and a marginal inverse correlation between child age and negative affect at T1 ($r = -.34, p = .05$). Older children reported experiencing less negative affect than did younger children at T1. No significant gender differences emerged in child attachment or self-concept. Analysis of children's attachment security indicated stability in attachment; AQS scores were positively correlated across T1 and T2 ($r = .52, p < .01$). A paired samples *t*-test indicated that AQS scores were significantly higher at T2 than at T1, $t(32) = -4.25, p < .001$.

Stability and change in children's self-concept dimensions

Organization of children's self-concept dimensions at T1 and T2

The three child self-concept dimensions (timidity, agreeableness, and negative affect) intercorrelated at T2, and to a lesser degree at T1. At T1, children's timidity and negative affect were negatively correlated. At T2, children's timidity was negatively correlated with negative affect, and negative affect and agreeableness were also significantly negatively correlated (see Table 2). Thus, from 4 to 5 years, children's self-concept dimensions appear to become increasingly interrelated. The three dimensions of children's self-concept were more interrelated at 5 years (average $r = .46$) than at 4 years (average $r = .25$).

Developmental change in children's self-concept

Paired samples *t*-tests indicated no mean differences between T1 and T2 levels of children's self-reported timidity, agreeableness, or negative affect. Children's positive self-concept scores also were not significantly different at T1 and T2. In general, for the current sample there was no overall change in the level of these dimensions of self-concept in children from 4 to 5 years.

Overall stability of children's self-concept

Bivariate correlations between T1 and T2 timidity, agreeableness, and negative affect scales, and between T1 and T2 positive self-concept scales, respectively, indicated no overall stability of these self-concept dimensions. The average of these cross-age correlation coefficients was $r = .13$ (see Table 2). On average, then, there was little overall stability in children's self-concept.

Individual differences in self-concept consistency

Although bivariate correlations indicated that, across the sample, there was little rank-order stability over time in children's self-concept, we sought to examine whether there was variability in the consistency of children's responses at ages 4 and 5. Like other aspects

Table 2. Intercorrelations of T1 and T2 child self-concept dimensions and attachment security.

Variable	1	2	3	4	5	6	7	8	9	10
1. T1 timidity	–	–.30+	–.37*	–.01	.13	.04	.05	–.02	–.11	–.04
2. T1 agreeableness		–	–.19	.72***	–.16	.15	.12	.06	.16	.17
3. T1 negative affect			–	–.69***	–.16	–.24	–.09	–.07	.10	–.27
4. T1 positive self-concept				–	.03	.26	.08	.15	.06	.33+
5. T2 timidity					–	.33+	–.53**	.38*	.08	–.16
6. T2 agreeableness						–	–.51*	.70***	.39*	.29+
7. T2 negative affect							–	–.81***	–.49**	–.25
8. T2 positive self-concept								–	.58***	.42*
9. T1 attachment security									–	.52**
10. T2 attachment security										–

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

of early psychological understanding, it is possible that there are meaningful individual differences in the degree to which children recognize and understand their psychological qualities, potentially contributing to more or less consistency in reporting over time. Additionally, by examining correlates of self-concept consistency, we might find that particular characteristics of children or their relationships are associated with an understanding of self that is more consistent over time. To examine individual differences in the degree to which children reported consistent self-perceptions over time, consistency scores were calculated for each child based on their answers to the items comprising the timidity, agreeableness, negative affect, and positive self-concept scales at both assessments. A general consistency score was also calculated based on the 49 items presented at both ages. To calculate consistency scores, if a child gave the same answer at T1 and T2, the item was scored as 1. If the child gave a different answer at T1 and T2, the item was scored as 0. The consistency scores were then summed within dimension, and across the 49 items to create a general consistency score for each child (see Table 3). The relatively large standard deviation and range of consistency scores on each scale indicates that there were substantial individual differences in the consistency of self-concept from 4 to 5 years.

Analyses examining the correlates of individual differences in children's self-concept consistency were conducted to better understand the nature of this variability (see Table 3). Both positive self-concept consistency and general consistency scores were positively correlated with T1 attachment security. Children who were more securely attached at 4 years old demonstrated greater consistency in their self-concept in general from 4 to 5 years, and in particular were more consistent for items reflecting a global positive self-concept. Additionally, positive self-concept consistency was negatively related to T1 maternal negative affect. Mothers who rated themselves as experiencing higher levels of negative affect when children were 4 years old had children who demonstrated less consistency from 4 to 5 years for items reflecting a global positive self concept. These findings suggest that qualities of the parent-child relationship during early childhood may be associated with consistency in children's representations of self.

Attachment and children's self-concept

Bivariate correlations

Bivariate correlations of attachment and self-concept dimensions at T1 were not significant. However, bivariate correlations indicated that attachment at T1 was associated

Table 3. Individual self-concept consistency from 4–5 years: descriptive statistics and intercorrelations with T1 variables.

Variable	<i>M (SD)</i>	Range	2	3	4	5	Child AQS	Maternal negative affect
1. Timidity consistency	5.56 (1.88)	1–9	.21	.13	.18	.59***	.17	–.08
2. Agreeableness consistency	8.38 (2.03)	4–11	–	.12	.64***	.60***	.24	–.19
3. Negative affect consistency	5.31 (1.64)	3–8	–	–	.63***	.55***	.29	–.29
4. Positive SC consistency	12.59 (2.65)	5–18	–	–	–	.73***	.40*	–.36*
5. General consistency	29.19 (4.05)	18–37	–	–	–	–	.36*	–.24

+*p* < .10; **p* < .05; ***p* < .01; ****p* < .001.

with children's agreeableness and negative affect, and with their positive self-concept at T2. Attachment at T2 was also associated with T2 positive self-concept. Securely attached children tended to report being more agreeable and had a significantly more positive self-concept compared to children who were less secure. Self-concept scores at T1 were not associated with T2 attachment (see Table 2).

Multivariate regression models examining attachment as a predictor of children's self-concept over time

Given the strong bivariate correlations between T1 attachment security and dimensions of T2 self-concept, three hierarchical multiple regression models were constructed to examine the contribution of T1 attachment to T2 child positive self-concept, negative affect, and agreeableness. To examine the unique contribution of early attachment to later self-concept, in the first step of each model, T2 attachment and the corresponding T1 self-concept dimension were entered; T1 attachment was entered in the second step. Results are presented in Table 4. In models predicting T2 positive self-concept, when T2 attachment and T1 positive self-concept were entered in the first step, T2 attachment was a significant predictor of positive self-concept. However, when T1 attachment security was entered in the second step, T2 attachment was no longer significant, and T1 attachment emerged as a significant positive predictor of child positive self-concept at T2. The overall model was significant, $F(3, 29) = 5.51, p < .01$. In models predicting T2 negative affect, T1 attachment was a significant predictor even after controlling for T2 attachment and T1 negative affect. The overall model was significant, $F(3, 29) = 3.02, p < .05$. These models implicate early attachment security as a unique predictor of children's later self-concept, even after controlling for the contributions of early self-concept and concurrently assessed attachment security. Models predicting T2 child agreeableness, which was only marginally correlated with T1 attachment security in bivariate correlations, were not significant.

Maternal negative affect and children's self-concept

Bivariate correlations

Maternal negative affect showed a high level of stability from T1 to T2 ($r = .62, p < .001$). Paired samples *t*-tests indicated no mean differences between T1 and T2 levels

Table 4. Hierarchical multiple regression models predicting T2 child self-concept from attachment security and T1 child self-concept.

Variable	Positive self-concept		Negative affect		Agreeableness	
	Step 1 β	Step 2 β	Step 1 β	Step 2 β	Step 1 β	Step 2 β
T2 Attachment	.42*	.13	-.29	-.01	.28	.12
T1 Positive Self-Concept	.01	.08	-	-	-	-
T1 Negative Affect	-	-	-.16	-.04	-	-
T1 Agreeableness	-	-	-	-	.11	.09
Multiple R ²	.18+		.09		.10	
T1 Attachment		.51**		-.48*		.31
R ² Change		.18**		.15*		.07
Multiple R ²		.36**		.24*		.17

+ $p < .10$; * $p < .05$; ** $p < .01$.

of maternal negative affect. At T1, maternal negative affect was marginally correlated with children's self-reported negative affect ($r = .32, p < .10$), and marginally negatively correlated with children's positive self-concept at the same age ($r = -.30, p < .10$). At T2, maternal negative affect was significantly negatively correlated with children's positive self-concept at the same age ($r = -.40, p < .05$). Bivariate analyses indicated no significant cross-time associations of maternal negative affect and child self-concept.

Multivariate regression models examining child attachment security and maternal negative affect as predictors of children's self-concept over time

To further examine early relational predictors of children's later self-concept, two hierarchical multiple regression models were constructed to predict individual differences in children's positive self-concept and negative affect. For both models, T1 and T2 attachment were entered at the first step, and T1 maternal negative affect was entered at the second step to determine its unique contribution, taking into account children's attachment security. Results are presented in Table 5. In the first model, both attachment security and maternal negative affect at T1 were unique predictors of children's T2 positive self-concept. Further, the significant R^2 -change indicates that low levels of maternal negative affect accounted for a significant amount of variance in the positivity of children's self-concept at T2, even after accounting for attachment security at both ages. The overall model was significant, $F(3, 29) = 8.37, p < .001$. In the second model, only T1 attachment security was a significant predictor of children's self-reported negative affect, consistent with earlier findings, although maternal negative affect was a marginally significant predictor of negative affect even with attachment security at both ages controlled. The overall model was significant, $F(3, 29) = 4.60, p < .01$. There were no significant relations between attachment security, maternal negative affect, and children's self-reported timidity.

Discussion

The goals of this study were to examine children's self-concept across a developmental period characterized by significant growth in self-understanding, and to examine associations among self-concept, attachment security, and maternal negative affect. Overall, findings from this study support the conclusions that preschool children possess a coherent, psychologically-relevant self-concept, and that early relational influences show

Table 5. Multiple regression models predicting T2 child self-concept from attachment security and T1 maternal negative affect.

Variable	Positive self-concept		Negative affect	
	Step 1 β	Step 2 β	Step 1 β	Step 2 β
T2 Attachment	.16	.14	.01	.03
T1 Attachment	.50**	.53**	-.49*	-.52**
Multiple R^2	.36**		.24*	
T1 Maternal Negative Affect		-.33*		.29+
R^2 Change		.11*		.09+
Multiple R^2		.46***		.32**

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

important associations with children's self-understanding. In particular, a secure attachment is important for the positiveness of self-concept and its consistency over time.

First, findings of this study are consistent with other recent investigations in showing that preschoolers have internally consistent views of their psychological characteristics (e.g., Eder, 1990; Marsh et al., 2002; Measelle et al., 1998). This is reflected in the internal reliability at ages 4 and 5 of the CSVQ dimensions identified in this study (and also by Brown et al., 2008), and by their predicted relations to attachment security and maternal emotional functioning. The fact that internally consistent and conceptually coherent scales emerged from item analyses suggests that, rather than representing themselves exclusively in terms of a variety of behavioral characteristics, 4-year-olds connect these representations within overarching dimensions in ways that are concordant with common conceptualizations of older children's personality characteristics (e.g., John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994). The factor structure of the CSVQ suggests that children's views of their personality-like characteristics are organized around a robust positive-negative dimension (e.g., agreeableness, negative affect), but that other dimensions (e.g., timidity) are apparent also to young children which may reflect the salience of these dimensions (e.g., shyness) to them. Moreover, children of this study showed considerable variability in the characteristics they attributed to themselves, and did not confirm traditional expectations of a global positivity bias in their self-regard.

Moreover, this study advances previous research by assessing children's self-concept longitudinally, thus allowing us to address questions of stability and change in self-concept over time. Although children in this study did not evidence any changes in overall levels of agreeableness, negative affect, or timidity from 4 to 5 years, the three dimensions of children's self-concept were more interrelated at 5 years (average $r = .46$) than at 4 years (average $r = .25$). Although at 4 years old children demonstrated some meaningful connections among self-concept dimensions – the negative correlation between negative affect and timidity is sensible, for example, as children who report being cautious may also be unlikely to endorse items reflecting strong expression of negative emotion – the lack of other expectable intercorrelations among self-concept dimensions at 4 years old (e.g., a negative correlation between agreeableness and negative affect, which was apparent at age 5) suggests that younger children showed less evidence of making meaningful associations across broad personality dimensions. By 5 years old, however, children's self-views became increasingly coherent and consolidated, likely reflecting exposure to a broader range of experiences, and greater understanding and consideration of their internal experiences, in addition to representational growth more generally.

Children showed little rank-order stability in their self-perceptions from age 4 to 5, however, probably reflecting self-concept in the making. The lack of overall stability in children's self-concept is not surprising, given Eder's (1990) findings that 1-month retest stability of the CSVQ was low for 3- to 4-year-olds compared with the older children in her sample (see also Marsh et al., 1998, and Measelle et al., 1998, for similar findings). Despite the fact that children showed little overall stability in these dimensions of self-concept from ages 4 to 5, substantial individual differences in consistent responding over time were evident. These individual differences, particularly for those items representing a global positive-negative self-concept dimension, were associated with two independent indicators of children's relational context: attachment security and maternal reports of negative affect. Children's attachment security at 4 years old was also associated with general consistency scores, representing all 49 items rather than a single self-concept dimension.

Taken together, these findings indicate that the preschool years are a formative period for the development of self-concept or, in different terms, a period when mental working

models of the self are growing and consolidating. We cannot assume, of course, that young children interpret the meaning of these features of self-concept in ways that are comparable to adults (they probably do not). But the growing coherence of these dimensions together with their predicted relations to external variables contribute to growing support for the view that young children perceive themselves in more than concrete physical terms, and in ways that reflect an increasingly coherent, internally-consistent view of themselves.

Second, the findings of this study indicate that one of the significant relational influences on developing self-concept is the security of attachment. Children with a more secure attachment relationship at 4 years old described themselves at 5 years old as having more positive self-regard and less negativity, and greater agreeableness. This contributes to the validity of the CSVQ, and also confirms central predictions of attachment theory and the development of internal working models of self. Furthermore, individual differences in the stability of children's self-concept across the two assessments were associated with attachment security, with greater stability associated with a more secure attachment. These findings together suggest that with the emotional support afforded by a secure attachment, young children may begin to perceive themselves more positively and invest themselves in this self-perception more than children with insecure attachment relationships.

These findings also suggest that attachment security at 4 years old is especially relevant to the emergence of self-concept, and is more strongly associated with self-concept dimensions at 5 years old than even contemporaneous assessments of the security of attachment, despite the stability of attachment security over the two assessments. This is consistent with the view that it is in early childhood that the foundations of a psychological understanding of self are beginning to emerge, and therefore it is at this time that self-representations are most significantly shaped by the security of the mother-child relationship (Thompson, 2000, 2006). Why, then, was the security of attachment at 4 years old not associated with *contemporaneous* dimensions of self-understanding? Our tentative interpretation is that security exerts its greatest influence as self-understanding is becoming consolidated and internally coherent (Thompson, 2000), which other data from this study and other research suggest is occurring between 4-5 years old (see also Povinelli, 2001; Povinelli & Simon, 1998). In light of the fact that these are the earliest ages in which attachment has been associated with young children's explicit self-perceptions, however, this issue requires further empirical study.

Attachment theorists have proposed that a secure attachment is associated with more open access to positive and negative information about emotion and the self (e.g., Bretherton et al., 1990), and that secure children's self-understanding should thus be more coherent from its inception (e.g., Cassidy, 1990). By contrast, insecure children are believed to defensively exclude information about the self, which can contribute to instability in self-understanding over time as children confront features of the self that are inconsistent with predominant self-perceptions. This interpretation is consistent with Cassidy's (1988) findings that while secure children are open and positive about the self, insecure (especially insecure-avoidant) children are "closed" or unwilling to acknowledge imperfections in the self. For secure children, a warm, sensitive parent-child relationship may contribute to coherence in children's emergent self-understanding by permitting them to accept and integrate various facets of self-awareness into an integrated whole. For the same reason, children with secure attachments would be more likely to exhibit stability in their self-concept, consistent with the findings of this study.

Mental working models of the self have earlier developmental origins, of course, than the preschool years. It is likely that from the quality of parental care, infants and toddlers

derive an implicit sense of self from which more explicit self-referential beliefs arise. But it is also likely that with the growth of mental representations of internal psychological processes (including emotions, traits, and beliefs), the emergence of language as a means of more explicitly representing personal qualities and subsequently of child–adult conversation as a forum for reflection on the nature of these qualities, and the growth of social experience more generally, the preschool years witnesses a reorganization and consolidation of how young children represent their personal characteristics. This is one reason why a secure attachment during this period is influential in the development of self-concept, and we are currently examining how attachment relates to the content and quality of mother–child conversations about the self, and their association with young children’s self-referential beliefs.

Third, maternal negative affect was associated with children’s self-concept in expected ways, and independently of the security of attachment. Individual differences in self-concept were associated with maternal negative emotionality, such that children described themselves as more negative and less positive when mothers were themselves experiencing greater negative affect (depressive symptoms and parenting stress). These findings are consistent with the research on maternal depression and the self in infancy and early childhood (e.g., Radke-Yarrow et al., 1990; see Goodman & Gotlib, 1999, for a review), but advance earlier studies by assessing children’s explicitly expressed self-perceptions. Children’s self-perceptions were also less consistent over time when mothers were more negative. Together, these findings suggest that the broader emotional climate of the home, at least as it is indexed by maternal self-report of negative emotionality, can create stresses that affect children’s views of themselves, as well as stability in their self-regard.

The associations of both attachment security and maternal negative affect with consistency in self-understanding may also arise from children’s emotion understanding. Eder and colleagues (1990, 1994; Eder & Mangelsdorf, 1997) have argued that children’s earliest understanding of self is based on awareness and understanding of their own emotionality, suggesting that where better emotion understanding exists, greater coherence and consistency in self-understanding may follow. As negative affect within the family and children’s attachment insecurity have each been negatively associated with children’s emotion understanding (Halberstadt & Eaton, 2002; Laible & Thompson, 1998; Ontai & Thompson, 2002), emotion understanding may be a mediator of the associations between consistency in self-understanding and both attachment and negative affect. Although this association has not been addressed empirically, such a notion appears consistent with Welch-Ross and colleagues’ findings that mothers’ more extensive use of emotion language in conversation with preschool age children was related to children’s more organized self-knowledge (Welch-Ross et al., 1999).

This study offers a number of new insights into early self-concept development and its associations with children’s attachment security and other aspects of the relational context. However, replication of these findings in follow-up research is needed, particularly given the relatively small sample size of the present study. The longitudinal design of this study is a strength for understanding the direction of associations between attachment and self-concept content and consistency over time; even so, future research should further clarify the nature of these associations by including multiple assessments of each construct over time. Despite these limitations, this study contributes to the growing body of literature concerning the development of young children’s self-concept, and reinforces the importance of this avenue of inquiry.

Acknowledgements

This research was conducted while the authors were at the University of Nebraska, Lincoln. We thank the children and mothers who participated in this study, and the many undergraduate research assistants who helped with data collection.

References

- Abidin, R. (1995). *Parenting stress index, third edition professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Bretherton, I. (1993). From dialogue to internal working models: The co-construction of self in relationships. In C.A. Nelson (Ed.), *Memory and affect in development. Minnesota symposia on child psychology: Vol. 26* (pp. 237–263). Hillsdale, NJ: Erlbaum.
- Bretherton, I., & Munholland, K. (1999). Internal working models in attachment relationships: A construct revisited. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment* (pp. 89–111). New York: Guilford.
- Bretherton, I., Ridgeway, D., & Cassidy, J. (1990). Assessing internal working models of the attachment relationship: An attachment story completion task for 3-year-olds. In M.T. Greenberg, D. Cicchetti, & E.M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 273–308). Chicago: University of Chicago Press.
- Brown, G.L., Mangelsdorf, S.C., Agathen, J.M., & Ho, M. (2008). Young children's psychological selves: Convergence with maternal reports of child personality. *Social Development, 17*, 161–182.
- Buckner, J.P., & Fivush, R. (1998). Gender and self in children's autobiographical narratives. *Applied Cognitive Psychology, 12*, 407–429.
- Cassidy, J. (1988). Child–mother attachment and the self in six-year-olds. *Child Development, 59*, 121–134.
- Cassidy, J. (1990). Theoretical and methodological considerations in the study of attachment and the self in young children. In M.T. Greenberg, D. Cicchetti, & E.M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 87–119). Chicago: University of Chicago Press.
- Clark, S.E., & Symons, D.K. (2000). A longitudinal study of Q-sort attachment security and self-processes at age 5. *Infant and Child Development, 9*, 91–104.
- Colman, R.A., & Thompson, R.A. (2002). Attachment security and the problem-solving behaviors of mothers and children. *Merrill-Palmer Quarterly, 48*, 337–359.
- Colwell, M.J., & Lindsey, E.W. (2003). Teacher–child interactions and preschool children's perceptions of self and peers. *Early Child Development & Care, 173*, 249–258.
- Dweck, C.S., & London, B. (2004). The role of mental representation in social development. *Merrill-Palmer Quarterly, 50*, 428–444.
- Eder, R.A. (1990). Uncovering young children's psychological selves: Individual and developmental differences. *Child Development, 61*, 849–863.
- Eder, R.A. (1994). Comments on children's self-narratives. In U. Neisser & R. Fivush (Eds.), *The remembering self* (pp. 180–190). Cambridge: Cambridge University Press.
- Eder, R.A., & Mangelsdorf, S.C. (1997). The emotional basis of early personality development: Implications for the emergent self-concept. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (pp. 209–240). Orlando, FL: Academic Press.
- Goodman, S.H., & Gotlib, I.H. (1999). Risk for psychopathology in the children of depressed mothers: A developmental model for understanding mechanisms of transmission. *Psychological Review, 106*, 458–490.
- Halberstadt, A.G., & Eaton, K.L. (2002). A meta-analysis of family emotional expressiveness and children's emotion expressiveness and understanding. *Marriage & Family Review, 34*, 35–62.
- Harter, S., & Pike, R. (1984). The pictorial scale of Perceived Competence and Social Acceptance for Young Children. *Child Development, 55*, 1969–1982.
- Heyman, G., & Gelman, S. (2000). Preschool children's use of trait labels to make inductive inferences. *Journal of Experimental Child Psychology, 77*, 1–19.
- Heyman, G., Gee, C., & Giles, J. (2003). Preschool children's reasoning about ability. *Child Development, 74*, 516–534.
- John, O.P., Caspi, A., Robins, R.W., Moffitt, T.E., & Stouthamer-Loeber, M. (1994). The “little five”: Exploring the nomological network of the five-factor model of personality in adolescent boys. *Child Development, 65*, 160–178.

- Keller, A., Ford, L.M., & Meacham, J.A. (1978). Dimensions of self-concept in preschool children. *Developmental Psychology, 14*, 483–489.
- Kochanska, G. (2002). Committed compliance, moral self, and internalization: A mediational model. *Developmental Psychology, 38*, 339–351.
- Laible, D., & Thompson, R.A. (1998). Attachment and emotional understanding in preschool children. *Developmental Psychology, 34*, 1038–1045.
- Livesley, W.J., & Bromley, D.B. (1973). *Person perception in childhood and adolescence*. Oxford: John Wiley & Sons.
- Marsh, H.W., Craven, R., & Debus, R. (1998). Structure, stability, and development of young children's self-concepts: A multicohort-multioccasion study. *Child Development, 69*, 1030–1053.
- Marsh, H.W., Ellis, L.A., & Craven, R.G. (2002). How do preschool children feel about themselves? Unraveling measurement and multidimensional self-concept structure. *Developmental Psychology, 38*, 376–393.
- Measelle, J.R., Ablow, J.C., Cowan, P.A., & Cowan, C.P. (1998). Assessing young children's views of their academic, social, and emotional lives: An evaluation of the self-perception scales of the Berkeley Puppet Interview. *Child Development, 69*, 1556–1576.
- Nelson, K., & Fivush, R. (2004). The emergence of autobiographical memory: A social cultural developmental theory. *Psychological Review, 111*, 486–511.
- Ontai, L.L., & Thompson, R.A. (2002). Patterns of attachment and maternal discourse effects on children's emotion understanding from 3 to 5 years of age. *Social Development, 12*, 657–675.
- Povinelli, D. (2001). The self: Elevated in consciousness and extended in time. In C. Moore & K. Lemmon (Eds.), *The self in time* (pp. 75–95). Mahwah, NJ: Erlbaum.
- Povinelli, D., & Simon, B. (1998). Young children's understanding of briefly versus extremely delayed images of the self: Emergence of the autobiographical stance. *Developmental Psychology, 34*, 188–194.
- Radke-Yarrow, M., Belmont, B., Nottelmann, E., & Bottomly, L. (1990). Young children's self-conceptions: Origins in the natural discourse of depressed and normal mothers and their children. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (pp. 345–361). Chicago: University of Chicago Press.
- Radloff, L.S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385–401.
- Tellegen, A. (1985). Structures of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In A.H. Tuma & J.D. Maser (Eds.), *Anxiety and the anxiety disorders* (pp. 681–706). Hillsdale, NJ: Erlbaum.
- Thompson, R.A. (2000). The legacy of early attachments. *Child Development, 71*, 145–152.
- Thompson, R.A. (2006). The development of the person: Social understanding, relationships, self, conscience. In W. Damon & R.M. Lerner (Eds.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (6th ed, pp. 24–98). New York: Wiley.
- van IJzendoorn, M.H., Vereijken, C., Bakermans-Kranenburg, M.J., & Riksen-Walraven, J.M. (2004). Assessing attachment security with the Attachment Q-Sort: Meta-analytic evidence for the validity of the observer AQS. *Child Development, 75*, 1188–1213.
- Verschueren, K., Marcoen, A., & Schoefs, V. (1996). The internal working model of the self, attachment, and competence in five-year-olds. *Child Development, 67*, 2493–2511.
- Waters, E., & Deane, K. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behavior in infancy and early childhood. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development, 50* (Serial no. 209), 41–65.
- Welch-Ross, M.K., Fasig, L.G., & Farar, M.J. (1999). Predictors of preschooler's self-knowledge: Reference to emotion and mental states in mother-child conversation about past events. *Cognitive Development, 14*, 401–422.