ATTACHMENT STATES OF MIND AND EARLY INTERVENTION AS PREDICTORS OF MIDDLE CHILDHOOD PARENTING OUTCOMES

by

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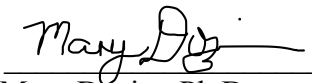
Approved: 

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ABSTRACT

The current study aimed to explore how a parent may reflect on their attachment experiences (their attachment state of mind) and participation in an early parenting intervention, which affects parenting behaviors with their eight-year-old children. The Adult Attachment Interview was used to classify attachment state of mind for 74 parents. Parents were then randomized to receive an attachment-based or a developmental education intervention when their children were infants. During a middle childhood follow-up visit, parents completed the Attachment Script Assessment to measure their secure base script knowledge, and parent-child dyads completed a conflict discussion task to measure parental sensitivity. Consistent with Zajac et al. (2019) but with a different task, parents with autonomous states of mind displayed more sensitive caregiving when their children were eight years old than those with non-autonomous states of mind. These findings add to the robust literature supporting more positive outcomes for parents and their children later in life when parents have consistent and coherent representations of their attachment-related memories and participate in an attachment-based intervention.

Chapter 1

INTRODUCTION

How an adult was parented affects their caregiving behaviors. One's mental representation of their attachment figure and associations with memories, thoughts, and feelings is called an attachment state of mind (Zajac et al., 2019). Adults with autonomous states of mind are coherent and consistent in processing attachment-related memories.

Caregivers' attachment states of mind can predict differences in how sensitive they are in their interactions with their children (Zajac et al., 2019). Studies have associated parent's autonomous states of mind with more sensitive caregiving practices during a positive discussion task with their child at eight years old (Zajac et al., 2019). Adults with autonomous states of mind tend to behave in sensitive ways with their children, and their children form secure attachments to them (Breidenstine et al., 2011). Parents with autonomous states of mind with their children are expected to regulate their emotions better and acknowledge the needs of their children better than parents with non-autonomous states of mind (Breidenstine et al., 2011). Recognizing and responding to their children's needs is a crucial aspect of sensitive caregiving, which can lead to better outcomes for children later in life (Dozier & Bernard, 2019). Sensitive caregiving is one of three main goals of the Attachment and Biobehavioral Catch Up (ABC) Intervention, as well as minimizing frightening behaviors and helping parents follow their child's lead (Bernard & Dozier, 2019). The ABC intervention aims to develop secure attachments between a parent and their child

and to do this, the parents complete ten sessions with a parent coach, which target different behaviors and promote the caregiving practices which have been associated with improving the parent-child attachment quality (Bernard & Dozier, 2019).

Secure base script knowledge is learned through early experiences with a parent; therefore, having an autonomous state of mind might be expected to promote higher secure base script knowledge (Waters & Roisman, 2019). The secure base script is relatively stable over the lifespan and shaped mainly by experiences in infancy and early childhood, further emphasizing the importance of sensitive caregiving in the early years (Waters & Roisman, 2019). The ABC intervention has improved secure base script knowledge of parents (Raby et al., 2021) and children's attachment to their parents (Bernard et al., 2012). Therefore, examining parental attachment states of mind and their later parenting quality and mental schemas of attachment may help us better understand the long-term effects of early parent-child relationships. Thus, the current study assesses the effect of attachment states of mind and an early childhood parenting intervention on sensitive parenting and secure base script knowledge in middle childhood.

1.1 Attachment Theory

John Bowlby proposed a theory of attachment that explained how a child's attachment to their parent could be based on evolutionary concepts or biology (Ainsworth & Bowlby, 1991). Specifically, Bowlby proposed that human infants are biologically prepared to form attachments with caregivers to survive due to their inability to care for themselves. Ainsworth then built upon this theory by developing an experimental assessment of attachment through her observational work (Ainsworth

et al., 2015). They developed the idea that sensitive and responsive parents have children who come to feel confident in their parents and create a secure attachment to them. Children with secure attachments know they can quickly seek their parents' support and be soothed by them. When a parent is repeatedly insensitive and unresponsive, the children will not feel confident in their parents and will not turn to them to be soothed. Bowlby and Ainsworth explored why certain behaviors evoked responses in infants and how the mothers responded to their children in those times. Bowlby and Ainsworth examined how infants used their attachment figures differently when distressed - whether they sought and accepted comfort from their mother, had a prolonged episode of distress, or did not seem bothered by the absence (Ainsworth & Bowlby, 1991). Infants cannot regulate their emotions effectively independently, and they look to their parents to help them. How a child forms an attachment to their parent can impact them throughout their lifespan in developing their personality and emotion regulation (Fitton, 2012). The effects of attachment to a parent can be seen through middle childhood when a child is growing physically, cognitively, and socially (Zajac et al., 2019). As children learn more about themselves and their relationships in middle childhood, they will choose to seek or not seek support from their parents. The attachment relationship built since infancy influences whether or not to seek support from their parents (Zajac et al., 2019).

1.2 Measuring Attachment

The Adult Attachment Interview (AAI) is used to gain insight into a parent's conceptualization of childhood attachment relationships (Breidenstine et al., 2011). A caregiver's attachment state of mind can predict both their behavior and the quality of the infant-caregiver attachment in future generations. It has also been found to impact their child's emotion regulation (Borelli et al.,2019; Zajac et al., 2019). Adult attachment interviews are coded as one of the five categories: secure autonomous, dismissing, preoccupied, unresolved/disorganized, or cannot classify (George et al., 1996). A parent with an autonomous attachment state of mind is considered to have clear and consistent views of their attachment figure. An autonomous attachment state of mind has been shown to predict an infant's attachment security (George et al., 1996). In contrast, having a dismissing, preoccupied, unresolved/disorganized, or unclassifiable state of mind is linked to an avoidant, resistant, or disorganized/disoriented infant response, respectively (George et al., 1996).

The Secure Base Script Assessment measures how we think about our attachment relationships and experiences. The attachment representations are a cognitive script (Raby et al., 2021). According to Waters and Waters (2021), the secure base script has eight central elements (Raby et al., 2021): engagement with the environment, encountering an obstacle or not being able to explore, feeling distressed, and looking to an attachment figure for support, getting a timely and supportive response from the attachment figure, and accepting it, and then going back to engaging with the environment with the caregiver (Raby et al., 2021).

The Attachment Script Assessment (ASA) is a well-validated measure of secure base script knowledge. Participants are presented with a list of word prompts and instructed to produce a narrative. Each outline of word prompts follows an implied storyline, but individuals are told to use the words however and in whichever order they wish. Participants who produce narratives around the elements of the secure base script are coded as having accessible and organized secure base script knowledge (Raby et al., 2021). When the attachment figure is identified as the source of distress or irrelevant content is included, transcripts are coded as low on secure base script knowledge (Raby et al., 2021). Secure base script knowledge is believed to be stable across time but may change in response to new experiences (Raby et al., 2021). As a result of the ABC intervention, caregivers may construct a deeper understanding of the secure base script than they would have otherwise (Raby et al., 2021). Prior research in our lab has also used secure base script knowledge to measure adults' scripted attachment representations and found that parents who received the ABC intervention showed greater secure base script knowledge (Raby et al., 2021). Additionally, Raby and colleagues (2021) found links between secure base script knowledge and sensitive parenting when children were in early and middle childhood. The current study hopes to expand upon these findings by examining group differences between autonomous and nonautonomous states of mind, as measured by the AAI, on secure base script knowledge in the same population of parents at risk for maltreatment as in the Raby and colleagues (2021) study.

1.3 Impacts of Parenting

Research on the longitudinal effects of caregiving and how different behaviors are passed on is critical to understanding where to intervene. Studies have found transgenerational effects of hostile caregiving across multiple generations (Kovan et al., 2009). Given the importance of attachment relationships on long-term functioning/child outcomes, it is essential to examine the impact of caregivers' attachment states of mind on their caregiving and schemas related to attachment, not only in caregiving in early childhood but also across the child's life (e.g., in middle childhood and adolescence). More research is needed examining attachment states of mind and relationships between parents and their children in middle childhood.

Prior studies have found that sensitive caregiving practices early in a child's life can translate to improved self-esteem via behaviors such as helping, cooperating, and sharing in middle childhood (Coulombe & Yates, 2022). How a child views themself stems at least partly from how their parent interacted with them when they were young. A child can develop a better sense of self when they feel secure and safe with their parent. A parent who is available and responsive to their child's needs and does not show intrusive or negative behaviors will allow a child more flexibility to form a secure sense of self (Coulombe & Yates, 2022). Prior work from our lab has found effects of parental attachment states of mind on longitudinal parenting quality from infancy into middle childhood (Zajac et al., 2019). Parents with autonomous states of mind were found to show more sensitive caregiving practices during a

prompted discussion task with their eight-year-old child (Zajac et al., 2019). In this study, parenting sensitivity was assessed during a positive interaction where parent-child dyads collaborated to plan a birthday party. However, it is important to consider parenting quality across contexts and types of interactions (e.g., positive and negative) between the parent-child dyad. Therefore, the current study adds to the literature surrounding the transgenerational impacts of sensitive caregiving by examining the effects of attachment states of mind and a parenting intervention on caregiving during a conflict discussion task.

1.4 Current Study and Hypotheses

The current study examined the effects of parent attachment states of mind and an attachment-based intervention on parent sensitivity and secure base script knowledge. I proposed two different hypotheses.

1. I hypothesized that parents with autonomous states of mind would show greater sensitivity during a conflict discussion task and receive higher scores on secure base script knowledge assessment than caregivers who were not autonomous.

2. I hypothesized that parents who received ABC would display more sensitive parenting during a conflict discussion task. I also present results regarding ABC effects on parents' secure base script but note that these data have been analyzed and reported in a prior publication (Raby et al., 2021).

Chapter 2

METHODS

2.1 Participants

The current study included 74 parents from a randomized controlled trial (RCT) funded by the National Institute of Mental Health (R01MH074374), assessing infant and middle childhood outcomes of a longitudinal randomized trial evaluating the effectiveness of the Attachment and Biobehavioral Catch-Up (ABC) intervention. Families were recruited to participate in this study by referral from Child Protective Services (CPS) because of the risk of maltreatment when their children were infants. Families were randomly assigned to ABC (n = 35) or a control intervention (n = 39). The ABC intervention is a ten-session home-visiting intervention that aims to increase sensitive caregiving by improving how caregivers follow their child's lead, provide nurturance when their child is upset, and avoid frightening behaviors (Dozier & Bernard, 2019). The control intervention, Developmental Education for Families (DEF), targeted parent education on developmental milestones and learning through play. The ABC and DEF interventions were matched in length and number of sessions (Bernard et al., 2017). Families completed research visits before the start of the intervention (e.g., when children were infants), shortly after the intervention had been completed, and were invited to continue participating in follow-up visits into middle childhood. Participant demographics are presented in Table 1.

Table 1: Caregiver Demographics

	ABC (%)	**DEF (%)**
Race		
Black/African American	26 (74.3%)	28 (71.8%)
White	5 (14.3%)	3 (7.7%)
Multiracial	2 (5.7%)	3 (7.7%)
Other	2 (5.7%)	5 (12.8%)
Ethnicity		
Hispanic or Latino/a	6 (17.1%)	9 (23.1%)
Not Hispanic or Latino/a	29 (82.9%)	30 (76.9%)
Sex		
Female	35 (100%)	37 (94.9%)
Male	0 (0%)	2 (5.1%)

Table 2: Descriptive statistics and bivariate correlations between secure base script knowledge, caregiver sensitivity, attachment state of mind and demographic variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Attachment state of mind	-											
2. Secure base script knowledge composite	0.18 (0.13)	-										
3. Sensitivity during 8 year conflict discussion	**0.44**** **(<.001)**	0.15 (.202)	-									
4. Intervention group	-0.02 (.864)	*0.21 (.068)*	-0.05 (.678)	-								
5. Parent's relationship with child at 8-year visit	0.05 (.662)	**-.25*** **(.031)**	-0.08 (.490)	*0.22 (.060)*	-							
6. Parent sex	0.06 (.597)	-0.19 (.112)	0.02 (.881)	-0.16 (.179)	**0.37**** **(.001)**	-						
7. Parent race	0.00 (.983)	-0.09 (.460)	-0.02 (.892)	-0.07 (.562)	0.09 (.452)		-					
8. Parent ethnicity	0.01 (.935)	-0.08 (.493)	-0.04 (.707)	-0.07 (.533)	0.13 (.269)	-0.08 (.477)	**0.73**** **(<.001)**	-				
9. Parent's age at AAI visit	0.17 (.154)	-0.16 (.174)	-0.04 (.769)	0.04 (.722)	**0.34**** **(.003)**	0.19 (.107)	-0.13 (.257)	-0.01 (.941)	-			
10. Parent's age at 8 year lab visit	0.18 (.120)	-0.17 (.137)	-0.05 (.706)	0.05 (.670)	**0.34**** **(.004)**	-0.18 (.126)	-0.13 (.282)	-0.00 (.987)	**.996**** **(<.001)**	-		
11. Parent's highest level of education at 8-year lab visit	**0.30**** **(.010)**	**0.24*** **(.037)**	*0.23 (.053)*	**-0.23*** **(.046)**	0.17 (.142)	0.08 (.479)	-0.13 (.285)	-0.03 (.795)	-0.01 (.913)	-0.01 (.942)	-	
12. Family's income at 8-year lab visit	0.00 (.983)	0.17 (.157)	0.04 (.732)	-0.06 (.651)	0.12 (.313)	-0.12 (.327)	-0.03 (.821)	0.04 (.733)	0.06 (.637)	0.05 (.712)	0.14 (.241)	-
Mean	0.32	2.81	2.41	0.47	1.09	0.03	1.66	0.20	26.27	33.94	2.41	$25,274
Standard deviation	0.47	0.64	0.86	0.50	0.41	0.16	1.26	0.41	7.72	7.70	1.19	$23,396
Min-Max	0.00 - 1.00	1.77 - 4.25	1.00 - 4.00	0.00 - 1.00	1.00 - 3.00	0.00 - 1.00	1.00 - 5.00	0.00 - 1.00	15.00 - 50.17	22.77 - 58.33	1.00 - 6.00	$733 - $144,000

Note. *p*-values presented in parentheses. Significant findings in bold, marginal findings in italics. *correlation is significant at the 0.05 level (2-tailed). **correlation is significant at the 0.01 level (2-tailed). Attachment state of mind: 0 (nonautonomous), 1 (autonomous); Intervention group: 0 (DEF), 1 (ABC); Parent relationship to child: 1 (biological parent), 2 (biological grandparent), 3 (adoptive parent), 4 (foster parent); Parent gender: 0 (female), 1 (male); Parent's race: 1 (Black), 2 (Mixed), 3 (White), 4 (Asian), 5 (Other); Parent ethnicity: 0 (not Hispanic or Latino/a), 1 (Hispanic or Latino/a); Parent's highest education: 1 (did not complete high school), 2 (GED), 3 (high school diploma), 4 (some college), 5 (4-year college degree), 6 (postgraduate degree).

2.2 Measures

2.2.1 Adult Attachment Interview

The Adult Attachment Interview (AAI) is a semi-structured interview recording parents answering questions about their childhood relationships with their attachment figures (George et al., 1985). The interview offers insight into how parents think and feel about their childhood experiences (Steele & Steele, 2008). Parents select five adjectives that describe their childhood relationships with their parents and memories that support each adjective. When discussing memories, speech patterns are crucial, especially in descriptions of memories of distress (e.g.., separation from parents), traumatic experiences, and losses (Main et al., 2008). The interview can be used to learn more about a parent's current personality, relationships, and caregiving practices (Zajac et al., 2019). The interviews were transcribed and coded using Main and Goldwyn's coding system (1998). The coding system consists of multiple scales to characterize the parent's state of mind and childhood experiences with their caregivers. The coders were trained for reliability and certified by Mary Main to ensure fidelity of the coding scheme. The parents were classified as autonomous, dismissing, preoccupied, unresolved, or unable to classify states of mind (Main et al., 2008). I used binary codes in the current study to classify parents as having an autonomous or nonautonomous state of mind. Parents with dismissing, preoccupied, unresolved, and cannot classify states of mind were combined to form the nonautonomous group.

2.2.2 Secure Base Script Knowledge

Parents completed the Attachment Script Assessment (Waters & Waters, 2006; 2021) at their children's eight-year follow-up research visit. Parents were asked to complete six stories. Four of the six stories were designed for parents to develop narratives related to attachment (i.e., two parent-child stories and two adult-adult stories). The remaining two stories were intended not to pull for qualities related to attachment or parent-child or adult-adult relationships. The order of the story prompts was counterbalanced to account for potential confounds that could occur due to the sequence of the prompts. For each of the six stories, parents were given the title and a set of twelve words that outlined a storyline. Parents were then asked to tell the best story with as much detail as possible while using the prompt words as a guide. Parents were not required to use all the terms in the prompts.

Narratives were recorded and later transcribed. A 7-point rating scale was used to code the four attachment-based narratives for evidence of the secure base script (Waters & Rodrigues-Doolabh, 2004). Higher scores on the rating scale meant that parents provided many details of the secure base script. In comparison, lower scores indicated inconsistent or unusual content not aligned with the secure base script principles. All narratives were double scored by trained research assistants blinded to parents' intervention status. Scores were averaged for the two coders. When coders disagreed by over a half point, disagreements were conferenced with a master coder, and conference scores were used instead of averaged scores. A total score of

caregivers' overall secure base script knowledge was created by averaging their ratings across the four stories (Raby et al., 2021).

2.2.3 Caregiver Sensitivity during a Conflict Discussion

Families completed a ten-minute semi-structured conflict discussion where caregivers and children were asked to identify their top three disagreements (e.g., chores, homework) and work together to resolve them. The conflict discussion task was completed when the children were eight years old and were video recorded for later coding. All recordings were double coded by undergraduate research assistants, and intraclass correlations were calculated to assess reliability. Coders rated specific caregiving behaviors on a five-point scale, with one meaning not at all characteristic and five meaning highly characteristic of the caregiver's interaction with their child. Caregivers were rated on the following caregiving behaviors: sensitivity (i.e., responsiveness to non-distress; ICC = 0.79), intrusiveness (ICC = 0.80), detachment/disengagement (ICC = 0.80), positive regard (ICC = 0.86), effective problem-solving (ICC = 0.77), and frightening or hostile behaviors (ICC = 0.81). For the current study, only caregiver sensitivity scores were used in analyses.

Chapter 3

RESULTS

Primary analyses examined the effect of attachment state of mind (i.e., autonomous vs. not autonomous) and intervention status (i.e., ABC vs. DEF) on two separate dependent variables: caregiver sensitivity and secure base script knowledge. Preliminary analyses examined descriptive statistics and bivariate correlations among variables of interest and relevant demographic characteristics. Preliminary analyses also examined potential intervention differences with regard to AAI classifications.

3.1 Preliminary Analyses

I first tested for potential differences regarding the demographic characteristics of the two groups randomly assigned to the two intervention conditions (ABC or DEF). There were no significant differences between intervention groups at pre-intervention or middle childhood follow-up for caregiver age, household income, education, race, ethnicity, sex, or relationship to child (e.g., biological parent, grandparent, etc.).

Twenty-four caregivers were classified as autonomous and fifty as nonautonomous using a two-way classification system. I explored potential differences regarding the demographic characteristics between the two-way classification. There were no significant differences between autonomous and nonautonomous caregivers regarding caregiver age at pre-intervention or middle childhood follow-up, household income, race and ethnicity, sex, or relationship to the

child. There was a significant difference between groups on caregiver education, such that caregivers with autonomous states of mind were more highly educated than those with nonautonomous states of mind (t (72) = -2.66, p = .010). More than half of the caregivers in the autonomous group completed a high school education (58.3%) compared to 26% of caregivers in the nonautonomous group.

Bivariate correlations between variables of interest and caregiver demographics are presented in Table 2. Notably, caregiver education was significantly associated with intervention group status (r = -0.23, p = .046), attachment state of mind (r = 0.30, p = .010), and secure base script knowledge (r = 0.24, p = .037), as reported in Raby et al. (2021). Education status was also marginally associated with caregiver sensitivity (r = 0.23, p = .053). As such, caregiver education, defined as the highest level of education completed during the eight-year follow-up, was included as a covariate in all primary analyses.

3.2 Primary Analyses

A two-way ANOVA examined the effect of state of mind and intervention group on caregiver sensitivity in middle childhood. There was a significant main effect of the autonomous state of mind on caregiver sensitivity (F (1, 73) = 14.10, p < .001) when controlling for caregiver education. Caregivers with autonomous states of mind displayed significantly more sensitive caregiving (M = 2.93) during the conflict discussion task than those with nonautonomous states of mind (M = 2.16). No

significant main effect of the intervention group or interaction between intervention and state of mind was observed.

A two-way ANOVA examined the effect of state of mind and intervention group on caregiver secure base script knowledge in middle childhood. When controlling for caregiver education, there was a significant main effect of intervention group status on caregiver secure base script knowledge (F (1, 73) = 5.87, p = .018), as reported in Raby et al. (2021). Caregivers who received ABC received significantly higher scores on their attachment-related narratives (M = 3.03) than those who received DEF (M = 2.66). Please note that these data have been analyzed and reported in a previous publication (Raby et al., 2021). No significant main effect of the autonomous state of mind or interaction between the two independent variables was observed.

Chapter 4

DISCUSSION

The current study aimed to examine the effect of parental attachment states of mind, as measured by the AAI, and an early attachment-based parenting intervention on parental sensitivity and secure base script knowledge assessed in middle childhood. I hypothesized that parents with autonomous states of mind would display more sensitive caregiving and obtain higher ASA scores than parents with nonautonomous states of mind. I also re-analyzed data previously reported by Raby et al. (2021) examining whether parents who received the ABC intervention would be more sensitive and have more secure base script knowledge than those who received the comparison intervention.

The ABC intervention is associated with changes in sensitivity immediately following the intervention (Dozier & Bernard, 2019). Using an experimental design, my study examines the effects of autonomous versus nonautonomous states of mind on secure base script knowledge when controlling for both intervention status and parental education. I found no significant difference between those with an autonomous versus a nonautonomous state of mind on overall secure base script knowledge while controlling for intervention status and parental education. The effects of the ABC intervention on secure base script knowledge have already been reported by Raby et al. (2021).

It is possible that while the ABC intervention does not directly target parents' mental representations of attachment relationships, it does require parents to think

more about their children's cues and how their responses may affect their children's behavior. Therefore, the ABC intervention may indirectly affect parents' state of mind by increasing how often parents follow their children's lead and respond in kind to their bids. One mechanism of this change in parenting quality could be related to how parents think about their relationships with their children.

Previous research has found that caregivers with cohesive and coherent memories of their attachment figures are more likely to be more emotionally regulated and respond more appropriately to their child's needs than caregivers who dismiss or avoid those thoughts and memories (Raby et al., 2021). A previous study from the Attachment and Biobehavioral Catch-Up Lab found that caregivers with autonomous states of mind exhibit more sensitive caregiving during a prompted discussion with their child about party planning as compared to those parents with a nonautonomous state of mind (Zajac et al., 2019). Consistent with the past findings, the current study found an association between autonomous states of mind and more sensitive caregiving during a different prompted discussion task. Different than past findings, the current study analyzed the effect of attachment states of mind on sensitive caregiving practices during a discussion task about conflict, rather than the previous findings assessing the same association during a more positive discussion task about party planning. The current finding was in the expected direction based on hypotheses and prior findings, predicting that parents with an autonomous state of mind practice more sensitive caregiving. The current finding with sensitive caregiving in the conflict discussion task offers a critical addition to the existing literature by associating

autonomous states of mind with sensitive parenting outcomes in a discussion task which centered around a conflict rather than a positive experience, and perhaps more applicable in the real world than a party planning task. Parents and their eight-year-olds may disagree quite often, especially when discussing topics such as chores or homework, and the conflict discussion task offers an example of the caregiver's responses during a time of disharmony. Thus, the current finding builds upon prior literature and supports the idea that a caregiver's experiences of being parented affect their mental representations of their attachment figure and influences how they respond to their children in middle childhood.

Parental education status (e.g., the highest level of education they completed by the middle childhood follow-up) was associated with secure base script knowledge scores, as reported in a larger sample by Raby et al. (2021) which included a comparison group of more highly educated parents with no histories of child protective services involvement. Parents who were more highly educated had higher secure base script knowledge scores than parents who were less educated. Secure base script knowledge has previously been associated with parental education levels (Raby et al., 2021). The ASA is a cognitively demanding task because the participants must hold items in their minds while coming up with a story. Although they are given a word list of suggested themes to include, this task is still cognitively and linguistically demanding. More research is needed to understand better how education levels and cognitive ability may impact secure base script knowledge measurement, especially among high-risk populations.

4.1 Strengths and Limitations

The study had many strengths. The current study was longitudinal in design. The study also utilized multiple methods, including parent interviews, observational data, and self-report data. Multiple methods are crucial to avoid shared method variance and ensure valid findings. The final strength of the current study was participant demographics. Overall, this study included an under-represented group of participants. Studying longitudinal data among underrepresented groups is critical to aid in the growth and development of equal practices and opportunities.

The study's sample size was limited by the number of participants who had completed each task. The study also examined associations identical or similar to those already published with the same sample in both Zajac et al., 2019 and Raby et al., 2021.

4.2 Future Directions

Future research should examine how secure base script knowledge may impact the association between attachment states of mind and later parental sensitivity. Given the overlap in measuring attachment constructs between the AAI and ASA, examining how attachment states of mind may interact with secure base script knowledge in predicting parenting behavior and child outcomes with a larger sample may be necessary. It may be interesting for future research to examine the effects of sensitivity during conflict as a predictor of child outcomes. Additionally, further research may be

needed to examine the impact of parental cognitive functioning and/or language ability on their ability to complete the AAI and ASA. It is possible that the cognitive demands of the two attachment-related tasks, such as being asked to recall childhood experiences and come up with an adjective to define those experiences, or to come up with a story related to attachment relationships, may be influencing parents' scores such that they appear nonautonomous or as having less secure base script knowledge.

4.3 Conclusion

In sum, the current study assessed the effect of autonomous states of mind and participation in the Attachment and Biobehavioral Catch-up intervention on sensitive caregiving practices during a conflict discussion task and secure base script knowledge in parents. These findings support the literature surrounding continued positive outcomes later in life for children whose parents have autonomous states of mind and practice more sensitive caregiving. Future research should assess how autonomous states of mind and secure base script knowledge may interact to impact parental sensitivity. Further, the effects of parental attachment histories, mental representations of the secure base, and sensitive parenting should be examined as predictors of child outcomes in middle childhood and adolescence.

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