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Exploring Attachment Behaviors in Urban Mothers and Their Infants

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**EXPLORING ATTACHMENT BEHAVIORS IN URBAN MOTHERS AND
THEIR INFANTS**

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**A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Child Development
in the College of Education and Human Performance
and in the Burnett Honors College
at the University of Central Florida
Orlando, Florida**

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ABSTRACT

Infants enter this world relying on caregivers to nurture and protect them. Through this reliance, infants develop an attachment to their caregivers, thus setting the stage for how a child comes to view the world and the people in it. This study sought to further explore attachment behaviors through observation of a voluntary parent education course offered through the Early Learning Coalition of Orange County. Data were collected three times over the course of the nine week program on four mother-infant dyads. Across the three mothers who were present for at least two observations, negative behaviors decreased between the first and final observations; however, positive behaviors were observed, but less conclusive. The results of this study can be used to improve the current early intervention program, as well as those in the future.

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CHAPTER ONE: INTRODUCTION

I have always been very interested in both the formation of attachment in infants as well as the effects of attachment throughout the life span. My educational background is in Early Childhood Education and Development as well as Psychology; therefore, studying attachment is a unique blend of both of my chosen fields of study.

Attachment can be defined as, “A deep and enduring emotional bond that connects one person to another” (Bowlby, 1958). It is important to the profession because of the effects that it has on child development. Attachment influences a myriad of aspects of development from cognitive to behavioral and social and emotional (Malekpour, 2007). Furthermore, the fact that attachments are formed within the first two years of life make this topic a crucial one to the field of child development (Bornstein, Arterberry, & Lamb, 2014).

I have witnessed a need within in our community for adequate parent training in regards to understanding early childhood development and how to positively interact with young children. After learning about the *Baby Institute*, which is a voluntary nine week parent education course offered to parents living in a low socioeconomic community West of Downtown Orlando, I began volunteering my time. While there, I took note of the interactions between the participants and their infants and began to wonder what influence the program had on their daily interactions and if increasing parent’s knowledge of child development changed the way they interacted with their children. It was that question that sparked my research.

The goal of my study was to demonstrate the value of early intervention programs, such as the *Baby Institute*. Similarly, my study sought to further explore attachment behaviors through observations of a voluntary parent education course offered through the Early Learning

Coalition of Orange County. Data were collected three times over the course of the nine week program on four mother-infant dyads. Using an observational checklist as well as anecdotal notes, I quantified the interactions between mothers and infants using a within subjects pre and post design. Ideally, the results of this study will increase allocated funds for early intervention programs both locally as well as nationally.

CHAPTER TWO: LITERATURE REVIEW

The following chapter takes a look at the development of the modern attachment theory, the classification system used to define it, and the Baby Institute curriculum used to teach concepts of attachment.

History of Attachment Theory: An Overview

Infants enter this world relying on caregivers to nurture and protect them. Through this reliance, infants develop an attachment to their caregivers. This relationship will set the stage for how the child comes to view the world and the people in it. From birth infants are equipped with innate behaviors that promote attachment to a caregiver. Bowlby (1958) composed the modern attachment theory on the basis of two instinctive behaviors that he refers to as *Primary Object Clinging and Primary Object Sucking*. As a result of these two independent components, infants begin the attachment process needed for their survival.

Freudian thinking set the stage for attachment theory by establishing the importance of the mother-infant relationship, how events that occur in childhood impact behavior in adulthood, and by establishing the role that defenses play in emotional regulation (Fitton, 2012). Freud believed the love that a child has for his or her mother originates through the satisfaction of needs, mainly through the feeding process. This theory is commonly described as “cupboard-love.” Freudian belief was that the infant will attach to the figure that meets his or her physiological needs, but makes no distinction in regards to psychological needs (Bowlby, 1958). Essentially he viewed the love that young children felt towards their caregiver as a direct result of their needs being satisfied.

Bowlby however thought that there was more to the process. Through his early work at a school for maladjusted children, he began to notice patterns of maternal deprivation and separation during early childhood in the emotionally disturbed children that he worked with. As a result, Bowlby began to break away from the Freudian notion of attachment being a secondary drive and began to see it as a satisfying a social need that was independent of physiological needs (Bretherton, 1992).

This idea was supported through research done by Harlow and Zimmerman (1958) on infant macaque monkeys. They designed an experiment to directly compare contact comfort to nursing comfort through the use of surrogate mothers which either served the purpose of comforting the infants or feeding them. Each monkey had the opportunity to freely go to either of the surrogate mothers. Depending on which condition the infants were assigned, either the cloth mother would feed them or the wire mother would. The time spent on either mother was automatically recorded consecutively for 165 days after birth.

The results showed an overwhelming need for comfort and affection, so much so that this desire overshadowed the variable for nursing (Harlow & Zimmerman, 1958). The infant monkeys developed affectional ties towards the surrogate mother that provided comfort, regardless of whether the mother was the source of milk. The infant would also cling to the surrogate which represented comfort in times of distress, as well as serve as a secure base in times of exploration (Harlow & Zimmerman, 1958).

When the comfort surrogate was present, the infant would freely explore and manipulate the various stimuli located in an open-field test. Similarly, when a novel stimulus was introduced that produced fear; the infant monkeys would cling to the comfort surrogate to gain a

sense of security. On that same token, when the monkeys were in a setting without the comfort surrogate they exhibited signs distress, running rapidly while screaming and crying and frantically clutching their bodies (Harlow & Zimmerman, 1958). This shows that attachment figures provide a secure base for an infant to explore. That idea was further researched and refined by Mary Ainsworth and will be discussed throughout this paper. In addition, this study clearly represents that there is a need for comfort that is independent of the need for food and that infants will attach to a caregiver that provides them with comfort.

These findings solidified Bowlby's views that infants have an innate and primary need for comfort and affection that contributes to psychological wellbeing. This shifted the perspective away from viewing attachment behaviors as episodes of regression and moved towards viewing them as a natural and healthy proximity seeking tie to a caregiver (Bretherton, 1992).

In addition, Bowlby (1958) was interested in separation anxiety in infants and their capacity to experience grief, an idea that Freudian thinkers of the time did not believe was possible due to insufficient ego development. However, Bowlby believed that infants experienced grief when they would express an attachment behavior, but the attachment figure was unavailable (Bretherton, 1992). Likewise, Bowlby believed that in order for there to be a healthy attachment, the caregiver needed to achieve attunement with the infant. He believed that through this attunement the infant learns to self-regulate. The mother's role during this time is to help keep the infant balanced and emotionally regulated (Fitton, 2012).

This idea is so powerful when it comes to the concept of maternal sensitivity and providing a secure base for infants to explore, which is what Mary Ainsworth began conducting

her research in. Through the use of naturalistic observations, Ainsworth designed a procedure and classification system which is used to reliably measure and categorize attachment in infants still today. The experiment is called the *Strange Situation Procedure* and consists of eight events (see measurement section).

Ainsworth believed that nearly all infants are attached to their caregivers; however, she believed there is a difference in the level of security that infants feel towards their caregivers. This can be measured through observation of how an infant is comforted by their caregiver. There is an emphasis placed upon the reunion phase of the procedure (Fogel, 2009). By developing a system to ethically measure attachment, Ainsworth and Bowlby were able to refine their ideas on the importance of the relationship between infant and caregiver and devise the modern attachment theory, which is widely accepted today.

Developmental Timeline

There are four basic phases of social development in humans. The first phase is called *Indiscriminate Social Responsiveness* and occurs from birth until approximately two months. During this phase infants use crying as their main source of communication to their caregiver. An infant's cry motivates adults to approach them and engage in soothing behaviors such as holding or rocking. Crying is the first attachment behavior that infants possess. The next behavior that infants develop is the ability to smile, this typically occurs around two months of age. Smiling encourage adult interaction and proximity. During the beginning stages of life, infants are satisfied when they receive attention from any adult because they have yet to develop discriminatory responses for attachment behaviors. It is important to note that infants are able to discriminate between strangers and their mothers through voice and smell from birth. However,

they do not discriminate when it comes to being soothed, like you will see in older infants (Bornstein, Arterberry, & Lamb, 2014).

Once infants begin to discriminate attachment behaviors, usually between two and seven months of age, infants move into the second phase of attachment formation called *Discriminating Sociability*. In this phase infants begin to prefer familiar faces and can be more quickly soothed by certain people. In addition, infants begin to learn important social components. The first is the rule of reciprocity. Infants learn to take turns in social interactions through engaging in face-to-face play and distress-relief sequences. They also learn that their actions can impact people and the environment and that their behaviors elicit a response from their caregivers. Ideally caregivers will respond in a predictable and consistent way. Through this consistency, infants begin to develop trust, which is the foundation of the attachment relationship (Bornstein, Arterberry, & lamb, 2014).

The third phase is *Attachments*. Due to infants increasing mobility, they can begin take responsibility for maintaining proximity to their caregivers. This phase usually occurs between seven and twenty-four months of age. Infants in this stage will begin to show attachment behaviors such as protest when left by a caregiver and begin to establish patterns of behaviors upon the caregivers return. Bowlby believes that the timing of attachment development coincides with the development of person permanence, which is the concept that people have a permanent existence that is independent of the infant. This is similar to the idea of object permanence. By the end of this phase, infants should be able to tolerate growing distances from their caregivers and interact with peers and other adults (Bornstein, Arterberry, & lamb, 2014).

Phase four is *Goal-Corrected Partnerships*, which typically occurs from the third year on. In its beginning stages, this social transition is marked by the development of the child's internal working model, which Bornstein et al. (2014) describes as "A cognitive map of the parent-child-environment interaction" (p. 285). This representation, which is a result of infant attachments, guides later social interactions. This is the fourth and final phase of attachment development, and it is the culmination of prior attachments made during the third phase. As children get older, it becomes difficult to alter their internal working models which begin to develop by age three. For this reason, it is critical to have early intervention to provide techniques for parents to establish healthy attachments.

Maternal Sensitivity

The concept of maternal sensitivity was developed by Mary Ainsworth from data collected during her Baltimore study. Through this study, Ainsworth was able to investigate the critical and complex role that maternal behaviors play in the formation of attachment. Ainsworth and her research team noticed patterns of behavior between mothers and infants during meticulous observations of twenty-six middle-class dyads. Great care was taken during the data collection of this study to ensure that an accurate portrayal of the relationship was being captured through the narratives they collected.

Home visitors came every three weeks for four hour sessions to record narratives which included specific examples of behaviors. As a result, Ainsworth developed four classifications which synthesize maternal care. They are Sensitivity-Insensitivity, Cooperation-Interference, Acceptance-Rejection, and Accessibility-Ignoring (Bretherton, 2013).

The most common classification used to describe maternal care is the Sensitivity-Insensitivity scale. There are four contributing factors in this scale. The first factor is that the mother must possess an awareness of her child's signals. The second is that the mother must correctly interpret the signals. The third factor is that the mother displays an appropriate response to the signals of her child and finally, there should be a prompt response to the signals. These factors are considered to be the hallmarks of a sensitive mother (Ainsworth, 1969).

In addition, it is important to note that these factors often times are dependent upon each other. For example, if a mother was not aware of the child's signals then she will not be able to respond appropriately. Similarly, an important element to maternal sensitivity is the ability for a mother to empathize with her infant and "feel things from his point of view" (Bretherton, 2013, p. 466). Ainsworth (1969) cautions that when mothers possess a lack of empathy towards their infants it can lead to detached responses, which result in more insensitive behaviors.

The Cooperation-Interfering scale is comprised of the frequency and the extent to which mothers physically interfere with their infant's activity. Interfering mothers are often controlling of the interaction and do not respect their child as a separate and autonomous person. A cooperative mother avoids interrupting an activity that her infant is engaged in. There are times when it is appropriate to interrupt, for example when practicing engaging in unsafe behavior or teaching a routine. The cooperative mother is able to shift the infant's attention by engaging him or her in a positive manner and rarely through the use of physical means. It is important to note that a cooperative mother is not an overly permissive one; rather she creates an environment where her infant can explore freely without the need to interfere, such as thoughtful baby-proofing (Ainsworth, 1969).

The next scale focuses on a mother's ability to be physically and psychologically available for her infant. Ainsworth referred to this scale as Availability versus Ignoring and it is marked by being alert and responsive to the infant's activities and signals. This is similar to Ainsworth's sensitivity construct; however the Availability-Ignoring scale does not take into account the quality of care, rather just the fact that the mother acknowledges the infant suffices for this scale. As a result, mothers who are preoccupied with their own activities or are suffering from depression result in lower scores in regards to availability. Severe cases of ignoring can develop into instances of neglect, both physical and psychological in nature (Ainsworth, 1969).

The final scale developed by Ainsworth (1969) is that of Acceptance versus Rejection. This scale involves the balance of a mother's positive and negative feelings towards her child. Ainsworth (1969) believes that there are positive and negative aspects to every mother and child relationship and what this scale seeks to uncover is the balance of these conflicting emotions. The accepting mother values the fact that her baby has a will of his own and delights in his or her interest to explore the world and other people in it without becoming jealous. Similarly, the accepting mother respects her infant's emotions and rarely becomes irritated or frustrated by her baby (Ainsworth, 1969).

When a mother is rejecting towards her infant, negative feelings overwhelm the positive ones. She may have repressed feelings of resentment towards the infant which may come to light during times of frustration. Some examples of behaviors displayed by a rejecting mother would be deliberately ignoring her infant's cues as a punitive measure, dwelling on negative aspects of the infant, and saying critical things to and about him or her. Rejecting mothers are also marked by impatient attitudes (Ainsworth, 1969).

All four of the classifications are related to one another and entwine to form the complex and unique mix of maternal behaviors which influence the bond that she shares with her baby. For example, when mothers score high on sensitivity ratings they also scored high on the other three components. Finally, when mothers achieved a sense of attunement with their infants Ainsworth described that they reached a level of harmony within their relationship. This harmony sets the stage for the development of attachment (Bretherton, 2013).

These scales pay highlight the influence that maternal behaviors have on child development. Often the maternal behaviors are a direct result of the patterns of behaviors that mothers display to their infants. This connection is so deep that it has been found that maternal attachment to was correlated to the IQ scores of their children (Ranson & Urichuk, 2008). It is because of this that it is imperative to break the negative cycle of attachment behaviors. Teaching mothers how to appropriately interact with their infants to foster a secure attachment can lead to an increase of positive parenting behaviors.

Components of Attachment Formation

There are six components that outline the modern attachment theory. The first is the affective component and this is defined as being observable gestures of affection between the infant and caregiver. Such behaviors would include making eye contact and smiling. Bowlby (1958) viewed this component as being a reflection of pleasure and enjoyment. Through the affective component, emotional regulation is established. Also, infants will experience stress when separated from an attachment figure. Because of this, infants will seek proximity to their caregiver. This explains the second component: behavioral. Infants will seek contact for both protection and interaction from their attachment figure (Fitton, 2012).

The third component, described by Fitton (2012) is that of cognitive development. A secure attachment lays the foundation for autonomous exploration of the environment, which is linked to problem solving and developing individuality later in life. Attachment also plays an important role in the organization of brain structures, language development, and attaining full intellectual potential (Fitton, 2012).

Attachment also develops through body and skin contact between infant and caregiver. This is the main element of the kinesthetic and tactile component of attachment. Some examples are a warm embrace, rocking, or nuzzling. Next, the fifth component is that of a psychological connection. Trusting that the caregiver will be a source of safety and comfort in times of distress is the basis of an attachment relationship. This also relates to how the child will grow to view the world; either as a benevolent place where people can be trusted or as a place that is filled with unkindness. The final and sixth component is that of physical security, where an attachment figure is consistently reliable and physically present and available to the infant during times of distress (Fitton, 2012).

Measuring Attachment

Strange Situation. The *Strange Situation Procedure* was developed by Mary Ainsworth (1970) from her extensive, naturalistic observations conducted in both Uganda and Baltimore. Ainsworth found little opportunity to observe infant's behaviors relating to the delicate balance of proximity seeking and exploratory in the home. In part, this was due to the lack of novelty and a sense of security to their surroundings at home (Ainsworth & Bell, 1970).

Therefore, in order to accurately and consistently measure attachment, Ainsworth (1970) developed the *Strange Situation Procedure (SSP)* which could be conducted in a laboratory and

guide researchers to classifying behaviors into attachment styles reliably. The SSP consists of eight episodes which are performed following a standard order and procedure. In order to conduct the procedure, a mother would have to be present for the entirety of the test.

The test begins with (1) the mother and infant being escorted into the observation room. (2) The mother would then place her infant down in the prepared room. The mother is then instructed to go and sit quietly in a designated chair (Three chairs which form a triangle in the room: one for the child, one for the mother, and one for the stranger). The mother was instructed to only participate in play with her child if he or she sought her attention. (3) The stranger then enters the room and sits quietly for one minute in the chair across from the mother. The stranger would converse with the mother for one minute. The stranger then gradually approached the baby, showing him a toy. At the end of the third minute of the situation, the mother leaves unobtrusively (Ainsworth & Bell, 1970).

Episode four consists of the infant and the stranger. If the infant is content and happily playing, the stranger is a bystander. If the infant is inactive then she should try to interest him in a toy; if he was distressed then she should attempt to comfort or distract him. If the infant cannot be comforted then this episode can be cut short. (5) The mother returns and pauses in the doorway (to give the baby an opportunity to respond to her). The stranger then exits the room. During this episode, what the mother did was not specified, except once the child resumed playing then she should say goodbye and exit the room. As a result of individual conditions during this episode, the duration varied (Ainsworth & Bell, 1970).

In the sixth episode, the infant was left alone in the room for three minutes. If the infant displays signs of extreme distress then this episode can be cut short. (7) The stranger returns and

behaves similarly to episode four. She lets the infant play, offers toys, or attempts to comfort him or her. This episode continues for three minutes, unless the infant is too distressed. Finally (8) the mother returns and the stranger leaves. The reunion is carefully observed and then the procedure is completed. Based on the infant's behavior during the final reunion episode, attachment behaviors are placed in classifications: secure, avoidant, ambivalent, or disorganized (Ainsworth & Bell, 1970).

Ainsworth took care when designing the procedure to ensure that the situation was novel enough to elicit exploratory behavior, but not so strange that it would provoke fear in the infants. For example, this was done by gradually introducing the stranger and adjusting duration of the episodes based on infants' level of distress. Depending on how infants respond during key episodes of the *Strange Situation Procedure*, researchers can classify infants' attachments to their caregivers. These classifications are further discussed in the next section.

Classifications of Attachment

All of the components come together to form a deep connection between infant and caregiver. Ainsworth studied the reactions of many young children during the *Strange Situation Procedure* and developed classifications for the types of behaviors that she observed during the reunion phase of the experiment. Ainsworth originally created three categories to classify behaviors exhibited by an infant upon the reunion with the caregiver. They labeled as secure, avoidant, and ambivalent and are defined and explained below. Researchers began to notice other patterns of contradictory infant behavior which did not particularly fit into any of the other previous classifications; therefore a fourth pattern of attachment was constructed called disorganized attachment (Main & Solomon, 1986).

Secure Attachment. Secure attachment is characterized by infant behavior that elicits comfort and proximity during times of stress. During the *Strange Situation*, a secure infant uses their caregiver as a secure base to explore their new surroundings. They feel safe to explore the room and at times will check back in with their caregiver for reassurance. After the stranger enters the room, the secure infant will seek proximity to the caregiver, at least temporarily.

After the caregiver exits the room, the infant will exhibit behaviors that attempt to bring them back, such as crying and searching. Upon the return of the caregiver, the securely attached infant will seek comfort from the adult and resume exploration. These infants are easily consoled by their caregiver and continue to use them as a secure base (Ainsworth, 1970).

It is estimated that approximately 65% of infants in the United States are classified as having a secure attachment (Bornstein, Arterberry, & Lamb, 2014). In addition, secure attachment is also correlated to behavioral and academic competencies later in life. Research conducted by Jacobsen and Hoffman (1997), found that attachment secure attachment style was linked to attention, participation, self-esteem, and GPA. Due to this, secure attachment should be what is strived for in infant-caregiver relationships.

Insecure-Avoidant. The second most prominent classification of infant attachment is insecure-avoidant. This classification is marked by infants appearing unconcerned by their caregiver's absence and will not use the caregiver as a safe haven during times of distress. Also, instead of seeking comfort from their caregiver upon their return, these infants will actively avoid the caregiver and ignore his or her attempts for interaction. These infants seem to exhibit a sense of pseudo-independence and they constitute approximately 20% of infant attachments (Bornstein, Arterberry, & Lamb, 2014).

Insecure-Ambivalent. The third group of attachment behaviors is labeled as insecure-ambivalent or resistant. These infants do not use their caregiver as a secure base and become extremely distressed after the separation from their caregiver. Upon the reunion phase of the *Strange Situation*, these infants behave ambivalently towards their caregivers. They seek contact and interaction from them while angrily rejecting attempts of affection when offered from the caregiver. In addition, the ambivalent infant is difficult to soothe and does not easily return to exploratory behavior. This classification represents approximately 10-15% of infant attachments (Bornstein, Arterberry, & Lamb, 2014).

Disorganized. The fourth and final classification of infant attachments is represented by the disorganized category. This classification is described as an approach-avoidance dilemma for infants; the caregiver is simultaneously a source of threat and a secure base (Holmes, 2004). This classification was later developed to define behaviors in infants that are contradictory, incoherent, or fearful of the caregiver. They may try to get out of the room, prefer the stranger to the caregiver, or elicit fearful responses when in the presence of the caregiver (Zeanah, Berlin, & Boris, 2011). These behaviors should be a red flag to child advocates and the safety of the child should be considered. The disorganized sample represents approximately 5-10% of attachments (Bornstein, Arterberry, & Lamb, 2014).

Unclassifiable. If an infant does not display signs of social engagement with either the caregiver or the stranger, does not display proximity-seeking or avoidance behavior during times of distress, and has minimal to no emotional response upon reunion with the caregiver, then this infant may fall within the unclassifiable attachment condition. It is very rare for infants to be considered as having an unclassified attachment (Zeanah, Berlin, & Boris, 2011).

Program Curriculum

Circle of Security. In 1998, Cooper, Hoffman, Marvin, and Powell designed a relationship based, early intervention program in order to guide parents in fostering a secure attachment to their child. With opportunities for training as well as easily accessible handouts that illustrate the concepts graphically, the *Circle of Security* model is still used widely today. It assists caregivers in understanding their infant's behavior in a way that is applicable to any parent.

At its core, the model represents the caregiver as a secure base for which the infant can explore his or her surroundings. From there, it explains the infant needs an adult to watch over them and support their exploration, to delight in them, and enjoy with them. The next phase in the circle is to be a safe haven in times of distress. The caregiver should welcome their infant when they reach out for them.

As a safe haven, the caregiver should protect, comfort, and help the child organize his or her feelings. Understanding the *Circle of Security* allows parents to become more aware of their children's needs and whether or not they are being met. Through this awareness parents become more responsive to their infant, which is the foundation of secure attachment formation (Cooper, Hoffman, Marvin, & Powell, 1998).

In addition, the *Circle of Security* teaches that it is impossible to "spoil" an infant. Rather responding to their needs, providing attention, and showing them unconditional love is how they learn. The *Circle of Security* teaches that as adults we need to, "Always be bigger, stronger, wiser, and kind. Whenever possible, follow my child's needs. Whenever necessary, take charge." (Cooper, Hoffman, Marvin, & Powell, 1998). This easy to comprehend resource can be

used to help guide parents in understanding what is developmentally appropriate for their child and how they can improve the attachment with their baby by being a secure base, which is a fundamental component of the modern attachment theory.

The infant curriculum at the *Baby Institute* incorporates elements from the *Circle of Security* intervention program to teach parents about the importance of bonding with your baby and how to strengthen their attachment relationship. This lesson is presented during the second and third weeks of the cycle. The purpose of this study is to describe the attachment behaviors of young mothers enrolled in an urban early intervention program.

The following chapters established how the attachment theory evolved and ways to measure and classify behaviors into categories. In addition, maternal sensitivity scales were discussed and the program curriculum used at the Baby Institute. In the next chapter, information about how the study was organized and executed will be discussed, as well as a more in depth explanation of the *Baby Institute* program.

CHAPTER THREE: METHODOLOGY

The purpose of this study is to explore attachment behaviors of urban mothers who are enrolled in an early intervention program. The mission of the program is to close the achievement gap often found in at-risk communities. Participation is completely voluntary, but incentives are provided for consistent attendance and completion of the program. In this chapter, the Baby Institute program is further described, the procedure is established, and the instrument is discussed.

Baby Institute

The *Baby Institute* is a program that is offered through the Early Learning Coalition of Orange County, which is a nonprofit organization that seeks to provide resources to families that are research-based and developmentally appropriate to ensure school readiness. The *Baby Institute* is a voluntary, nine-week parent enrichment course that seeks to empower and educate families with children that are under five and are living in the Parramore community.

At the *Baby Institute*, families receive a myriad of benefits including free childcare during the program as well as breakfast and lunch. Each week parents participate in a whole group presentation with a guest speaker from the community, a lecture on a relevant topic related to improving parenting, and a book to add to their child's library. Upon graduation, families are eligible to participate in events that further their education and development.

The *Baby Institute* is specifically designed to encourage school readiness and to empower parents to become their child's first teacher. There are two uniquely designed groups: one for the parents of infants and one for the parents of toddlers. Individuals complete the course based

upon the age of their youngest child. If both courses apply to them, they are encouraged to complete both programs during separate cycles.

Each week a highly qualified instructor leads the class through the preplanned curriculum. Topics range from health, safety, and nutrition to positive discipline and bonding with your child. Throughout the course of the entire curriculum, there is an emphasis placed on emergent literacy and school readiness, thus aligning with the Early Learning Coalition's vision.

Schedule. After families sign in for the day they meet in the cafeteria and are served a nutritious breakfast. At nine o'clock, the program begins with a morning greeting and song. Then it is time for the parents to drop their children off at their respective child care classrooms: infant, toddler, or older child. Each classroom has at least two qualified early childhood professionals who provide developmentally appropriate activities for the children.

The parents first begin by participating in a whole group presentation/activity. Upon completion, the parents go to their respective classrooms for the lesson that week. After class, the participants are served a nutritious hot lunch. The *Baby Institute* schedules a 15 minute block for parents to come and interact with their children in order to practice the concepts that they have learned that week. The program then commences with a whole group circle time which allows parents and their children to sing and celebrate the day.

The scheduled parent-child interaction serves as a rich opportunity to observe attachment behaviors and offers an ideal opportunity to collect data to show growth in parent responsiveness over the course of participating in the *Baby Institute* program. During the second and third week of the program, parents in the infant class are taught a two week lesson on attachment and the importance of bonding with your infant. The *Baby Institute* uses elements from the *Circle of*

Security program in their lessons to parents (Cooper, Hoffman, Marvin, & Powell, 1998). The findings from this study can serve to support the program's development and be used to support funding for similar programs in Orlando and in other communities nationally.

Participants

Participants were four mothers enrolled in the *Baby Institute*, completing the infant track at the Nap Ford Community School, who agreed to be a part of the study. The participants all live in an urban community that is predominantly African American and is located West of Downtown Orlando, Florida in an area known as Parramore. Their ages ranged from 20 to 32 years old and in order to be included in the data collection, they also had to have their infants present.

Instrument

Data collection was completed using the Maternal Behavior Checklist for Infant Attachment (MBCIA) (Rusoff & Culp, 2015). This measure was piloted during the fall 2015 cycle at the Baby Institute by the researcher. The MBCIA was developed with considerations given to Ainsworth's (1969) Maternal Sensitivity Scales which were developed from her longitudinal data collected on families living in Baltimore. In addition, the MBCIA is designed to be utilized for collecting frequency counts as well as a narrative of the overall interaction. This allows the researcher to gain a better understanding of the maternal interaction as a whole (See Appendix A).

The MBCIA is a useful tool to assess an increase in frequency of behaviors which have been correlated to quality of infant attachment. In addition, the inclusion of a narrative summary

allows the researcher to provide details such as extenuating circumstances, to allow for a more comprehensive understanding of the interaction. This is one of the many benefits that Ainsworth discusses for the use of narrative data collection and why it was included in the MBCIA (Bretherton, 2013).

Reliability.

The researcher achieved a 90% inter-rater reliability score when compared to an assistant who viewed and coded the same observation. Reliability was established during the mid-point data collection.

Procedure

Data were collected during the parent-child interactions period in the afternoon at the *Baby Institute*, typically beginning around 1:00 p.m. and lasting for approximately five minutes. A time sampling approach was utilized to collect data. During data collection, the researcher and assistant video recorded the interaction. The videos were then analyzed and coded by the researcher after the interaction.

The researcher used a time sampling procedure of ten second increments to record and classify the data observed during the interaction. At the conclusion of the interaction, the researcher recorded a narrative of objective statements to further describe the interaction. This process continued for each of the mothers present for data collection.

Timeline

Institutional Review Board. The researcher worked to receive IRB certification. Then later, the researcher received approval from the Institutional Review Board on January 29th, 2016

in order to conduct observational data collection on mothers who are participating at the Baby Institute program (See Appendix B for the letter). This approval also included the use of video recordings of the interaction. Over the course of the program, there were eight videos made to collect data.

Baseline data. During the third week of the program, January 30th, 2016 data was collected on four mother-infant dyads. This collection serves as the preliminary or baseline data for the study.

Mid-Point data. Data was again collected on February 20th, 2016. This was intended to be the mid-point data collection for the program; however, for two of the moms this collection served as the post data.

Post-Intervention. The final data collection was collected on March 12th, 2016 during the eighth week of the cycle.

Hypothesis

Given that the mothers enrolled in the *Baby Institute* were provided instruction and modeling, the researcher believed that the mothers would increase the amount of positive behaviors displayed and demonstrate a decrease in the amount of negative behaviors over the course of the nine week program. In addition, it is anticipated that there will be a growth in the variety of the behaviors present during the interaction. This would display that an increase in knowledge of child development is related to changing parenting behaviors.

This chapter took a closer look at the Baby Institute program and discussed the procedure and timeline for data collection. In the following chapter, the results of the study will be explained.

CHAPTER FOUR: RESULTS

Four mothers provided quantitative and qualitative data for the study. The four cases studies are presented below with general and specific descriptions of positive maternal interaction behaviors with their infants as well as the negative maternal interactions with their infants. Table 1 provides a summary of the quantitative data.

Mother A

At the beginning of the study, Mother A was 30 years old and Baby A was 9 months.

Quantitative data.

Across two days of observation, and nine minute and twenty seconds of interaction, Mother A engaged in 93 positive behaviors, and 49 negative behaviors. During the first observation, Mother A displayed 45 positive behaviors and 33 negative behaviors. At the last observation, three weeks later, Mother A displayed 48 positive behaviors and 16 negative behaviors.

During the first interaction, the most frequent positive behavior was reading, occurring a total of 17 times. The most frequent negative behavior was controlling the interaction which occurred 16 times across the 290 second interval. During the second observation, the most frequent positive behavior was speaking to the infant, occurring 11 times. The most frequent negative behavior was again controlling the interaction, occurring 6 times over the course of the 270 second interval.

Qualitative Data.

Observation one. During the first observation, Mother A spent a majority of the nearly five minute long interaction reading to her baby; this was the most common positive behavior. Other common positive behaviors exhibited were speaking, making eye contact, and bouncing the baby on her lap. The most common negative behaviors present are controlling the interaction, speaking negatively to the baby (including the use of saying “No”), and ignoring the baby’s cues.

In the beginning of observation one, Mother A was reading a book to her baby. The baby reaches out for the book and makes vocalizations. Mother A does not let him have the book and continues reading. The infant is looking around the room and begins squirming. Mother A held him on her lap. She continues to read and pulls the book out of reach when her baby reaches for it. Mother A keeps her eyes on her baby with furrowed brows.

By the end of the interaction, the baby is holding the book and turning the pages. Mother A offers her baby multiple books that are out of the baby’s arm reach and begins to read to him again. The baby reaches out for the book, but Mother A continues to keep it out of reach. When Mother A stops reading, the baby crawls away. Mother A grabs his pants and pulls him back towards her direction. Baby A tries to crawl away again and this time Mother A lets him go.

The infant begins clapping his hands. Mother A pats her hands on the floor and Baby A crawls back towards her. She picks him up and supports him as he stands up.

Observation two. In the second observation, the most common positive behaviors displayed were speaking, making eye contact, and smiling. The most common negative behaviors exhibited were controlling the interaction and speaking negatively.

In the beginning of the second observation, Mother A is reading to her baby. Baby A is trying to stand up, smiling with arms in the air. He is vocalizing to Mother A, but she continues reading. She tells him, "You gotta do what we do at home, we gotta read this book." Mother A is holding her baby with one hand so he is supported while standing up. The baby grabs the book with both of his hands and brings it towards his face. Mother A grabs the book and pulls it out of his reach.

Shortly after, Baby A leans forward and grabs ahold of the book again and puts the corner of it in his mouth. Mother A says, "No" and pulls the book out of reach. The baby's eye brows are furrowed, lips closed, eyes are watered, he appears to become agitated. He throws his head back and arches his back and falls to her lap. Mother A continues to read. Baby A then slides off of Mother A's lap. Mother A puts the book down and says "Okay."

She lifts her baby up to a standing position. She holds on to him around his waist to keep him supported. (A childcare worker, who was sitting on the other side of the room, says yay to the baby) Mother A says, "Yay" in response to the childcare worker. She then says to the baby, "But you didn't read the book." The baby is looking and smiling at the childcare worker.

Mother A remains holding her baby around the waist. She lightly rocks him from side to side and will occasionally let go, providing Baby A with an opportunity to balance while standing. She always catches him before he falls. Shortly after, Mother A places her baby down

and while looking at him, says “Hi.” Her baby turns to the left and reaches out for a book that was behind him. Mother A begins to read it. Her baby then crawls over to a toy.

Mother A calls her baby’s name in a loud voice. The baby briefly turns towards her, but then turns back towards the toy. Mother A reaches out and touches her baby on the back, the baby continues to play. Mother A exchanges a few words with the childcare worker, then reaches towards her baby and says, “Hey you... Hey you,” the baby continues to play. Mother A then grabs his arm and pulls him towards her. The baby turns back to the toy while Mother A is holding his arm. She then lets him go and he continues to play with the toy.

Baby A eventually turns towards his mother and smiles. He opens and closes his hand in her direction. Mother A waves back at him and while smiling says, “Bye-Bye.” The baby then turns back to the toy and plays for a little while longer before dropping to his knees, in a crawling position to look at his mother. Mother A smiles and holds out her arms towards him. The baby pulls himself up at a standing toy and begins playing. Mother A reaches out and touches his back. The infant turns towards his mother and before returning to the toy, he extends one arm towards her. Mother A reaches out towards him, but he continues to play. The baby crawls over to a new toy, which was facing backwards. Mother A reaches over and turns the toy so it faces her baby. Baby A plays with it for the remainder of the observation.

Mother B

At the beginning of the study, Mother B was 26 years old and Baby B was 10 months old.

Quantitative data.

Across two days of observation, and six minutes and forty-eight seconds of interaction, Mother B engaged in 103 positive behaviors, and 10 negative behaviors. During the first observation, Mother B displayed 67 positive behaviors and 10 negative behaviors. At the last observation, three weeks later, Mother B displayed 36 positive behaviors and no negative behaviors.

During the first interaction, the most frequent positive behavior was making eye contact, which occurred a total of 11 times. The most frequent negative behavior was putting her finger on the baby's lips and putting the infant down, both occurring 2 times across the 250 second time interval. During the second observation, the most frequent positive behavior was holding to the infant, which occurred 13 times. There were no negative behaviors present in during the second observation which lasted 160 seconds.

Qualitative Data.

Observation one. During the first observation, Mother B spends a majority of the nearly four minute long interaction making eye contact, smiling, hugging/kissing, and speaking to her baby. The interaction began with Mother B walking up to her baby and picking her up. She looked at her baby, made eye contact and kissed her on the nose. She again made eye contact and smiled at her baby. She then kissed her on the lips. This affectionate pattern of behavior continued during the entirety of the interaction.

After her baby makes a vocalization, Mother B looks at her baby and said, "You said mmm!" with a smile. She then brings her baby close to her chest and kisses her on the lips. At

one point Mother B says to her baby, “I don’t get no kisses?” after the baby turned her face away when Mother B leaned in for a kiss.

After this, Mother B lightly tickles her baby on the stomach. The baby does not laugh. Shortly after, Mother B raises her baby up over her head and then lowers her three times. Each time she says, “Boom-Boom” and smiles at her baby. The baby smiled with eyes open wide, laughing after each time she is lowered.

The negative behavior observed during this interaction occurred when Mother B placed her finger on her baby’s lips and moved it up and down. This occurred twice. Towards the end of the observation, while holding her baby, Mother B dances over the course of thirty seconds. Her baby smiles during this time.

Observation two. When Mother B arrives, her baby is laying on her back in the crib, just waking up from a nap. Mother B reaches out towards her, opening and closing her hands in her direction. Baby B kicks her feet up. Mother B reaches in the crib and picks her baby up saying, “Hi princess.” While looking at her baby, Mother B puckers her lips. Her baby turns away, looking towards another baby who was on the carpet.

Baby B reaches out and touches Mother B on her face. Mother B then kisses her baby’s hand. Mother B again puckers her lips towards her baby then kisses her. Mother B asked the research assistant to, “Take a picture of this.” She tells her baby “Cheese” and then the baby turns towards the camera and smiles. Mother B laughs.

Mother B continues to hold her baby, make eye contact and smile. Mother B again puckers her lips towards her baby. Baby B turns away. Mother B then says to her baby, “Can mommy have a kiss?” Baby B looks away. Mother B then picks up her baby and brings her in for a kiss, Baby B smiles. A childcare worker then approaches Mother B and takes Baby B away from her mother (to change her diaper). Mother B says, “Bye-Bye baby” as she hands over her baby.

Mother C

At the beginning of the study, Mother C was 20 years old and Baby C was 8 months old.

Quantitative data.

Across three days of observation, and 15 minutes and 10 seconds of interaction, Mother C engaged in 176 positive behaviors, and 17 negative behaviors. In the first observation, Mother C had 67 positive behaviors and 2 negative behaviors. During the second observation, three weeks later, Mother C displayed 46 positive behaviors and 14 negative behaviors. Finally during the last observation, six weeks later, Mother C exhibited 63 positive behaviors and 1 negative behavior.

During the first interaction, the most frequent positive behavior was reading, which occurred a total of 14 times. The most frequent negative behavior was picking the baby up which occurred 1 time across the 300 second interval. During the second observation, the most frequent positive behaviors was reading and making eye contact, both occurring 9 times. The most frequent negative behavior was controlling the interaction, occurring 6 times over the course of the 310 second interval. During the third observation, the most frequent positive

behavior was making eye contact occurring 11 times. The most frequent negative behavior was standing while the infant was on the floor, which occurred once over the course of the course of the 300 second interval.

Qualitative Data.

Observation one. When Mother C enters the room, her baby crawled straight towards her. Mother C smiles and waits for her baby to come to her, with arms open wide. Mother C then begins reading a story to her baby. Baby C sitting on Mother C's lap looking at the book with eyes open and alert. As Mother C continues reading, her baby would occasionally turn and look at her mother. Mother C makes eye contact with her baby while reading the story.

Once mother C is finishes the story, she picks up her baby and places her on the floor, sitting next to her. She then presents her baby with a toy. She presses a button to turn it on and then moves it closer to her baby. Baby C plays with it for approximately 30 seconds before crawling off to a bottle that is lying on the floor. Mother C picks up her baby and speaks in motherese, using a clear and high pitched voice telling her baby that that was not her bottle.

Mother C sets her baby back in front of a toy and attempts to engage her in play. Baby C appears uninterested, turning back towards the bottle. Mother C then picks up her baby and places her on her lap. She begins reading another story, letting her baby explore the book and turn the pages.

Mother C allows her baby to explore materials around the room while still remaining responsive. For example, after Baby C picks up a book Mother C says, "You gonna read?" Similarly, after baby C crawls to a pile of toys, Mother C says, "Show me your toys." At one

point Baby C is crawling with her back towards Mother C and she stops and turns back towards her mother and smiles.

Observation two. When Mother C enters the room, she stands so she is looking straight at her baby and smiles. She opens her arms and reaches out as her baby crawls towards her. Baby C crawls towards her mother with a smile on her face. Mother C sits on the floor with her baby, leaning in to be on the same eye level as her baby when she reads the story. Mother C uses inflection as she reads and will often pause to look at her baby. At one point Mother C stops and asks a worker how to pronounce one of the words in the story.

About half way through the story, Baby C tries to crawl away. Mother C stops her by pulling her back and she continues reading. This occurs about four times. Mother C speaks quietly and calmly during this time.

Baby C takes off one of her shoes and hands it to her mother. Mother C takes it and places it behind her back. While making eye contact, Mother C holds out both her hands in front of her with eyebrows raised and mouth partially opened. They engage in hide and seek over the shoe. Baby C looks for the shoe and as her head is turned, looking in the opposite direction, Mother C brings the shoe from behind her and offers it to her baby.

While holding both of her baby's hands, Mother C supports her baby as she stands up so they are looking eye to eye. Mother C says, "What is up with you?" with a smile. Baby C smiles at her mother as she bends and straightens her legs in almost a bouncing fashion. It is important to note that shortly after the observation, Baby C took her first steps and Mother C shed a tear of joy.

Observation three. When Mother C enters the room she kneels down and holds her arms out towards her baby. Baby C comes crawling to her with a smile on her face. Mother C wraps her arms around her baby for a hug, and tells her that she missed her. She then picks her up and asks her if she had fun today. Mother C kisses her baby's cheek.

Mother C sits on the floor with her baby on her lap and begins to read a story. Baby C's eyes are open and looking at the pictures as her mother reads. Baby C looks up at her mother and they make eye contact and both smile. Mother C then turns the page and her baby looks back at the book. Mother C reads in the story "Ten little fingers and ten little toes." As she says the words she lightly touches her baby's fingers and toes. Each time Baby C looks up at her mother and they make eye contact.

At one point Baby C begins looking around the room, Mother C notices and pauses reading. Baby C then looks back at her mother and they make eye contact and smile. Mother C continues reading, again lightly touching her baby's fingers and toes along with the story. Baby C reaches out for the book and Mother C kisses her multiple times on the cheek, Baby C laughs.

Once Mother C finishes reading, she puts the book down and stands her baby up so she is facing her. She says something to her (unclear to the observer). Mother C places her hands on her baby's hips to support her standing. Baby C reaches out towards her mother. Mother C then lets go of her baby so she is balancing. Mother C holds her hands out in front of her with her palms facing forward and says, "What are you doing?" During this time Mother C and her baby are making eye contact. Mother C says "What are you doing?" again and Baby C smiles.

While remaining standing, Baby C squeals and raises both her arms with a smile towards her mother. Baby C looks over at an older child in the room. Mother C looks at her baby and says something to her (unclear to observer). Mother C puts her hands on her baby's hips and begins to rock her hips from side to side in a twisting motion. Baby C is looking at her mother with eye brows raised and mouth open. Baby C continues to look around the room. Mother C then takes her and kisses her cheek.

Mother C then stands up while holding her baby. A childcare worker then talks to Mother C about the last time that her baby was changed. Mother C then places her baby on the floor so she can sign the sign out sheet. Mother C looks towards her baby and they make eye contact. Mother C kneels down in front of her baby and offers her a book. She opens it and reads the title to her. She then places Baby C's hands on either side of the book to hold it. Baby C turns the pages and puts her hand on the picture. Mother C adjusts her baby's necklace and touches her baby's cheek with the side of her pointer finger.

Mother C then sits down on the floor. Baby C reaches out with both arms towards her mother. Mother C takes her baby's hands and raises them up to assist her in a standing position. Mother C then stands up and lets go of her baby's hands. Baby C takes three steps before Mother C reaches out and grabs her arms to stabilize her. One balanced, Mother C lets go again and Baby C takes another three steps forward before falling into a crawling position. Mother C then reaches out towards her and picks her up.

Mother C hugs her baby and kisses her cheek. Mother C walks to go get her diaper bag while still holding Baby C. She turns and asks the observer if it is okay to leave. Mother C then

waves and says, “Bye-bye” while looking at her baby, she pauses before leaving. As she turns to leave, Mother C kisses Baby C on the cheek.

Mother D

On the day that data was collected, Mother D was 32 years old and Baby D was 6 months old.

Quantitative data.

Across one day of observation, and four minutes and ten seconds of interaction, Mother D engaged in 48 positive behaviors, and 17 negative behaviors. Mother D was not present for the other observations during this cycle.

The most frequent positive behavior, speaking occurred 13 times over the observation. The most frequent negative behavior was snapping her fingers which occurred 5 times across the first observation.

Qualitative Data.

Observation one. The observation begins with Mother D asking the childcare worker if her baby had been burped. When the worker responded that yes he had briefly burped after his last feeding, Mother D takes him over her shoulder and began to pat his back. This continued for approximately thirty seconds.

After the burping, Mother D crouched on the floor, looking at her baby smiling. Baby D looks around the room. Mother D spends twenty seconds trying to stabilize her baby in a sit up

position. She catches him before he falls backwards, saying “Let’s do sit up time.” Mother D then snaps her fingers near her baby’s face; she tries to catch his gaze.

Mother D asked the childcare worker if it was okay to read. She then looked around the room, while still supporting her baby and asked if she could use the flash cards that were sitting on a shelf. The childcare worker explains that those do not belong to the Baby Institute program. She then begins reading, being very interactive asking her baby questions as she goes along the story. At one point Baby D begins to fall backwards, Mother D catches him and says, “You gotta sit up.”

Shortly after, Baby D falls backwards, hitting his head. He begins to cry. Mother D talks to him with a smile on her face. She adjusts his hat before picking him up. Mother D rubs her baby’s head and verbalizes what he is feeling, saying “You bumped your head, you don’t like that feeling.” Mother D then kisses her baby; Baby D turns his head away.

Mother D continues to read the story with her baby on her lap. When she is finishes, she places Baby D back on the floor in a sit up position and begins to read another story. Mother D continues to look at her baby and will snap her fingers to get his attention as she reads. During the observation Mother D would periodically look around the room. It is important to note that at the time of interaction, Mother D asked the observers why they were recording and what the recordings were being used for.

This chapter highlighted the results found from the study on all four mothers who participated. In the next chapter, the researcher discusses the results found and compares them to

Ainsworth's Maternal Sensitivity Scales (Ainsworth, 1969) to further discuss the implications of the data.

CHAPTER FIVE: DISCUSSION

This chapter takes the data collected and further discusses the implications of the behaviors observed and compares it to Ainsworth's Maternal Sensitivity Scales (Ainsworth, 1969).

Mother A

Between the two observations there was a slight increase of positive behaviors and a decrease by nearly half of the negative behaviors displayed.

Ainsworth's Scales. During the first observation, Mother A continued to read even after her baby was squirming in her arms and looking around the room, appearing uninterested in the story. In addition, she often pulled the book out of reach when her baby reached for it and at one point engaged in a power struggle over taking the book away from her baby. These behaviors show a lack of sensitivity and attunement during the interaction.

In the second observation, Mother A again begins by controlling the interaction while reading a story. The difference seen in the second observation is that Mother A follows her baby's lead more quickly. Allowing her baby to explore to a greater extent than what was seen in the first observation. Although there were both sensitive and insensitive displays of behavior during both observations, there were more demonstrations of sensitivity by the second interaction.

An area of improvement for Mother A would be to follow her baby's lead more often and be less controlling of the interaction. Controlling behavior was the most frequently observed negative behavior across both interactions. However, there was a marked decrease in the

frequency of controlling behaviors by the second observation by nearly half. Mother A showed growth over the course of the program.

Mother B

Between the two observations, Mother B showed a decrease in positive behaviors by 10 when adjusted for the five minute interval. Similarly, Mother B also decreased the amount of negative behaviors displayed by the second observation from a projected 12 displays during observation one, to no negative behaviors during observation two.

Ainsworth's Scales. During both observations Mother B was very affectionate, this upon first glance appeared to be a positive behavior. However, because there were instances where Baby B did not reciprocate the affection Mother B was low in regards to sensitivity and did not show growth in this domain over the course of the program.

In the first and second observation, Mother B held her baby for the entire duration of the interaction. She also continued to insist on kissing her baby even after the baby turned her head away. In the first observation, Mother B asked her baby, "I don't get no kisses?" after her baby turned her head away and in the second observation, a similar situation arises and Mother B responds by saying, "Can mommy have a kiss?" It is important to note that this occurred after Mother B already kissed her baby multiple times.

In the first observation, Mother B responded to her baby's verbal cues by making eye contact and acknowledging what the baby said by saying, "You said mmm!" with a smile. Similarly, Mother B delighted in her baby during the second observation when she asked the observer to take a picture of her baby after Mother B says, "Cheese." This, as well as remaining

available to her baby even while talking to other adults during the observation highlights some of the positive behaviors observed.

An opportunity for growth for Mother B would be to be engage in activities with her baby that would promote development. For example, reading to her baby or encouraging her to play with developmentally appropriate toys. This is especially important because Baby B has a suspected developmental delay.

In addition, it seemed as though Mother B was expecting her baby to satisfy her own need for affection. This could potentially be a concern in the development of attachment in the future because of the burden this places on the child to fulfill the mother's needs. It is important to note that it was apparent that there was a lot of love between Mother B and her baby. This being said, Mother B could benefit from further understanding of child development and ideas on how to expand her repertoire of positive behaviors.

Mother B only attended four out of the nine weeks of the program. This therefore could explain the lack of growth and leads the researcher to believe that this may not be an accurate representation or reflection on the program. Inconsistent attendance is a challenge for voluntary programs such as the Baby Institute.

Mother C

Mother C was the only participant who was present with her baby for all three observations. She scored the highest for positive behaviors during the first observation, then decreased during observation two, but rose back up during the final observation. She did show a

decrease in positive behaviors; however it was a small decrease with only a difference of four behaviors over the course of five the minutes of interaction.

As for negative behaviors, Mother C remained very low during her first and last observations but spike during the mid-point data collection. This connected with the decrease of positive behaviors during this time leads the researcher to ask further questions. For instance, what occurred during the week prior, was Mother C having a difficult morning? Or perhaps she was not feeling well. There are many factors that could influence the interaction.

When looking at the overall picture, Mother C remained relatively consistent in her interactions with her baby over the course of the program. When looking at the first and last observations, her behaviors were very similar and consistent. Since consistency is crucial to the development of attachment this was a positive thing to see.

Ainsworth's Scales. In all three observations, Mother C began by reading a story to her baby. Her baby seemed interested and remained engaged for the entire story in both the first and last observation. During this time Mother C was attuned with her baby, making eye contact and making a connection as she read. This was seen when Mother B would touch her baby's fingers and toes during the story as she read. This was such a wonderful display of connection between mother and child.

During the second observation, mother and baby were less attuned then in the other observations. This was in part due to Baby C's energetic disposition, which was marked by her taking her first steps shortly after observation two. This might explain why Mother C asked her

baby, “What is up with you?” during Observation Two, when Baby C did not want to sit still during the story.

Another consistent behavior that Mother C engaged in across all three observations was how she approached her baby upon entering the room. She greeted her with a smile and let her crawl to her. This is an example of how Mother C let her baby take the lead and did not control the interaction. She balanced between responsive and cooperative as her baby explored the materials and toys in the room. For instance when her baby grabbed a book, Mother C asked her, “You gonna read?” and when she grabbed a toy she said, “Show me your toys” with a smile. Another display of cooperation occurred when Mother C allowed her baby to handle the book and turn the pages as she read.

During the second observation, Mother C asked a worker at the Baby Institute how to pronounce one of the words in the story that she was reading to her baby. This small act really exemplified Mother C’s willingness to learn and to put her in what others may believe to be a vulnerable position. This displays her dedication for her own growth as a parent.

Mother D

Mother D ended up not graduating from the program due to lack of attendance. She was present for both observation one and two but another family member came to pick up her baby during the second data collection. Therefore, no data was collected during the mid-point. Attendance was a concern for Mother D; she only attended two weeks of traditional classes and one make up session.

Ainsworth's Scales. It is unfortunate that Mother D did not complete the program because there was opportunity for growth. Both Mother D and her baby could have really benefited from the Baby Institute. During observation, one it was clear that Mother D did not have a full understanding of what was developmentally appropriate for her baby. This was seen when she asked if she could use flash cards during the interaction.

This was further displayed when Mother D insisted that her baby have, "Sit up time" even though he was not stable. This also demonstrated Mother D's lack of attunement with her baby. This situation did reveal an interesting dynamic where Mother D was comforting her baby. She did vocalize what he was feeling, which is a positive thing; however, her emotions appeared contradictory to what she was saying and therefore seemed insincere. For instance, she said, "You bumped your head, you don't like that feeling," with a smile on her face.

This chapter discussed the results found from the study and then compared them to Ainsworth's Maternal Sensitivity Scales (1969). In the following chapter, conclusions are drawn based on the results of the study. The limitations of the study as wells as ways to improve the *Baby Institute* program are also established. Finally, the areas for future research are explored.

CHAPTER SIX: SUMMARY AND CONCLUSIONS

After completing a voluntary parent education course, where participants were instructed on child development, the results show that there is a connection between increasing parent knowledge of child development and change of behavior. When comparing Mothers A, B, and C, a general trend can be seen. Overall there was a decrease in the amount of negative behaviors displayed between the first and last observations. This establishes that some level of growth occurred.

As for the positive behaviors, the trend is less conclusive. Mother A was the only mother to increase the amount of positive behaviors displayed between the two observations. Mothers B and C showed a decrease, which is contradictory to the original hypothesis. These findings can be explained by the fact that it is easier to stop a negative behavior than it is to change behavior, especially in the short amount of time that was allotted for the study.

This being said, the present study revealed a need to develop the participants' repertoire of positive behaviors. It is recommended that instructors are present during the interaction to guide the participants and scaffold the positive behaviors. Doing this will help model behaviors to the parents who may not even know what a positive parent-child interaction looks like. This time should be an extension of the parent classroom where participants get to implement what they have learned.

In addition, ideally there should be a development of the types of positive behaviors displayed participants of the program. The most common positive behavior among all the participating mothers was reading. This is absolutely wonderful; however, as early childhood

educators, one hopes that mothers would have other ways to positively engage their babies in their repertoire of behaviors. Furthermore, having an instructor present during the interaction would encourage the development of those positive behaviors.

Educational Implications

It is hoped that the early childhood development profession take the results of this study to demonstrate the need for early intervention programs for families from all walks of life. In addition, the need to model positive behaviors was established during this study. It is one thing to talk about what positive behaviors look like, but another to actually change behavior. Because attachment behaviors are generational, it is imperative to break the perpetual cycle of negativity. This is a difficult task to tackle in only a nine week program. Therefore, making the most of the time that is given with parents is vital. As a result of this study, it is recommended that parent education programs designate a time where educators can scaffold the interaction with children as part of the curriculum.

The results of this study demonstrated a positive trend in the mothers who participated. This is important for society to realize that there is a need within the community for such parent education programs. Often, early childhood development is not a hot topic when it comes to the financial side of politics and frequently tends to get overlooked. This is unfortunate considering the level of impact the first few years of life has on the rest of development through the life span. This study serves to shed light on the topic of attachment and how early intervention programs can positively impact the interactions between parent and child.

Limitations

After using the Maternal Behavior Checklist for Infant Attachment (MBCIA), the researcher discovered areas where the effectiveness of the checklist could be improved. This includes the addition of common “other” behaviors gathered during data collection, such as holding. There were also instances of times when a behavior occurred that and was categorized as a negative, but given the circumstance it was actually positive in nature. This was seen in the behavior of putting your baby down. In addition, one item (Responds with in two seconds to infant’s cues) was thrown out due to the inability to achieve reliability. To be used in future studies, this research recommends that the MBCIA be edited to account for the following shortcomings in design as well as be modified to include a rating scale. This would allow the researcher to include a more contextual analysis to the observational data.

Future Research

Due to the complex nature of observing attachment behaviors, it is difficult to draw conclusions based on brief interactions. It is because of this that plans for future studies would involve a more comprehensive case study approach in order to gain a better understanding of the intricate balance of behaviors between mother and infant. In addition, it would also be beneficial to conduct a study in a more contained environment. There were elements of chaos during data collection as well as interference from childcare workers. In the future this would be eliminated by creating a more isolated observation space.

Similarly, more accurate results would be attained if the participants were individually observed one at a time instead of in a group with other moms present. This would allow for

more original and natural responses. This, along with having more research assistants would allow for a closer analysis of behaviors.

Furthermore, a change in research design could prove to make the results more statistically relevant. In future studies, it would be ideal to have a control group and an experimental group who receives the intervention. Having this protocol would better establish the effects of the early intervention program and prove more impactful to the field of research. In addition, the study could expand to include fathers and/or grandparents to compare how attachment behaviors compare to across family members.

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**APPENDIX A: MATERNAL BEHAVIOR CHECKLIST FOR INFANT
ATTACHMENT**

Figure 1 Checklist used to collect data

Maternal Behavior Checklist for Infant Attachment

Affective Behavior:

- | | |
|---|--|
| <input type="checkbox"/> Says infant's name | <input type="checkbox"/> Yells/ raises voice at the infant |
| <input type="checkbox"/> Reaches out towards infant | <input type="checkbox"/> Rough interactions/grasps |
| <input type="checkbox"/> Makes eye contact with infant | <input type="checkbox"/> Infant cries |
| <input type="checkbox"/> Smiles at the infant | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Hugs/kisses infant | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Claps hands | |
| <input type="checkbox"/> Asks childcare worker about infant's day | |

Engagement:

- | | |
|--|--|
| <input type="checkbox"/> Speaks to the infant | <input type="checkbox"/> Ignores infant's attempts to engage (no eye contact, back is to infant, silent) |
| Said: _____ | <input type="checkbox"/> Stands while infant is on the floor |
| <input type="checkbox"/> Uses clear words, but high pitched and slow | <input type="checkbox"/> Confines infant to one spot |
| | <input type="checkbox"/> Says "no" |
| <input type="checkbox"/> Offers infant a toy | <input type="checkbox"/> Picks infant up |
| <input type="checkbox"/> Tickles infant (does infant laugh? Y/N) | <input type="checkbox"/> Places infant down |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Other: _____ |

Summary of Interaction

APPENDIX B: IRB APPROVAL



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1
FWA00000351, IRB00001138**

To: **Anne Mcdonald Culp and Co-PI: Brooke G. Rusoff**

Date: **January 29, 2016**

Dear Researcher:

On 01/29/2016, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination
Modification Type: Protocol revision
Project Title: Exploring Attachment Behaviors in Urban Mothers and Their Infants
Investigator: Anne Mcdonald Culp
IRB Number: SBE-16-11939
Funding Agency:
Grant Title:
Research ID: n/a

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

A handwritten signature in black ink, appearing to read "Patria Davis".

Signature applied by Patria Davis on 01/29/2016 03:13:46 PM EST

IRB Coordinator

APPENDIX C: RAW FREQUENT COUNTS

EXPLORING ATTACHMENT BEHAVIORS

Table 1 Raw Frequency Counts

| | Raw Totals | | | |
|------------|------------|-----|-----|-----|
| | I-1 | I-2 | I-3 | I-4 |
| 1 Positive | 45 | 65 | 67 | 48 |
| 1 Negative | 33 | 10 | 2 | 17 |
| | | | | |
| 2 Positive | 48 | 36 | 46 | N/A |
| 2 Negative | 16 | 0 | 14 | N/A |
| | | | | |
| 3 Positive | N/A | N/A | 63 | N/A |
| 3 Negative | N/A | N/A | 1 | N/A |