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Caregiving Antecedents of Secure Base Script Knowledge: A Comparative Analysis of Young Adult Attachment Representations

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Abstract

Based on a sub-sample (*N* = 673) of the NICHD Study of Early Child Care and Youth Development (SECCYD) cohort, this paper reports data from a follow-up assessment at age 18 years on the antecedents of *secure base script knowledge*, as reflected in the ability to generate narratives in which attachment-related difficulties are recognized, competent help is provided, and the problem is resolved. Secure base script knowledge was (a) modestly to moderately correlated with more well established assessments of adult attachment, (b) associated with mother-child attachment in the first three years of life and with observations of maternal and paternal sensitivity from childhood to adolescence, and (c) partially accounted for associations previously documented in the SECCYD cohort between early caregiving experiences and Adult Attachment Interview states of mind (Booth-LaForce & Roisman, 2014) as well as self-reported attachment styles (Fraley, Roisman, Booth-LaForce, Owen, & Holland, 2013).

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From the perspective of Bowlby's (1969/1982) attachment theory, early life-course interactions between children and their caregivers have the potential to influence developmental outcomes in an enduring manner because they become internalized in the form of generalized mental representations or *internal working models* (for formal explication, see Fraley, Roisman, & Haltigan, 2013). Said another way, Bowlby argued that internal working models function as the focal mechanism that make childhood caregiving experiences portable to novel developmental contexts into the years of maturity. Nonetheless, as Hinde (1988) and others (e.g., Thompson, Laible, & Ontai, 2003) have emphasized, characterizing what *specific form* the developing representations of early caregiving experiences take is a crucial undertaking both for theory development and intervention efforts.

Efforts to measure attachment representations among adolescents and adults have produced two relatively distinct methodological traditions (Roisman, 2009; Roisman, Holland, et al., 2007). The first of these focuses on assessing variation in individuals' *states of mind regarding attachment* based on an analysis of participants' narratives about childhood experiences with primary caregivers (Main, Kaplan, & Cassidy, 1985). The second focuses on the measurement of self-reported *attachment styles*—relatively enduring patterns of thoughts, feelings, and behaviors in close adult relationships (Hazan & Shaver, 1987).

Although these traditions have produced voluminous literatures (Cassidy & Shaver, 2008), both approaches also are beset by conceptual, empirical, and pragmatic limitations with respect to delineating the cognitive structure of the attachment representations abstracted from childhood experiences with primary caregivers. For that reason, the current paper highlights a third, recently discussed representational consequence of variation in early caregiving experiences—individual differences in *secure base script knowledge* (Waters & Waters, 2006).

Below, we present a brief review of the previous work examining associations between early caregiving experiences and adult attachment representations from the two major methodological traditions. Next, we discuss the potential "value added" of the emerging cognitive script approach to the assessment of attachment representations. Finally, we present a set of analyses based on a follow-up of the large sample NICHD Study of Early Child Care and Youth Development (SECCYD) cohort aimed at explicating the origins of variation in secure base script knowledge by examining the extent to which childhood experiences with primary caregivers are reflected in individual differences in secure base script knowledge measured at age 18 years. Notably, we report these analyses in the context of head-to-head comparisons with more well-established assessments of adult attachment representations by building on prior publications of age 18 year Adult Attachment Interview (AAI; Booth-LaForce & Roisman, 2014) and self-reported attachment style data (Fraley, Roisman, Booth-LaForce, Cox, & Holland, 2013) acquired from the SECCYD cohort.

States of mind regarding attachment

In developmental psychology, much of the research assessing individual differences in adult attachment representations has been conducted with the AAI (Main et al., 1985; Hesse, 2008). According to this approach, the secure adult tells a *coherent* narrative about his or her early caregiving experiences during the AAI in the sense that his or her discourse is internally consistent but not emotionally overwrought. Importantly, narrative coherence in the AAI is thought to be an indirect indicator of the organization of the underlying attachment representations and the attentional strategies used by narrators as they reflect on their relationships with their parents (Main, 2000).

The primary method for scoring the AAI (Main, Golwyn, & Hesse, 2003-2008) consists of a set of "state-of-mind" ratings (e.g., coherence of mind) that inform assignment of individuals to one of three mutually exclusive primary attachment categories (*secure-autonomous*, *dismissing*, and *preoccupied*). Although research on the AAI using Main and Goldwyn's categorical coding system has clearly been productive (Bakermans-Kranenburg & Van IJzendoorn, 2009), recent large sample factor analytic and taxometric studies (e.g., Fraley & Roisman, 2014; Haltigan, Roisman, & Haydon, 2014; Haydon, Roisman, & Burt, 2012; Roisman, Fraley, & Belsky, 2007) provide evidence that the AAI captures two relatively orthogonal state-of-mind dimensions—one that reflects the degree to which individuals either freely evaluate or defensively discuss their early experiences (i.e., *dismissing states of mind*) and the other reflecting attachment-related distress and confusion (i.e., *preoccupied states of mind*).

The hypothesis that early experiences with caregivers organize adults' later attachment-related representations has received a good deal of attention in studies of the AAI. However, the costly nature of the prospective, longitudinal research needed to address such questions with Main's protocol has resulted in a literature of fairly small sample studies, most of which have been focused on test-retest stability in security from infancy (typically measured using the Strange Situation Procedure; Ainsworth, Blehar, Waters, & Wall, 1978) to late adolescence and young adulthood (as assessed with the AAI; Grossmann, Grossmann, & Waters, 2006; Roisman & Haydon, 2011). Moreover, the largest of such studies—the Minnesota Longitudinal Study of Risk and Adaptation (MLSRA) ($N \approx 140$; Weinfield, Sroufe, & Egeland, 2000) and the SECCYD follow-up study ($N=857$; Groh et al., 2014)—have reported fairly weak stability in security over the first two decades of life (*r*s ranging from approximately .10 to .15).

Because attachment theory suggests that caregiver sensitivity and availability are key organizers of individuals' later attachment-related representations, a few studies have also examined direct observations of early caregiving as predictors of AAI states of mind. In the largest such study conducted to date, Haydon, Roisman, Owen, Booth-LaForce, and Cox (2014; $N = 857$) leveraged data from the longitudinal SECCYD and a follow-up assessment at age 18 years to examine the degree to which early experiences with caregivers are associated with adults' later attachment-related representations. Analyses demonstrated that, at the bivariate level, AAI dismissing and preoccupied (i.e., insecure) states of mind were negatively predicted by composite assessments of maternal and paternal sensitivity from

early childhood through mid-adolescence, although these associations were somewhat larger in magnitude for maternal sensitivity (r = -.33 for dismissing and r = -.20 for preoccupation) than for paternal sensitivity (r = -.16 for dismissing and r = -.11 for preoccupation).

Overall, then, extant data suggest that early experiences with primary caregivers are clearly reflected in later attachment-related representations as assessed by the AAI. Nonetheless, scholars face at least three challenges when using the AAI as a means of exploring the cognitive residue of earlier caregiving experiences. First, there is considerable conceptual distance between the coherence of AAI narratives and the underlying attachment representations that might serve as its foundation. H. Waters and E. Waters (2006) observed, for example, that an adult's ability to produce a narrative about early relationships with caregivers in the AAI without contradiction or excessive elaboration (i.e., coherent or consistent/collaborative discourse; Hesse, 2008) does not directly capture his or her expectations of secure base use and support, which are central features of attachment representations. Second, the administration, transcription, and coding of the AAI is highly resource-intensive, putting the measure out of the reach of many developmental scientists. Third and finally, questions remain as to why AAI states of mind were more strongly associated with direct observations of maternal versus paternal sensitivity during childhood in the SECCYD (Haydon et al., 2014). On the one hand, representations of early caregiving experiences might in fact disproportionately derive from maternal experiences because mothers are more likely to serve as primary caregivers. On the other hand, it could be that the AAI protocol and/or its coding systems are more sensitive to experiences with maternal caregivers, and that paternal contributions to adults' representations are being relatively neglected by the AAI at the level of assessment.

Self-reported attachment style

The second research tradition—better represented in social and personality psychology—relies on self-report questionnaires of attachment-related thoughts and feelings in adult relationships (Hazan & Shaver, 1987). Although attachment styles were originally conceptualized as categorically distributed, social and personality researchers discovered relatively early on using factor analysis (e.g., Simpson, Rholes, & Nelligan, 1992; Brennan, Clark & Shaver, 1998) and taxometric techniques (e.g., Fraley & Waller, 1998) that two dimensions best accounted for the variation in self-reported attachment styles. *Attachment-related avoidance* reflects the degree to which people are uncomfortable with closeness and dependency whereas *attachment-related anxiety* concerns the extent to which a person is worried that they may be rejected in close relationships.

In contrast to the AAI, measures of self-reported attachment style are much more easily administered and coded. However, assessments of attachment style clearly do not assess working models derived from early experience with primary caregivers in any direct sense. Instead, these measures were developed to characterize attachment-relevant behaviors, emotions, and cognitions in close *adult* relationships. Moreover, relatively few longitudinal studies have examined whether self-reported avoidance and/or anxiety actually reflect variation in the quality of early experiences with primary caregivers, and the few adequately powered studies that have been conducted suggest that any such associations are notably

small in magnitude. For example, Salo, Jokela, Lehtimaki, and Keltikangas-Jarvinen (2011; *N* =1070) reported that the association between self-reported early maternal nurturance and avoidant attachment style 21 to 27 years later was -.07, a correlation of trivial magnitude by Cohen's (1992) criteria (trivial: $r < .10$, small: $r = .10$, moderate: $r = .24$, large: $r > .37$). Examining associations between direct observations of the early caregiving environment and self-reported attachment styles in the SECCYD follow-up study at age 18 years, Fraley, Roisman, Booth-LaForce, et al. (2013; $N = 707$) found that, although self-reports of anxiety and avoidance were correlated with a host of developmental antecedents, associations with early attachment security and maternal sensitivity in particular were trivial to small in magnitude and generally not statistically significant (Fraley, Roisman, Booth-LaForce, et al., 2013, did not report data on observed paternal sensitivity).

Secure base script knowledge

Borrowing from the cognitive and developmental literatures on memory, and based on seminal theoretical work by Bretherton (1987, 1990), attachment researchers have recently started to investigate a third possibility that the legacy of early caregiving experience might be reflected in individual differences in attachment-relevant *scripts* (H. Waters & Rodrigues-Doolabh, 2001; Waters & Waters, 2006). Cognitive scientists like Schank (1999) and others (e.g. Nelson, 1986) argue that as we encounter similar experiences over time we begin to summarize commonalities (e.g., the main character(s), causal chain of events, and resolution or ending) across those events and form a script for how those events typically unfold. For example, experiences visiting restaurants results in a “restaurant script” (i.e., look at the menu, order food, eat, pay, and leave) that comes to guide expectations and behavior in future visits to restaurants (Schank and Abelson, 1977). H. Waters and colleagues (Waters & Waters, 2006) proposed that, much like the restaurant script, an individual's history of care and secure base support is represented in memory as a *secure base* script. If secure base support has been consistent and coherent, the script should be reasonably complete, well consolidated, and readily accessible in relevant situations. If secure base support has been inconsistent, incomplete, or ineffective, the script should be less well configured, possibly less accessible, and perhaps absent.

To assess individual differences in access to this secure base script (i.e., secure base script *knowledge*), H. Waters and colleagues developed the Attachment Script Assessment (ASA). The ASA uses a word-prompt outline in which participants generate short stories with attachment-related themes from a set of words. Ultimately, secure base script knowledge is operationally defined in terms of the degree to which an individual produces narratives in which attachment-relevant events are encountered, a clear need for assistance is communicated, competent help is provided and accepted, and the problem is resolved. In an adult version of the ASA, four attachment-relevant word-prompt stories are generated by each participant (two containing adult-adult and two adult-child scenarios; Waters & Rodrigues-Doolabh, 2001). In an adolescent version of the measure (Dykas, Woodhouse, Cassidy, & Waters, 2006), participants use developmentally tailored word prompts specific to maternal and paternal caregivers.

In the last few years, studies of the ASA examining the developmental significance of individual differences in secure base script knowledge have provided evidence that, in addition to being relatively cost effective (i.e., the measure requires about 15 minutes to administer and can be coded by trained raters almost as quickly as it is read from transcripts), the ASA has attractive psychometric properties, including adequate test-retest reliability (r = .54, n = 53; Vaughn, Veríssimo, et al., 2006) and convergent validity both with coherence of mind as assessed by the AAI (meta-analytic r = .53, n = 87; Waters & Rodrigues-Doolabh, 2001; Coppola, Vaughn, Cassibba, & Constantini, 2006) and self-reports of attachment avoidance (e.g., r = -.38, n = 40; Dykas et al., 2006). Secure base script knowledge is also positively associated with high-quality parenting as well as attachment security in the next generation, even among biologically unrelated caregivers and their adopted children (Bost et al., 2006; Coppola et al., 2006; Groh & Roisman, 2009; Monteiro, Veríssimo, Vaughn, Santos, & Bost, 2008; Vaughn, Waters, et al., 2006; Vaughn et al., 2007; Veríssimo & Salvaterra, 2006). Although such studies address critical questions regarding the reliability and validity of the ASA as an assessment of secure base script knowledge, the hypothesis that the secure base script is a product of early experiences with primary caregivers has not yet been examined.

The current study

In the present report we tested the hypothesis that the quality of early caregiving experiences gives rise to individual differences in secure base script knowledge in young adulthood by leveraging data from the longitudinal (birth to age 15 years) SECCYD and a follow-up study of the cohort at age 18 years. At the follow-up, the ASA was administered concurrently with the AAI and two self-report assessments of attachment style. Drawing on these data as well as observations of maternal and paternal caregiving, including assessments of early attachment security at 15, 24, and 36 months and assessments of sensitivity at 6, 15, 24, 36, and 54 months, Grades 1, 3, and 5, and at age 15, here we addressed four research aims.

First, we attempted to replicate relatively small-sample evidence reviewed earlier that the ASA shows convergent validity with other more well established assessments of adult attachment. Second, we tested the hypothesis that secure base script knowledge has its origins, in part, in key attachment-related experiences in childhood and adolescence, including early attachment security and direct observations of maternal and paternal sensitivity through mid-adolescence. Third, we estimated how much of the variance in ASA secure base script knowledge could be accounted for by these key attachment-related experiences in childhood and adolescence, and whether such associations were robust to demographic control variables. Fourth, we examined whether previously documented associations in the SECCYD between early caregiving experiences and AAI states of mind (Booth-Force & Roisman, 2014) as well as self-reported attachment styles (Fraley, Roisman, Booth-LaForce, et al., 2013) could, at least in part, be accounted for by variation in secure base script knowledge.

Method

Participants

Participants were 673 young adults who completed an age-18 year follow-up of the NICHD SECCYD (see Booth-LaForce & Roisman, 2014). Briefly, the SECCYD was a longitudinal study that followed 1364 study children and their families at 10 sites across the United States, from birth through age 15 years. The primary purpose of the SECCYD, using an ecological model, was to predict children's developmental outcomes (language, cognitive, social-emotional, health) from characteristics of relevant contexts (child care, home, school, neighborhood) and individual characteristics of the child and family (see http://www.nichd.nih.gov/research/supported/Pages/seccyd.aspx for detailed information).

At an age-18 year follow-up assessment of the active SECCYD cohort, 857 participants were interviewed either in person or via phone about their childhood experiences, using the AAI. The ASA (N = 674) was administered immediately following the administration of the AAI, primarily when the interview was conducted in person. With respect to the difference in sample size between the AAI sample (N = 857) and the final ASA sample (N = 673), because administration of the ASA was in general not attempted over the phone, 170 participants who completed the AAI remotely were not asked to complete the ASA (three ASAs were completed via phone and are included in this report). In addition, thirteen participants who completed the AAI in person refused to complete the ASA and one participant who was administered the ASA did not complete the AAI and was therefore not included in analyses reported here.

Attrition Analyses

We compared demographic characteristics of the ASA sample (n = 673) with those in the original SECCYD sample not included in the ASA sample (n = 691). The ASA sample had significantly more females (ASA: M = 52% female, no ASA: M = 45% female, χ^2 [1, N = 1364] = 6.13, $p < .05$; d = .13), had mothers with more years of education (ASA: M = 14.53, SD = 2.41, no ASA: M = 13.94, SD = 2.58, t [1361] = 4.35, $p < .01$; d = .24), and had higher family income-to-needs ratio (ASA: M = 4.10, SD = 2.95, ASA: M = 3.44, SD = 3.09, t [1354] = 4.06, $p < .01$; d = .22), although all such differences were trivial to small in magnitude by Cohen's (1992) criteria. The ASA sample did not differ significantly from the original SECCYD sample not included in the ASA sample on ethnicity (ASA: M = 77% White, non-Hispanic, no ASA: 76% White, non-Hispanic, χ^2 [1, N = 1364] = .56, p = .45; d = .04).

We also compared demographic characteristics of the ASA sample (n = 673) with those who were included in the age 18 AAI sample (Booth-LaForce & Roisman, 2014) but did not have ASA data (n = 184). The ASA sample did not differ significantly from the AAI sample in gender (ASA: M = 52% female, AAI: M = 48% female, χ^2 [1, N = 857] = .87, p = .35; d = .08), ethnicity (ASA: M = 77% White, non-Hispanic, AAI: 82% White, non-Hispanic, χ^2 [1, N = 857] = 1.53, p = .22; d = .10), maternal years of education (ASA: M = 14.53, SD = 2.41, AAI: 14.67, SD = 2.52, t [855] = -.67, p = .50; d = .06), or family income-to-needs ratio (ASA: M = 4.10, SD = 2.95, AAI: 4.23, SD = 3.73, t [854] = -.47, p = .64; d = .04).

Measures and Procedures

Individual differences in adult attachment assessed at age 18 years

Attachment Script Assessment: The adolescent version of the ASA (Dykas et al., 2006) is a narrative-based measure of attachment containing mother and father versions. The mother version contains stories entitled *The Party* and either *Acne* (completed by girls) or *The Haircut* (completed by boys). The father version contains stories entitled *The Tennis Match* and *Studying for an Exam*. Boys and girls completed a different story in the mother version (i.e., *Acne* or *The Haircut*) due to gender-related sensitivities regarding personal appearance (Dykas et al., 2006).

Participants were given a sheet of paper with the story's title at the top and a list of 12 words (four words in 3 separate columns) that served as a word-prompt outline. They were asked to tell the best story possible using the outline, and instructed that they need not use all of the words in the outline, they could change the order of the words, or they could even change the words themselves. The task was not timed and participants were asked to tell a story of approximately one page in length, transcribed. Finally, to ensure that participants understood the task, they first completed a practice story entitled *A Trip to the Beach* (this story was not coded).

ASAs were digitally audiotaped and transcribed verbatim by teams at the University of Illinois at Urbana-Champaign (UIUC) and the University of North Carolina at Chapel Hill. Prior to coding the ASA transcripts, two coders from UIUC and two coders from Auburn University received in-person ASA coding training held by Dr. Harriet Waters. Each ASA story was coded on a 7-point secure base script knowledge scale (*1 = No secure base script content is apparent* to 7 = extensive secure base script organization with substantial elaboration) developed by H. Waters and Rodrigues-Doolabh (2001). None of the ASA coders were involved with the coding of the AAIs and all were blind to all other data available on the SECCYD participants.

As in most prior studies using the ASA (e.g., Bost et al., 2006), analyses in the current report focused on a single composite score derived by averaging the secure base script knowledge scores across all four stories (see also Waters et al., under review, for evidence that the four stories load on a single factor). For this reason, reliability data reported below focus on reliability at the level of the overall secure base script knowledge score. Details about inter-rater reliability at the story level are presented in Web Appendix A.

Each site coded approximately 50% of the ASAs (UIUC: n = 424; Auburn: n = 420), which included an overlapping set of reliability cases that were coded by both sites (n = 170; 25%). The two coders at each site scored all of the same stories, such that each ASA received at least two scores. Finally, H. Waters coded a portion of the ASAs included in the reliability set (n = 70, or 10% of the administered ASAs). As a result, reliability was assessed at three levels of analysis. (All reported ICCs are mixed model, absolute agreement, and average measures). First, we examined within-site reliability. For both UIUC and Auburn, the ICC for secure base script knowledge (i.e., the mean of available stories for each coder) was .95 (ns = 424 and 420, respectively). Next, between-site reliabilities for the four coders from

UIUC and Auburn were calculated using the set of reliability cases. The ICC for secure base knowledge was .93 (n = 170). Finally, we calculated separate reliabilities between UIUC and Auburn with H. Waters. For UIUC and H. Waters, the ICC for the four stories was .95. For Auburn and H. Waters, the ICC for the four stories was also .95. High reliability scores between H. Waters and two coding sites provided confidence regarding the reliability of the coders' scores with a gold standard; however, H. Waters' scores were not used in the final ASA score for each participant.

On the basis of the high within- and between-site reliability scores, we computed final scores for each of the participants' four stories by averaging all of the (available) coders' scores. Thus, for the ASAs included in the cross-site reliability set, the average of the four coders' scores was entered as the participant's final score for each particular story, whereas final scores for the ASA stories not included in the cross-site reliability set were derived by averaging the two coders' scores from the site responsible for coding that case. For the ASA sample, observed scores ranged from 1.0 to 6.4. Cronbach's alpha for the composite of the four stories was .78.

Adult Attachment Interview: The AAI is an approximately hour-long protocol in which the participants were asked a set of questions regarding their early childhood experiences, including memories about loss, separation, rejection, and trauma. As described in detail by Booth-LaForce and Roisman (2014), AAI transcripts were rated at UIUC by six trained and certified coders. The six AAI coders were trained by Dr. June Sroufe, and all coders passed the set of reliability tests administered by Dr. Mary Main at UC Berkeley. Note that the sample of AAIs in the following analyses represents the subsample of the 857 participants who completed both the AAI and ASA (n = 673).

The AAIs acquired from the SECCYD cohort were scored using both the Main and Goldwyn (2003-2008) and the AAI Q-set (Kobak, 1993) methods. For the current analysis, we made use of the overall coherence of mind scale drawn from the Main and Goldwyn coding system (ICC = .85, $p < .01$, in the full sample). In addition, in light of factor-analytic and taxometric evidence indicating that AAI narratives vary along two key dimensions (i.e., dismissing and preoccupied) and recommendations by Haydon et al. (2012), we also used the AAI Q-set (Kobak, 1993) to scale participants on dismissing and preoccupied states of mind. More specifically, the AAI Q-set consists of 100 cards that describe attachment-related states of mind and inferred parental experiences. Coders sort cards into a forced normal distribution from least to most characteristic of each individual's AAI narrative. Sorts are then correlated with prototypic sorts that reflect theoretically relevant attachment state of mind dimensions, in this case dismissing and preoccupied states of mind. The dismissing states of mind dimension reflects the degree to which the individual freely evaluates (versus defensively dismisses) early childhood experiences with caregivers, whereas the preoccupied states of mind dimension reflects the degree to which the individual becomes caught up and emotionally aroused while discussing early experiences with caregivers.

For the full sample (see Booth-Laforce & Roisman, 2014), a subsample of 178 AAIs (or 21% of the original [n = 857] AAI sample) was included in reliability analyses of the AAI

Q-set, and the percentage of these AAIs for which reliability was .6 or higher (after Spearman-Brown correction) was 90%. In cases in which the two coders were unreliable, a third (and rarely fourth) coder completed another sort of the unreliable case and data from the two coders with the highest reliability above .6 were averaged and used in analyses (final M = .77, SD = .08, .60-.93). For the ASA sample, AAI coherence of mind scores ranged from 1 to 8, AAI dismissing states of mind ranged from -.72 to .76, and AAI preoccupied states of mind ranged from -.59 to .78.

Relationship Scales Questionnaire: General attachment orientation was assessed using the Relationships Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994). The RSQ is a self-report measure that assesses the extent to which individuals avoid closeness and worry about being unloved or abandoned in close relationships. Completed by the participants via a web-based survey, the RSQ was scored with respect to two dimensions based upon the Simpson, Rholes, and Nelligan (1992; see Roisman et al., 2007) scoring system: *attachment-related avoidance* (e.g., “I’m somewhat uncomfortable being close to others”) and *attachment-related anxiety* (e.g., “I often worry that my partner(s) don’t really love me”). As reported in Fraley, Roisman, Booth-LaForce, et al. (2013; n = 707), the two dimensions were positively correlated (r = .49) and had high reliabilities (α = .81 and .86, respectively). For the ASA sample, observed scores ranged from 1.00 to 4.88 for attachment-related avoidance, and 1.00 to 5.00 for attachment-related anxiety.

Experiences in Close Relationships-Revised: Romantic attachment orientation was assessed using the Experiences in Close Relationships-Revised (ECR-R; Fraley, Waller, & Brennan, 2000). The ECR-R is not a global measure of attachment, nor was the ECR-R used to assess a specific romantic relationship. Rather, the ECR-R measure is a self-report questionnaire that is used to assess trait-like insecurity in relation to romantic attachments. As with the RSQ, the ECR-R was scored with respect to two dimensions: *attachment-related avoidance* (e.g., “I don’t feel comfortable opening up to romantic partners”) and *attachment-related anxiety* (e.g., “I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am”) (Brennan et al., 1998). As reported in Fraley, Roisman, Booth-LaForce, et al. (2013) using the full sample, the two dimensions were positively correlated (r = .33) and had high reliabilities (α = .94 for both dimensions). For the ASA sample, observed scores ranged from 1.00 to 6.33 for attachment-related avoidance, and 1.00 to 6.44 for attachment-related anxiety.

Early caregiving antecedents

Proportion of times secure in early childhood: Security in early childhood with the mother was assessed using the Strange Situation Procedure (SSP; Ainsworth et al., 1978) at 15 months, the Attachment Q-Set (AQS; Waters & Deane, 1985) at 24 months, and the Modified Strange Situation Procedure (MSSP; Cassidy, Marvin, & the MacArthur Working Group on Attachment, 1992) at 36 months. Given the variety of early attachment assessments collected in the SECCYD, a composite measure of early security was created (see Groh et al., 2014, for more information). To do so, first a secure versus insecure variable was created for the SSP. For the AQS, children whose Q-sorts were correlated at . 30 or above with the security criterion sort were classified as secure (vs. insecure; as

suggested by Waters, 2003). For the MSSP, a secure versus insecure variable also was computed. Next, if data were available on two or more early attachment assessments, the proportion of times the child was coded as secure was determined by taking the number of times the child was classified secure for each available attachment assessment and dividing by the total number of attachment assessments available for that child (N = 652 in the ASA sample; ns for proportion of times secure: 64 [9.8%] = .00, 154 [23.6%] = .33, 19 [2.9%] = .50, 260 [39.9%] = .67, 155 [23.8]% = 1.00). For example, if the child completed only 2 of the 3 early attachment assessments and was coded as secure on 1 of the 2 assessments, he or she would have received a score of .50.

Parental sensitivity: Direct observations of maternal sensitivity were acquired at 6, 15, 24, 36, and 54 months; Grades 1, 3, and 5; and age 15 years. Assessments of paternal sensitivity were collected at 54 months; Grades 1, 3, and 5; and age 15 years. Sensitivity was assessed while children and their mother/father were videotaped as the target participants completed age-appropriate tasks (e.g., Owen, Vaughn, Barfoot, & Ware, 1996). As in prior studies using the SECCYD, sensitivity scores at all ages were first standardized and then averaged to create the observed maternal sensitivity and observed paternal sensitivity composites. More information regarding the tasks and scoring system can be found in Booth-LaForce, Groh, Burchinal, Roisman, Owen, and Cox (2014) and Fraley, Roisman, Booth-LaForce, et al. (2013). For the ASA sample, observed (standardized) scores for maternal sensitivity (α = .83) ranged from -3.84 to 1.86, and for paternal sensitivity (α = .72) from -5.67 to 2.67.

Covariates—Covariates included child race/ethnicity (1 = white/non-Hispanic, 0 = other), child gender (1 = male, 2 = female), maternal years of education, and family income. Family income was measured as an income-to-needs ratio (total family income divided by the year-specific poverty threshold for the appropriate family size), calculated separately at 1, 6, 15, 24, 36 and 54 months; Grades 1, 3, 5 and 6; and age 15 years.

Results

All data were analyzed using SPSS 21.0. Very few data were missing other than data structurally missing due to a lack of a paternal figure.

How strongly is ASA secure base script knowledge correlated with the AAI, RSQ, and ECR dimensions?

As detailed in Table 1, ASA secure base script knowledge produced a large association with AAI coherence of mind (r = .42, p < .01) and AAI dismissing states of mind (r = -.39, p < .01), small-to-moderate associations with AAI preoccupied states of mind (r = -.20, p < .01), RSQ anxiety (r = -.10, p < .05), and RSQ avoidance (r = -.17, p < .01), and converged trivially with ECR avoidance (r = -.09, p < .05). ASA secure base knowledge was not significantly correlated with ECR anxiety (r = -.04, p = .41).

Does secure base script knowledge have its origins, in part, in key attachment-relevant experiences in childhood and adolescence?

To address this question, we began by computing correlations to examine how strongly measures of early attachment and parental sensitivity were associated with ASA secure base script knowledge (Table 1). In addition, paralleling earlier publications of the SECCYD dataset (Fraley, Roisman, Booth-LaForce, et al., 2013; Haydon et al., 2014), we report correlations between the same measures of early experiences with caregivers and the AAI state-of-mind and self-reported attachment style dimensions, using Steiger's Z-test (1980) to examine whether the magnitudes of the associations between the measures of early experience and ASA secure base script knowledge were comparable to correlations between the measures of early experience and the other assessments of adult attachment (Table 2).

The proportion of times the child was rated as secure on the early attachment measures (r = .14, p < .01) as well as both maternal (r = .27, p < .01) and paternal sensitivity (r = .28, p < .01) were positively associated with secure base script knowledge. Parallel analyses for the AAI and self-reported dimensions are also reported in Table 1. Consistent with previous reports of these AAI and self-report attachment style data (Fraley, Roisman, Booth-LaForce, et al., 2013; Haydon et al., 2014), results of Steiger's Z tests detailed in Table 2 demonstrated that, with the exception of paternal sensitivity, AAI dimensions tended to be as strongly predicted by security in infancy and antecedent maternal sensitivity as was secure base script knowledge. In contrast, all of the correlations between the measures of caregiving experiences and secure base script knowledge were significantly larger in magnitude than were the associations between the same measures of caregiving experiences and self-reported avoidance and anxiety, which tended to be non-significant and occasionally counter-intuitive in valence (see Table 2).

Of note, results of parallel Steiger's Z analyses of the correlations presented in Table 1 (available from the first author) indicated that early attachment security and maternal sensitivity were also in general more strongly associated with the AAI dimensions than with the self-report attachment style dimensions. That said, *paternal* sensitivity was not more strongly associated with AAI dimensions than the self-report attachment style dimensions. This is attributable to the fact that, whereas ASA secure base script knowledge was as strongly associated with antecedent maternal (r = .27, p < .01) as paternal sensitivity (r = .28, p < .01; Steiger's Z = -.14, p = .89), associations between paternal sensitivity and both the AAI state-of-mind and self-reported attachment style dimensions were small in magnitude and generally statistically non-significant (see Table 1).

How much variance in secure base script knowledge is accounted for by the early measures of sensitivity and attachment?

Because the three predictor variables were correlated (see Table 1) and in order to quantify the total variance they accounted for in each of the adult attachment dimensions, we next computed a set of hierarchical linear regressions to examine whether there were unique and/or additive effects of the measures of early attachment history and parental sensitivity when simultaneously entered as predictors of each of the adult attachment dimensions. In Step 1, we regressed each adult attachment dimension on proportion of times secure in early

childhood, maternal sensitivity, and paternal sensitivity. In Step 2, we added the set of four covariates (child ethnicity, child sex, maternal education, and family income-to-needs). The second step allowed us to examine whether demographic covariates accounted for additional variance in the adult attachment dimensions (e.g., Haydon et al., 2014, reported that males are more likely to be dismissing on the AAI and females are likely to be elevated on preoccupied states of mind) and if significant associations between the early caregiving variables and each of the adult attachment dimensions were robust to the inclusion of the control variables.

As detailed in Table 3, the three early caregiving antecedents (i.e., early security, maternal sensitivity, and paternal sensitivity) explained 11% of the total variance in secure base script knowledge, with the demographic set explaining an additional 4% (white and female participants had higher levels of secure base script knowledge). Importantly, associations between both maternal and paternal sensitivity with secure base script knowledge remained significant after entering the covariates, although early attachment did not remain significant once the covariates were entered.

In comparison, the caregiving antecedents explained approximately the same amount of variance in AAI coherence and dismissing states of mind and somewhat less of the variance in preoccupied states of mind. However, in these analyses, maternal but not paternal sensitivity was uniquely associated with the AAI dimensions, effects that, with the exception of AAI preoccupied states of mind, were robust to the inclusion of covariates in the regression models. In contrast, regression analyses focusing on the self-reported attachment style dimensions revealed that the three early caregiving antecedents explained little of the variance in these measures of adult attachment, with some of the total variance accounted for deriving from the counter-intuitive associations already noted.

Does secure base script knowledge account for associations between early experiences and the AAI state-of-mind/self-report attachment style dimensions?

Finally, we conducted analyses using PROCESS for SPSS (Hayes, 2012; available at http://www.afhayes.com) to examine whether variation in secure base script knowledge could account for the associations documented between early attachment security/parental sensitivity and the other measures of adult attachment. PROCESS produces bias-corrected bootstrap confidence intervals for inferences about indirect effects. Evidence of an indirect effect is suggested by the absence of a value of zero within the bias-corrected bootstrap confidence intervals. Note that we elected to not include the ECR dimensions or the RSQ anxiety dimension in these analyses because these attachment dimensions were not significantly correlated with parental sensitivity or proportion of times secure in a theory-consistent manner.

Results indicated that ASA secure base script knowledge accounted for statistically significant proportions of the variance in the associations between the caregiving antecedents and the measures of adult attachment that were correlated (in a theory-consistent manner) with the antecedents in the bivariate analyses (see Table 4). According to Preacher and Kelley's (2011) κ^2 effect size metric (small effect = .01, medium effect = .09, large effect = .25), which represents the proportion of the maximum possible indirect effect that is

captured by the indirect effect estimate (see Preacher & Kelley, 2011, for mathematical details), the size of these mediated effects ranged from .04-.10 for maternal sensitivity, .05-.11 for paternal sensitivity, and .02-.06 for the proportion of times secure. The ratio of the indirect effect to the total effect ranged from 23-29% for maternal sensitivity, 58-68% for paternal sensitivity, and 16-68% for the proportion of times secure. Results did not substantively differ with control variables entered in the analyses.

Discussion

In the present study we examined the hypothesis that the quality of early caregiving experienced during childhood through adolescence organizes the development of a script-like representation of attachment. We also provided a comparison of the script-like attachment representations approach with the traditional *states-of-mind* and *self-reported attachment style* approaches. Overall, the results supported the prediction that variation in early caregiving experience is associated with individual differences in secure base script knowledge in young adulthood. Further, we demonstrated that associations between early caregiving experience and secure base script knowledge were either comparable to, or larger than, those observed with AAI states of mind. In contrast, early caregiving experience had weak and sometimes counterintuitive associations with self-reported attachment styles (see Fraley, Roisman, Booth-LaForce, et al., 2013, for discussion of the antecedents of self-reported avoidance and anxiety).

Taken together, these results suggest that the quality of early experience with primary caregivers is abstracted and generalized into a script-like representation as well as a more detailed autobiographical narrative (as reflected in the AAI), but notably not into the kinds of generalized representations regarding attachment-relevant behaviors, emotions, and cognitions in close adult relationships assessed by self-reports of attachment style. Unlike secure base script knowledge and states of mind regarding attachment, which emphasize the caregiving relationship, the self-reported attachment style approach focuses on representations of adult relationships. It is possible that by age 18 years the participants in this sample had not engaged in sufficient close adult-like relationship experiences to form a stabilized representation of such interpersonal experiences informed by earlier caregiving, and perhaps a later assessment will reveal the predicted association. This remains an open question.

In addition, our results revealed that the magnitude of the association between sensitivity and secure base script knowledge was stronger than the association between *early attachment security* and secure base script knowledge, a finding consistent with other analyses based on data from the SECCYD follow-up study examining the antecedents of AAI states of mind (e.g., see Groh et al., 2014; Haydon et al., 2014). From a theoretical perspective, script-like representations are constructed from recurring experiences over time. It is possible that the manner in which sensitivity was assessed (e.g., nine assessments with maternal caregivers and five assessments with the paternal caregivers over a 15-year period)—in contrast to the ways in which early attachment security was measured (e.g., three assessments with the mother over the first 36 months)—provided a better estimate of the child's experience with their caregivers.

In contrast to analyses of the AAI data from this cohort (e.g., Haydon et al., 2014, who found that AAI dismissing states of mind were more strongly associated with *maternal* than paternal sensitivity), our analyses of the ASA revealed that secure base script knowledge shared equally strong associations with antecedent maternal and paternal sensitivity. This finding is notable for several reasons. First, if replicable, our findings suggest that maternal and paternal sensitivity are equally influential in the formation of the individual's secure base script, which provides further support for the notion that fathers contribute to the development of attachment representations in general and secure base script knowledge in particular (e.g., see Lamb & Lewis, 2013; Van IJzendoorn & De Wolff, 1997). The reasons for the differential associations between secure base script knowledge and AAI states of mind regarding paternal sensitivity, however, are unclear. Whereas the adolescent version of the ASA explicitly balances father- and mother-related stories, the open-ended nature of the AAI might inadvertently pull for caregiving experiences with maternal caregivers and thus provide a somewhat unbalanced assessment of the individual's states of mind. That said, the open-ended nature of the AAI also provides a more nuanced and case-like history for each participant, which may be especially valuable in clinical settings. These are issues that must be carefully considered by researchers interested in measuring representations of early experience.

We next quantified the amount of variance in secure base script knowledge that could be accounted for by measures of parental sensitivity and early attachment. The proportion of the variance in secure base script knowledge that was accounted for by these key attachment-related variables in childhood and adolescence was approximately equal to the proportion of variance accounted for in the AAI dimensions (e.g., coherence) and substantially greater than the variance accounted for in the self-report adult attachment dimensions. Given the associations between secure base script knowledge and the AAI state-of-mind dimensions, we also examined the extent to which early experience accounted for the same or unique variance in those assessments of adult attachment representations. We found that secure base script knowledge partially accounted for all of the associations between parental sensitivity and AAI states of mind.

This latter finding raises several questions regarding what these operationalizations of mental representations have in common and what is distinct. Clearly both AAI states of mind and ASA secure base script knowledge have their roots in early experience with caregivers and are not completely independent. However, it is unclear if these representations of early experience develop in parallel or serially, and, if they develop in series, which develops first. Given that the goal of the current research was to conduct a head-to-head comparison of the antecedents of different assessments of adults' attachment representations, the AAI, ASA, and self-report attachment styles measures were necessarily collected concurrently. As a result, however, we were unable to address questions regarding the construction of attachment representations across time or the equivalence of such representations in adolescence and adulthood (see Allen & Miga, 2010).

There are some suggestions in the developmental literature that script-like representations might serve as the building blocks of representations that underlie the more elaborated autobiographical narratives captured by the AAI (e.g., Hudson & Shapiro, 1991; Nelson,

1986). The developmental primacy of a secure base script would suggest that the temporal-causal structure of the script helps to structure our expectations and how we organize and represent the event of our lives and the actions of our parents. T. Waters et al. (2013) argued that this kind of developmental process could account for the individual differences central to the coding of the AAI. It is also possible that the representations tapped by the AAI influence performance on the ASA (see Bakermans-Kranenburg, 2006, for elaboration of this argument). Additional prospective longitudinal data are needed to address questions regarding the construction of adult attachment representations across time.

Although the findings reported here support the prediction that early experiences with caregivers are abstracted into a secure base script (Waters & Waters, 2006), the order in which the AAI and ASA were administered was not counterbalanced, and it is possible that the results may have been different had the ASA been administered first. Additionally, it is important to highlight the fact that only about 10% of the variance in secure base script knowledge was accounted for by early attachment security and observations of parental sensitivity in the SECCYD. E. Waters and colleagues have suggested that parental sensitivity and secure base support might manifest in ways not tapped by the kinds of tasks and observations employed in traditional assessments of sensitivity as the child matures from toddlerhood to childhood and beyond (e.g., Richters & Waters, 1991; Waters & Cummings, 2000). Thus, it may be necessary to include assessments of related, but also different, domains of interactions and parental behavior in order to find the full range of antecedents of secure base script knowledge (e.g., peer interactions and relationships, school transitions, parental monitoring in both peer and school domains). Furthermore, the experiences of parental sensitivity and secure base support during infancy and toddlerhood might support the construction of close relationships outside the family (e.g., with peers, teachers/mentors, romantic partners), and these relationships might also provide secure base support that buttress existing secure base script knowledge. In light of the findings from this report, we expect that the ASA is poised to provide an important methodological point of departure for such future work.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Correlations among adult attachment measures, developmental antecedents, and covariates

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. ASA SBSK	--														
2. AAI Coherence	.42**	--													
3. AAI Dismissing	−.39**	−.82**	--												
4. AAI Preoccupied	−.20**	−.40**	.06	--											
5. RSQ avoidance	−.17**	−.19**	.18**	.18**	--										
6. RSQ anxiety	−.10*	−.10*	.05	.19**	.50**	--									
7. ECR avoidance	−.09*	−.08	.12**	.03	.57**	.29**	--								
8. ECR anxiety	−.04	−.01	.00	.12**	.35**	.69**	.34**	--							
9. Prop. times secure	.14**	.13**	−.09*	−.15**	.01	.12**	.00	.11**	--						
10. Maternal sensitivity	.27**	.33**	−.34**	−.19**	−.09*	−.04	−.01	.09*	.30**	--					
11. Paternal sensitivity	.28**	.17**	−.15**	−.09**	−.09*	−.07	−.06	−.04	.14**	.40**	--				
12. Child gender	.21**	.18**	−.24**	.10**	.00	−.02	−.05	−.01	.10**	.09*	.02	--			
13. Child ethnicity	.14**	.17**	−.15**	−.14**	−.15**	−.08	−.09*	.01	.41**	.12**	.14**	.03	--		
14. Maternal Education	.20**	.25**	−.25**	−.11**	−.01	.00	.08	.08	.50**	.23**	.17**	.07	.29**	--	
15. Income/Needs ratio	.17**	.23**	−.18**	−.15**	−.05	−.04	.02	.02	.45**	.24**	.16**	.06	.27**	.58**	--
Means	3.71	4.98	−.22	−.03	2.37	2.03	2.98	2.71	.60	−.02	−.06	1.52	.77	14.53	4.10
SDs	1.05	1.45	.24	.40	.69	.85	1.19	1.23	.30	.67	.80	.50	.42	2.4	2.95

Note.

* $p < .05$

** $p < .01$. ASA SBSK = ASA secure base script knowledge, Prop. times secure = proportion of times secure, AAI Coherence = AAI coherence of mind,, Income/Needs ratio = income-to-needs ratio. Child gender (1 = Male, 2 = Female), Child ethnicity (0 = nonwhite, 1 = white).

Table 2

Comparison of the magnitudes of the correlations between measures of early experience and ASA secure base script knowledge with the correlations observed between measures of early experience and the other measures of adult attachment using Steiger's (1980) Z-test

	DV: Prop. times secure		DV: Maternal sensitivity		DV: Paternal sensitivity	
Measure	**Correlation with DV**	**Steiger's Z**	**Correlation with DV**	**Steiger's Z**	**Correlation with DV**	**Steiger's Z**
ASA SBSK	.14**	--	.27**	--	.28**	--
AAI Coherence	.13**	0.07	.33**	−1.45	.17**	2.55**
AAI Dismissing	−.09**	1.16	−.34**	−1.65	−.15**	2.91**
AAI Preoccupied	−.15**	−0.25	−.19**	1.75	−.09**	3.81**
RSQ Avoidance	.01	2.65**	−.09*	3.33**	−.09*	3.20**
RSQ Anxiety	.12**	4.36**	−.04	4.24**	−.07	3.54**
ECR Avoidance	.00	2.39*	−.01	3.33**	−.06	3.19**
ECR Anxiety	.11**	4.19**	.09*	6.28**	−.04	3.86**

Note.

* $p < .05$

** $p < .01$. ASA SBSK = ASA secure base script knowledge, AAI Coherence= AAI coherence of mind. Prior to conducting analyses, associations in the hypothesized direction were converted, if necessary, to positive correlations. For counterintuitive effects, associations were recoded, if necessary, to negative correlations. Positive values of Steiger's (1980) Z-test indicate that the correlation between ASA secure base script knowledge and the focal measure of early experience was larger in magnitude (in the predicted direction) than the correlation between the comparison adult attachment measure listed as predictor (e.g., AAI, RSQ, or ECR dimension) and the same measure of early experience.

Table 3

Beta coefficients for analyses in which adult attachment measures were regressed onto early maternal sensitivity, paternal sensitivity, proportion of times secure, and covariates.

	ASA SBSK		AAI Coherence		AAI Ds		AAI E		RSQ Avd.		RSQ Anx.		ECR Avd.		ECR Anx.	
Predictor	**Step 1**	**Step 2**	**Step 1**	**Step 2**	**Step 1**	**Step 2**	**Step 1**	**Step 2**	**Step 1**	**Step 2**	**Step 1**	**Step 2**	**Step 1**	**Step 2**	**Step 1**	**Step 2**
Times sec.	.05	.05	.03	.03	.01	.01	−.10*	−.10*	.03	.03	14**	.14**	.01	.01	.11*	.11*
Mat. Sen.	.19**	.10*	.29**	.20**	−.33**	−.27**	−.13**	−.08	−.05	−.03	−.06	−.03	.01	−.02	.05	.05
Pat. Sen.	.19**	.18**	.05	.05	−.03	−.02	−.02	−.03	−.08	−.08	−.06	−.06	−.05	−.05	−.06	−.06
Gender		.16**		.14		−.22**		.13**		.01		−.03		−.05		−.02
Ethnicity		.09*		.05		−.01		−.10*		−.16**		−.09		−.10*		−.05
Mat. Educ.		.08		.08		−.09		.00		.08		.05		.12*		.07
Inc./Needs		−.01		.04		.03		−.07		−.03		−.03		.00		−.04
ΔR^2	.11**	.04**	.10**	.03**	.12**	.05**	.04**	.03**	.01	.03**	.02*	.01	.00	.02	.02*	.01
N	565		565		565		565		470		470		469		470	

Note.

* $p < .05$

** $p < .01$. ASA SBSK = ASA secure base script knowledge, AAI Coherence = AAI coherence of mind, AAI Ds = AAI dismissing states of mind, AAI E = AAI preoccupied states of mind, RSQ Avd. = RSQ avoidance, RSQ Anx. = RSQ anxiety, ECR Avd. = ECR avoidance, ECR Anx. = ECR anxiety, Times sec. = proportion of times secure in early childhood, Mat. Sen. = Maternal sensitivity, Pat. Sen. = Paternal sensitivity, Mat. Educ. = Maternal education, Inc./Needs = Income-to-needs ratio.

Table 4

Analyses examining whether secure base script knowledge accounts for associations between early security/sensitivity and the adult attachment measures.

		Total effect		Direct effect		Indirect effect: Mediation by ASA						Effect Size	
		c		*c′*		*a*		*b*		*a* × *b*			
Outcome	***Predictor***	***β***	**B [95% CI]**	***β***	**B [95% CI]**	***β***	**B [95% CI]**	***β***	**B [95% CI]**	***β***	**B [95% CI]**	**κ^2**	**I/T**
AAI Coh.	*Mat. Sen.*	.33	.71 [.56, .87]	.24	.51 [.35, .66]	.27	.43 [.31, .54]	.35	.48 [.39, .58]	.10	.21 [.14, .28]	.10	.29
	Pat. Sen.	.16	.30 [.15, .44]	.05	.10 [−.04, .23]	.26	.36 [.26, .46]	.42	.57 [.47, .68]	.11	.20 [.14, .28]	.11	.68
	Times Sec.	.13	.63 [.27, .99]	.08	.37 [.03, .71]	.13	.46 [.20, .73]	.40	.55 [.46, .65]	.05	.26 [.11, .42]	.06	.41
AAI Dismiss.	*Mat. Sen.*	−.34	−.20 [−.25, −.16]	−.25	−.15 [−.20, −.11]	.27	.43 [.31, .54]	−.32	−.12 [−.15, −.10]	−.09	−.05 [−.07, −.04]	.09	.26
	Pat. Sen.	−.15	−.08 [−.12, −.04]	−.05	−.02 [−.06, .01]	.26	.36 [.26, .46]	−.38	−.15 [−.18, −.12]	−.10	−.05 [−.07, −.04]	.10	.68
	Times Sec.	−.09	−.12 [−.22, −.02]	−.04	−.05 [−.15, .04]	.13	.46 [.20, .73]	−.38	−.15 [−.18, −.12]	−.05	−.07 [−.11, −.03]	.05	.58
AAI Preocc.	*Mat. Sen.*	−.19	−.07 [−.09, −.04]	−.15	−.05 [−.08, −.02]	.27	.43 [.31, .54]	−.16	−.04 [−.05, −.02]	−.04	−.02 [−.03, −.01]	.04	.23
	Pat. Sen.	−.08	−.03 [−.05, .00]	−.03	−.01 [−.03, .02]	.26	.36 [.26, .46]	−.21	−.05 [−.07, −.03]	−.06	−.02 [−.03, −.01]	.06	.68
	Times Sec.	−.14	−.11 [−.17, −.05]	−.12	−.09 [−.15, −.04]	.13	.46 [.20, .73]	−.18	−.04 [−.06, −.02]	−.02	−.02 [−.03, −.01]	.02	.16
RSQ Avoid.	*Mat. Sen.*	−.10	−.10 [−.19, −.01]	−.05	−.05 [−.15, .04]	.27	.42 [.29, .55]	−.16	−.11 [−.17, −.05]	−.04	−.05 [−.08, −.02]	.04	.46
	Pat. Sen.	−.10	−.09 [−.17, .00]	−.04	−.04 [−.12, .05]	.29	.39 [.27, .50]	−.19	−.13 [−.19, −.06]	−.06	−.05 [−.08, −.02]	.05	.58

Note. ASA = Attachment Script Assessment, AAI Coh. = AAI coherence of mind, AAI Dismiss. = AAI dismissing states of mind, AAI Preocc. = AAI preoccupied states of mind, RSQ Avoid. = RSQ avoidance, Mat. Sen. = Maternal sensitivity, Pat. Sen. = Paternal sensitivity, Times Sec. = Proportion of times secure in early childhood, κ^2 = Preacher & Kelley (2011) effect size, I/T = Indirect effect/ Total effect. *c* refers to the slope of the regression of the outcome variable on the predictor variable, *a* refers to the slope of the regression of the intervening variable on the predictor variable, *b* refers to the slope of the regression of the outcome variable on the intervening variable, *c′*refers to the slope of the outcome variable on the predictor variable (after controlling for the intervening variable), and *a* × *b* refers to product of the a and b paths.