Stony Brook University

Intergenerational Transmission of Secure Base Scripts

Through Mother-Child Dialogue

A Dissertation presented by

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to

The Graduate School

in Partial Fulfillment of the

Requirements

for the Degree of:

Doctor of Philosophy

in

Social/Health Psychology

Stony Brook University

December 2009

Stony Brook University

The Graduate School

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Abstract of the Dissertation

Intergenerational Transmission of Secure Base Scripts

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2009

Intergenerational transmission of attachment was often documented as the link between mothers' *representations* of attachment and children's attachment *behaviors*, but the evidence linking mothers' and children's representations of attachment was scarce. At the same time, the mechanisms involved in the intergenerational transmission of attachment for children older than one or two years of age remained unclear. The first purpose of this study was to show a link between mothers' and children's script-like representations of attachment, or *secure base scripts*. The second one was to examine mother-child dialogue about emotions as a possible mediator involved in the intergenerational transmission of attachment representations.

Fifty nine children recruited from preschools in Bucharest, Romania (mean age 4.5 years, 33 boys) completed a shortened version of the *Story Stem Completion Task* (Bretherton et al., 1990). The narratives were transcribed and coded by two independent scorers on a 1 to 4 scriptedness scale, depending on how much they resembled a prototypical secure base script. Children's mothers were assessed with the *Attachment Script Assessment* (H. Waters & Rodrigues, 2001). Their narratives were scored on a 1 to 7 scriptedness scale. Additionally, mothers and children were invited to discuss together how the child would feel in six hypothetical situations meant to elicit positive or negative emotions. Mothers' contributions to these conversations were scored on three maternal *Co-Construction Scales*.

As predicted, children of mothers with secure base scripts were significantly more likely to have secure base scripts themselves, (χ^2 (Yates-corrected) = 8.08, $p < .01$), resulting in an overall hit rate of 69%. The correlation between mothers' and children's scriptedness was significant at $r = .26$, $p < .05$. The correlation between mothers' and children's scriptedness was significant at $r = .26$, $p < .05$. There were significant associations between mothers' scriptedness and mothers' co-construction scales ($r=.26$, $p<.05$), and between mothers' co-construction scales and children's scriptedness ($r=.53$, $p<.01$). A series of regression analyses were consistent with the mediation hypothesis. There were no differences in verbal IQ between children with and without knowledge of secure base scripts and mothers' co-construction skills were the stronger predictor of children's scriptedness. The results are discussed in the context of attachment theory and the proposed mechanisms of intergenerational transmission of attachment.

Dedicated to Mom and Dad, Magdalena and Livius Manea.

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Acknowledgements: A warm thank you to all the mothers and children who participated in the study, and to the preschool teachers, directors, and staff, whose generosity and kindness made this project possible.

INTERGENERATIONAL TRANSMISSION OF SECURE BASE SCRIPTS THROUGH MOTHER-CHILD DIALOGUE

For the last few decades, attachment theory has replaced psychoanalysis as the main paradigm for studying early emotional experiences and their implications for later development. Combining insights from psychoanalysis with ethology, attachment theory distanced itself from the former by emphasizing the importance of real-life, ordinary experiences for shaping socio-emotional development, rather than trauma and unconscious imagery. Unlike classical psychoanalysts, Bowlby believed that mother's responsiveness and availability in everyday situations play a much more important role for the emotional life of infants than unconscious fantasies. According to Bowlby (1969; 1973), attachment could be understood, on one hand, as an emotional bond, like the one between a mother and her infant, and, on the other hand, as a behavioral-motivational system whose function is maintaining infants' proximity to the mother. Proximity, however, is not a goal per se, but it facilitates exploration through the use of mother as a secure base from which the child explores and makes sense of the world (Bowlby, 1969; Ainsworth et al., 1978). Bowlby believed that attachment behaviors were the expression of an organized set of expectations with respect to the caregiver's behavior. These expectations or internal working models are the result of numerous interactions with the caregiver, and they serve to simulate and predict the child's interactions with the caregiver and the environment (Bowlby, 1973). Responsive caregiving is thus related to the child's belief in mother's availability as a secure base and potential safe haven in dangerous or unpleasant situations. Interestingly, Bowlby managed to overcome the limits of previous approaches by proposing a theory that integrated both the behavioral and the representational aspects of relationships.

Because it was rooted in empirical observations, and it was soon supported by empirical studies pioneered by Mary Ainsworth, attachment theory allowed for the examination of interesting hypotheses concerning the impact of early experience on later

development. The first of these hypotheses, formulated by Freud towards the end of his career and endorsed by Bowlby, is that the relationship with one's mother serves as a prototype for all future love relationships (Freud, 1949). In other words, secure attachment in early childhood is linked to the ability to form secure attachments in adulthood, suggesting that something in the way the child conceptualizes attachment remains stable enough over the years to influence new relationships. The second hypothesis is that attachment styles – differences in the ability to use one's caregiver as a secure base – can be transmitted from one generation to the next. According to this hypothesis, secure mothers promote secure attachment in their offspring. Bowlby did in fact believe that sensitive caregiving was likely to produce secure attachment in infancy (Bowlby, 1969), and, moving from theory to observation, Mary Ainsworth (1979, 1982) provided the first empirical evidence linking maternal care with attachment outcomes in infancy. However, although Bowlby believed that attachment was a lifelong phenomenon, a measure of adult attachment was missing, and studies of attachment focused mainly on attachment in infancy. Such a measure was developed by Mary Main and her collaborators in 1985 (Main et al., 1985), and it opened the door for the first empirical examination of the intergenerational transmission of attachment. Since then, studies gathered increasing evidence for the relationship between maternal attachment representations and children's attachment security, but, especially beyond infancy, the mechanisms underlying the transmission of attachment remained unclear. Several mechanisms of transmission have been proposed, but there is disagreement concerning their relative importance. Furthermore, assessments of child security have been primarily behavioral with no empirical evidence in the literature that children's attachment representations map unto their mother's attachment representations.

The present investigation will first provide the theoretical background for a modern approach of the prototype hypothesis and the intergenerational transmission of attachment. Second, it will discuss the role of a special type of attachment representations – *secure base scripts* – in explaining both the transmission of attachment and the stability of attachment representations. Third, it will attempt to explain what is it that it is transmitted (arguing in favor of script-like representations of secure base support), and to address what makes transmission possible. Fourth, the paper will

analyze the proposed mechanisms of intergenerational transmission of attachment from infancy to adulthood, with an emphasis on mother-child dialogue, and fifth, it will articulate the purpose and hypotheses of the present study. The paper will continue with a presentation of the methods, measures, results, and discussion of the findings.

The purpose of the present investigation is to take advantage of recent narrative methodologies for assessing attachment representations in both young children and adults, to establish a formal link between child and parent attachment representations. The availability of comparable assessments for parent and child representation sets the stage for examining mechanisms of transmission of attachment between parent and child. Several attachment researchers have proposed that parent-child co-construction processes are a key mechanism by which the mother helps her child to form a secure attachment representation. By assessing mothers' co-construction skills along with mother and child attachment representations, we can determine whether co-construction plays a significant role in the transmission of secure representations from mother to child.

We begin with a review of the history of core concepts in attachment theory and then track the move to representation in more recent years. Within this context, the advantages of new narrative assessment tools are considered and a script-based formulation of attachment representations is presented. This formulation frames the current investigation of intergenerational transmission of attachment.

Historical Perspective

This section introduces the main conceptual and empirical advances in attachment theory, from Bowlby's first conceptualizations to Ainsworth's observations and to the more recent emphasis on the study of attachment representations. Furthermore, it focuses on the relevance of the constructs to a modern interpretation of both the prototype hypothesis and the cross-generational transmission of attachment, identifying the origins, the first conceptualizations, and the first empirical evidence pertinent to some of today's debates concerning the mechanisms of transmission of attachment.

Core Concepts in Attachment Theory: Secure Base and Internal Working Model. Two key concepts of attachment theory encompass the behavioral and representational aspects of attachment: secure base and internal working models (Bowlby, 1969; 1980). The concept of *secure base,* first introduced by Mary Ainsworth (1963), initially referred to an infant's ability to make exploratory excursions from the mother, while monitoring her availability and returning periodically to her. In a comfortable setting, when infants were confident in the mother's availability, they were more likely to explore their environment, to learn about the world while staying close to the mother. However, in unfamiliar circumstances, or when tired, scared, or upset, in other words, when the attachment system got activated, requiring proximity to the mother, exploration became unlikely. Mary Ainsworth referred to this relationship as the balance between attachment and exploration (Ainsworth, Bell, & Stayton, 1971). In more general terms, *secure base* refers to the ability to use somebody else as a secure base from which to explore the world. "For both Bowlby and Ainsworth, to be attached is to use someone preferentially as a secure base from which to explore. The term secure attachment refers both to skillful secure base use over time and contexts in naturalistic settings and to confidence in a caregiver's availability and responsiveness" (Waters & Cummings, 2000).

According to Bowlby, the ability to use the mother as a secure base is the behavioral expression of an organized set of expectations about the self, the world, and of relationships that he named *internal working models,* borrowing this notion from the newly emerged field of cognitive psychology. Bowlby (1969; 1980) believed that sensorimotor schemas resulting from mother-infant interactions are later generalized into models of self, the other, and the world. Thus, sensitive and responsive care provides the foundation onto which children ultimately develop the belief that they are worthy of affection and that the world is a safe, friendly place. Because working models were conceptualized as a part of the control system that regulates proximity, they were described as resistant to change, and tending towards stability. Bowlby also believed that working models of relationships were transmitted from one generation to the next, and that mother-child dialogue played a role in the consolidation and revision of attachment representations (Bowlby, 1980).

Although in Bowlby's view, the concept of an attachment bond seemed applicable across a wide range of relationships, from infancy to late adulthood, for the first couple of decades, studies of attachment focused solely on mother-infant relationships. The only questions that could be tackled in these initial studies compared the security of infant attachment with parental behavior in the preceding year, or to social functioning in the following years. These initial studies linked parental behavior with the child's organization of attachment, providing the first evidence in the direction of transmission of attachment.

Empirical Approaches: Ainsworth's Contribution. Mary Ainsworth was the first to find empirical support for Bowlby's hypothesis that individual differences in infants' attachment could be traced back to differences in maternal care. Within the ethological framework proposed by Bowlby's theory, Ainsworth conducted two extensive naturalistic observational studies of infants and mothers: the first such study took place in Uganda, in the 50s; the second one, in Baltimore, in the 60s. Despite the cultural and economical differences between the two populations, the same conclusions emerged: infants showed different patterns of attachment-related behaviors (exploration, crying, proximity seeking, etc.), and these patterns were linked to patterns of maternal responsiveness in the previous months. Ainsworth found that *maternal sensitivity* in the first months of infant's life – mother's ability to read the infant's signals accurately and to respond to them in a timely and appropriate manner – was linked to an increased likelihood of children's developing a secure attachment (Ainsworth, 1962). In other words, mothers' responsiveness and sensitivity in day-to-day interactions were linked with infants' confidence in their mothers' availability, as manifested in their behavior at home, as well as in a structured laboratory procedure.

Based on her observations of secure base behaviors at home, Ainsworth devised a method of assessing attachment behaviors in the laboratory (Ainsworth, Blehar, E. Waters, & Wall, 1978). The Strange Situation Procedure consisted of a series of play episodes between mother and infant, interspersed with two brief separations from mother and two reunions. The procedure is meant to be mildly stressful for the infant, in order to activate attachment. During the first separation episode, the infant was left with an unfamiliar adult, and during the second one, the infant was left alone. The play episodes

were informative of infant's level of exploration, and the reunions were informative of the infant's proximity seeking, avoidant, and resistant behaviors. Ainsworth noticed that infants' behaviors were grouped into three main patterns of attachment that were consistently correlated with similar patterns of secure base behaviors at home, and with specific patterns of maternal care. *Securely attached infants* were characterized by effective use of mother as a secure base at home and confidence in her availability should they encounter any difficulties. They tended to approach mother when the attachment system was activated, to openly communicate distress, to be comforted by mother's presence, and to be able to resume exploration after contact, thus maintaining a balance between attachment and exploration. During the strange situation procedure, securely attached infants openly showed their distress resulting from separation and actively sought comfort, they were easily comforted by mother's proximity during reunion, and they were able to resume play and exploration to the same complexity level as before. This pattern of infant attachment was linked with a history of sensitive care that created the expectation of mother's availability.

Insecurely attached children manifested two distinct patters of dealing with mother's unavailability or lack of consistency. *Avoidant attachment* was characterized by what appeared to be exploration at the expense of attachment, and *resistant attachment* by an exacerbation of attachment behaviors at the expense of exploration. Avoidant children did not show their distress to their mother, and they either ignored her when she returned after a separation, or they mixed proximity seeking signals with avoidance (Ainsworth, 1979a). Anxious-ambivalent or resistant children, on the other hand, showed exaggerated distress upon separation, and, although they sought mother's proximity when she returned, they were not easily comforted, and they seemed to resist contact as well (Ainsworth, 1979a). Insecurely attached infants seemed either unaware of mother's absence, and did not approach her upon return (avoidant), or they seemed to actively resist mother's efforts to console them (resistant). As Ainsworth showed in her studies linking maternal behavior with infant attachment (1979b), both of these insecure attachment styles can be conceptualized as strategies for coping with different types of insensitive care: avoidant attachment as an adaptation to mother's rejection of the

expression of negative emotions, and resistant attachment as an adaptation to a history of inconsistent maternal response.

The Move to Representation. As mentioned before, Bowlby proposed that attachment-related expectations become organized in generalized expectations about attachment which he called *internal working models*. Internal working models serve to predict and understand attachment-related behaviors, and are responsible for how people behave in relationships. Although Bowlby's theory postulated that maternal working models should be transmitted to their children, the study of this relationship was not possible before the development of the Adult Attachment Interview (AAI), the first method to investigate adult attachment representations.

In 1985, Mary Main and her collaborators published a seminal article that marked "the move to representation" in attachment theory. The article defined working models as "a set of conscious and/or unconscious rules for the organization of information relevant to attachment and for obtaining or limiting access to that information" (Main, Kaplan, & Cassidy, 1985, pp 66-67), and went on to introduce the Adult Attachment Interview (AAI) - a semi-structured interview that accessed the organization of attachment-relevant information into an adult's mind by asking the individuals a series of questions about their relationship with their parents. The AAI is supposed to tap into a generalized representation of attachment that stems from previous interactions with one's parents, and is expressed through the ability to tell a coherent and believable narrative about relationships.

Within a theoretical framework that emphasized structure as well as content, Mary Main argued that different patterns of infant attachment behaviors that had been observed before in naturalistic settings and during the Strange Situation Procedure stem from "individual differences in the mental representation of the self in relation to attachment" (1985, p 67), and exert their influence on both nonverbal behavior and on "patterns of language and structures of mind" (p 67). This new framework was consistent with Bowlby's idea that attachment is a life-long phenomenon, and opened the possibility for the investigation of attachment beyond infancy. Mary Main believed that the three types of infant attachment described by Ainsworth (secure, avoidant, and resistant) corresponded to three types of "views" or representations of relationships that

organize and are expressed through attachment-related behaviors, cognitions, memories and emotions, including the behaviors observable in strange situation procedure, but also behaviors or discourse produced years after the initial assessment of attachment.

Interestingly, the patterns of infant attachment described above were paralleled by similar patterns of parental discourse. The parents of children who were securely attached as infants tended to value attachment and to discuss attachment-related experiences openly, and without idealization. These parents were classified as *secure* with respect to attachment. Parents of children classified as avoidant in infancy manifested a tendency to dismiss, devalue, and distance themselves emotionally from attachment-related situations, and were therefore classified as *dismissing*. Parents of infants who had been classified as resistant in infancy tended to be overly involved or preoccupied with dependency on their own parents, and were therefore classified as *preoccupied.*

Mary Main hypothesized that attachment security in infancy would be correlated with a series of measures administered five years later, including parents' representations of attachment assessed with the AAI. The correlations between attachment classifications in strange situation procedures with mother at age one and mother's representation of attachment five years later were highly significant. Another set of interesting correlations were established between security in infancy and a series of measures of attachment at age six: fluency of discourse between child and parent, child's emotional openness while discussing separation, child's likelihood of suggesting constructive solutions to hypothetical separation, and child's reaction to a family photography. These measures seem to be related with some of the proposed mechanisms of transmission of attachment beyond infancy – especially with the concept of "openness of communication" that will be discussed later in more detail. These findings suggest that, on the one hand, there is *stability of attachment* from age one to age six (there is a link between attachment behaviors for each age, but also a link between attachment behaviors in infancy and representations of attachment at age six), and there is *cross-generational transmission of attachment*, indicated by the correlation between maternal representation and children's representations of attachment at age six.

One of the advantages of AAI and of similar semi-structured interviews is the richness of clinically-relevant information they can collect, but this comes at the expense of several disadvantages. First of all, the administration and coding of these interviews are extremely elaborate and time consuming, requiring significant commitment on the part of the researchers. Second, the coding involves so many dimensions that it is difficult to discern the underlying architecture of the mental representations of attachment. It is difficult to specify which of these dimensions are the most relevant, how they are organized, and what role they play in regulating attachment behavior or in the transmission of attachment. H.S. Waters and E. Waters remarked that "AAI works far better than we can currently explain" (2006). A new narrative method developed by Harriet Waters and her collaborators (Waters & Rodrigues, 2001) overcomes these disadvantages, being not only easy to administer and easy to score, but also able to reveal important aspects of the cognitive structure of attachment representations.

Secure Base Scripts and the Narrative Script Assessment. As noted by Mary Main, during the strange situation procedure infants behave *as if* they know what a sequence of interactions with their caregiver looks like (Main et al., 1985). They seem to have some expectations from their caregivers, and seem to know what follows in a sequence of exploratory and attachment interactions, in a similar way that one knows what to expect in the series of interactions that underlie, for example, the "going to the restaurant" script. Inge Bretherton (1987, 1990) was the first to realize that internal working models of attachment could be described in terms of cognitive schemas, generalized event representations, and scripts. This idea was further articulated by Harriet Waters and her collaborators, in a study that analyzed children's responses to a series of attachment-related story-stems by comparing them to a prototypical secure base script (H. Waters, Rodrigues, & Ridgeway, 1998). The stories were previously collected by Bretherton, Ridgeway, and Cassidy (1990), and then given global ratings of attachment security, using a combination of criteria. A number of 24 children were interviewed twice (at 37 and at 54 months) and asked to tell and enact what would happen next in a series of attachment-relevant stories such as "Monster in the bedroom", or "Hurt knee". Similar to AAI ratings, the global ratings of security included so many categories that it was difficult to discern which ones were truly important, and what

contribution each story made to the final score. These limitations led Harriet Waters and her collaborators (H. Waters, Rodrigues, & Ridgeway, 1998) to examine the stories in a new light, with an emphasis on scriptedness, or similarity to a prototypical secure base script. The definition of a secure base script was derived from Bowlby's and Ainsworth theory, from previous measures of attachment (strange situation procedure), and from the typical children's responses to the stories.

A *secure base script* is a series of temporally and causally related events, that unfold in the same succession. The key components of the secure base script are the following: (1) the child explores away from the caregiver, (2) the child maintains contact or returns if necessary, (3) some difficulty or threat arises, (4) the caregiver approaches or the child seeks proximity, (5) the difficulty is dealt with, and (6) the caregiver (or contact with the caregiver) enables the child to return to exploration (H. Waters et al., 1998). One of the most important features of these scripts is the child's ability to get back on track and resume initial exploration. The secure base scripts became thus relevant in explaining not only situations of impending danger or crisis, but also ordinary situations with which mothers and children are confronted every day.

The study showed that scriptedness at both ages (37 and 54 months) was significantly correlated with previous measures of attachment security, and, interestingly, unlike Bretherton's original coding, was not correlated with measures of mental development or vocabulary. So, scriptedness proved to be an effective and easy to implement measure of security, while, at the same time, not being linked with general intelligence or language development. Interestingly, this study was the first to illustrate the stability of attachment representations in early childhood, despite children's tremendous cognitive advances between the ages of 37 and 54 months. The stability could be evidenced by coding the stories for scriptedness, but could not be captured with Bretherton's initial scoring.

If this initial study proved that children's attachment was organized in the form of secure base scripts, the next logical step would have been to see whether scripts had any relevance for attachment in adulthood. Subsequently, Harriet Waters and her collaborators developed the narrative-based Attachment Script Assessment, in which individuals were asked to produce stories about mother-child interactions and about

adult-adult relationships starting from a series of word prompts meant to evoke secure base scripts (Waters & Rodrigues, 2001). The stories were transcribed and coded depending on their scriptedness, that is, how much the narrative was organized around a secure base script. The measure was validated against the AAI on a sample of adult women, showing high correlations with AAI coherence scores (.58, $p < .01$, Waters & Rodrigues, 2001) AAI coherence is the scale most predictive of adult attachment security, and it refers to the participants' ability to tell an organized and believable story about their early experiences.

In subsequent studies, the Attachment Script Assessment was found to be stable over a one year period (Vaughn et al., 2006), was correlated with maternal sensitivity (Coppola et al., 2006), with children's strange situation classification (Tini, Corcoran, Rodrigues-Doolabh, & Waters, 2003), and with children's attachment behavior in naturalistic settings, as measured with the Attachment Q-Sort (Bost et al., 2006; Verissimo & Salvaterra, 2006). The predictive value of the Attachment Script Assessment is comparable to that of the AAI (76% according to Tini et al., 2003), and the relationship is preserved in both biological (Bost et al., 2006) and adoptive families (Verissimo & Salvaterra, 2006). These studies show that "mothers with well-scripted secure base knowledge have children who treat them as a secure base for exploration at home" (Vaughn et al., 2006). The relevance of these correlations will be reviewed in later sections about the intergenerational transmission of attachment and attachment stability.

Intergenerational Transmission of Attachment

Significant correlations between measures of maternal attachment representations and children's attachment status (secure vs. insecure) has provided empirical support for the intergenerational transmission of attachment. The correlation between mothers' attachment representations and infants' attachment behaviors was initially documented by Main et al. in 1985 and was consistently replicated by later studies. The degree of correspondence between mother's patterns of AAI responses and children's patterns of attachment behaviors during Strange Situation Procedure ranges between 66%-82% (75% for the secure-insecure split according to a meta-analysis conducted by Marinus van IJzendoorn in 1995, *k*=.49, *Sensitivity*=.82, *Specificity*=.66, *Positive Predictive Power*=.75, *Negative Predictive Power*=.75; 70% for the three way cross-tabulation,

k=.46), and it was documented in concurrent, prospective, and retrospective correlations (Benoit and Parker, 1994). Main's first study documented this retrospective relationship, correlating mother's representations when children's age was six to children's classification of attachment at age one. The first prospective study, linking mothers' representation of attachment measured *prenatally* with infants' classification of attachment a year later was published by Fonagy, Steele and Steele in 1991. Mothers' secure representations of attachment were able to predict infants' security in 75 % of the dyads, suggesting that mothers attachment representations were probably stable in time (from one year to the next), and they were translatable into infants' attachment behaviors.

Marinus van IJzendoorn (1995) conducted a meta-analysis that examined the correlations between parents' AAI and infants' attachment security. After analyzing 18 available samples, he concluded that AAI had a strong predictive power in determining overall infant security or insecurity (very large effect of 1.06). Additionally, Van IJzendoorn examined the predictive power of different types of insecurity (dismissive, preoccupied, and unresolved), concluding that specific AAI classifications could predict infants' attachment classifications even when three or four categories were used. Although the link between maternal preoccupied attachment and infants' resistant attachment showed weaker correlations, all the other pairs (secure-secure, dismissing-avoidant, and unresolved-disorganized) were reliably concordant (van IJzendoorn, 1995), suggesting that distinctions among different types of insecurity are transmissible from one generation to the next.

New methods of assessing parental representations of attachment or of infants' security contributed to the accumulating evidence for the intergenerational transmission of attachment. For example, the Working Model of the Child Interview (WMCI), developed by Charles H. Zeanah and his collaborators (1994), showed similar correlations with infants' attachment classifications as the AAI. This interview is similar in structure and scoring with the AAI, but, instead of answering questions about their relationships with their parents, respondents focus on the relationship with their child. Consistence, believability, coherence, and availability of specific memories are important indicators of whether the parent has a *balanced* or a secure representation of her child. The two broad categories of insecure attachment representations – *disengaged* and

distorted – parallel the avoidant and resistant attachment styles in childhood, and the dismissing and preoccupied categories of AAI. The Working Model of the Child Interview proved to have predictive power of concomitant or subsequent infant attachment classification (Zeanah, 1993; 1994), even when administered to mothers prenatally (Benoit and Parker, 1997).

Other studies looked at the relationship between AAI and children's attachment behavior as captured by the Attachment Q-sort instead of the Strange Situation Procedure, and confirmed consistently that parents' representations of attachment were related to children's attachment security (Posada, Waters, Crowell, & Lay, 1995). Studies that compared parental attachment representations and children's representations of attachment, as reflected in their ability to complete attachment-related stories enacted with dolls and props, found that mothers' AAI could predict children's Attachment Story Completion Task (ASCT) classification at age three (Miljkovitch, Pierrehumbert, & Bretherton, 2004). Fathers' AAI, however, seemed to be unrelated to children's ASCT.

Finally, the recently developed Attachment Script Assessment showed similar correlations between mothers' knowledge of secure base scripts and infants' ability to use them as a secure base. The correlations remained substantial regardless of the measure of infant security (Strange Situation Procedure or Attachment Q-Sort), and were replicated in both biological and adoptive families (Tini et al., 2003; Bost et al., 2006; Verissimo & Salvaterra, 2006). These correlations indicate that mothers with a better knowledge of secure base scripts have children who are more adept at using them as secure base at home or in an unfamiliar setting.

Stability of Attachment – Stability in Child, or in Parent?

The move to representations allowed for the examination of another interesting question: how stable is attachment over time? Three longitudinal studies compared infants' attachment classification at age one with the same participants' representations of attachment in adulthood (E. Waters, Hamilton, & Weinfield, 2000). Overall, the participants tended to maintain their secure versus insecure classification from infancy to adulthood (72 % in the study by E. Waters et al., 2000), and whenever changes in security occurred, they could be traced back to environmental changes that acted as barriers or facilitators for parents' responsive behavior. The reasons for this stability are

not yet clear. The puzzling aspect is that attachment *behaviors* in infancy are related to attachment *representations* in adulthood. It is difficult to decide whether this consistency is due to the stability of internal working models in the child's mind or to the stability of the parents' behavior. The first of these explanations assumes that infants have already constructed secure base scripts that tend to be resistant to change, thus underlying attachment representations over time, even in adulthood. Secure attachment in infancy thus "immunizes" them against future factors that might threaten security. The second explanation assumes that mothers tend to behave the same way, and one reason for the stability could be the stability of their secure base scripts. None of these hypotheses has been confirmed, but the converging evidence pointing to stability of secure base scripts in early childhood (H. Waters et al., 1998) and in adulthood (Vaughn et al., 2006) suggests that both might be plausible.

Stability of attachment representations seems to be a prerequisite, a necessary, but not sufficient condition, for the transmission to take place. For example, the previously mentioned study by Benoit and Parker (1994) showed correlations between maternal grandmothers', mothers', and infants' attachment security. If mothers' representations of attachment parallel the grandmothers', they needed to have been stable over time. Contrariwise, if attachment representations changed in the absence of major life events from one year to the next, there would be no consistent patterns that could be transmitted from one generation to the next.

To sum up, there is converging evidence pointing both to the stability and the intergenerational transmission of attachment, and there are reasons to believe that secure base scripts are responsible for both of these phenomena. Secure base scripts are probably involved in the stability of attachment because they might underlie both stability in parental behavior and children's attachment stability. Additionally, secure base scripts are probably involved in the transmission of attachment because they can explain why someone effective at using someone else as a secure base in childhood can later become a secure base for someone else. It is likely that good secure base users become good secure base providers because they know the secure base scripts, or "the rules of the game" and, as partners or parents, they work towards the shared goal of helping their spouses or children to live a bigger, more meaningful life.

Mechanisms of Transmission

Until now, multiple studies established an association between parents' attachment representations as measured with AAI and children's attachment security. Moreover, mothers' knowledge of and access to a secure base script showed similar predictive power as mothers' AAI for children's attachment assessed in the lab (Tini et al., 2001) or in naturalistic settings (Bost et al, 2006; Verissimo & Salvaterra, 2006). Despite all the evidence for the intergenerational transmission of attachment, the mechanisms that make the transmission possible remained unclear; several explanations have been proposed, but none of them has gained definitive support. The following sections will analyze these mechanisms, the empirical evidence supporting their role in the transmission of attachment, and the way in which the hypothesized mechanisms might form a coherent theoretical picture. The proposed mechanisms can be grouped in three categories: maternal behavior, mother's ability to reflect coherently on attachment-related events, and mother-child dialogue. Maternal behavior seems to be especially important in the first year of life, because it might underlie the development of experientially-based internal working models in infants' minds, but as children become increasingly verbal, it is probable that qualities of mother-child dialogue play an additional and increasingly significant role in the development of children's secure base scripts. From a secure base script perspective, it seems plausible to assume that mothers' secure base scripts influence their sensitivity to children's signals, and that maternal sensitivity, in its turn, contributes to children's developing their own secure base scripts. It is also conceivable that mothers' knowledge of and access to secure base scripts are guiding the way they talk to their children, and the way they discuss emotional-relevant situations. The following sections will examine these different mechanisms, the empirical evidence supporting their role in the transmission of attachment and how they might operate within the mother-child dyad.

Maternal Sensitivity. As mentioned before, Mary Ainsworth's observational studies were crucial for understanding attachment behavior in infancy and the parental antecedents of attachment security. Her studies confirmed Bowlby's hypothesis that maternal care and responsiveness is one of the precursors of infant attachment (Bowlby, 1969). Ainsworth and her collaborators observed extensively 26 mother-child pairs from

the Baltimore area during children's first year of life, recording multiple aspects of their interactions (Ainsworth, Waters, Blehar, & Wall, 1978). These observations were then compared with infants' attachment behaviors in the lab, as measured with the Strange Situation Procedure. The correlations between maternal sensitivity and subsequent infant attachment were highly significant, indicating that, at least in the first year of life, mother's behavior has a strong impact on children's attachment. The dimensions of maternal behavior that had the strongest relations to infants' security were *sensitivity*, defined as mother's ability to read and interpret infant's signals accurately, *acceptance* versus rejection of infants' needs, *cooperation* versus interference with ongoing behavior, and physical and psychological *availability* (Ainsworth, Waters, Blehar, & Wall, 1978).

Since then, numerous studies attempted to replicate the correlation between maternal sensitivity and infant attachment, but often their results were not as compelling as the initial ones. Some of the variability comes from the use of different definitions of maternal sensitivity, as well as from using different methods; the sample interactions observed ranged from several minutes to several weeks. De Wolff and van IJzendoorn (1997) performed a meta-analysis on the studies that linked maternal behaviors with infant attachment security, with the purpose of coming up with a coherent picture of their results. They concluded that there was at least a moderate correlation between maternal sensitivity and children's attachment security, and that maternal sensitivity is an important but not exclusive prerequisite of children's security.

In his 1995 meta-analysis, van IJzendoorn examined the correlations between parental attachment representations and infants' attachment security, as well as the role of parental sensitivity as a potential mediator between parental representations and infants' behaviors. It seemed plausible that parental representations informed parental sensitive and responsive behaviors, and that these behaviors were in turn responsible for fostering infants' secure attachment. Thus, parental sensitivity seemed a plausible candidate mechanism of inter-generational transmission of attachment. The meta-analysis found significant support for the link between *maternal sensitivity* and children's *attachment security* (large effect size of .72 in the expected direction). However, although both parental security and parental sensitivity had an important independent contribution to children's security of attachment, parental security explained only 12 % of the variance in

parental sensitivity (1995, p398), and parental sensitivity accounted for only 23 % of the variance in the relation between parental and infant security, leaving the door open to alternative interpretations. Although secure parents were more likely to read their children's signals accurately and respond to them in a prompt and appropriate manner, it seems that this is not the only mechanism responsible for the transmission of attachment. The meta-analysis suggested that most of the influence of parental security on children's attachment takes place through mechanisms other than Ainsworth's sensitivity (van IJzendoorn, 1995). To conclude, the mechanisms of transmission of attachment remained unclear, prompting van IJzendoorn to refer to the common, still unexplained variance of maternal representations and infants' attachment as the "transmission gap".

Other studies that examined the role of maternal sensitivity in the intergenerational transmission of attachment (Pederson, Gleason and Moran, 1998) found only moderate support for the mediational hypothesis. In the study by Pederson and collaborators, maternal sensitivity could account for only 17 % of the relationship between mothers' AAI and children's attachment classification with the strange situation. To sum up, it seems that, especially after infancy, maternal sensitivity is either manifested in a way that is different from Ainsworth's initial conceptualization, or is not the only mechanism involved in the transmission of attachment. A series of later studies that attempt to address the "transmission gap" by proposing different mechanisms will be discussed in a later section. It is worth noting here though that most of them involve aspects related to open communication in mother-child dialogue.

Maternal Ability to Reflect Coherently on Attachment-Related Situations. In order to elucidate the relations between maternal attachment representations and children's attachment classifications, a different series of concepts were proposed. What these concepts have in common is that they refer to some prerequisites of effective mother-child communication in the form of maternal ability to reflect upon attachment-related experiences in a coherent manner. Most of these concepts - *insightfulness* (Koren Karie, Oppenheim, Dolev, Sher, and Etzion-Carasso, 2002), *mind-mindedness* (Meins, 1997), and *reflective functioning* (Fonagy et al., 1991) - draw onto Mary Ainsworth's sensitivity scales and revolve around the idea of maternal emotional availability, understood as warmth, acceptance, and a child-centered approach.

Oppenheim and Koren-Karie (2002) proposed that *insightfulness* – mother's capacity to see things from the child's point of view or to reflect on the child's attachment experiences – accounts for differences in caregiving behaviors that lead to differences in children's attachment security. Their hypothesis is based on Ainsworth's suggestion that the ability to empathize with the child, or to see things from child's point of view, is one of the prerequisites of maternal sensitivity (Ainsworth, 1969). The insightfulness scales measure such qualities as the ability to understand the child's thoughts, feelings, and motives, perceiving the child as a separate person, and being able to convey a rich, coherent and balanced image of the child when discussing a previous interaction.

Empirical studies confirmed the proposed relationship between attachment and insightfulness: mothers who showed more insightfulness were also more likely to have securely attached children, and specific patterns of lack of insightfulness were correlated with specific types of children's insecurity (Koren-Karie et al., 2002; Oppenheim et al., 2001). Similarly, Oppenheim and collaborators (2001) showed that mothers of securely attached children were characterized by more empathic understanding, and fewer misperceptions of their children's behaviors.

Additionally, Koren-Karie and collaborators (2002) found evidence for the association between maternal insightfulness, maternal sensitivity, and infants' attachment. Insightfulness was positively correlated with both maternal sensitivity and infant attachment. The proposed explanation was that maternal insightfulness underlies maternal sensitivity, and that maternal sensitivity fosters infant secure attachment (Koren-Karie et al., 2002, p. 540). However, insightfulness had an independent contribution in explaining the variance in infants' attachment, above and beyond maternal sensitivity, suggesting that insightfulness might contribute to infants' attachment through ways different from maternal sensitivity. Koren-Karie et al. proposed that insightfulness might inform, for example, mother's attempts to set firm limits when children want to explore dangerous objects or when they are unable to regulate their negative emotions during temper tantrums. Even though these behaviors are not experienced by children as sensitive, they might contribute to children's sense of security, because they convey the idea that an adult is in charge and can deal with negative emotions constructively (p. 540).

Elizabeth Meins (1997) defined *mind-mindedness* as the mother's ability to see the child as an individual with an autonomous mental life. This quality is evidenced in mother's tendency to use mental states when describing her child's behaviors and it is thought to underlie maternal sensitivity, especially after infancy, when attachment takes the form of a goal-corrected partnership, and children become better able to articulate and express their goals. Meins et al. (1998) noted a relationship between attachment and mind-mindedness, showing that mothers who had securely attached infants at 12 months were more likely to use mental characteristics to describe the behaviors of the same children two years later. However, mind-mindedness "is no guarantee that the parent has the correct view of that representation or offers a possibility to change incorrect working models" (Zimmermann, 1999). Zimmermann continued his review of Meins' book about mind-mindedness by pointing out that the ability to openly discuss and correct flawed working models is as central to attachment as sensitivity.

Because of its conceptual affinity with maternal sensitivity, mind-mindedness was nevertheless examined as a possible mechanism for the intergenerational transmission of attachment. In an attempt to reduce the "transmission gap" between parental and infant attachment, Bernier and Dozier (2003) examined the relationships between maternal attachment representations, infants' strange situation classifications, and a measure of mind-mindedness derived from a semi-structured interview in a sample of foster mothers and their children, aged from 6 to 30 months. The foster mothers were asked to describe the children, and any descriptions they used in terms of emotions, desires, intellect, will, etc. were scored as evidence of mind-mindedness. Interestingly, the measure of mind-mindedness was found to explain the relationship between mother's AAI coherence and infant's attachment classification almost entirely, but it was *negatively* correlated with both. The authors suggest that an exaggerated focus on mental states in the description of a child before the child is able to express these mental states symbolically and verbally (at around age three) might actually interfere with the development of secure attachments, and propose that age-appropriate descriptions are a key feature of mind-mindedness.

Meins et al. (2001) also examined the role of maternal sensitivity and mind-mindedness in predicting infant attachment classifications. The study measured both

sensitivity and mind-mindedness in a play situation when infants were six months old, and attachment with the strange situation procedure at twelve months. Mind-mindedness, understood as appropriate mind-related comments, and sensitivity had an independent contribution to infants' attachment security, suggesting that they might account for different aspects involved in the intergenerational transmission of attachment.

Finally, *reflective functioning* is defined as the overt manifestation, in narrative, of an individual's mentalizing capacity (Fonagy, Steele, Moran, Steele, & Higgit, 1991; Fonagy et al., 1995), while *mentalizing* is the ability to understand behaviors in terms of underlying states and intentions (Slade, 2005). Because mentalizing is inaccessible for direct measure, researchers measure reflective functioning instead, as a quality of attachment-related speech. With respect to attachment, reflective functioning encompasses mother's ability to reflect upon and accept the inner life of her child, and can be measured as a quality of the AAI discourse (Fonagy et al, 1998).

Empirical studies that examined reflective functioning as coded from the AAI (Fonagy, Steele, Moran, Steele, & Higgit, 1991), or from the Parent Development Interview (Slade et al., 2005), an interview which was constructed with the parent-child relationship in mind (Aber et al., 1985), found that parents with higher reflective functioning scores were more likely to have high AAI coherence scores, and more likely to have securely attached children. The study by Fonagy et al. (1991) showed that, if reflective functioning is taken into account, it can explain entirely the correlation between AAI security and infant attachment. These very correlations, however, make it difficult to conceptualize reflective functioning as different from a mere indicator of attachment security. In the study by Slade and her collaborators (Slade et al., 2005) the correlations between maternal AAI and children's attachment classifications were quite modest, but when a mediational analysis with reflective functioning as a mediator was introduced, reflective functioning largely accounted for the relationship between mothers' and children's attachment security. The correlation between reflective functioning and infant security was of .41, and the correlation between reflective functioning and AAI was of .51, suggesting that mediational analyses that include reflective functioning as a possible mechanism of transmission of attachment are a promising approach.

One of the limitations of reflective functioning, however, is that, as a quality of discourse, it cannot elucidate what takes place in real-time, mother-child interactions. A similar criticism can be leveled against the other constructs and measures of parental ability to reflect upon attachment-related situations, even though some of the mind-mindedness studies (e.g., Arnott & Meins, 2007) did attempt to overcome these limitations, by measuring parents' ability to describe their children's mental states appropriately during ongoing interactions. Nonetheless, studies of reflective functioning, insightfulness, and mind-mindedness suggest that mothers' abilities to attribute intentionality, interpret correctly, and empathize with their children are indissolubly linked with both their own, and with their children attachment security.

Furthermore, if we examine these concepts closely, they seem to capture qualities of mother-child interaction or dialogue that are similar to mothers' co-construction abilities, which will be discussed in the following section. For example, when Slade describes mother's ability "to link this awareness of her child's or her own internal state to behavior or to other internal states" as "the hallmark of true reflective functioning" (Slade, 2005, p. 278), she seems to be referring to mother's ability to use causal links and employ an explanatory framework for her own and for her child's behaviors. Thus, it appears that maternal qualities captured by reflective functioning or insightfulness may to be the prerequisites of co-construction, but it remains unclear how these aspects of internal functioning are translated into actions and dialogue.

Open Lines of Communication. Bowlby had already proposed that, behind attachment behavior and its stability, the cognitions about attachment must be organized into what he called "working models" of relationships (1969; 1980). Through interactions with one's attachment figure, one develops working models of self, of others, and of the world. These models serve to organize, filter, simulate, predict and make sense of attachment-related situations.

In infancy, these models are procedural, sensorimotor abstractions based on experience with the caregiver. As children become more verbal, they are able to discuss attachment-related experiences with their parents, and new, verbally-based, declarative models of relationships are formed (Grossmann, 1999). These models are rooted in both experience and dialogue, and they are indissolubly based on the cognitive and linguistic

advances of preschool years. Indeed, as Thompson, Liable, and Ontai (2003) pointed out, the internal representations of attachment develop over time in close conjunction with cognitive development, and critical periods of cognitive restructuring involve qualitative changes in attachment representations as well. In preschool years, advances in cognition and communication allow for the exploration of the social and emotional world, in addition to the physical world. Children become better able to understand others' emotion, better able to remember past events, and, with the help of their parents, they start to integrate these recollections in a coherent narrative about the self. In this context, parent-child communication becomes increasingly important for the creation and consolidation of the verbally-based models of relationships.

Bowlby had hypothesized that, beyond infancy, the "freedom of communication" between parent and child plays a significant role in the consolidation of these models (Bowlby, 1988). Bowlby suggested that, as children become more verbal, dialogue starts to play a more important role in the goal-corrected partnership between mothers and children, and that communication replaces proximity as the goal of attachment behaviors beyond infancy (Bowlby, 1969; 1988). The ability to talk freely about emotions builds on the previous attachment experiences and contributes to the construction of secure representations about relationships. Of particular importance is mothers' ability to discuss attachment-related situations with their children in the absence of defensive exclusion and other processes that introduce distortions in later representations of relationships (Bowlby, 1988). In this sense, mother-child dialogue becomes the new arena for intergenerational transmission of attachment, and it is crucial for studies that examine the mechanisms of transmission of attachment in preschool years and beyond to take into account both open lines of communication and experience.

Examining the literature on narrative processes and attachment representations, Oppenheim and Waters (1995) articulated the co-construction hypothesis, which suggests that secure mothers are better at supporting their children build and revise attachment scripts, fill in the details, and connect events within a coherent, explanatory framework. Co-construction was defined in a later paper as the synchronous back and forth between people, in which the contribution of each participant is equally valued. In comparison with scaffolding, in which one of the participants knows the "right answer", co-

construction is a more open process, in which children are allowed to figure out the right answer, with support from the parents, but on their own (Waters, Cunliffe & Guttmann-Steinmetz, 2001).

Conversations about past or hypothetical events with an emotional connotation in particular can provide mothers with the opportunity to discuss, compare and alter their children's representations. Some mothers might be better than others at supporting open mother-child dialogue and helping their children acquire secure base scripts. In support of this hypothesis, a series of studies linked open, fluent and coherent communication about emotional situations and past events to children's attachment security (Main, Kaplan, & Cassidy, 1985; Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986; Oppenheim, Nir, Warren, & Emde, 1997). For example, as mentioned before, Main et al. (1985) showed a correlation between a behavioral measure of attachment and several measures of open communication at age six: fluency of discourse between child and parent, child's emotional openness while discussing separation, and child's likelihood of suggesting constructive solutions to hypothetical separation. In addition, Oppenheim et al. (1997) showed that children's emotional coherence and mothers' facilitation during a co-construction task in which mother and child (age 4.5) enacted a separation/reunion with dolls was linked with children's independent attachment narratives and their emotion and behavioral regulation skills at ages 4.5 and 5.5. High emotional coherence was measured by aspects such as child's willingness to discuss the separation and to enact a warm reunion. Mother's facilitation was measured by aspects such as helping the child figure out what to do during separation, helping the child find an alternative caregiver or activity, and initiating an affectionate reunion.

Additional support for the link between mother's communicative style and children's attachment comes from research about memory development. Fivush and her collaborators noticed that mothers have different communication styles with their children, and that these styles influence how much children remember and communicate about their memories (e.g., Reese, Haden, & Fivush, 1993). For example, mothers with a more elaborative narrative style (i.e., richly descriptive and evaluative, providing background and contextual information and eliciting information from the child) have children who are later found to engage in more detailed, richer reminiscing and provide

more extensive autobiographical accounts compared to the offspring of mothers with a less elaborative narrative style (Haden, Haine, & Fivush, 1997; Harley & Reese, 1999; Farrant & Reese, 2000; Reese, Haden, & Fivush, 1993). Interestingly, in addition to these correlates, elaborative mothers tend to have children who are more securely attached (Fivush & Vasudeva, 2002). Children of elaborative mothers also tended to remember more and provide newer information when asked to reminisce about different events independently (McCabe & Peterson, 1991; Sales, Fivush, & Peterson, 2003), suggesting that elaboration encourages children to construct more detailed representations of events, and, ultimately, more complex and adaptable interpersonal scripts. The correlations between reminiscing style and security suggest that how mothers talk to their children about attachment relevant situations might play a role in how children encode, represent and organize attachment-relevant information.

In some recent studies, new co-construction tasks were developed to provide more detailed information about mother-child dialogue about attachment-related situations. Waters, Steiner, Guttmann-Steinmetz, Roberts, & Zaman (in preparation) examined the communicative styles of mothers and their preschool aged children during a narrative co-construction task. The mother-child dyads were invited to tell stories starting from two series of picture prompts that described two attachment-relevant situations – a positive, and a negative one (for example, “Mother comes back from the city” versus “Child cannot sit on mommy’s lap”). There were consistent differences in mothers’ co-construction skills, and these skills were significantly correlated with both mothers’ AAI coherence scores, and with their attachment script assessment. Secure mothers were more attentive to the children, better at timing their comments appropriately, and better at helping their children fill in the details. Interestingly, these correlations were stronger for negative than for positive story lines. The study confirmed that secure mothers have better co-construction skills, and articulated the qualities of effective mother-child communication (creating a co-construction atmosphere, encouraging content elaboration, and supporting an explanatory framework).

Apetroaia, Gomes, and Waters (2007, in preparation) also examined the relationship between maternal knowledge of and access to secure base scripts and maternal ability to help children make sense of emotional experiences in the context of

mother-child dialogue. In this study, mothers and children were asked to discuss how the child would feel in several hypothetical situations which could elicit negative or positive emotions. The study confirmed that secure mothers were more elaborative, more open, and more supportive of their children's exploration of different emotions, as well as better at providing closure and helping them resume their initial activities (getting them back on track). Mothers with better knowledge of secure base scripts had a better understanding of the co-construction partnership, probably because secure base scripts guided their interactions. Secure mothers were more effective in supporting their children make sense of a wide range of emotions and in building an explanatory framework for both negative and positive contexts. Consistent with previous findings that link security with the ability to discuss negative emotions (Sales, Fivush, & Peterson, 2003; Laible & Thompson, 1998; 2000), secure mothers were particularly effective in situations with a negative emotional content, but equally effective in discussing mother involved situations and mother non-involved situations.

A Study of Attachment Scripts, Co-construction, and Intergenerational Transmission of Attachment

Previous studies have shown ample evidence of intergenerational transmission of attachment, but most of these studies addressed the link between mothers' attachment *representation* and children's *behavior*. The new narrative methodologies for studying attachment representations in children (e.g., *The Story Stem Completion Task*, Bretherton, Ridgeway, & Cassidy, 1990) as well as in adults (Main et al., 1985; Waters & Rodrigues, 2001) offer an opportunity to re-examine the intergenerational transmission of attachment by establishing a link between both mothers' and children's attachment *representations*. Bretherton et al. (1990) developed a measure that assessed the attachment representations of three-year old children, by asking them to complete a series of story lines enacted with dolls and props. The stories involved everyday situations with the potential of activating attachment behaviors, like *Spilled Juice, Rock Climbing*, or *Monster in the Bedroom*. The stories were coded for security based on a complex set of criteria that included parents' acknowledging and dealing constructively with the problem and comforting the child. Avoidant answers ("I don't know"), as well as bizarre and violent developments were

considered markers of insecurity. Bretherton et al.'s study (1990) found significant correlations between security of children's attachment representations measured with the Story Stem Completion Task, attachment behaviors measured with a concurrent separation-reunion procedure, the Attachment Q-Sort completed by the mother when children were 25 months old, and the Strange Situation Procedure at 18 months. These findings indicate that children's attachment behaviors are strongly linked with attachment representations.

Waters et al. (1998) examined the stories produced by the children in Bretherton et al.'s study from the perspective of secure base scripts. Twenty nine of the original thirty six participants in Bretherton's study had also been interviewed at 54 months (Bretherton, Prentiss, & Ridgeway, 1990), and, although the original coding system could not capture the stability of attachment representations from 37 to 54 months, the new coding system based on secure base scripts showed significant correlations not only between scriptedness at both ages and attachment security at 25 months, but also between the scriptedness scores for 37 and 54 months ($r = .49$, $p < .01$, Waters & al., 1990, p 226). At the same time, the new coding system showed no correlations with measures of vocabulary or of mental development for either age (Waters et al., 1998). Moreover, Posada and collaborators have recently refined the script scoring to enable a more efficient scoring of children's stories, reporting significant correlations ($r = .40$, $p < .01$) between scriptedness of stories produced with the Story Stem Completion Task and concurrent Attachment Q-Sort (Posada, Kaloustian, & Barrig, 2007).

As noted earlier in this paper, comparable methodologies and scoring systems at different ages (in this case, at the preschool level and adults) should enable us to link mother and child attachment representations directly. Thus, the first goal of the current study was to examine whether there was a link between mothers' and preschool children's knowledge of and access to secure base scripts. The Story Stem Completion Task was used with preschool children and the Attachment Script Assessment was used with their mothers.

The Attachment Script Assessment was chosen over the AAI for a number of reasons. The AAI addresses the adult's perceived experience as a secure base user in childhood, but not as a secure base, thus making the correlations between parental AAI

and children's security somewhat difficult to interpret. Conversely, the concept of secure base scripts seems to capture the most important aspects that might make transmission possible, and also to explain the transition from relationship-specific to generalized, and again, from generalized to relationship-specific models in later years.

In addition, secure base scripts contain a ready explanation of how an effective secure base user becomes an effective secure base provider later on. Mothers with better knowledge of and access to secure base use are better secure base providers because they have access to a representation of what the secure base sequence of interactions entails. These mothers are also able to share the same cognitions with their children, and to work together with their children in supporting their increasing exploration and autonomy, using actions or dialogues that are appropriate to each age. As indicated by the studies of co-construction, mothers with better knowledge of secure base scripts are also better at discussing past, present, or hypothetical emotional situations with their children. Through their co-construction skills, these mothers are probably helping their children create secure base scripts that are richer, more detailed, and more adaptable. Richer scripts are an advantage because they are linked with more retrieval cues and thus have an increased accessibility in situations that require emotional regulation in the absence of an attachment figure. Thus, the second goal of the current study is to examine the role of co-construction as a mediator between mothers' and children's attachment script representations.

With respect to selecting a co-construction measure that taps into mother-child co-construction processes, the present study chose to use the vignette discussion task from Apetroaia et al (in preparation) due to its focus on emotion laden materials. Inge Bretherton (1990, 1991) first noted that mothers' open communication style is related to how readily children share and learn to interpret especially *negative* emotions. In agreement with her prediction, several studies have noted that the relationship between attachment security and conversational style is stronger for situations that involve the discussion of negative emotions (Sales, Fivush, & Peterson, 2003; Laible & Thompson, 1998; 2000). Consistent with previous studies, Apetroaia et al. have also reported that the pattern of correlations between mothers' scriptedness, AAI coherence, and co-construction skills was stronger for mother-child dialogue around situations eliciting

anger, fear or sadness.

The fact that this relationship is stronger for negatively affect-laden situation or story lines suggests that the negative content prompts more engagement from secure mothers. Mothers who have a better knowledge of a secure base script may be providing an atmosphere of acceptance in which children feel comfortable exploring negative emotions and trying to figure out ways of dealing with them. Instead of dismissing negative emotions, these mothers seize the opportunity to enhance their children's representations through dialogue. These results are consistent with the Thompson, Laible, and Ontai's (2003) findings that secure children are particularly good at understanding negative emotions and also with Lagatutta and Wellman's (2002) finding that, when talking about negative emotions, parents and children tend to use more advanced cognitive strategies. Thus, the third goal of the current study is to compare mothers' co-construction skills with negative emotion-laden vignettes versus positive vignettes (happy scenarios). Both types are included in the vignette discussion task, although more of the vignettes are negative scenarios (4 versus 2).

In sum, this investigation anticipated that, as cognitive and linguistic advances turn children into more active participants in the goal-directed partnership, mother-child dialogue becomes as important for the development of the script-based "working models" of attachment as mother sensitivity has been in infancy. In this developmental context, the qualities of mother-child dialogue become increasingly important for the transmission of secure base scripts. Mother's ability to support the exploration of meaning and emotions in a non-intrusive manner becomes the most likely contributor to the transmission of attachment beyond infancy. The knowledge and accessibility of secure base scripts should guide mothers' understanding of the co-construction partnership and contribute to the formation and revision of secure base scripts in children. Although studies have already examined the correlation between maternal scriptedness and maternal co-construction skills, there is no study that compares these two variables with children's knowledge of secure base scripts. Such a study is necessary if we are to examine the role of co-construction processes in the intergenerational transmission of attachment and test the mediational hypothesis that co-construction accounts for most of the relationship between maternal and children's script knowledge.

Study Hypotheses

The current study aimed to investigate the following hypotheses:

Hypothesis 1: Mothers with better knowledge of and access to secure base scripts are more likely to have children with better knowledge of and access to secure base scripts.

Hypothesis 2: As shown previously, mothers with higher scriptedness scores (with better knowledge and access to secure base scripts) have better co-construction skills (they are better at discussing emotional-relevant situations with their children).

Hypothesis 3: In addition, mothers with better co-construction skills are more likely to have children with higher scriptedness scores, showing a better understanding of secure base scripts.

Hypothesis 4: Co-construction skills mediate the relationship between mother's and children's scriptedness.

In addition, we examined whether mothers' or children's verbal intelligence had a significant impact on children's scriptedness or mothers' co-construction skills. We also investigated whether relationships between co-construction and scriptedness are stronger for negative rather than positive vignettes.

II. METHODS

Participants

The participants in the study were 59 mother-child dyads recruited from public preschools in Bucharest, Romania. Because Bucharest is very diverse, and public education is considered more than adequate for well-off families, there were no concerns regarding the socio-economic representativeness of the sample frame. Flyers were distributed to parents during teacher-parent conferences, and interested mothers set up meetings with the experimenter, who explained the project in more detail. Participants were reimbursed for participation in the study. Children's ages were between 4 years 1 month to 4 years 11 months of age. All participants filled out a demographic form in order to obtain the following information: date of birth, ethnic background, marital status, number of children, occupation and education (of participant and her spouse).

We chose to examine the relationships between attachment representations and co-construction processes in a sample of preschool-aged children and their mothers for several reasons linked to the general social and cognitive advances characteristic of this age. First of all, verbal and cognitive advances allow children to convey their representations of relationships in a narrative form; and second, preschool years are an important time of restructuring attachment representations, under the influence of mother-child dialogue (Thompson, 2006). During shared conversations, children have the opportunity to compare their attachment representations with those of their parents, to refine and revise them, and children become more active participants in these conversations due to their better understanding of other's minds.

Design and Procedures

The procedure for this study had three parts: story production by the mother, independent story telling by the child and a joint mother-child discussion task. Initially, the experimenter met with the mother, to explain the project in more detail, to obtain the consent for participation in the study, and to fill out the demographic form. This

introduction was followed by the *Attachment Script Assessment*, which took 20-30 minutes to complete, and by a quick assessment of mothers' verbal skills (20 minutes). The *Attachment Script Assessment* was audio-taped. The second session, lasting for about 30 minutes, brought the mother and child together for the discussion of a series of emotional-relevant vignettes and was videotaped. The third session took place independently with the child, in a playroom equipped with a video-camera at children's preschool. This final session consisted of a quick assessment of children's vocabulary (10-20 minutes) and of the actual *Story-Stem Completion Task*, which took about 20 - 30 minutes. The *Story-Stem Completion Task* was videotaped. For mothers' convenience, the first and second sessions took place immediately after school, when they usually picked up their children.

Attachment Script Assessment. In order to assess mothers' knowledge of and access to secure base script, each mother was asked to produce six stories from sets of word-prompt outlines developed by H. Waters and Rodrigues (2001), each consisting of 12 words that frame an implied story line. Three types of stories were used: stories with attachment-related content that emphasize mother-child interactions (*The Doctor's Office* and *Baby's Morning*), stories that emphasize adult-adult interactions (*The Accident* and *Jane & Bob's Camping Trip*), and stories without attachment content (*Trip to Park* and *An Afternoon Shopping*). For the purposes of this study, the overall attachment script scores (all four attachment narratives) were used in the data analyses. Neutral stories serve the goal of introducing some variability and keeping participants from developing a particular mind-set. Each outline consists of twelve words that suggest a story line and enough content to result in a story of approximately one-half to a full page length when written. Table 1 presents the four attachment prompt-word outlines.

The stories were produced orally and audio-recorded. Each story took less than three minutes to produce. The mothers were asked to use the columns of words to frame a story, going from left to right. The experimenter indicated that the prompt words were only a guide and that elaborations were welcome. After reviewing each outline, the participant indicated when they were ready. Then a digital audio recorder was turned on and the generated passage recorded. Individual sessions ranged from 20-30 minutes.

Story Stem Completion Task. In order to assess children's attachment representations, children were asked to complete three attachment-relevant story-lines enacted with dolls and props in a three-dimensional display. All three story stems involved a Mom, Dad, older brother or sister, and younger brother or sister doll figures. The "child" in the enactment is always the younger doll figure. Each child completing the story stems was videotaped, and the transcription of the tapes included both children's verbalizations and behavioral movements related to the story action.

The sessions took place in a playroom equipped with a video camera at children's preschool, and began with a warm-up story about a birthday party. This warm-up story was completed by the child and the experimenter together, to ensure that the child understood the procedure. The attachment-relevant stories were introduced one by one in a standard manner: *Spilled Juice, Rock Climbing,* and *Monster in the Bedroom*. At the end of each story stem, the child was asked to "show me" (using the dolls) and "tell me what happens next." In addition to the request to say what happens next, the experimenter used three different types of prompts. The first one focused on the story issue and was used only if the child failed to produce a response (e.g., "what did they do about the hurt knee?"). The second was a clarification prompt and was used when the child talked about unspecified agents (e.g., "who put on the band-aid?") or moved the figures without describing their action ("what is she doing?"). Finally, the last type was used to elicit more elaboration ("anything else?"), unless the child indicated by speech or action that the story was finished. All prompts were worded so as not to suggest specific responses to the child.

The story stems for the three story completions are presented in Table 3.

Vignette Discussion Co-Construction Task. The mother-child pairs were asked to participate in a vignette discussion task, involving happy and sad everyday scenarios. Mother-child pairs received one of two sets of mood vignettes (Set A: *Mommy comes home from NYC, You are not allowed to share food, Mommy won't let you sit on her lap, Mommy left you alone in the house, You win ice cream at a store, Your paint is too dry to paint a picture;* Set B: *Mommy won't help when your finger gets stuck, You drop your ice cream, Mommy watches you at the beach, You get presents at your birthday party, Mommy won't let you sleep in the bed with her, Playmates won't share toy*). Each set has

three mother-child attachment related situations and three non-attachment related situations. Within each type, one situation involves positive emotion and two involve negative emotion. Each set of materials was used equally often. The twelve vignette story lines selected for this study are presented in Table 5. All were selected from a larger set of vignettes used in Lay, Waters, Posada, and Ridgeway, 1995.

To ensure their standardization, the vignettes presentations were filmed, and each of the vignettes was read by one of two female actresses who began by saying: "I'm going to tell you about something. Maybe it didn't really happen to you. But I want you to think about it and tell me how you would feel if this really happened to you". The camera framed the head and shoulders of the actress speaking in a clear, pleasant voice and adding appropriate emphasis but allowing neither vocal tone nor facial expression to suggest hedonic tone to the event. To avoid prompting a particular affective response, the texts of the vignettes have been freed of mood-descriptive terms. The order of positive versus negative, mother-involved and non-mother vignettes was counterbalanced, with different actresses presenting adjacent vignettes, in order to minimize carry-over across vignettes and maintain children's interest.

After each presentation, the mother and child were asked to discuss the vignette, focusing on how the child himself/herself would have responded. The mother was encouraged to seek clarification and explanation of the child's reaction, thereby promoting further discussion. When the mother felt they have discussed the situation enough and the child didn't have anything else to add, she moved on to the next vignette. The discussion sessions were videotaped.

III. MEASURES

Assessment of Mother's Secure Base Script

The audio-recorded narratives were transcribed, translated into English, grouped by story topic, and scored by two independent coders blind to the other stories produced by the specific participant. For the attachment-related topics, the coders used the scriptedness measure described below. The neutral passage topics are included in the battery to provide some variety in story topic, and are unrelated to the secure base script measure (Waters & Rodrigues, 2001). Consequently they were not scored.

Scriptedness. The measure of scriptedness is based on a definition of what can be viewed as a 'secure' script in each of the four attachment scenarios. Based on Bowlby's and Ainsworth's definition of what a 'secure base' is, this secure script describes a sequence of events in which the caregiver (1) supports the child's exploration, (2) remains available and responsive and serves as a resource as necessary, (3) the child encounters an obstacle or threat and becomes distressed, (4) either the child retreats to the caregiver or the caregiver goes to the child, (5) the difficulty is resolved or removed, (6) proximity and/or contact with the caregiver effectively comforts the child, (7) the child (possibly with the caregiver's assistance) returns to constructive play (or ends play comfortably and makes a transition to another activity).

For each attachment-related scenario, coders are presented with a description of how the secure base script is instantiated for that story line. Narratives are scored on a 7 to 1 scriptedness scale, ranging from stories with rich secure base content and elaboration to moderate secure base content to event-focused stories to stories with atypical (non-secure base) content. Table 2 presents brief descriptions of each scale point.

Assessment of Child's Secure Base Script

The stories produced by children during the *Story Completion Task* were transcribed including both children's verbalizations and movements relevant to the story line. The three stories (*Spilled Juice, Rock Climbing,* and *Monster in the Bedroom*) were translated into English and coded for scriptedness by two independent scorers, on a 4 to 1 scriptedness scale (3 to 4 representing the best example of a well-articulated secure base script, 2 a less coherent script, and 1 no evidence of a secure base script). The coding

system is based on similarity to a prototypical secure base script and was developed by H. Waters et al. (1998). It was later adapted by Posada and collaborators (2007) for a 3 to 1 scriptedness scale. The scores from the three different stories were averaged into a Child Scriptedness score. Sample stories produced by participants are presented in Table 4.

Scoring of the *Spilled Juice* story needs to take into account whether the child considers spilling the juice an accident or a transgression. A maximum score of scriptedness is assigned to stories in which the juice is cleaned up and the child gets more juice; comments about not spilling the juice again are optional. An alternative scenario that usually receives a score of 3 involves the child being punished, but also being explained what she did wrong and the purpose of the punishment (for example, in one story, the child explained how the punished child will "be good" when he came out of his room). A score of 2 involves cleaning up or being punished (getting spanked or sent to the room) without the rich explanatory framework from before. A score of 1 indicates that the problem is not dealt with or the story has an odd ending.

For the *Rock Climbing* story, answers that receive the maximum score of scriptedness involve the children being able to see that someone else (mommy, daddy, or older sibling) is able to climb up the rock and not get hurt. Provision of a band-aid is optional. If the child is shown that the older sibling can climb the rock because he or she is bigger, but the younger child should not, that is also considered a good ending. The emphasis is on providing an explanation. A score of 3 or 4 involves fixing the knee by using a band-aid, taking the child to the hospital, or putting the child's leg in a cast, plus an optional kiss or hug from the parents viewed as helping to get things back on track. A score of 2 involves either taking the child to the doctor or the provision of a band-aid, but without elaborations or explanations. A score of 1 indicates that the problem is not dealt with or that the story has an odd ending.

For the *Monster in the Bedroom* story, a score of 3 or 4 involves the child being explained that there is no monster, and, additionally, kisses, smiles, songs or good-night stories that indicate that everything is fine and the child follows his or her going to sleep routine. A score of 2 is assigned to stories in which a parent gets the monster out or kills the monster, but without an explanation or the effort to get things back on track. A score of 1 is assigned to stories that avoid dealing with the problem or that have an odd ending.

Assessment of Mother's Co-Construction Skills

Mother's co-construction skills were scored by using three seven-point scales that tap into different dimensions of co-construction: "Supporting the recognition of affective response", "Encouraging elaboration of an affective script", and "Supporting an explanatory framework".

1. Supporting recognition of affective response: Mother focuses on the affective content and guides the discussion toward the child's feelings and affective response. She responds with queries about how the child would feel, rather than what they'll do. In particular, mothers on the high end keep the focus on affect, on how the child feels throughout the discussion. Although all the vignette discussions start with a "how would you feel", mothers on high end of the scale keep redirecting the discussion back to affect, e.g., "If you do that, how would you feel?" On the lower end, mothers focus on the events of the story and on actions/ behavior. They allow the discussion to drift away from "how would you feel?" Mothers with the lowest scores also ignore/disregard the child's affective comments. Either they are more interested in obtaining the "right" answer, or even override the child's affective response.

2. Encouraging elaboration of affective script: Mother prompts continued discussion by further inquiry into the child's affective response (e.g., child says he's happy, mom responds why? Is it because mommy's there?) or by introducing additional event-related information (e.g., "what if they said…", "what if mom said ...", "but what if you had the cone",). Mothers on the low end are intrusive, introducing their interpretations over that of the child, often leaving them to just say "yes" or "no."

3. Supports explanatory framework: Mother either provides an explanation that diffuses the negative affect and/or clarifies the context in which the child would feel happy/sad/afraid (e.g., "if the teacher says no, that's good because you'll get your own snack"). Mother can go further by suggesting a way in which the child can manage the affect. Her comments may also relate the story line to the child's own experiences, broadening the explanatory framework. Mothers on the low end not only fail to provide these types of explanations/clarifications, but reject child's version of the scenario, precluding a meaningful representation. Table 7 presents examples of high scoring and low scoring vignettes for all the three scales.

Assessment of Mothers' and Children's Verbal Skills. Because both the *Attachment Script Assessment* and the *Vignette Discussion Task* rely on maternal discourse, we included a measure of verbal skills, to make sure that differences between mothers in terms of scriptedness and co-construction skills were not due to differences in verbal intelligence. The study used *The Mill Hill Vocabulary Scale* (MHVS), which measures the reproductive aspects of intelligence and is in the process of being normed in Romania. *The Mill Hill Vocabulary Scale* (MHVS) is based on two parallel lists of words (set A and set B). For this study, we used the 34 item All Multiple Choice form of the test. The test requires the selection of a synonym from a group of six, for each word in the set. No fixed time is set for completion of the test. Raw scores were used in the statistical analyses. We included this measure although previous studies have not found any relation between mothers' scriptedness and verbal IQ (H. Waters & Rodrigues, 2001), or between mothers' co-construction skills and verbal IQ (Apetroaia et al., in preparation).

At the same time, because children's answers to the *Story-Stem Completion Task* are verbally based, we measured children's vocabulary with the *Crichton Vocabulary Scale*, which is similar to *The Mill Hill Vocabulary Scale*, but it includes words appropriate for a younger age group. This scale is also in the process of being normed in Romania. Raw scores were used in the statistical analyses. Methods of scoring children's stories that do not rely on scriptedness do show a modest correlation with verbal skills (Bretherton et al., 1990), but such correlations were not anticipated in our study. In support of our prediction, previous scriptedness scores of stories produced with the *Story-Stem Completion Task* were not correlated with measures of children's intelligence or vocabulary (H. Waters et al., 1998)

Both these scales are designed to measure what is termed reproductive ability - that is, being able to master, recall and reproduce largely verbal information. These scales, collectively known as the *Raven Vocabulary Scales*, were destined to complement the Raven Progressive Matrices. Although the *Raven Vocabulary Scales* correlate .90 with other full intelligence tests, they correlate only .50 with the Progressive Matrices, suggesting that, indeed, they measure different constructs of intelligence (Raven, 1989). *The Mill Hill Vocabulary Scale* was initially standardized in England between 1943 and

1944, restandardized in 1979 (Raven, 1989), and was revised periodically. The scale was successfully translated in French with relatively few changes, yielding similar norms to the British population (Deltour, 1984). These findings suggest that the scale is robust and, probably, easily transferable to new populations. In Romania, Anca Dobrean is involved in standardizing *The Raven Vocabulary Scales* (personal communication). The reason we chose these scales is their imminent standardization for Romanian population, allowing for comparisons with other Romanian participants.

IV. RESULTS

Sample Characteristics

Sixty one mother-child dyads were recruited from four preschools in Bucharest, Romania. Two of the 61 dyads dropped out of the study after the initial assessment of mothers' scriptedness and verbal IQ. The final sample included 59 children: 32 boys and 27 girls, ranging from 4.1 to 4.9 years of age (*M*=4.5, *SD*=.22). These children's mothers were between 22.6 and 40.7 years of age (*M*=32.5, *SD*=4.23), and had between 7 and 18 years of formal schooling (*M*=13.25, *SD*=2.69). All the participants' reported ethnicity was Romanian. Thirty one of the children in the sample had no siblings, twenty five of them had one sibling, and three of them had two or more siblings. Fifty of the mothers were married at the time of the assessment, five were in domestic partnerships, one was divorced, two separated, and one was single. Fathers' education ranged from 6 to 19 years (*M*=12.97, *SD*=2.90), and monthly family income varied from 500 to 10500 RON. However, the family reporting the maximum value was an outlier; when we eliminated this value from the analysis, the maximum value became 6000 RON per month, (*M*=2428.95, *SD*=1259.92). Sixteen of the mothers were not working at the time of the assessment, the others were working between 25 and 72 hours per week (*M*=32.5, *SD*=21). Data screening did not reveal any missing values or violations of the assumption of normality, with the exception of the income variable. Children's verbal intelligence scores ranged from 0 to 12 (*M*=5.58, *SD*=2.76), and mothers' verbal intelligence scores ranged from 0 to 29 (*M*=16.97, *SD*=7.24).

Relationships between Mother and Child Script Representations

Mothers' narratives were scored on a 7 to 1 scriptedness scale by two independent scorers and averaged across the four stories for a general measure of Mothers' Scriptedness. As a rule, disagreements higher than two points on the seven point scriptedness scale between the two scorers were resolved with discussion. This was the case for only one out of the 236 stories. As a measure of inter-rater agreement between

the two scorers, we calculated the Intra-Class Correlations using a two-way mixed model and absolute agreement. The *ICC* (3,1) single measure correlation was .58; the average measure was .74, N=236, p<.001. Additionally, because ICC sometimes underestimates inter-rater agreement, we calculated Finn's *r.* Finn's *r* was excellent, at .99. Correlations among the averaged scriptedness scores of the four attachment narratives produced by mothers ranged between .42 and .57, and were all significant at p<.01. Cronbach's alpha coefficient for the Mothers' Scriptedness measure was .80.

Children's narratives were scored by two independent scorers blind to the other measures and averaged across the three stories for a general measure of Children's Scriptedness. Disagreements greater than one point on the four point scriptedness scale were resolved with discussion. Inter-rater agreement within one point before discussion was high, at 98%. The *ICC* (3,1) single measure correlation was .78; the average measure was .87, N=177, p<.001. Finn's *r* was good at .87. Correlations among the three children's narratives ranged between .29 and .42, and were significant at p<.05. Cronbach's alpha coefficient for the Children's Scriptedness measure was .63.

To test whether mothers with higher scriptedness scores had children with higher scriptedness scores, we computed the Pearson's Correlation Coefficient for the association between Mothers' and Children's Scriptedness. Table 8 displays the bivariate correlations, along with means and standard deviations for the variables of interest and controls: Mothers' Scriptedness (continuous variable, 1 to 7 scale scores), Children's Scriptedness (continuous variable, 1 to 4 scale scores), Co-Construction, Children's IQ, and Mothers' IQ.

The correlation between Mothers' Scriptedness and Children's Scriptedness (Continuous) was significant (r=.26, p<.05), thus confirming the first of our hypotheses: mothers with high scriptedness scores are more likely to have children with high scriptedness scores. There were also significant correlations between the verbal intelligence measures and the attachment script measures. For example, Mothers' IQ correlated significantly with Mothers' Scriptedness (r=.39, p<.01). The correlation between Children's IQ and Children's Scriptedness (Continuous) was significant as well (r=.32, p<.05).

To take a closer look at what combination of variables best predicts Children's Scriptedness, we conducted a hierarchical regression analysis, with Children's IQ and Mothers' IQ entered as predictor variables at Step 1, Mothers' Scriptedness entered as a predictor variable at Step 2, and Children's Scriptedness (Continuous) as the criterion variable. For Step 1 of the regression, taking into account the IQ variables, the R^2 was .20, $F(1, 57)=7.09$, $p<.01$. The IQ variables accounted for 22% of the variance in Children's Scriptedness. Adding Mothers' Scriptedness as a predictor did not produce a statistically significant R^2 change, accounting for only 1.8% percent more of the variance in Children's Scriptedness (Continuous). The results of this analysis are summarized in Table 9.

However, taking into account the age of the participants and the fact that they are just beginning to formulate relationship scripts based on their experiences, it is possible that verbal skills influence the expression of their secure base scripts. Thus, the difference between a 2 and a 3/4 scriptedness score on Children's Scriptedness scale might not reflect an actual difference in script knowledge, but a difference in the development of verbal skills. To address this concern, we created a binary variable called Children's Scriptedness (Dichotomous) to replace Children's Scriptedness (Continuous). In order to be classified as having a secure base script, children had to produce responses with clear evidence of secure base scripts on at least two of the three story stems, thus bringing their average closer to 2, the minimum score indicating the consistent presence of secure base scripts in children's narratives. Consequently, scores higher than 1.90 were considered secure, scores lower or equal to 1.90 were considered insecure. Although the correlation between Children's Scriptedness (Continuous) and Children's IQ had been significant (r=.32, p<.01), a t-test revealed no difference between children with and without a secure base script on Children's Scriptedness (Dichotomous) in terms of their IQ. The mean IQ score for children with secure base script knowledge was 6.00; the mean IQ score for children with no script knowledge was 5.04. If IQ were indeed a factor implicated in script knowledge, then it would correlate with the dichotomous variable as well. This change in significance suggests that the variable of Children's Scriptedness (Dichotomous) might be a more appropriate measure of attachment representations at this age.

We ran a second hierarchical regression analysis, with Children's IQ and Mothers' IQ entered as predictor variables at Step 1, Mothers' Scriptedness entered as a predictor variable at Step 2, and Children's Scriptedness (Dichotomous) as the criterion variable. We chose to use linear regression rather than logistic regression, because the dichotomous variable had an approximately even split between the two categories. In this analysis, the only significant predictor of Children's Scriptedness (Dichotomous) was Mothers' Scriptedness. The overall R^2 of the model was .19, $F(1, 57)=4.38$, $p< .01$ Mothers' Scriptedness accounted for 10% of the variance in Children's Scriptedness (Dichotomous) and produced a significant R^2 change. The results of this analysis are summarized in Table 10.

Studies that examine the intergenerational transmission of attachment often report the predictive power of parents' attachment security on children's security. We examined this relationship as well, taking into account mothers' and children's script representations. A binary variable of Mothers' Scriptedness (Dichotomous) was created as well. This variable identified an overall script score greater than 3.5 as evidence of a secure base script (being closer to a 4, the score given to stories with some, but minimal, secure base content), and considered scores lower or equal to 3.5 as evidence of no secure base script knowledge. Figure 1 presents a two-way table summarizing the relationship between mothers' and children's script knowledge. A chi square analysis was conducted, to find out whether mothers' script knowledge predicted children's script knowledge. As expected from the theory, children of mothers with secure base scripts were significantly more likely to have secure base scripts themselves (χ^2 (Yates-corrected) = 8.28, $p < .01$). Twenty one of the mothers with secure base scripts had children with secure base scripts themselves, compared to only six who had children without secure base script knowledge. Twenty mothers with no secure base script knowledge had children with no secure base script knowledge themselves, compared to only twelve who had children with secure base script knowledge, resulting in an overall hit rate of 69%. The hit rate was significantly above chance, Cohen's Kappa=.36, $p<.01$, *Sensitivity* = .78, *Specificity* = .59, *Positive Predictive Power* = .62, and *Negative Predictive Power* = .76. The predictive rate of secure base script knowledge was comparable with the one usually

reported for the relationship between mothers security estimated with AAI and children's security measured with the Strange Situation Procedure (75%, van IJzendoorn, 1995).

The Role of Co-Construction Processes

Half of the mother-child conversations were scored by two independent scorers; the other half, by one of the first two scorers, who was blind to whether agreement was going to be checked. For those conversations scored by two scorers, disagreements higher than two points on any of the scales were resolved with discussion. The *ICC* (3,1) single measure correlations for the 50% of conversations scored by two scorers ranged from .77 for Scale 1, to .82 for Scale 3, and the average measure correlations ranged from .87 for Scale 1 to .90 for Scale 3, N=180, p<.001. Finn's r s were good or excellent, ranging from .88 for Scale 2 to .99 for Scale 1. Correlations among the three co-construction scales ranged from .58 to .68, and were significant at p<.01. Cronbach's alpha coefficient for the Co-Construction measure was .83.

To examine whether mothers with higher scriptedness scores were more likely to have better co-construction skills, we calculated the Pearson's Correlation Coefficient for the relation between Mothers' Scriptedness scores (averaged across the four attachment narratives) and Co-Construction scores (averaged across the three co-construction scales). This correlation was significant at .26, p=.024 (one-tailed). Table 11 presents the bivariate correlations among all three co-construction scales, Children's Scriptedness (Continuous), and Mothers' Scriptedness (Continuous). The three co-construction scales were significantly correlated among each other, with somewhat smaller but significant correlations between Scale 1 and the other two (r=.58 and r=.59 respectively, p<.01), and a higher correlation between Scales 2 and 3 (r=.68, p<.01). This might be due to the fact that Scales 2 and 3 are more "cognitive", while Scale 1 refers to a more general and emotional quality of mother-child interaction. Correlations between the aggregated negative vignettes and the measures of scriptedness did not differ from the correlations between all six vignettes and the scriptedness measures and are therefore not reported in Table 11.

To test whether mothers with better co-construction skills were more likely to have children with better knowledge of secure base scripts, we first calculated the Pearson's Correlation Coefficient for the relation between Mothers' Co-Construction (averaged across the three scales) and Children's Scriptedness (Continuous) (averaged across the three different stories on the 4 to 1 scale). There was a significant correlation between these two variables, of r=.53 (p<.01). The correlation between Co-Construction and Children's Scriptedness (the dichotomous variable) was also significant, r = .45, p<.001. In sum, Mothers' Co-Construction skills were correlated with both Mothers' Scriptedness and with Children's Scriptedness, offering support for Hypotheses 2 and 3.

To clarify the role of Co-Construction in predicting Children's Scriptedness, we entered it as a predictor variable as Step 3 in the hierarchical regression presented in Table 10, alongside Mothers' IQ and Children's IQ (Step 1) and Mothers' Scriptedness (Step 2). We chose to use the bivariate measure of children's scriptiedness as our dependent variable because of its independence of children's IQ. Co-Construction increased the overall R^2 from .19 to .31, F(3,55)=5.95, p<.001, thus accounting for 11% of the variance in Children's Scriptedness (dichotomous), over and above Mothers' Scriptedness and Mothers' and Children's IQ.

Mediation Analysis

Before we examined whether Co-Construction mediates the relationship between Mothers' Scriptedness and Children's Scriptedness (Dichotomous), we set to clarify whether Co-Construction moderates the effects of Mothers' Scriptedness. To explore whether there was an interaction between Mothers' Scriptedness and Co-Construction in explaining Children's Scriptedness (Dichotomous), the two predictor variables were centered, and an interaction variable was created. When the centered variables and the interaction variable were entered in a stepwise regression analysis as predictor variables, with Children's Scriptedness (Dichotomous) as a criterion variable, the only significant predictor was the centered Co-Construction variable. Thus, there was no evidence for interaction between Mothers' Scriptedness and Co-Construction.

In order to test whether Mothers' Co-Construction skills mediated the relationship between Mothers' Scriptedness and Children's Scriptedness (Dichotomous), we first conducted the series of three regression analyses suggested by Baron and Kenny (1986). As described below, the results of these analyses were consistent with our hypothesis. In the first regression analysis, the hypothesized cause (Mothers' Scriptedness) was the predictor, and the hypothesized effect (Children's Scriptedness (Dichotomous)) was the criterion variable. Children's IQ was entered as covariant. The beta (standardized regression coefficient) for the hypothesized cause was .39, $t(56)=3.22$, $p<.01$. This is consistent with the hypothesis that mothers' knowledge of secure base scripts determines children's scriptedness. In the second regression analysis, the hypothesized cause (Mothers' Scriptedness) was the predictor variable, and the hypothesized mediator (Mothers' Co-Construction) was the criterion variable; Children's IQ was entered as covariant. The beta for Mothers' Co-Construction was .24, $t(55)=1.94$, $p<.06$. This is consistent with the hypothesis that Mothers' Scriptedness is one of the causes of Mothers' Co-Construction. In the third regression analysis, both the hypothesized mediator (Mothers' Co-Construction) and the hypothesized cause (Mothers' Scriptedness) were simultaneous predictors; the hypothesized effect (Children's Scriptedness (Dichotomous)) was the criterion variable, and Children's IQ was entered as covariant. The beta for the hypothesized mediator was .38 and was significant, $t(54)=3.10$, $p<.01$. This is consistent with the hypothesis that Co-Construction is a cause of Children's Scriptedness (Dichotomous) over and above any direct causal influence of Mothers' Scriptedness on Children's Scriptedness (Dichotomous). Finally, and most importantly, the beta for Mothers' Scriptedness in this regression was reduced to .30, although it was still significant, $t(55)=2.60$, $p<.05$. This is a significant reduction compared to its beta of .39 in the unmediated equation. This reduction is consistent with the hypothesis that Mothers' Co-Construction partially mediates the effect of Mothers' Scriptedness on Children's Scriptedness (Dichotomous). Further, this reduction was significant; Sobel Test $Z=1.64$, $p=05$. The mediation model is summarized in Figure 2.

However, the Baron and Kenny approach has been criticized for low power, Type I error, and not addressing the central question of whether the indirect effect is significantly different from zero and in the expected direction (Preacher & Hayes, 2004).

In order to overcome these limitations, Preacher & Hayes (2008) recommend conducting bootstrapping analyses. There are two main advantages to using this statistical method: it does not rely on the assumption of a normal sampling distribution, and the number of inferential tests is minimized, thus reducing the likelihood of Type I error.

To determine whether Co-Construction mediates the relationship between Mothers' and Children's Scriptedness, bootstrapping analyses were conducted using methods described by Preacher and Hayes (2008) for estimating direct and indirect effects. We used a macro created by Preacher and Hayes for conducting bootstrap analyses in SPSS. This macro uses logistical regressions for analyses involving a dichotomous dependent variable. Children's Scriptedness (Dichotomous) was entered as the dependent variable, Mothers' Scriptedness was entered as the predictor variable, Mothers' and Children's IQ were entered as covariants, and Mothers' Co-Construction was entered as a proposed mediator. The bootstrap results indicated that the total effect of Mothers' Scriptedness on Children's Scriptedness (total effect=.96., $p<.05$) became non-significant when Co-Construction was included as a mediator in the model (direct effect= .82, $p>.05$). Furthermore, the analysis revealed, with 95% confidence, that the total indirect effect of Mothers' Scriptedness on Children's Scriptedness (Dichotomous) through Co-Construction was significant, with a point estimate of .28, $p<.07$, and a BCa (Bias Corrected and Accelerated) bootstrap confidence interval of -.0118 to .6455. Thus, Co-Construction partially mediated the association between Mothers' and Children's Scriptedness.

V. DISCUSSION

Summary of Key Findings

The present study had two main goals: to find out what is the element that is transmitted in the intergenerational transmission of attachment and to find out how this transmission occurs. We proposed that secure base scripts are an important element in the intergenerational transmission of attachment and that these secure base scripts are transmitted from mothers to children through co-construction during mother-child dialogue.

Previous research has documented the association between mothers' attachment *representations* and children's attachment *behaviors*, but there were no studies linking mothers' and preschool aged children's attachment representations directly. These studies also gave little explanations as to why this association might exist. However, as Bowlby (1969) and Main et al. suggested (1985), children *behave* in attachment situations the way they do because they have an organized set of expectations about the availability and responsiveness of their parents. As suggested by Bretherton (1990, 1991) and demonstrated by Waters et al. (1998), children behave securely because their expectations are organized around secure base scripts. Coming back to the idea of intergenerational transmission of attachment, Hypothesis 1 of this study predicted an association between mothers' and children's secure base scripts, indicating that secure base scripts are a key element that gets transmitted from parents to children. The current results support this hypothesis.

With respect to the means of transmission, previous studies examined the contribution of different possible mechanisms, varying from maternal sensitivity, to mothers' ability to reflect coherently upon children's experiences, mothers' elaboration and openness of communication. The present study proposed that mothers' co-construction skills are actively involved in the transmission of secure base scripts. In agreement with a previous study that linked mothers' scriptedness and co-construction skills (Apetroaia et al., in preparation) Hypothesis 2 predicted an association between mothers' co-construction skills and mothers' scriptedness. Our model proposed that mothers' secure base scripts guide the conversations with their children and make them

seize the opportunity to expand on children's attachment representations in an accepting, synchronous, and non-intrusive manner. The results are consistent with this hypothesis, showing a significant association between mothers' scriptedness and mothers' co-construction.

As a result of these conversations, it is likely that children become more confident in their representations, constructing more complex and articulate secure base scripts that allow them to deal with a variety of situations. Hypothesis 3 predicted an association between mothers' co-construction skills and children's scriptedness. The results showed a strong correlation between these variables, and indicated in a series of regression analyses that co-construction was the most important predictor of children's scriptedness. Hypothesis 5 predicted that mothers' co-construction skills might be one of the mechanisms involved in the transmission of secure base scripts and would thus mediate the relationship between mothers' and children's scriptedness. The findings showed that co-construction explained a substantial proportion of the effect of mothers' scriptedness on children's scriptedness, consistent with the mediation hypothesis. This is particularly important for both theoretical and practical reasons described below.

With respect to the relationship between IQ and scriptedness, we discovered that verbal skills seem associated with the ability to articulate secure base scripts in preschool aged children, but are probably not implicated in attachment security. The relationship between IQ and scriptedness disappears when a dichotomous variable for children's security is used.

Theoretical Implications

The present study established for the first time a direct connection between mothers' and children's script-like representations of relationships, answering the question of *what* is transmitted in the intergenerational transmission of attachment. Secure base scripts are an important element that gets transmitted, probably the missing link in the well documented relationship between mothers' attachment representations and children's behaviors. These findings complement the association between preschool aged children's secure base scripts and their behaviors reported by Posada et al. (2007). It

is likely that mothers' representations influence children's representations of attachment, which then inform children's behaviors.

Additionally, the study found support for the hypothesis that mothers' co-construction skills, as manifested during parent-child dialogue about emotions, are a plausible mechanism involved in this transmission. These findings are particularly important because they supplement our understanding of *how i*nternal working models are transmitted from parents to children. If in early childhood, maternal sensitivity, physical availability, and behavioral responsiveness are especially relevant for promoting secure attachments, open communication becomes increasingly important for verbal children who become aware of other people's minds. Conversations between parents and children serve to reinforce or revise experientially-based internal working models and become a new arena for manifesting parental sensitivity.

If we compare co-construction skills with the other proposed mechanisms of transmission of attachment, it is possible that parents who show the greatest behavioral responsiveness and sensitivity to young children's signals are the same parents who show better co-construction skills when children reach preschool age. It is also worth noting that behavioral support does not disappear in preschool years, but is complemented by co-construction skills. Although co-construction explains a substantial proportion of the effect of mothers' scriptedness on children's security, it is very likely that behavioral responsiveness continues to be involved in the relationship between mothers' and children's attachment. Because both co-construction and sensitivity are related to mothers' scriptedness, it is theoretically plausible that secure base scripts inform parental responsiveness in both behavior and dialogue. With respect to the general mechanisms that fall under the category of parental ability to reflect coherently upon children's emotional experience, these might be the prerequisites of co-construction. Two important qualities shared by these mechanisms are parents' recognition and acceptance of children's own minds, experiences, and emotions. Without these two qualities, co-construction cannot take place. And, finally, with respect to the relationship between co-construction and other proposed measures of open communication between parents and children (for example, maternal elaboration), co-construction is a narrower concept, more closely related to attachment as an in vivo example of secure base support in the

exploration of challenges and emotions. Co-construction is also related to the concept of "secure exploration", based on cooperation, support, appropriate scaffolding, and gentle challenges (Grossmann, 1999). However, co-construction is specific to dialogue and tailored towards encouraging children to build coherent and comprehensive models of reality.

Measurement Implications

Along with the study by Posada et al. (2007), the present study established the concurrent validity of the secure base script assessment for preschool-aged children. Compared to the traditional Bretherton et al. scoring of children's narrative productions (Bretherton et al., 1990), the secure base script scoring has the advantage of simplicity and high reliability. Additionally, because a scriptedness score measures the same quality of attachment representations regardless of participants' age, it is particularly well suited for the examination of attachment stability and the intergenerational transmission of attachment.

The vignette discussion task used for the evaluation of mothers' co-construction skills has several advantages compared to similar measures of parent-child conversations. First of all, it is focused on emotions rather than general storytelling. According to Bolwby (1969/1980), open communication about emotions is crucial in the consolidation or revision of internal working models. Second, it involves the discussion of negative emotions, which, as mentioned before, might be more likely to activate attachment representations compared to positive emotions. Third, the discussion of hypothetical rather than remembered situations allows for more standardized productions that can be more easily compared with those of other participants. And fourth, the co-construction scales cover several complementary aspects of parent-child interaction. The first one, "Supporting Recognition of Affective Response", captures emotional availability, acceptance, and willingness to discuss openly about emotions. The second one, "Supporting Elaboration of An Affective Script" captures mothers' willingness to continue discussion together with their children. The third scale, "Supporting an Explanatory Framework", captures mothers' likelihood of engaging in explanations and

drawing connections between the situations discussed and real occurrences from children's lives.

All of these dimensions of co-construction could be potentially extrapolated and measured for different types of expert-novice interactions and for different ages. Observations and interviews with parents and children need to inform the vignette discussion tasks developed for different contexts or different ages. Caution should also be exercised when the vignettes are used in new cultures which might have different emotional or conflict resolution scripts than the typical Western society.

Future Research Directions

1. Attachment and Emotion Regulation

The co-construction scale that had the highest correlations with both children's and mother's scriptedness was Scale 3, "Supporting an Explanatory Framework", suggesting that there might be something about understanding causal connections that is essential to forming secure base scripts. This makes sense when we think about the definition of scripts as series of temporally and causally related sequences of interactions. A key element of this scale was providing children with an alternative explanation or strategy for dealing with conflict or negative emotions – for example, when the child is upset because she dropped her ice cream on the ground, mother can point out that the child can still eat the cone. Mothers who use this strategy are actively teaching their children *reappraisal* as an emotion regulation strategy. When they use reappraisal, these mothers manage to redirect the interaction towards exploration and "get things back on track", consistent with the final element of the secure base script. The links between co-construction and reappraisal are interesting because, according to numerous studies (for example, Gross & John, 2003), *reappraisal* results in more positive emotions, less negative emotions, and better interpersonal functioning compared with other emotion regulation strategies, like *suppression*. Future studies could address how different attachment styles are linked with different emotional strategies. Attachment theory predicts that secure mothers will encourage reappraisal, while insecure mothers will be

more prone to rumination or suppression. If such relationships are proven to exist, they can inform interventions tailored to address different attachment and emotional styles.

2. The Role of Fathers' Sensitivity and Co-Construction Skills

The present study measured children's scriptedness with a story stem completion task that involved father along with mother doll figures, so it presumably measures children's secure base scripts with respect to both parents, and is probably influenced by both maternal and paternal co-construction processes. Thus, future studies that employ a similar measure of children's attachment representations should explore the contribution of both mothers' and fathers' sensitivity, dialogue, and interaction to the development of children's representation of the world and themselves.

In a longitudinal study about attachment behaviors and representations, Grossmann and Grossmann (2002) found a unique association between the qualities of father-child play at the age of two and children's attachment representations at the ages of ten and sixteen. They proposed that father-child interactions, especially in families were gender roles are more prominently defined, might play a specific role in developing children's attachment representations, perhaps because fathers are more prone to exploration, explanation, and "showing children the world", while mothers are more likely to act as a safe haven. Even if such role specificity exists, it could not be understood without examining the qualities of parent-child dialogue and interaction. A comprehensive study would include both mothers' and fathers' scriptedness, as well as measures of co-construction with both parents. Because, stereotypically, fathers' co-construction skills might not be particularly strong when discussing about emotions, perhaps new co-construction tasks focused on mastery as well as emotional responses can be designed. Without understanding fathers' contribution, we can never have a full picture of children's emotional development. In addition to fathers' assessment, future studies could address parents' relationship satisfaction and the more general family context that has likely influences on communication and attachment.

3. Longitudinal Perspectives

The present study contributes to our understanding of the development of attachment behaviors and representations beyond infancy. There is a wealth of studies about representations of attachment in adolescents and adults. However, there is still an understudied area of attachment representations in middle childhood. There are some promising narrative assessments for school-aged children (for example, Granot & Mayseles, 2001), but no script-based measures. A scriptedness measure would be especially relevant because it would encourage comparisons with measures of scriptedness in preschool and early adolescence, allowing for an investigation of the continuity of attachment representations throughout childhood. In order to have a comprehensive picture of the intergenerational transmission of attachment, longitudinal studies are necessary. These studies could follow up closely the evolution of secure base scripts in conjunction with different life events, as well as the formation of the first significant relationships outside the family. Another interesting question that can be addressed by a longitudinal design is the following: what is the shape that co-construction skills take beyond early childhood? Or, in other words, do parents who communicate well with their school-aged children or adolescents use the same co-construction skills as parents who communicate well with their preschoolers? Attachment theory would predict commonalities between these sets of skills, but future studies are needed to confirm these hypotheses. Other interesting questions that can be addressed by longitudinal studies concern the links between attachment, communication, and emotional regulation. As mentioned before, parents use dialogue about emotions as an arena for modeling emotion regulation strategies. It would be interesting to observe how these strategies evolve, in conjunction with children's social and cognitive development.

Clinical Implications

Attachment security can serve as a buffer against various risk factors, like poverty, mothers' illness, or unsafe neighborhoods (Zeanah et al., 1993). The present study has shown a strong relationship between mothers' co-construction skills and children's secure base scripts. Consequently, it is worth to investigate whether we can

improve children's security and mental health outcomes by improving their mothers' co-construction skills.

As noted by Bowlby (1988), insecure mothers are more likely to ignore or distort the perception of their children's emotions due to the activation of their defense mechanisms. In our sample, there were roughly three types of mothers: those who were willing to discuss emotions openly and in a non-intrusive manner, allowing their children to figure out what they really feel and only intervening when necessary; those who were uncomfortable talking about emotions and redirected the discussion toward actions and events; and those who were willing to talk about emotions, but distorted their children's reports and imposed their own interpretations. Examples of each type of interaction could be found in Table 7.

All of these types have different strengths and weaknesses. These differences in co-construction skills are particularly informative if we want to design interventions that will improve children's health and security by improving mother-child communication. Although the first category is likely to produce the best outcomes, these mothers could be encouraged to use advanced co-construction skills consciously and consistently. Mothers from the second category could perhaps be trained to label, accept, and openly discuss children's emotions, and mothers from the third one could be taught how to listen to their children rather than impose their own worldviews. With respect to possible interventions, the findings of the present study suggest that, in order to improve children's security, confidence, mastery, we can improve mothers' conversational strategies. This is particularly interesting for two reasons: improving mothers' co-construction skills might be an easier task than improving mothers' overall security, which is what previous findings about attachment would have suggested. And second, because the co-construction scales are well operationalized, they are easily translatable in objectives for interventions, perhaps using the model of the "Circle of Security" (Marvin et al., 2002.

An intriguing question suggested by our study is whether children can learn to articulate better scripts only under the guidance of their parents, or also under the guidance of other adults (Amy Slep, personal communication). If the strong relationship between co-construction with a caring adult and children's ability to articulate and

expand their secure base scripts is not limited to parent-child interactions, perhaps co-construction should be defined as an explicit goal of child therapy. It is likely that effective therapists are already using co-construction skills, but they would also benefit from using and improving these skills mindfully. Further studies and evidence-based interventions should explore these implications.

Conclusion

The present study investigated the link between mothers' and preschool aged children's representations of relationships, as well as the role of mother-child dialogue in the intergenerational transmission of these representations. There are two main conclusions that can be drawn from the study: first, that an important element that gets transmitted from mothers to children are secure base scripts; and second, that mother's co-construction is one of the mechanism involved in this transmission. Conversations about negative emotions and those rich in causal links and explanations are particularly relevant in the transmission of these scripts.

These findings shed some light on the debate about the nature of the mechanisms involved in the intergenerational transmission of attachment and will hopefully inform future studies and evidence-based interventions centered on co-construction skills, attachment, and emotions.

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Appendices

Table 1**:** *Narrative Prompt Word Outlines*

A. Baby's Morning

mother	hug	teddy bear
baby	smile	lost
play	story	found
blanket	pretend	nap

B. The Doctor's Office

Tommy	hurry	mother
bike	doctor	toy
hurt	cry	stop
mother	shot	hold

C. Jane and Bob's Camping Trip

Jane	tent	campfire
Bob	wind	shadow
bags	collapse	sounds
hurry	upset	hug

D. The Accident

Sue	wait	home
road	Mike	dinner
accident	tears	bed
hospital	doctor	hug

Table 2: *Scriptedness Scoring System*

Score	Description
7	These are the very best examples of secure base content in the narrative. There is a rich interplay between the two principle characters. There is a great deal of attention to the psychological state of the other, and the "secure base" is very responsive to that psychological state. Important to the secure base script is the resolution of the problem/distress with a return to normalcy.
6	These narratives fall short of the richness of secure base content that is evidenced in stories ranked "7". Nonetheless, these stories to contain a reasonable amount of secure base content.
5	These narratives have a medium amount of secure base content, but not as much elaboration as those that are ranked "7" or "6".
4	These narratives have some secure base content, but not very much. Thus, they are weak on secure base content, but there is no odd content contained in the story either.
3	These narratives seem mostly event-related stories, in which what is happening is presented, with very little commentary on the give and take between with the characters, or on the psychological content of the story.
2	These are event-related as well, but so brief as to seem disjointed. Also included in this category are narratives that contain some unusual or atypical content that is inconsistent with a secure base script. The intrusion of this content however is not as consistent or pervasive as the narratives that are scored "1."
1	These narratives are theme-based variations that come across as quite peculiar interpretations of the implied story line. Not only is the secure base script not recognized, but a quite different script is in its place. The narratives can be quite detailed, with content generated consistent with the odd interpretation of the story line. These are not that common. Narratives that have significant unusual or atypical content, but fall short of a complete theme-based variation also receive a "1."

Table 3: *Story Stem Completion Task – Story Stems*

Spilled Juice Story

E: Can you help me set the table for dinner? (*Give child box with silverware and let them set the table.*)
E: Now put the family around the dinner table so they're ready to eat. Here is our family eating dinner and Bob (Jane) gets up and reaches over and spills his juice. (*Make doll knock cup off toy table.*)
Mother: Oh Bob (Jane), you spilled your juice! (*Reproachful tone of voice, but don't overdo; turn mom toward child and move her up and down while she's talking.*)
E: Show me and tell me what happens now.

Rock Climbing/Hurt Knee Story

E: O.K., Look what I've got. (*Set out piece of green felt and sponge rock.*) This is the park. Here is our family and they're walking in the park, and at this park there is this high, high rock.
Child: Look mommy and daddy. Watch me climb this high, high rock. (*Make child climb rock, then fall off.*) Boo-hoo, I've hurt my knee (*crying voice*).
E: Show me and tell me what happens now.

Monster in the Bedroom Story

(*Place a toy bed on one side of the table.*)
E: Look what happens now, listen carefully.
Mother: (*Face mother toward child doll and move her slightly as she speaks.*) It's bedtime.
Go up to your room and go to bed.
Father: Go up to bed now. (*Same action as mother, deep voice.*)
Child: O.K. mommy and daddy, I'm going. (*Make child walk to bed.*)
E: Bobby (Jane) goes upstairs to his room, and he goes . . . ,
Child: Mommy! Daddy! There's a monster in my room! There's a monster in my room (*Alarmed tone of voice.*)
E: Show me and tell me what happens now.

Table 4: *Story Completion Task Sample Stories*

SPILLED JUICE

A particularly good story, in which mother's character makes sure to get things back on track.

33 Spilled Juice

She wipes out the stains of juice, she puts the cup back on the table, she puts more juice in the cup, and, when she takes the cup, she says: "Be more careful!"

Who pours more juice and says that?

Mother.

To whom does she say this?

To Sue.

And then?

Then she eats everything on her plate, she goes to sleep, and when they wake up, they go out to the park.

An example of a low-scoring story with marked bizarre elements:

44 Spilled Juice

She spanks him.

Who does that?

(Points at Mother.)

And then?

He's being punished.

And then?

She hits his head.

And then?

She hits his eyes.

And then?

She hits his belly.

And then?

She hits his legs.

And then?

She hits his bottom.

Is there anything they do about the spilled juice?

What do they do? They make something to eat.

Is there anything they do after he spills the juice?

She spanks him.

[…]

Mother called the police. And then they took him away and beat him. They took him to jail. They shot him and he died.

And then?

They locked the jail. And he stayed there.

ROCK CLIMBING

A high scoring story. Note mothers' continuous support and good resolution.

61 Rock Climbing

Next, it happens that…

What happens?

The girl fell down. She hurt her knee and blood was running. And mother was going to her to lift her off the ground…
(Makes Mother go to Sue) **and then she took her** *(tries to make Mother pick up Sue)* **and then she picked her up and they went to the park together and she held her hand so she doesn't fall off the rock** *(makes Mother and Sue climb up the rock together while holding hands)* **and then they climbed down the rock and they left the park and she didn't fall. And she taught the younger sister. Mother held her hand. She went with the sister and said "hurray!" to both girls, because they both managed to climb up the rock**. *(Makes both sisters climb up the rock.)* **And then they went home.**

Another example of a high scoring story, in which the child relates his own experiences with the ones in the story.

42 Rock Climbing

He fell off.

And then?

He hurt his leg. I hurt myself here *(Points at elbow)* **and blood came out. And it hurt.**

What else happened about Bob?

He got hurt.

And then?

(Makes Father come over.) **Then father came and picked him up and looked at him.** *(Father and Bob walk together.)* **And they go here. And he lies down, to see what's wrong with his leg. And then he does that** *(Father rubs Bob's leg)***,**

just like daddy does. Then he climbs up, because he doesn't fall. *(Makes Father climb up the rock.)* **He didn't fall.** *(Puts Father back.)* **And he went back home.**

(Picks up Bob and makes him climb up the rock.) **He climbs up again.** *(Bob falls down again.)*

What happened there?

He hurt his head. And Father comes over again. *(Makes Father come over again and pick up Bob. Father touches Bob's head with his feet.)*

What does father do there?

Father gave him a massage, like my daddy does.

An example of a low-scoring story with bizarre elements. Note father's fear and the odd ending.

24 Rock Climbing

She climbed on this rock and she pulled it down.

(Pulls down the rock.)

Who pulled it down?

Jane.

And then?

*(Makes Jane climb up the rock and fall.)***And then Jane went like this and she fell. Where did she go now? And then the child went there.** *(Picks up Child and makes it climb up the rock and jump down.)***Pop! She didn't even hurt herself! And father, let's see.** *(Picks up Father.)* **Father is afraid.** *(Makes Father climb up the rock then fall.)***He also fell down.***(Puts Father back and picks up Mother.)***Mother.** *(Makes Mother climb up the rock then fall.)***Pop! She also fell down. What shall we do now?**

Is there anything they do about the hurt knee?

He took the clock and smashed it.

Who did?

Father.

Another example of a low-scoring story, in which the child cannot rely on parents' figures for support. The child in the story gives the impression that he's alone in the world.

40 Rock Climbing

(Brings Father over, makes him climb up and fall.) **Father was hurt too. He hurt his hand.**

(Makes Mother climb up.)

What happened here?

She fell on her feet.

What happened after he hurt his knee?

He's hurt.

What did they do about Bob's hurt knee?

He cried.

MONSTER IN THE BEDROOM

An example of a high scoring story. Although brief, it has all the elements of the secure base script, including the resolution and the explanation.

33 Monster in the Bedroom

Mother and father come to Sue's room and tell her there is no monster, it's just the blanket which covers her and keeps her warm.

And?

And Sue goes back to sleep and when it's morning, mother prepares lunch and calls Sue to the table.

Another example of a high scoring story. Note father's support, child being thankful, and the good night story as an indication that things are back to normal.

52 Monster in the Bedroom

Mother and Father came over and saw there was a monster. And Father will beat him up.
And then he wetted the monster and then it melted.

Will you show me?

They sprayed it with a hose, with a water hose.

And then?

And then she hugged her Daddy because he saved her life!

And then?

And then she went to sleep. *(Puts Child to bed.)*

Did anything else happen?

Yes. She too went to sleep.

(Mother to Sister): **"Jane, go to sleep! It's getting late!"**

Did anything else happen?

Yes. She had a nightmare. And she called Mommy and Daddy.

And then?

And then Daddy held her in his arms so that she doesn't have any more bad dreams.

Anything else?

Sister went to see what's happening to Sue. And then she went to sleep. They even told her a story.

Who told her a story?

Mommy and Daddy.

A low-scoring story with a marked absence of a secure base script.

59 Monster in the Bedroom

She spanks her.

Who does?

Mother spanks Sue because she didn't go to sleep and she tells lies.

Anything else?

Father tells her: "Go to sleep!" And she goes but she doesn't sleep.

And?

And mother says she's grounded.

And then?

She punishes her.

Table 5: *Complete List of Vignettes Used in the Vignette Discussion Co-Construction Task*

Positive Secure Base Vignettes

1. Mommy comes home from New York City

“One day Mommy had to go to New York City to do some work. And she was gone all day and you were starting to miss her. And then her car drove up and you heard her say “I’m back! I’m back!”. And then she walked right in the door. How would that make you feel?”

2. Mommy watches you at the beach

“One day you and Mommy went to the beach. And you put a blanket down on the ground to sit on. After a while you wanted to go make a sand castle in the wet sand. And Mommy said “It’s OK. I’ll stay right here and watch you. And if you want me I’ll be right here. So you went down and played in the sand; and every now and then you looked up and Mommy was always watching you. And she would smile and wave.” How would that make you feel?

Negative Secure Base Vignettes

1. Mommy won’t let you sit on her lap

"One day, you were at home playing, and after a while you went into the kitchen to find your Mommy. And you walked over to sit on her lap and hug her. And she said, 'Don't bother me right now. Go play.' How would that make you feel?"

2. Mommy left you alone in the house

"One day, your Mommy was working in the kitchen, and you were playing in your room with your toys. And you didn't hear her, but she had to go out of the house. And she didn’t even tell you that she was going. And then you went into the living room to find her, and she wasn't there. And you looked all around the house, and she wasn't anywhere. And you didn't know where she was. You were all alone. How would that make you feel?"

3. Mommy won’t help when your finger gets stuck

“One day you were playing outside and you got your finger stuck in one of your toys. And you couldn’t get it out. You called her to come help you but she said “Not now, I am too busy cooking.” And you said “Mommy, I can’t get my finger out.” But she just said, “I’m too busy. You have to do it yourself.” How would that make you feel?”

4. Mommy won’t let you sleep in the bed with her.

“One night you went to sleep and then you woke up. And you went into your Mommy’s room and you wanted to get in her bed. But she said “No. You have to sleep in your own bed. And she wouldn’t let you get in her bed.” How would that make you feel?”

Non-Mother Positive Vignettes

1. You win some ice cream at a store

"One day, you were in a grocery store, and a lady said to you that you were the winner of a great big bowl of ice cream. You could choose your favorite flavor, and you got to have as much as you wanted. And she brought up a huge bowl with all kinds of little sprinkles, syrup, and everything you wanted. And she gave you a great big spoon, and you got to eat the whole thing up. How would that make you feel?"

2. You get presents at your birthday party

"One day, after you waited a long time, it was your birthday. And everybody called you the birthday child. And you had a big party, and all your friends came. And they played games and ate birthday cakes, and you got presents. And you opened them, and they were great. How would that make you feel?"

Non-Mother Negative Vignettes

1. Playmates won't share toy

"One day, some children came to your house to visit, and they played with your most favorite toy. And they liked it so much they wouldn't let you play with it when it was your turn. And they wouldn't let you play with it at all. They just kept it for themselves and played with it. And you didn't get to use it. How would that make you feel?"

2. Your paint is too dry to paint a picture

"One day you were at home and you had a paintbrush and a big piece of paper and a little cup of paint. And you wanted to paint a picture but the paint was too dry. So you couldn't make a picture. How would that make you feel?"

3. You are not allowed to share food at school picnic

"One day, you and your class from school went together on a picnic. And everybody brought a snack. And when it was lunch time, one of your friends had something that looked really good to eat. And you wanted to try it. You friend said it was OK. But the teacher said, 'No, you may not share food with the other children. You must eat your own food. And do not taste the food from another child. And children you must not give food even to your friends.' How would that make you feel?"

4. You drop your ice cream

"One day, you were in the park. And you just bought a big ice cream cone. And you wanted to walk over to a bench and sit down and eat your ice cream. But on the way the ice cream fell right off the cone and landed on the ground. And it was all dirty. And you could not eat it because it was dirty and melting, and you didn't have any money to buy any more. So you got no ice cream at all. And you really wanted it. How would that make you feel?"

Table 6: *Co-Construction Scales Scoring System*

1. *Supporting recognition of affective response*: Mother focuses on the affective content and guides the discussion toward the child's feelings and affective response. She responds with queries about how the child would feel, rather than what they'll do. In particular, mothers on the high end keep the focus on affect, on how the child feels throughout the discussion. Although all the vignette discussions start with a "how would you feel," mothers on high end of the scale keep redirecting the discussion back to affect, e.g., "If you do that, how would you feel?"

On the lower end, mothers focus on the events of the story and on actions/ behavior. They allow the discussion to drift away from "how would you feel?" Mothers with the lowest scores also ignore/disregard the child's affective comments. Either they are more interested in obtaining the "right" answer, or even override the child's affective response.

7	6	5	4	3	2	1
very good	good	some	neutral	more focus (cursory)	clearly focuses on events	on events ignores/disregards child's emotion comments

2. *Encouraging elaboration of affective script:* Mother prompts continued discussion by further inquiry into the child's affective response (e.g., child says he's happy, mom responds why? Is it because mommy's there?) or by introducing additional event-related information (e.g., what if they said…, what if mom said ….., but what if you had the cone,). Mothers on the low end are intrusive, introducing their interpretations over that of the child.

7	6	5	4	3	2	1
very good	good	some	little	no follow-up ("um-hm")	somewhat intrusive	very intrusive impose own interpretation

3. *Supports explanatory framework:* Mother either provides an explanation that diffuses the negative affect and/or clarifies the context in which "you" (the child) would feel happy/sad/afraid (e.g., if the teacher says no – that's good because you'll get your own snack). Mother can go further by suggesting a way in which the child can manage the affect (e.g., maybe you could ask mom to watch one of your shows also – since mom won't let you watch with her). Her comments may also relate the story line to the child's own experiences broadening the explanatory framework. Mothers on the low end not only fail to provide these types of explanations/ clarifications, but reject child's version of the scenario, precluding a meaningful representation.

7	6	5	4	3	2	1
very good	good	some	little	fails to seize opportunity	somewhat rejecting	actively rejects child's comments

Table 7: *Sample Exchanges for the Three Co-Construction Scales*

SCALE 1: SUPPORTING RECOGNITION OF AN AFFECTIVE RESPONSE

High end: Mother helps child stay focused on affective content

01 Mother left you alone in the house

M: Did you understand what was happening? So you were playing in your room with some toys. And I was in the kitchen.
C: Yes.
M: And I went out.
C: Yes.
M: And I didn't tell you.
C: Yes.
M: And you looked for me and you couldn't find me.
C: What do you mean, I couldn't find you?
M: If I went shopping, if I went to the store, and I didn't tell you, how would you feel?
C: Terrible!
M: Terrible, right?
C: Yes.
M: You can't stand it, right?
C: Right.
M: When I don't tell you.
C: Right.
M: You don't like to be alone.
C: I don't.
M: You like to be with me?
C: Yes.
M: And even if I leave you alone, I should tell you where I'm going, right? Then you can stay home by yourself while I'm going to the store to buy some bread?
C: No.
M: Why not?
C: Therefore!
M: You want to come with me?
C: Yes.
M: And how do you feel if I leave one day and leave you by yourself in the house? Without telling you I went out to buy bread?

C: Terrible!
M: Terrible.

16 You win some ice cream

M: What if a lady came and told you: "Look, here is a big bowl of ice cream! You can eat as much as you like!", what would you do then? How would you feel?
C: …
M: Would you be happy?
C: Yes.
M: And what would you do?
C: …
M: You'd take a spoon and…?
C: I would take more than one.
M: You'd take more than one spoon and you would eat with all of them at the same time?
C: Yes.
M: Why?
C: Because I like it.
M: You like it, and, would you be happy about it, or you'd just say to yourself, "I have to eat all this ice cream"… How would you be?
C: Happy.
M: Happy, right? Unlike when you have to eat steak.
C: *(disgusted face)* Bleah.
M: And how much would you eat?
C: All of it.
M: What if it were a really big ice cream *(gestures)*…
C: All of it.
M: All of it? And you would look like a happy cat?
C: Yes.
M: But, listen, would you give us some too?
C: *(shrugs)*
M: Or would you like to keep it all for yourself?
C: If you wanted some, I'd give it to you.
M: You'd give some to us too, because it's not nice to eat by yourself, right?
C: Yes.
M: What if you felt that your tummy were full, would you keep eating?
C: Yes.
M: Yes? And how would you feel inside? What does daddy tell you? Ha –
C: Happy.
M: Happy. What kind of ice cream would you like it to be?
C: With everything.
M: With fruit and cocoa and everything?
C: Yes.

Low end: Mother is focused on actions/events rather than emotions or mother ignores/disregards child's comments

07 Playmates won't share toys

M: You're supposed to answer this question. If some children came over and they played with your toys and you couldn't play with them anymore, how would you react? What would you do? Would you be upset with them? Would you let them play?
C: I would let them.
M: You would let them? Are you sure?
C: [xxx] the car.
M: The way I know you, you would hide the toys, so they won't play with them anymore.
C: Why, because they break them?
M: No, but that's what you do, usually. Even when it's not your turn anymore, you're not very willing to give away your toys. Only when dad or I step in and tell you: "[Child's name], give him the toy to play, because he'll give it back to you!" Isn't this what usually happens?
C: No. I say if I let him play.
M: Yes, but you don't really want to give it away willingly, you see? Are you sure that you would let the other kids play with the toy? Without asking them to give it back to you?
C: Who?
M: Let's say that Eddy comes over, right? And he plays with your stirring wheel. And you would like to play with the stirring wheel too, but he doesn't want to give it back to you. Would you let him play?
C: *(shakes head)*
M: No? Would you take it away?
C: …
M: Would you take the toy away?
C: *(nods)*
M: Yes? And you would play with it by yourself? You wouldn't give it back to him anymore?
C: What, is it his toy?
M: No, it's yours, but if someone comes over, you should be polite and let him play with your toys too. That would be the nice thing to do. So, you wouldn't give it back to him. That's how he usually reacts. He's possessive.

SCALE 2: ENCOURAGING ELABORATION OF AN AFFECTIVE SCRIPT

High End: Mother prompts continued discussion by further inquiry into the child's affective response or by introducing additional event-related information

01 You're not allowed to share food

M: What are you saying?
C: *(shrugs)*
M: Imagine you were having a picnic.
C: *(shakes head)*
M: Imagine, if the teacher says you're not allowed to eat and your friend's snack seems so…
C: But that's not my classroom, that's not my teacher's classroom.
M: You think that, you think that his snack is so much better than yours, you want to taste it, and the teacher says: "No, [child's name], you're not allowed to taste it!"
C: But I didn't even taste it! I don't taste it! I don't taste it!
M: You don't taste it, but… but how do you feel? Are you thinking about your friend's snack?
C: *(nods)*
M: Will you come home to mommy and tell her: "Mommy, what a good snack he had", maybe you want me to buy you or make you the same snack? What are you saying?
C: Yes.
M: What are you saying?
C: Yes.
M: You're coming home and saying…?
C: "Mommy, will you make me one?"
M: "Mommy, will you make me a sandwich?"
C: "A sandwich?"
M: "Like my friend's?"
C: "My friend's".
M: "At the picnic."
C: "At the picnic."
M: Yes?
C: Yes.
M: *(pauses for two seconds)* **Why do you want me to make you that sandwich?** *(waits for a few seconds)* **What did your friend's sandwich have?**
C: Salami!
M: Salami? And, was it good?
C: Yes!

M: Did it smell good?
C: Yes!
M: So you'd like us to buy some salami?
C: *(nods)*
M: To make a sandwich?
…
M: And then you'll be happy?
…
M: And content?
C: Yes.

39 Mother left you alone in the house

C: Bad.
M: But why? Why would you feel bad if mommy stepped out to buy something and you left alone in the house? It's true that it never happened, but why would you feel bad?
C: If something like that happened to me…
M: Yes?
C: I … would give somebody a call…
M: Yes?
C: And I would say: "Where is mommy?"
M: But why? Would you feel unsafe? Because you know that mommy comes back. She just stepped outside to buy something from the corner shop and then she comes back. Would you be afraid?
C: Yes.
M: During that brief period of time when mommy's gone?
C: Yes.
M: Why? What could have happened?
C: I don't know.
M: But if you're afraid, this means you have something in your mind. Can you be afraid without knowing of what you're afraid?
C: I don't want to tell you.
M: Please, honey, tell me.
C: It's my secret!
M: Ok, honey. I will actually try this because I've never left you alone in the house. Would you give someone a call? Whom would you call?
C: I would look for your phone, turn it on, and, for example, do you know whom I'd call? Daddy!
M: And what would you tell daddy?
C: "Daddy! I don't know where my mom is!"
M: "She left me alone! She abandoned me!" Is this what you'd tell him?
C: Yes.
M: What do you think daddy would tell you? What could he do? Or what do you think he would do?

C: And he would say what you just said – that mommy just stepped outside and went to the street corner, that I got scared, blah blah blah, blah blah blah.
M: But why did you get scared? Do you think there's anything that could scare you in the house?
C: *(sighs)* Yes. The boogieman.
M: But didn't we talk about it and I told you I've never seen a boogieman in my life?
C: I did!
M: You saw one?
C: Yes. In cartoons.
M: You can see a lot of things in cartoons, but I tell you there is no such thing. I've never seen a boogieman, ever.
C: *(laughing)* I tricked you! I tricked you!
M: And, apart from the boogieman, is there anything else you're afraid of in the house? Any monster?
C: No.
M: Mmm?
C: The cartoons on "Minimax".
M: So, to conclude, nothing bad can happen. Even if I leave you alone in the house for five minutes, nothing bad can happen – unless you provoke something – you play with the power sockets, the stove, or you open the door. Apart from that, if you're a good girl for those five minutes, nothing bad happens. Ok?
C: Yes.

Low end: Mothers who are intrusive, introducing their own interpretations over that of the child.

28 You drop your ice cream

M: Mmm? [How would you feel] if you lost the ice cream that you really wanted?
C: I don't know.
M: Please, [Child's name], don't be bad.
C: I don't know.
M: *(pleading)* **I can't believe you don't know anything. Let's imagine that the two of us are in the park now. Please look at me. So, we're in the park. I buy you an ice cream, because you asked for it and you really wanted it, and the ice cream falls off, because you're running to the bench, and you don't make it there with your ice cream, you drop it off. Down on the pebbles, and you can't pick it up anymore. What would you do then, tell me?**
C: I would cry over it.
M: You would cry over it, but it's still melting down there on the sand. What would you do?
C: Then… I buy.

M: You don't have money and I don't have money to buy you a new one.
C: *(nods)*
M: What would you do?
C: Yes.
M: What do you mean, yes?
C: I don't know.
M: *(pleading)* **Eh, you don't know! Please, don't do that.**
C: I don't know. I don't know.
M: How would you feel when you dropped off your ice cream? Would you be happy?
C: Yes.
M: *(with disbelief)* **Would you be happy that you lost it?**
C: Yes.
M: Why are you saying that? Because you want to upset me? Is this why you always contradict me? Why?
C: No.
M: No what?
C: I don't know.
M: Why are you being bad? Would you pay more attention in the future so you don't drop it off anymore?
C: *(nods)*
M: Yes?
C: *(nods)*
M: You don't have anything else to say? Except that you'll pay more attention?
C: …
M: But what if it happens again?
C: *(shrugs, smiles)* I don't know.

SCALE 3: SUPPORTING AN EXPLANATORY FRAMEWORK

High End: Mom helps build a causal framework

52 Mommy won't let you sleep in her bed

M: You sleep now in my bed.
C: Yes.
M: But what if you go to sleep in your room, I go to sleep in my room, and you have a bad dream and you come to my room at night.
C: Yes.
M: And I tell you that I don't want you to sleep with me because you're moving a lot, you're kicking me with your legs, and you have to go to your room. What would you do then?
C: I go to the room and I sleep by myself! *(pouting)*
M: You sleep by yourself?
C: *(pouting)* Yes.
M: You go to sleep quietly? And nothing happens – you don't cry, you're not afraid of the bad dream, you go sleep by yourself.
C: Once I slept by myself.
M: I know, you slept by yourself once. Just once. But children are supposed to sleep by themselves and parents by themselves. Tell me, how… you go to your room and sleep by yourself?
C: Yes.
M: Good. Maybe we should try this tonight.
C: OK.
M: You go to sleep in your room and I go to sleep by myself in that big bed… and you won't come to me if you have a bad dream.
C: Yes.
M: You come and tell me, I caress you until the bad dream goes away and then you go sleep by yourself.
C: Yes.
M: Because you're brave.

33 Mother left you alone in the house

C: I would feel that I am alone and I would cry because I am alone.
M: Why would you cry? What would you believe, being alone?
C: I would believe that you're lost and that I couldn't find you anymore.
M: In the house.
C: In the house.
M: But when you realize I'm not in the house anymore, wouldn't you think that maybe I went out for a little while and I would come back to you?
C: Yes, I would.
M: But then, why would you cry?

C: Because I'm thinking you will get lost.
M: Mommy is big and she can't get lost as easily as a child, but you should stay quietly, continue to play, and mommy will certainly come back… if I ever forget to tell you [that I'm going out]. You should never be scared or cry, you should stay quietly, continue to play, and I will certainly come back to you. OK?
C: Yes.

Low end: Mother not only fails to provide these types of explanations/clarifications, but rejects child's version of the scenario, precluding a meaningful representation

28 You get presents at your birthday party

M: Tell me, how do you feel when it's your birthday, when you receive lots of presents from your friends and you open them?
C: …
M: How was it on Christmas day, on your birthday?
C: I don't know. I don't know… I feel good.
M: "I don't know" and "I feel good"! Can you say anything else?
C: No.
M: Tell me. Explain, what was it like, both on Christmas and on your birthday?
C: I was joyful.
M: And tell me, how else were you? Impatient?
C: *(smiling)* Relaxed.
M: Relaxed. Good.
C: And impatient.
M: And how do you open your presents?
C: I take off the bow and I open them!
M: And are you trying to not tear away the package, or are you tearing everything apart, the boxes, everything, to reach your presents…
C: *(frowning)*
M: What do you do?
C: …
M: Are you tearing apart the boxes or you're opening them nicely?
C: Yes, I tear it apart.
M: You're tearing it apart, it doesn't matter anymore, to reach your presents faster, right? You're impatient, right?
C: *(nods)*
M: And you're happy because you received a lot of toys?
C: *(nods)*
M: And you thank them?
C: *(nods)*
M: You thank them. And afterwards, do you ever think about whether you deserved so many toys or not?
C: *(nods)*

M: Do you ever think about that? That maybe you didn't deserve them, but the children brought them because they love you? You're not thinking about that.
C: Yes I do.

Table 8

Correlations among Main Study Variables.

Variable	Mom Scripts (Continuous)	Child Scripts (Continuous)	Co-Constr.	Mom IQ	Child IQ
Mom Scripts (Cont.)	____	.26*	.26*	.39**	.06
Child Scripts (Cont.)		____	.53**	.38**	.32*
Co-Construction			____	.32*	.33*
Mom IQ				____	.26*
Child IQ					____
M	3.44	1.99	3.80	16.97	5.58
SD	.79	.58	.85	7.24	2.76

*$p<.05$, **$p<.01$ (two-tailed)

Table 9

Predicting Children's Scriptedness (Continuous) from Mothers' Scriptedness, Controlling for Children's and Mothers' IQ.

Predictors	β	sr^2	ΔR^2	Total R^2
Step 1				
Children's IQ	.23*	.03		
Mothers' IQ	.35**	.01		
			.22**	.22
Step 2				
Mothers' Scriptedness	.15	.10		
			.02	.24

Note: N=59, *p=.05, **p<.01

Table 10

Predicting Children's Scriptedness (Dichotomous) from Mothers' Scriptedness, Controlling for Children's and Mothers' IQ.

Predictors	β	sr^2	ΔR^2	Total R^2
Step 1				
Children's IQ	.11	.02		
Mothers' IQ	.26	.01		
			.09	.09
Step 2				
Mothers' Scriptedness	.35*	.08		
			.10*	.19
Step 3				
Mothers' Co-Construction				
	.37**	.08		
			.11**	.31

Note: N=59, *p<05, **p<.01

Table 11

Correlations among the Three Mothers' Co-Construction Scales, Mothers' Scriptedness, and Children's Scriptedness(Continuous)

Variable	Scale 1	Scale 2	Scale 3	Mothers' Scripts(Cont.)	Children's Scripts (Cont.)
Scale 1	____	.58**	.59**	.23*	.42**
Scale 2		____	.68**	.19	.42**
Scale 3			____	.26*	.52**
Mothers' Scripts (Cont.)				____	.26*
Children's Scripts (Cont.)					____
M	4.06	3.70	3.64	3.44	1.99
SD	.94	1.07	.94	.79	.58

*p<.05, **p<.01 (one-tailed)

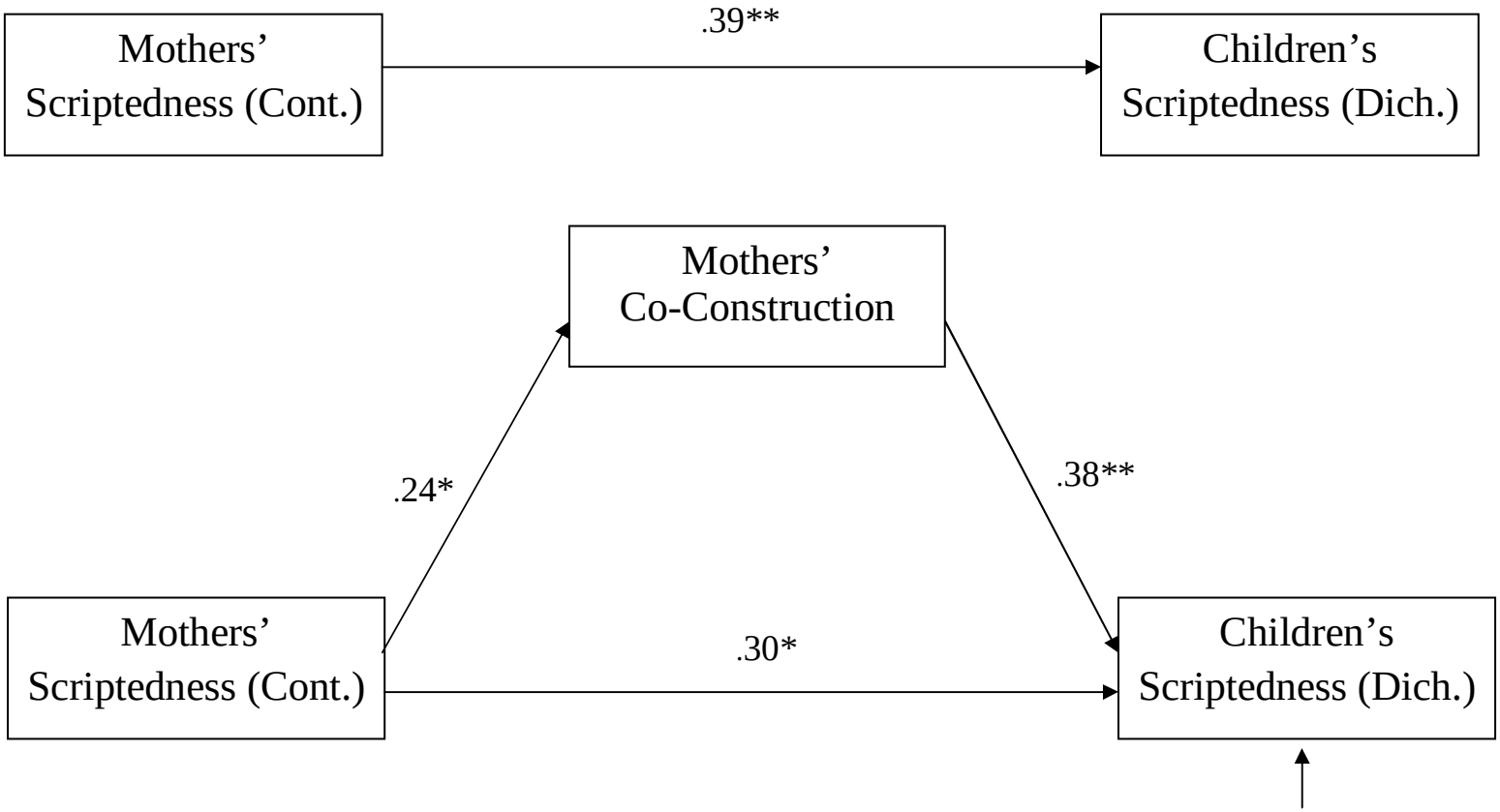
Figure 1

Two-Way Table Summarizing the Relationship between Mothers' and Children's Script Knowledge

		MOTHERS	
		SECURE BASE SCRIPT	NO SECURE BASE SCRIPT
CHILDREN	SECURE BASE SCRIPT	**21**	**12**
	NO SECURE BASE SCRIPT	**6**	**20**

Figure 2

Mothers' Co-Construction Skills Partially Mediate the Relation between Mothers' Scriptedness (Continuous) and Children's Scriptedness (Dichotomous) (controlling for Mothers' and Children's IQ).



Sobel test Z=1.64, p=.05 (one-tailed)