MONOGRAPHS OF THE SOCIETY FOR RESEARCH IN CHILD DEVELOPMENT. 2018. Serial No. 331, Vol. 83, No. 4, 91-105.

VI. INTERGENERATIONAL TRANSMISSION OF SECURE BASE SCRIPT KNOWLEDGE: THE ROLE OF MATERNAL CO-CONSTRUCTION SKILLS

Adela Apetroaia and Harriet S. Waters

This article is part of the issue "The Mother–Child Attachment Partnership in Early Childhood: Secure Base Behavioral and Representational Processes," Germán E. Posada and Harriet S. Waters (Issue Editors). For a full listing of articles in this issue, see: https://onlinelibrary.wiley.com/toc/15405834/2018/83/4.

ABSTRACT This study examined the link between mothers' and children's script-like representations of attachment and the role of maternal co-construction skills in facilitating script knowledge in their children. Fifty-nine children recruited from preschools in Bucharest, Romania (age range 4 to 5 years) completed a shortened version of the Attachment Story Completion Task (ASCT) to assess their secure base script knowledge whereas their mother's script knowledge was assessed with the Attachment Script Assessment (ASA). In addition, the mother–child pairs completed the Affect Discussion Task (see Chapter II) to assess mothers' co-construction skills. Mother and child secure base script knowledge was significantly related, as were maternal co-construction skills and child script knowledge. Regression analyses indicated that maternal co-construction skills impacted children's script knowledge above and beyond the effects of maternal script scores.

The relation between mothers' attachment representations and infants' attachment behaviors was initially documented by Main, Kaplan, and Cassidy (1985) using the Adult Attachment Interview (AAI) and has been consistently replicated by later studies (Hesse, 2008, 2016; van IJzendoorn, 1995). The degree of correspondence between mothers' patterns of AAI responses and children's patterns of attachment behaviors during the

Corresponding author: Harriet S. Waters, Ph.D., Department of Psychology, SUNY at Stony Brook, Stony Brook, NY 11794, email: harriet.waters@stonybrook.edu

DOI: 10.1111/mono.12393

Strange Situation Procedure ranged between 66% and 82% (75% according to the meta-analysis conducted by van IJzendoorn, 1995), and has been documented by concurrent, prospective, and retrospective correlations (Benoit & Parker, 1994). More recent meta-analyses reaffirm the link between the AAI and child security (Verhage et al., 2016). Different methods of assessing parental attachment representations or infant security have contributed to the accumulating evidence for the intergenerational transmission of attachment as well. For example, the Working Model of the Child Interview (WMCI), developed by Zeanah, Benoit, Hirshberg, Barton, and Regan (1994), showed similar correlations with infants' attachment classifications and the AAI. Posada, Waters, Crowell, and Lay (1995) also demonstrated that mothers' representations of attachment (AAI) were related to children's attachment behavior as captured by the Attachment Q-Set (AQS).

Studies using the Attachment Script Assessment (ASA) to assess adult attachment representations have reproduced the link between parental attachment (secure base script knowledge) and child security as well as having validated the measure against coherence scores from the AAI (Waters & Waters, 2006). The relation between parental script knowledge and security has been demonstrated with both the Strange Situation Procedure and the AQS, across numerous cross-cultural samples, and among biologically unrelated caregivers and their adopted children (Bost et al., 2006; Coppola, Ponzetti, & Vaughn, 2014; Monteiro, Veríssimo, Vaughn, Santos, & Bost, 2008; Tini, Corcoran, Rodrigues-Doolabh, & Waters, 2003; Vaughn et al., 2007; Veríssimo & Salvaterra, 2006; Wong et al., 2011).

Intergenerational Transmission of Script-Like Attachment Representations

The introduction of the ASA offers a new opportunity to study the intergenerational transmission of attachment focusing on attachment script representations in both parent and child. Most of the studies cited above build the link between parent and child attachment using a representational tool to assess adult attachment and a behavioral measure to assess child attachment, although some findings have been reported using representation measures with children as well. For example, Miljkovitch, Pierrehumbert, Bretherton, and Halfon (2004) reported significant relations between maternal attachment classification (AAI) and preschool children's stories from the Attachment Story Completion Task (ASCT), using a Q-sort coding procedure. Wong et al. (2011), a study more closely aligned with the present investigation, reported significant relations between maternal script representations (ASA) and children ASCT stories using rating scales of security and coherence. Although the Wong et al. study uses similar task formats for both adults and children (i.e., storytelling

tasks), the scoring system used for the ASCT falls into more traditional scoring of the children's story completions (are they "secure" narratives?).

The ASA, however, has not only a comparable narrative methodology to that of the children's ASCT, but also a script-based scoring system that can be applied to the children's story completions, allowing for more direct comparisons of parent and child attachment representations. Not only did Waters, Rodrigues, and Ridgeway (1998) use a secure base script scoring system showing that preschoolers' story stem completions were significantly related to their AQS security scores, but Chapter III of the current monograph replicated and extended those findings. Similarity in method and scoring between the ASA and the ASCT sets the stage for comparing the cognitive underpinnings of attachment representations across ages, while mother–child co-construction tasks should enable further exploration into mechanisms responsible for the development of children's attachment script representations in early childhood.

The Current Study

An opportunity arose to test for replication of findings on the link between maternal and preschool children's attachment representations in another culture within the European sphere. Embedded in this test was also the first opportunity to use comparable script-based assessments of attachment representations in both mothers and their children. Although the ASA has been used in numerous cultures (Coppola, Vaughn, Cassibba, & Costantini, 2006; Vaughn et al., 2007; Wong et al., 2011), secure base script scoring of the ASCT has only been used once before this monograph (Waters et al., 1998), and not in a cross-cultural sample. In addition, we also had an opportunity to test for the cross-cultural viability of one of our co-construction tasks, which are for the first time introduced in this monograph. By including a mother–child co-construction task in our battery of assessments, we test for both procedural viability of the task in another culture and conceptual viability of our script-based co-construction scales.

In the current study, middle-class mother–child pairs recruited from Romanian preschools were asked to complete the ASA (mothers) and several story stem completions from the ASCT (their 4- to 5-year-old children), all of which have been included in earlier studies in this monograph as well as in the Waters et al. (1998) study. Given the established relation between maternal script representations (ASA) and child attachment security assessed by behavioral measures such as the AQS, we expected that mothers' ASA script scores would be related to their children's attachment script representations as well. As noted above, a similar finding has been reported by Wong et al.

(2011), although their scoring system for the child story stem completions was not script based. A more recent study using ASAs for older children (10–12 years) and their mothers reported a significant relation, with mothers with secure base script knowledge having children with script knowledge as well (Waters, Bosmans, Vandevivere, Dujardin, & Waters, 2015).

In order to investigate how mothers facilitate the building of a secure base script in their young children and draw some conclusions about the processes involved in the development of child attachment representations, our mother–child pairs were also asked to complete one of the co-construction tasks developed for this monograph, that is, the Affect Discussion Task. In light of the conceptual relation between co-construction processes and the nature of script representations, we anticipated that maternal co-construction skills would be significantly related to children's script representations, and perhaps contribute to children's scripts above and beyond the effects of maternal script scores. Such findings would implicate specific cognitive processes and maternal skills that help frame secure base scripts for the child. Researchers could then close in on the cognitive/language-based mechanisms tied to attachment representational development and investigate additional possibilities for enhancing the effectiveness of attachment interventions.

METHOD

Participants

The participants in the study were 59 middle-class mother–child dyads recruited from public preschools in Bucharest, Romania. All reported their ethnicity as Romanian. The sample included 32 boys and 27 girls, ranging from 4.1 to 4.9 years of age ($M = 4.5$, $SD = 0.22$). Thirty-one had no siblings, twenty-five of them had one, and three had two or more siblings. The 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 ($M = 13.25$, $SD = 2.69$). 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 10,500 Romanian Leu (RON). However, the family reporting the maximum value was an outlier; when we eliminated this value from the analysis, the maximum value became 6,000 RON per month ($M = 2{,}428.95$, $SD = 1{,}259.92$). Medium income among Romanian families at the time of the study was 2,300 RON per month ($821, Romanian Institute of Statistics, exchange rate 1 USD = 2.8 RON). Sixteen of the mothers were not working at the time of the assessment; the others were working between 25 and 72 hr per week ($M = 32.5$, $SD = 21$).

Procedures

The study was conducted across three different sessions. The initial session began with a demographic sheet (results reported above) followed by the administration of the ASA. The first session ended with an assessment of the mother's verbal skills (total time 50–60 min). The second session, lasting for about 30 min, brought the mother and child together for the discussion of a series of emotion-related vignettes (Affect Discussion Task). The third session took place independently with the child, in a playroom equipped with a video-camera at the child's preschool. This final session consisted of a quick assessment of children's vocabulary and of the ASCT, total time 40–50 min. For mothers' convenience, the first and second sessions took place immediately after school, when they usually picked up their children. The third session, which only involved the children, took place during preschool hours. Participants were reimbursed 20 U.S. dollars (50 RON) for their participation in the study.

Assessment of Mothers' and Children's Verbal Skills

Because both the ASA and the Affect Discussion Task rely on maternal discourse, we included a measure of verbal skills, the Mill Hill Vocabulary Scale (MHVS), which is in the process of being normed in Romania. For this study, we used the 34-item, all multiple choice form of the test. The test requires the participant to select the appropriate synonym for a given word from a group of six options. No fixed time is set for completion of the test. We also measured children's vocabulary with the Crichton Vocabulary Scale, which is similar to the MHVS, but includes words appropriate for a younger age group. This scale is also in the process of being normed in Romania. Raw scores from both tests were used in the statistical analyses since norms are not currently available.

RESULTS

The first section presents descriptive statistics and reliability information about the ASA, ASCT, and the Affect Discussion Task. The second section presents the findings on the relations between mother and child attachment script representations. The third presents the findings from the co-construction task along with regression analyses that assess the relative contributions of maternal script knowledge and co-construction skills in predicting child secure base script knowledge.

Descriptive Statistics and Reliability of Study Measures

Means and standard deviations for all the study measures are presented in Table 1. Before any scoring occurred for the ASA, ASCT, and Affect Discussion Task, all transcriptions of the mothers' attachment narratives, the

TABLE 1

CORRELATIONS AMONG STUDY VARIABLES

Variable	Mom Scripts (7 to 1 Scale)	Child Scripts (4 to 1 Scale)	Child Scripts (Dichotomous)	Co-construction	Mom VIQ	Child VIQ
Mom scripts (7-1)	—	0.26*	0.39**	0.26*	0.39**	0.06
Child scripts (4-1)		—	0.79**	0.53**	0.38**	0.32*
Child scripts (dich.)			—	0.47**	0.28*	0.17
Co-construction				—	0.32*	0.33*
Mom VIQ					—	0.26*
Child VIQ						—
M	3.44	1.99	NR	3.80	16.97	5.58
SD	0.79	0.58	NR	0.85	7.24	2.76

*$p < .05$, **$p < .01$.

children's story stem completions, and the mother–child conversations from the discussion task were translated into English by one of the authors, a native speaker of the Romanian language (also the interviewer of the study). The Romanian researcher had also received script training before initiating the study in Romania. The translations were then assessed by the originator of the ASA, the co-construction task, and the script/co-construction scoring systems of all three tasks, the ASA, ASCT, and Affect Discussion tasks (H. Waters). Preliminary scoring from the expert lab indicated that the protocols were scorable and that the tasks had been properly administered.

All mothers' attachment narratives were scored by two independent scorers on the 7-point scriptedness scale (ASA). Following our standard scoring rule, disagreements higher than two points were discussed and rescored independently and averaged. With this sample, however, there was only one such disagreement out of the entire set of narratives. ICCs for the four stories ranged from 0.65 to 0.83. Correlations among the averaged script scores of the four attachment narratives ranged between 0.42 and 0.57, *p*s $< .01$. Cronbach's alpha coefficient for the mothers' composite script scores (averaged across the four attachment narratives) was 0.80.

Children's narratives from the story stem completion task were scored by two independent coders unaware of scores on the other measures, and the script scores were averaged across the three stories for a general measure of children's scriptedness. In this case, a 4-point scriptedness scale was used to rate the children's stories due to the relatively short story completions. Disagreements greater than one point on the 4-point script scale were resolved by discussion. Interrater agreement within one point before

discussion was high, with the ICCs ranging from 0.78 to 0.82 across the three different story completion scenarios (Spilled Juice, Rock Climbing, Monster in the Bedroom). Scores for each story were averaged across the two coders; correlations among the three averaged script scores ranged between 0.29 and 0.42, and were significant at $p < .05$. Cronbach's alpha coefficient for the children's composite script score was 0.63. This is similar to the Cronbach alphas reported in Waters et al. (1998) study of preschoolers' script-based story completions from the ASCT (0.67–0.71). At the same time, the relative lower correlations among stories (compared to ASA attachment narrative data with older individuals) highlight the variability within the preschool age range. Alternative scoring options that researchers could use include dichotomous variables that summarize overall patterns across preschoolers' attachment narratives.

Mother's co-construction skills were scored by using the three 7-point scales developed for the Affect Discussion Task (supporting the recognition of affective response, encouraging elaboration of an affective script, supporting an explanatory framework). For more information on coding these scales, see the measures in Chapter II. All six vignettes presented to each mother–child pair were scored on these scales. Half of the mother–child conversations were scored on the three co-construction scales by two independent coders. The other half was scored by one of the first two coders. For those conversations scored by two coders, disagreements higher than two points on any of the scales were resolved with discussion. The ICCs ranged from 0.77 to 0.82 for the three scales. Correlations among the three co-construction scales (averaged scale scores across the six vignettes) ranged from 0.58 to 0.68, and were all significant at $p < .01$. Thus, a composite co-construction score was computed by further averaging the three scale scores together; Cronbach's alpha coefficient for the composite was 0.83.

Relationships Between Mother and Child Script Representations

Table 1 presents Pearson correlations among all the study variables. Maternal script scores correlated significantly with child script scores ($r = 0.26$, $p < .05$), confirming expectations that mothers with higher secure base script scores would tend to have children with higher secure base script scores. There were also significant correlations between the verbal intelligence (VIQ) measures and attachment script scores for both mothers and children, $r = 0.39$, $p < .01$, and $r = 0.32$, $p < .05$, respectively. To take a closer look at what combination of these variables best predicted children's script scores, a hierarchical regression analysis was conducted, with children's and mothers' verbal intelligence scores entered as predictor variables at Step 1, mothers' script scores entered as a predictor variable at Step 2, and children's script scores as the criterion variable. For Step 1 of the regression, taking into

account VIQ scores, the R^2 was 0.22, $F(1, 57) = 7.09$, $p < .01$, indicating that mother and child vocabulary accounted for 22% of the variance in children's script scores. Adding mothers' script scores as a predictor did not produce a statistically significant R^2 change, accounting for only 2% more of the variance in children's script scores.

Considering the age of the children and ongoing changes in language development, it was possible that verbal skills influenced how well they expressed their secure base script knowledge and obscured a stronger relation between mother and child script scores. In that case, the difference between a 2 (some secure base script content) and a 3/4 script score (clear evidence of secure base script content) on the children's script 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). In order to be classified as having a secure base script, children had to produce narratives with script content on at least two of their three story stem completions, and an average script score close to 2, the minimum score indicating evidence of secure base script knowledge in children's narratives. Thus, composite script scores higher than 1.90 were considered secure ($n = 33$), whereas averaged scores lower or equal to 1.90 were considered in the nonsecure base script range ($n = 26$). A *t*-test comparison of mean VIQ scores between children with and without a secure base script based on this dichotomous variable showed that the groups did not differ in vocabulary knowledge, $M = 6.00$, $SD = 2.9$ versus $M = 5.04$, $SD = 2.5$, respectively, $t(57) = 1.34$, *ns*, two-tailed test. This result indicates that the dichotomous script variable might be a more appropriate measure of attachment representations at this age for this sample. Both continuous and dichotomous analyses are common in the attachment literature, and in fact story stem completions have been scored as secure or insecure in the past (Bretherton, Ridgeway, & Cassidy, 1990). In a more recent study on middle childhood script representations, both continuous and dichotomous analyses are presented (Waters et al., 2015), indicating that both types of analyses continue to be viewed as useful in the field.

Thus, we ran a second hierarchical regression analysis, with children's and mothers' VIQ 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 of both its adequacy and greater interpretability when a dichotomous variable has an approximately even split between the two categories (von Hippel, 2015). In this analysis, the only significant predictor of children's scriptedness (dichotomous) was mothers' scriptedness. The overall R^2 of the model was 0.19, $F(1, 57) = 4.38$, $p < .01$. Mothers' scriptedness accounted for 10% of the variance in children's

scriptedness (dichotomous) after accounting for VIQ and produced a significant R^2 change. The results of this analysis are summarized in Table 2.

We also examined the mother–child script relationship via both mother and child categorical script groupings, since studies that have examined the intergenerational transmission of attachment have often reported the predictive power of parents' attachment security on children's security in categorical terms (secure vs. insecure). A binary variable of mothers' scriptedness (dichotomous) was created. Overall composite script scores greater than 3.5 were considered as evidence of secure base script knowledge (being closer to a 4, the score given to stories with some secure base script content, $n = 27$). A composite script score greater than 3.5 indicates that several of the four attachment stories from the ASA are the script range. Scores lower or equal to 3.5 were considered evidence of no secure base script knowledge ($n = 32$). A χ^2 analysis was conducted to determine whether mothers' script knowledge predicted children's script knowledge. Figure 1 presents a two-way table summarizing the relationship between mothers' and children's script knowledge. As expected from the intergenerational transmission hypothesis, children of mothers with secure base scripts were more likely to have secure base scripts themselves, whereas those with mothers with no script were more likely to be in the "no script" category, χ^2 (Yates-corrected) $= 8.28$, $p < .01$. The overall hit rate, which was 69.5%, is comparable to the hit rate reported for the relationship between mother's security assessed by the AAI and children's security measured with the Strange Situation Procedure (75%; van IJzendoorn, 1995).

The Role of Maternal Co-Construction Processes

To examine whether mothers with higher scriptedness scores were more likely to have better co-construction skills, we calculated a Pearson's

TABLE 2

PREDICTING CHILDREN'S SCRIPTEDNESS (DICHOTOMOUS) FROM MOTHERS' SCRIPTEDNESS AND CO-CONSTRUCTION SKILLS, CONTROLLING FOR CHILDREN'S AND MOTHERS' VIQ

Predictors	β	sr^2	ΔR^2	Total R^2
Step 1				
Children's VIQ	0.11	.02		
Mothers' VIQ	0.26	.01	.09	.09
Step 2				
Mothers' scriptedness	0.35*	.08	.10*	.19
Step 3				
Mothers' co-construction	0.37**	.08	.11**	.31

Note. $N = 59$, $^*p < .05$, $^{**}p < .01$.

		MOTHERS	
		SECURE BASE SCRIPT	NO SECURE BASE SCRIPT
CHILDREN	SECURE BASE SCRIPT	**21 (35.6%)**	**12 (20.3%)**
	NO SECURE BASE SCRIPT	**6 (10.2%)**	**20 (33.9%)**

FIGURE 1.—Two-way table summarizing the relationship between mothers' and children's script knowledge.

correlation between mothers' composite script scores and co-construction scores (averaged across the three co-construction scales). This correlation was significant, $r = .26$, $p < .05$, showing a positive relation between high script mothers and effective co-construction skills. Furthermore, maternal co-construction scores and children's scriptedness scores were also significantly related for both of the child variables of scriptedness, continuous and dichotomous, $r = 0.53$, $p < .01$, and $r = 0.47$, $p < .01$, respectively.

To test whether maternal co-construction skills contribute to children's secure base script knowledge above and beyond what was determined by our earlier regression analysis with VIQ scores and maternal script scores, we added a third step in our regression analysis. Maternal co-construction skills was entered as a predictor variable in Step 3 of the hierarchical regression presented in Table 2, alongside mothers' and children's VIQ (Step 1) and mothers' scriptedness (Step 2). Once again, the bivariate measure of children's scriptedness was the dependent variable. In the analysis, the maternal co-construction variable increased the overall R^2 from 0.19 to 0.31, $F(3, 55) = 8.01$, $p < .001$, accounting for an additional 11% of the variance in children's scriptedness, over and above mothers' scriptedness and mothers' and children's VIQ scores.

Mediation Analysis

Additional regression models were tested to investigate whether the association between mothers' scriptedness and children's scriptedness is mediated by maternal co-construction, controlling for mothers' and children's VIQ (MacKinnon & Dwyer, 1993; Preacher & Hayes, 2004). In the first ordinary least squares regression model, mothers' scriptedness was significantly related to maternal co-construction skills, $b = 0.279$, $SE = 0.134$, $p < .05$. Although, the inclusion of mothers' and children's VIQ scores as covariates

significantly attenuated the association between mothers' scriptedness and maternal co-construction, $b = 0.186$, $SE = 0.136$, $p = 0.172$. In the second logistic regression model, which included mothers' scriptedness and maternal co-construction as predictors of children's scriptedness (dichotomous), both mothers' scriptedness, $b = 0.956$, $SE = 0.462$, $p < .05$, OR = 2.601, 95%CI = 0.196, 1.715, and maternal co-construction skills, $b = 1.218$, $SE = 0.467$, $p < .01$, OR = 3.380, 95%CI = 0.449, 1.987, were significantly independently associated with children's scriptedness. However, the bootstrap confidence intervals derived from 1,000 samples indicated that the indirect effect coefficient was not significant, $b = 0.227$, $SE = 0.279$, $p = 0.417$, 95%CI = −.088, 0.740, which does not support the hypothesis that the relation between mothers' scriptedness and children's scriptedness is mediated by maternal co-construction skills.

DISCUSSION

The present investigation explored the nature of intergenerational transmission of attachment representations from mother to child against the background of an established literature of intergeneration transmission of attachment status, in which researchers relied on the AAI (van IJzendoorn, 1995; Verhage et al., 2016), or the ASA (Vaughn et al., 2007) to assess parental attachment status while using primarily behavioral assessments of children's attachment. Although a handful of studies (Miljkovitch et al., 2004; Wong et al., 2011) have directly examined the relationship between parent and child attachment representations in early childhood, this is the first study that relies on comparable assessments at both the conceptual and methodological levels, that is, secure base script knowledge.

Current findings indicated that mothers with script knowledge also had children with script knowledge, that is, both produced attachment narratives that reflected a secure base script. Regression analysis with a dichotomous variable used to assess the presence of script knowledge in children demonstrated a significant relation, when verbal IQ for both mother and child was controlled. Furthermore, when the maternal script scores were dichotomized into the presence or absence of secure base script knowledge, the hit rate between mother and child script knowledge was 69.5%. This is similar to the reported hit rate for script/no script classifications reported by Waters et al. (2015) for mothers and their 10- to 12-year-old children (73%) and as noted earlier, similar to the hit rate for AAI and Strange Situation attachment classifications (75%, van IJzendoorn, 1995).

Nonetheless, significant relationships between parent and child attachment representations should not be surprising given the extant literature on intergenerational transmission. More intriguing are the reported results that

maternal co-construction skills show a strong link to children's secure base script knowledge. Certainly, parenting behavior and sensitivity play an important role in intergenerational transmission, and there is evidence that secure base script knowledge influences parenting behavior as well (Coppola et al., 2006). More specifically, Bost et al. (2006) found that maternal script knowledge was positively associated with the way mothers reminisced about the past with their children (i.e., emotion talk). Furthermore, Fivush and Waters (2015) have argued that the more elaborative (and effective) reminiscing maternal style identified in mother–child memory talk has broad-based implications, including that of intergenerational transmission of attachment. Mothers with an elaborative style may provide the type of narrative organization and structure that draws their children to elements of secure base use and support consistent with the secure script during conversations about the past. This would in effect teach the child to view past experiences through a "secure base" lens and facilitate the construction of a generalized secure base script built upon repeated experiences of secure base support. Such an argument intersects well with the current findings on the relation between maternal co-construction skills and children's secure base scripts. The only difference is the focus on conversations about plausible, everyday scenarios in the current study versus actual experiences of the past.

In sum, the current study adds maternal co-construction skills to the extensive discussion of underlying mechanisms tied to intergenerational transfer from parental sensitivity to mind-mindfulness to supporting autonomy (Bernier & Dozier, 2003; Bernier, Matte-Gagné, Bélanger, & Whipple, 2014; Fonagy & Target, 2005; Meins, 1999; Vaughn et al., 2016). The earlier Chapter V that focused on mother sensitivity, co-construction skills, and child secure base behavior arrived at a similar conclusion, that maternal co-construction skills are tied to child security. Here, however, we focus on how maternal communication skills facilitate the building of script structures, specifically a secure base script. Of particular importance is that the co-construction scales used in this study pick up on elaborative strategies that enable mothers to help their child fill in details of emotion-laden situations, including those that involve mother–child interactions of secure base support. Critical to script structures are not only the temporal ordering of events, but the causal underpinnings of that order. Thus, mothers using more optimal co-construction skills prompt an explanatory framework that helps the child understand how they might feel in the situation, and how they might deal with those emotions. An added touch we often see is that these mothers with more effective co-construction skills are also inclined to relate the situation in question to actual experiences the child has had, facilitating the integration of the current discussion to the child's existing knowledge of everyday experiences. These findings indicate that it is not just about talking

about emotion-laden situations, but how the mother frames that discussion for the child.

In light of several developmental studies that have investigated secure base script representations across different ages (Dykas, Woodhouse, Cassidy, & Waters, 2006; Steele et al., 2014; Waters et al., 2015), new opportunities for investigating communication skills and adaptive moves by parents as their children continue to develop and mature are possible. With the development of multiple ASAs adjusted for age-appropriate scenarios of secure base support (middle childhood, adolescence, adult), researchers can study the relation between parent–child communication and the evolution of secure base scripts from early childhood to adulthood. Remarkably, even adult children with secure base script knowledge show differences in dealing with their aging parents by dampening their expressed negative emotion as interactions become more difficult (Chen et al., 2013). These studies suggest that there is a continued and dynamic interplay between secure base script representations, challenges that emerge at different ages, and communication between parents and their children. Including co-construction skills as a factor in the intergeneration attachment transmission may also inform attachment intervention programs by providing additional tools for facilitating effective mother–child interactions (Berlin, Zeanah, & Lieberman, 2008, 2016).

REFERENCES

Benoit, D., & Parker, K. C. H. (1994). Stability and transmission of attachment across three generations. *Child Development*, **65**(5), 1444–1456.

Berlin, L. J., Zeanah, C. H., & Lieberman, A. F. (2008). Prevention and intervention programs for supporting early attachment security. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed., pp. 745–761). New York, NY: Guilford Press.

Berlin, L. J., Zeanah, C. H., & Lieberman, A. F. (2016). Prevention and intervention programs to support early attachment security: A move to the level of community. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (3rd ed., pp. 739–758). New York, NY: Guilford Press.

Bernier, A., & Dozier, M. (2003). Bridging the attachment transmission gap: The role of maternal mind-mindedness. *International Journal of Behavioral Development*, **27**(4), 355–365.

Bernier, A., Matte-Gagné, C., Bélanger, M. È., & Whipple, N. (2014). Taking stock of two decades of attachment transmission gap: Broadening the assessment of maternal behavior. *Child Development*, **85**, 1852–1865.

Bost, K. K., Shin, N., McBride, B. A., Brown, G. L., Vaughn, B. E., Coppola, G., et al. (2006). Maternal secure base scripts, children's attachment security, and mother-child narrative styles. *Attachment & Human Development*, **8**, 241–260.

Bretherton, I., Ridgeway, D., & Cassidy, J. (1990). Assessing internal working models of the attachment relationship: An attachment story completion task for 3-year-olds. In M.

Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 273–308). Chicago, IL: University of Chicago Press.

Chen, C. K., Waters, H. S., Hartman, M., Zimmerman, S., Miklowitz, D. J., & Waters, E. (2013). The secure base script and the task of caring for elderly parents: Implications for attachment theory and clinical practice. *Attachment & Human Development*, **15**, 332–348. https://doi.org/10.1080/14616734.2013.782658

Coppola, G., Ponzetti, S., & Vaughn, B. E. (2014). Reminiscing style during conversations about emotion-laden events and effects of attachment security among Italian mother-child dyads. *Social Development*, **23**, 702–718. https://doi.org/10.1111/sode.12066

Coppola, G., Vaughn, B. E., Cassibba, R., & Costantini, A. (2006). The attachment script representation procedure in an Italian sample: Associations with adult attachment interview scales and with maternal sensitivity. *Attachment & Human Development*, **8**(3), 209–219.

Dykas, M. J., Woodhouse, S. S., Cassidy, J., & Waters, H. S. (2006). Narrative assessment of attachment representations: Links between secure base scripts and adolescent attachment. *Attachment and Human Development*, **8**, 221–240.

Fivush, R., & Waters, T. E. A. (2015). *Emerging trends in the social and behavioral sciences*. New York, NY: Wiley.

Fonagy, P., & Target, M. (2005). Bridging the transmission gap: An end to an important mystery of attachment research? *Attachment & Human Development*, **7**, 333–343.

Hesse, E. (2008). The adult attachment interview: Protocol, method of analysis, and empirical studies. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (2nd ed., pp. 552–598). New York, NY: Guilford Press.

Hesse, E. (2016). The adult attachment interview: Protocol, method of analysis, and empirical studies: 1985–2015. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (3rd ed., pp. 553–597). New York, NY: Guilford Press.

MacKinnon, D. P., & Dwyer, J. H. (1993). Estimating mediated effects in prevention studies. *Evaluation Review*, **17**, 144–158.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development* (Vol. 50, 1–2, Serial No. 209, pp. 66–104).

Meins, E. (1999). Sensitivity, security and internal working models: Bridging the transmission gap. *Attachment & Human Development*, **1**(3), 325–342.

Miljkovitch, R., Pierrehumbert, B., Bretherton, I., & Halfon, O. (2004). Associations between parental and child attachment representations. *Attachment & Human Development*, **6**, 305–325.

Monteiro, L., Veríssimo, M., Vaughn, B. E., Santos, A. J., & Bost, K. K. (2008). Secure base representations for both fathers and mothers predict children's secure base behavior in a sample of Portuguese families. *Attachment & Human Development*, **10**, 189–206.

Posada, G., Waters, E., Crowell, J. A., & Lay, K.-L. (1995). Is it easier to use a secure mother as a secure base? Attachment Q-sort correlates of the adult attachment interview. *Monographs of the Society for Research in Child Development*, **60**(2–3), 133–145.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, **36**, 717–731.

Steele, R. D., Waters, T. E. A., Bost, K. K., Vaughn, B. E., Truitt, W., Waters, H. S., et al. (2014). Caregiving antecedents of secure base script knowledge in the NICHD Study of Early Child Care and Youth Development (SECCYD). *Developmental Psychology*, **50**, 2526–2538.

Tini, M., Corcoran, D., Rodrigues-Doolabh, L., & Waters, E. (2003, April). *Maternal attachment scripts and infant secure base behavior*. Paper presented at the Biennial Meetings of the Society for Research in Child Development, Tampa, FL.

van IJzendoorn, M. H. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the adult attachment interview. *Psychological Bulletin*, **117**, 387–403.

Vaughn, B. E., Coppola, G., Veríssimo, M., Monteiro, L., Santos, A. J., Posada, G., et al. (2007). The quality of maternal secure base scripts predicts children's secure base behavior at home in three socio-cultural groups. *International Journal of Behavioral Development*, **31**, 65–76.

Vaughn, B. E., Waters, T. E. A., Steele, R. D., Roisman, G. I., Bost, K. K., Truitt, W., et al. (2016). Multiple domains of parental secure base support during childhood and adolescence: Contributions to adolescents' representations of attachment as a secure base script. *Attachment & Human Development*, **18**, 317–336.

Verhage, M. L., Schuengel, C., Madigan, S., Fearon, R. M. P., Oosterman, M., Van IJzendoorn, M. H., et al. (2016). Narrowing the transmission gap: A synthesis of three decades of research on intergenerational transmission of attachment. *Psychological Bulletin*, **142**, 337–366. https://doi.org/10.1037/bul0000038

Veríssimo, M., & Salvaterra, F. (2006). Maternal secure-base scripts and children's attachment security in an adopted sample. *Attachment & Human Development*, **8**, 261–273.

von Hippel, P. (2015). Linear vs. logistic probability models: Which is better, and when. *Staistical Horizons*, https://statisicalhorizons.com/linear-vs-logistic

Waters, H. S., Rodrigues, L. M., & Ridgeway, D. (1998). Cognitive underpinnings of narrative attachment assessment. *Journal of Experimental Child Psychology*, **71**(3), 211–234.

Waters, H. S., & Waters, E. (2006). The attachment working model concept: Among other things, we built script-like representations of secure base experiences. *Attachment & Human Development*, **8**, 185–197.

Waters, T. E. A., Bosmans, G., Vandevivere, E., Dujardin, A., & Waters, H. S. (2015). Secure base representations in middle childhood across two Western cultures: Associations with parental attachment representations and maternal reports of behavior problems. *Developmental Psychology*, **51**, 1013–1025.

Wong, M., Bost, K. K., Shin, N., Verissomo, M., Maia, J., Monteiro, L., et al. (2011). Preschool children's mental representations of attachment: Antecedents in their secure base behaviors and maternal attachment scripts. *Attachment & Human Development*, **13**, 489–502.

Zeanah, C. H., Benoit, D., Hirshberg, L., Barton, M. L., & Regan, C. (1994). Mothers' representations of their infants are concordant with infant attachment classifications. *Developmental Issues in Psychiatry and Psychology*, **1**, 1–14.