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# Attachment security of mother-toddler dyads : the links with conflict frequency and conflict resolution in different contexts

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**Panfile, Tia M.**

**Attachment Security  
of Mother-Toddler  
Dyads: The Links  
with Conflict  
Frequency and  
Conflict...**

**January 2008**

Attachment Security of Mother-Toddler Dyads:  
The Links with Conflict Frequency and Conflict Resolution in Different Contexts

Tia M. Panfile

A Thesis

Presented to the Graduate and Research Committee

of Lehigh University

in Candidacy for the Degree of

Master of Science

in Psychology

Lehigh University

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# Master's Thesis Approval

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Thesis Title: Attachment Security of Mother-Toddler Dyads: The Links with  
Conflict Frequency and Conflict Resolution in Different Contexts

Approved and recommended for acceptance as a thesis in partial fulfillment of  
the requirements for the degree of Master of Science

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## Abstract

The present study was conducted to determine a link between attachment security and conflict frequency and resolution across differing contexts. Conflict between 40 mother-toddler dyads was measured during multiple laboratory tasks when the child was 36-months old. All conflictual episodes from each assessment were transcribed, totaled, and coded for resolution. Mothers performed the Attachment Q-Set and completed questionnaires regarding their personality and their child's temperament. Results indicated that relative to the non-teaching and semi-teaching contexts, dyads displayed the highest amounts of conflict, mothers submitted the least, and children submitted the most during the teaching context. In addition, as attachment security increased, conflict increased for boys, but decreased for girls during the entire lab, the teaching context, and (marginally) the semi-teaching context. The results of the study emphasize the importance of examining the child's gender in accordance with attachment, in order to understand the links between attachment and conflict frequency.

## Attachment Security of Mother-Toddler Dyads:

### The Links with Conflict Frequency and Conflict Resolution in Different Contexts

Verbal conflict can occur between any two people regardless of the intimacy of the relationship. Within a close relationship, such as that of a mother and child, conflict is inevitable and tends to occur quite frequently. The factors influencing the frequency and resolution of conflict between mothers and young children have not been fully researched. The attachment security between the mother and child may possibly be one such factor that influences conflict. Previous research has mainly examined conflict in terms of compliancy, while others examining conflict frequency have not been able to determine a definitive link with attachment security. Perhaps the relationship between attachment and conflict remains unknown because research has not taken context into account. This study explores the frequency and resolution of verbal conflict between dyads with differing attachment styles in different contexts.

#### *Attachment Theory*

Evolving out of ethology and psychoanalysis, John Bowlby first used the term ‘attachment’ to describe the emotional bond between an infant and a mother (Karen, 1998; Bowlby, 1988). As one of the pioneers of the attachment theory, Bowlby hypothesized that children create working models of themselves, their mothers and fathers, and their interactions with their parents based on daily experiences (Bowlby, 1988). Once formed, the models become internalized and operate at an unconscious level throughout the lifespan (Bowlby, 1988). The internal working models are believed to gradually update themselves over time due to changes in the behaviors of, and interactions with the

parents, but overall these models remain relatively stable (Bowlby, 1988; Bretherton, 1985; Karen, 1998). The type of care children experience from their parents, combined with their internal working models, lead them to form either a secure or insecure attachment (Bowlby, 1988).

The type of attachment an infant will form greatly depends on the caregiving of the mother, and specifically, how the mother responds to her child especially when the child is distressed. According to Bowlby (1988), a mother who is “readily available, sensitive to her child’s signals, and lovingly responsive when he [or she] seeks protection and/or comfort” will promote a secure attachment with her child (p.124). These children become confident that their mothers will be available, responsive, and helpful when a situation requiring assistance arises (Bowlby, 1988). Securely attached children are then able to freely explore their environment and use their caregivers as a secure base of comfort and security to which they can return (Simpson, Rholes, & Phillips, 1996; Karen, 1998). Secure children will also come to view “themselves as worthy of care, others as trustworthy, and the world as a safe place” (Fivush, 2006, p. 283). Alternatively, children who are uncertain whether their mothers will be available, responsive, and helpful in times of distress, may develop an insecure-resistant attachment (Bowlby, 1988). To the extreme, insecure-avoidant children expect to be rejected when in need (Bowlby, 1988).

In accordance with the theory of caregiving, much research has been conducted concerning the characteristics of the mother that may influence attachment development. One such characteristic, maternal sensitivity has received attention to determine the degree to which it predicts attachment. Ainsworth (1978) first identified maternal sensitivity, or “alertness to infant signals, appropriate interpretation of response,

promptness of response, [and] flexibility of attention and behavior.”as the key predictor of attachment (Seifer, Schiller, Sameroff, Resnick, & Riordan, 1996, p. 13). Ainsworth’s team found that maternal sensitivity at 3 weeks predicted later attachment status with her infant (Seifer et al., 1996). Recent research has not used as extensive methods as Ainsworth, and thus, there have been conflicting results examining the relationship between maternal sensitivity and attachment (Seifer et al., 1996; Mangelsdorf, McHale, Diener, Heim Goldstein, & Lehn, 2000).

### *Conflict*

During the toddler period, children develop a sense of autonomy that can be seen through overt resistance to parental control (Dubin & Dubin, 1963). The developing autonomy, along with the increasing verbal ability of a child can contribute to this period characterized by noncompliance and verbal conflict. Early psychological studies involving conflict mainly focused on child noncompliance (e.g. Londerville & Main, 1981). Noncompliant behaviors are considered to be active strategies employed by a child to influence parents to terminate or modify their demands (Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987). Londerville and Main’s (1981) findings show that the average toddler actively disobeys 24% of the mother’s commands, and only complies with 50% of commands. Although passive noncompliance decreases with age, persuasive strategies such as explaining and bargaining increase with age (Kuczynski et al., 1987). For example, compromise, negotiation and conciliation become more frequently observed during the preschool period (Dunn & Herrera, 1997).

Other than research regarding noncompliance, conflict has rarely been explored as a normative type of interaction between a mother and her young child. Conflict has been

overlooked because psychologists often conceptualize this relationship in terms of parental influence and child outcomes, and assume a passive child (Eisenberg, 1992). Also, conflict has a negative connotation and has been defined as a “problem” in development because it interferes with compliance development, which was originally considered the ultimate goal of socialization (Eisenberg, 1992). Of course, certain destructive types of conflict can often cause strong, negative emotions to occur that influence a range of different behaviors and possible resolutions (Creasey & Hesson-McInnis, 2001).

Contrary to the negative ideas held about conflict, conflict can benefit the child in multiple ways. Conflicts offer children the opportunity to employ their developing interpersonal skills to oppose and negotiate the demands of their parents (Kuczynski & Kochanska, 1990). These exchanges provide children with their first lessons on how to argue persuasively, take a different perspective, work together toward a resolution, and employ flexibility and accommodation (Hurrera & Dunn, 1997; Simpson, Rholes, & Phillips, 1996). Conflict is increasingly becoming viewed in a bidirectional context and as an important arena where children resist, negotiate, and attempt to transform the demands of their parents (Kuczyski, Marshall, & Schell, 1997). Furthermore, research has also shown that conflict is an important arena in which children construct social and emotional understanding (Dunn & Munn, 1987; Laible & Thompson, 2002).

Besides the focus on noncompliance, other conflict research emphasizes the importance of conflict resolution when discussing conflict between a dyad. Conflict resolution involves the process of identifying a problem, discussing it, and coordinating opposing goals to a common end (Pistole & Arricale, 2003). Frequently, however, a

conflict is resolved not by coordinating opposing goals as Pistole and Arricale (2003) describe, but with one party submitting to the other. Laible, Panfile, & Makariev (in press) examined conflict resolution between mother-child dyads in terms of submissions and compromises made by either the mother or the child. Although over two-thirds of all conflicts were unresolved, the resolved conflicts were driven by child submissions (Laible et al., in press). Resolving a conflict is one characteristic of constructive conflict, which is likely to enhance development (Laible & Thompson, 2002). For example, Laible and Thomson (2002) have found the conflict resolution of mother-child dyads to predict high levels of socioemotional development in young children.

The type of relationship between the two people involved in the conflict has implications to the manner in which a person argues and the resolution strategies that are used (Herrera & Dunn, 1997). For example, children display other-oriented argument with peers and often employ compromising to achieve a resolution (Herrera & Dunn, 1997). Alternatively, children exemplify self-oriented argument when in conflict with their mothers, focusing egotistically on their own goals (Herrera & Dunn, 1997). Although arguments with the mother may seem less mature than with friends, it remains a key component to the child's development.

Since mothers are important socializing agents, some research has focused on the impact of conflict between a mother and her child on the child's development. Specifically, Herrera and Dunn (1997) found that the way in which a mother argues with her child predicts the child's later conflict management styles with peers. This study highlights the mother's fundamental role in the child's later social relationships. Keeping the importance of the mother-child conflicts in mind, one may question if attachment, a



significant aspect of a mother-child relationship, may be related to conflict frequency or resolution. Unfortunately, attachment researchers have often overlooked conflict, and instead focus on the warmth and sensitivity of the parent-child relationship (Thompson, Laible, & Ontai, 2003). The lack of research in this area provides a problem with determining a concrete relationship between attachment and conflict.

### *Relationships between Attachment and Conflict*

Research involving compliance, or obedience, and attachment has shown that the security of the relationship does have an impact on the nature of conflict. For example, infants with mothers that are sensitive to their signals, one indicator of a secure relationship, will tend to obey their verbal commands and prohibitions more consistently than infants with rejecting and insensitive mothers (Stayton, Hogan, & Salter Ainsworth, 1971). Londerville and Main (1981) found securely attached toddlers are more than four times as likely to obey as to actively disobey maternal commands, as opposed to insecure children showing an equal likelihood. In attempting to compare attachment and compliance, Matas, Arend, and Sroufe (1978) found that securely attached infants complied with maternal requests more frequently, said "no" less often, and showed less aggression toward their mothers. Attachment has also been noted as a significant predictor of cooperation; specifically, children who were securely attached to their mothers were more cooperative (Kochanska, Aksan, & Carlson, 2005). The trust involved in a secure attachment increases the likelihood for cooperation with the mother to gain help with problem solving in the second year of life (Londerville & Main, 1981).

Internal working models are formed in the first year of life and remain relatively stable past adolescence (Bowlby, 1988). Because of this, one could assume that if a

relationship between attachment and verbal conflict exists, the attachment must predict conflict frequency and resolution and not vice versa. Stayton, Hogan, and Ainsworth (1971) cite evidence for this through the psychoanalytic ego view. These psychologists hold that “only after an infant is attached does he become capable of compliance to commands and prohibitions” (Stayton, Hogan, & Ainsworth, 1971, p. 1067). Most research concerning both attachment and conflict in adolescents and adults validates this assumption. Supporting that attachment may influence how one views conflict, Feeney and Cassidy (2003) found that adolescents are likely to reconstruct their memory for conflictual interactions with a parent in ways that support their attachment representation. Specifically, more secure individuals viewed the conflict as less negative and less hostile, and recalled the event as even less negative six weeks later than insecure children (Feeney & Cassidy, 2003). Alternatively, less secure individuals viewed the conflict as more negative, which also increased in magnitude after six weeks (Feeney & Cassidy, 2003).

Attachment security has been found to influence how individuals manage conflict. Studies probing how adolescents would react to a conflict within a romantic relationship found that those with insecure attachments had more difficulties managing conflict and used more negative behaviors (Creasey & Hesson-McInnis, 2001; Creasey, 2002). The study also found that insecure individuals report significantly more sadness, anger, and fear during a conflict interaction with their partners, and have less confidence in their ability to control the negative emotions (Creasey & Hesson-McInnis, 2001).

Moreover, a study measuring attachment and conflict in adult intimate relationships has shown that securely attached adults report less fighting and more

effective arguing (Pistole & Arricale, 2003). Highly insecure adults perceive more daily conflict in a romantic relationship than their partners detect, possibly because of a low threshold for detecting negativity (Campbell, Simpson, Boldry, & Kashy, 2005). These insecure adults also report lower satisfaction with and closeness to their partners, and more negative views about the future of their relationships (Campbell et al., 2005). Furthermore, the negative views may have implications into fueling more conflict within the relationship (Campbell et al., 2005).

Overall, most research concerning attachment and conflict in childhood has found that secure children are more compliant and therefore, exhibit less conflict. Stayton, Hogan, and Ainsworth (1971) suggest that “infants who have the most harmonious relations with their mothers, and hence who have the least reason to fear loss of love, are the most readily compliant with their mothers’ wishes and commands” (p. 1067). Laible, Panfile, and Makariev (in press) sought to investigate the link between attachment status and conflict frequency and resolution, but argued in contrast to Stayton et al. (1971) that securely attached children may display more conflict with their mothers. Because a child with a secure internal working model is more trusting and confident in their relationships, secure children were expected to challenge their mothers more often, but that this conflict would also be of higher quality. Thus, Laible et al. (in press) speculated that conflict between a secure dyad would be more frequent and of higher quality, involving more compromise, justification, and resolution.

The results of Laible et al. (in press) demonstrated that attachment security was related to the quality of conflict in the mother-toddler dyads when the child was 30- and 36-months. Mothers of securely-attached toddlers resolved more conflicts than their

insecure counterparts, and were more likely to use justification and compromise at 30- and 36-months. In spite of the differences found regarding attachment security and conflict resolution, there was no difference in the frequency of conflict resulting from attachment security. The results of this study suggest that attachment does not influence the frequency of conflict as Stayton et al. (1971) have previously found. In fact, there was no relationship between attachment security and conflict frequency.

The relationship between attachment security and conflict frequency may not have been found in the Laible et al. (in press) study, because the link between attachment and conflict may vary by context. Previous research has found that although securely attached infants complied with maternal requests more frequently than insecure infants, their degree of compliance varied in different contexts (Matas, Arend & Sroufe, 1978). Matas et al. (1978) observed 24-month-olds of differing degrees of attachment security during a freeplay, clean-up period, and four problem solving tasks. Although securely attached infants complied more frequently overall, secure infants showed more oppositional behavior during a clean-up task than during the problem solving tasks (Matas et al., 1978). Matas et al. (1978) believed securely attached infants did not oppose as often during the problem solving because compliance has an adaptive advantage for that task. Specifically, the four problems were opportunities for the children to learn from their mothers, and thus securely attached infants were less oppositional in this learning context (Matas et al., 1978). Their results suggest that securely attached infants comply more frequently overall, but that the context can be an influential determinant of conflict within this attachment group.

The Laible et al. (in press) study did not examine if securely attached infants were more conflictual in the individual tasks of the laboratory assessment. For example, the sample of secure children may have been less oppositional during the storybook period than the clean-up because the storybook was a semi-teaching context and there would have been an adaptive advantage for a secure child to comply. The varying degrees of conflict may have provided evidence of a relationship between attachment security and conflict frequency in specific contexts. Perhaps a difference in conflict frequency may have been found between securely and insecurely attached children in one task (e.g. clean-up task), but not the others.

### *The Present Study*

The present study focused on examining the role context plays in the relationship between attachment security and verbal conflict between mother-child dyads. Conflict was examined in three different contexts that varied with regards to the nature of mother-child instruction. The non-teaching context, consisting of a freeplay and a clean-up, was designed to allow little or no mother tutorial and consequently, there would be no advantage for a child to be compliant. The teaching context, comprising of two problem-solving tasks, involved learning contexts in which it would be advantageous for the child to comply with more maternal requests in order to benefit from the mother's instruction. Finally, a reminiscing task was considered a semi-teaching context. We hypothesized that although attachment security will not matter in the amount of conflict over the entire span of the lab, differences will be found varying by context. We predicted that securely attached children would show more conflict in the non-teaching tasks (i.e., freeplay and clean-up tasks) than insecure children because the trusting relationship would lead them

to challenge their mothers more often. In teaching-related tasks, such as the reminiscing and problem solving tasks, securely attached children were expected to exhibit less conflict as in the Matas et al. (1978) study. Here, secure children would recognize the adaptive advantage of learning and would not engage in much conflict.

Regarding the resolution of conflict, we expected secure children to resolve more conflict over the entire span of the lab. We hypothesized that the proportion of conflict resolution of securely and insecurely attached dyads should not differ across contexts. Attachment security is characterized by an open, trusting, and harmonious relationship so higher conflict resolution should exist in all contexts. Therefore, we did not expect the proportions of conflict resolution of secure children to differ among the contexts.

Little research has focused solely on conflict across contexts. It may be found that a lesser amount of conflict, but greater amount of resolution, takes place during the teaching-related tasks than in other contexts. Here, children may be likely to submit in order to achieve the solution of the problem. The greatest amount of conflict, but the least amount of resolution may be found during the clean-up task as the mother and child struggle to achieve their independent goals.

Lastly, gender, infant's temperament, and mother's personality were controlled for in examining the relationship between attachment and conflict outcomes. Previous research has explored gender differences in conflict frequency and resolution. For example, boys have been found to initiate more (Rubin et al., 2003) and resolve fewer conflicts (Laible et al., in press) than girls in a lab setting. In addition, effortful control, or the self-regulatory aspect of temperament (Kochanska & Knaack, 2003), could influence the amount of conflict in which a child engages. Previous research has found

children high in effortful control argued less with their mothers (Laible et al., in press), were less defiant, and were more internalized years later with fewer behavior problems (Kochanska & Knaack, 2003). Similarly, children who are high in self-regulation are less likely to initiate conflict with others (Rubin, Burgess, Dwyer, & Hastings, 2003).

Mother's neuroticism and conscientiousness were controlled for because it was believed that mothers high in neuroticism and low in conscientiousness would engage in more conflicts with their children. Kochanska, Clark, and Goldman (1997) found mothers high in negative emotionality, similar to the construct of neuroticism, had children who were more defiant and angry, had more behavioral problems, and displayed lower internalization of rules. Regarding conscientiousness, research has found mothers' constraint, which shares similar qualities with conscientiousness, to be positively related to attachment security and children's internalization of rules, while negatively related to children's behavioral problems (Kochanska, Clark, & Goldman, 1997).

## Method

### *Participants*

Forty mother-child dyads were recruited through archival birth announcements from a mid-sized northeastern town. Letters were sent to mothers of children that would be 36-months-old at the time of the study (see Appendix A). Of the participating children, 21 (52.5%) were female and 84.6% were Caucasian. Mothers ranged in age from 26 to 46 ( $M = 34.8$ ), 85% of which had at least a college degree or higher.

Participation was voluntary and mothers were entered into a drawing for a cash prize that took place at the completion of the study. Children received a stuffed animal at the end of the lab session.

## *Procedure*

When the dyad entered the lab, the mother was first guided through a copy of the consent form (see Appendix B), which explained what was to occur throughout the lab and possible risks and benefits of their participation. Each task was explained to the child immediately before beginning the task, and the child was asked if he/she would like to do the task. After all questions were fully answered the experimenter left the room and the mother and child began with the first task. The five tasks were specifically chosen to elicit verbal conflict between the mother-child dyads. All tasks were video recorded for the purposes of later transcription. Following the completion of the tasks, the mother was taken into an adjacent room and was administered a measure of attachment. During this time, the child completed three additional tasks, which were not associated with this larger study. Upon completion of the lab, the mother was given a debriefing sheet (see Appendix C), a packet of questionnaires, and a pre-addressed stamped envelope for returning the packet to the experimenter.

## Freeplay

For the first ten minutes of the laboratory session the mother and child participated in a freeplay. Mothers were instructed to interact with their child as they normally would at home. Toys were placed around the room and children could choose which to play with. The toys, including Lincoln Logs, a wooden train track set, dinosaurs and arctic animals, and a Fischer Price Little People Farm, were for the most part gender neutral. The main purpose of the freeplay task was to assist the children with feeling comfortable in the lab setting. The freeplay also allowed for the first conflict episodes to



arise, which tended to revolve around facts (e.g. C: Look at this horse. M: That's a sheep.

C: No it's not!...)

### Clean-Up Task

The experimenter entered the room with containers after the ten-minute freeplay. The dyad was instructed to clean-up the toys and place each set of toys in their respective container. Mothers were asked to see how much of the clean-up they could have their child do, with helping only minimally. The dyad was given ten minutes to complete this, after which the experimenter entered the room and finished the cleaning. The task ended earlier if the clean-up was finished before the allotted time. The containers of toys were brought into an adjacent room so the children would not be distracted by the toys for the remainder of the lab. This clean-up period was specifically employed to elicit conflict. Children tended to become frustrated with their mothers, because they often find difficulty in being forced to cease the fun play time. Previous research has found that more than ninety percent of children between 24- and 42-months sampled resisted toy cleanup requests and engaged in conflict episodes (Klimes-Dugan & Kopp, 1999).

### Reminiscing Task

The experimenter re-entered the room to explain the reminiscing task to the mother. The mother was instructed to discuss two recent events: a time in the past week when the child experienced a negative emotion, such as sadness, anger, or fear, and one event in which the child experienced a positive emotion (e.g. happiness and joy). Since the emotion had occurred within the past week, children should have been able to better remember the event and circumstances surrounding the emotion. The experimenter explained that there was no time requirement, but stressed that the mother elicit the child's

memory to the best of her ability. Mothers were also told that it did not matter which event was discussed first, which was a natural way to counterbalance the order of the positive and negative topics.

Discussing past events naturally occurs in the mother-child relationship. This task was used because it granted a more natural opportunity for mothers and children to oppose the other party's account of the events. Also, recalling events in a narrative structure is difficult for three-year-olds (Lewis, 1999), which encouraged discrepancies and contradictions. The negative reminiscing conversations were especially intended to evoke conflict because many children would rather avoid discussing their negative emotions and experiences. Because of the negative nature of the discussion children attempted to avoid questions, became defensive, or contradicted everything the mother recalled. Some children also left their mothers' side to explore the room in an attempt to distract themselves from the unpleasant conversation. Because of these techniques the children used, the mothers felt the need to keep the children on task and to provide a realistic account of what occurred. In doing so, the mothers needed to correct their children or demand that they pay attention, which caused conflict between the dyads.

### Problem-Solving Tasks

The mother-child dyad next took part in solving two puzzles. First, the dyad worked together on a hidden pictures puzzle (see Appendix D). They were given a picture of a popular cartoon character, which was modified to contain eighteen hidden objects within the picture. The dyad also received a paper displaying the pictures of the hidden objects to find. These hidden pictures include everyday objects familiar to a child of this age, such as a heart, happy face, sun, bell, shoe, and others. The children were

instructed to find as many of the hidden objects as they could, and that their mothers were available for assistance if needed. The mother was asked to refrain from directly finding the objects, and instead to encourage her child to continue or to give hints and clues. The dyad had eight minutes to solve this puzzle, after which the experimenter entered the room and praised the child for finding so many objects. No dyads finished before the allotted time.

Next, the dyad was given a set of Roger's Connection magnetic construction set. This set contained magnetic rods of different colors and magnetic connector balls. The experimenter gave them a previously made shape from the set (a bisected rectangle) and also demonstrated how the magnetic rods stuck to the connector balls. The dyad was instructed to work together to construct an exact replica of the model, including using the same color sticks in the appropriate places. Again, the mother was asked to guide the child's attempt to recreate the model and to help when prompted by the child. The dyad was given eight minutes to solve this puzzle, although some participants finished before the allotted time. After eight minutes, or when the puzzle was correctly completed, the experimenter entered the room and praised the child for doing a good job. The problem-solving tasks were designed to elicit conflict between the dyads. Both the hidden pictures task and the construction task were designed for children six-years-old and above, and thus our 3-year-old participants would have difficulties completing them without assistance.

### Conflict Coding

Verbal conflicts, designated by the first oppositional turn in a conversation (e.g. 'no,' 'don't'), were transcribed verbatim from the videotaped lab session (following Hay,

1984; Eisenberg, 1992; Laible et al., (in press)). A conflictual episode was considered to be finished when the discussion ceased for at least 15 seconds, or if there was a change of subject with no return to the original subject of the conflict. A minimum number of turns was not required for an episode to be considered conflict. Thus, a conflict episode could consist of one turn (e.g. 'Don't touch that!'). The total number of conflict episodes, regardless of resolution, was counted to give a total frequency score for each dyad. This total was then corrected for time by dividing the number of episodes by the length of the lab in minutes. The number of episodes was also totaled for each context, yielding three additional frequency scores. The freeplay and clean-up conflicts were combined to give a non-teaching frequency score, while the hidden pictures and construction tasks were totaled for a teaching frequency score. The last context consisted solely of the reminiscing conflicts, as it was considered apart from teaching and non-teaching contexts, possibly as a semi-teaching task. All context frequency scores were each divided by the length of that context for each participant in order to correct for time differences.

Each conflict episode was coded for how they were resolved (see Laible & Thompson, 2002): (a) the child submitted (CS), (b) the mother submitted (MS), (c) the mother offered a compromise that was accepted by the child (MC), (d) the child offered a compromise that was accepted by the mother (CC), or (e) unresolved (UR). Total proportion scores were calculated by taking the frequency of each type of resolution and dividing it by the total number of conflicts. For example, the total child submission score was calculated by dividing the number of child submissions by the total number of conflict episodes during the lab. The same procedure was used to obtain proportion

resolution scores for each of the three contexts. In sum, each pair received one total frequency score, three context-dependent (non-teaching, reminiscing, and teaching) frequency scores, five total resolution scores, and fifteen context-dependent resolution scores.

All coding was done by the experimenter. Twenty-five percent of the transcripts were also coded by a second person and the two codings were used to check for reliability. Percent agreements between the two coders were as follows: 88% for unresolved, 79% for mother submissions, 93% for child submissions, 100% for mother compromises, and 100% for child compromises.

#### Attachment Measure

The mothers completed the Attachment Q-Set (AQS) Version 3.0 (Waters & Deane, 1985) as a measurement of the attachment security between her and her child. This fixed distribution Q-sort consists of ninety cards with statements intended to describe a child's 'secure-base' behavior. Mothers were sent or e-mailed a list of the ninety statements in advance in order to familiarize themselves with and to watch for the behaviors (see Appendix E). The AQS is performed by sorting the cards into nine piles based on how well the card describes the child. Statements of behaviors that are highly characteristic of the child are placed in Piles 7-9, while those that are highly uncharacteristic of the child are placed in Piles 1-3. Piles 4-6 contain cards that are neither characteristic nor uncharacteristic of the child.

The AQS is a psychometrically sound measure that has been shown to have predictive validity (Laible & Thompson, 1998). It can be performed by the mothers or a trained observer, and disagreement exists as to whom is the better rater. Although an

observer could perform a more objective sort, mothers have a more representative sample of the child's behaviors, and thus are considered to provide more reliable sorts of the AQS (Laible & Thompson, 1998). For this study mothers performed the Q-sort under the guidance of a trained researcher who could answer any possible questions that arose.

To score the AQS each of the ninety cards were given the score of its final pile (e.g. card 42 finishes in pile 7, and receives a score of 7). The ninety scores were then correlated with an optimal attachment sort. The higher the positive correlation between the mother's sort and the optimal sort, the more secure the relationship.

### Child's Temperament Measure

When leaving the lab mothers were given the Children's Behavior Questionnaire Short Form (CBQ) (Putnum & Rothbart, 2002) (see Appendix F) to complete at home. The CBQ Short Form contains 94 items designed to measure temperament in children of 3 to 7 years and assesses fifteen dimensions of temperament. These dimensions include: Activity Level, Anger/Frustration, Approach/Positive Anticipation, Attentional Focusing, Discomfort, Falling Reactivity/Soothability, Fear, High Intensity Pleasure, Impulsivity, Inhibitory Control, Low Intensity Pleasure, Perceptual Sensitivity, Sadness, Shyness, and Smiling and Laughter. Scoring followed the protocol of the authors of the test (see Putnum & Rothbart, 2001). Three dimensions of temperament were created using the scales, following Rothbart, Ahadi, Hershey, and Fisher (2001). The first dimension, Negative Affectivity, consisted of Discomfort, Sadness, Fear, and Anger/Frustration. Impulsivity, High Intensity Pleasure, Activity Level, and Shyness (negatively) made up the Extraversion/Surgency dimension. Effortful Control consisted of Low Intensity Pleasure, Inhibitory Control, Perceptual Sensitivity, Attentional Focusing, and

Approach/Positive Anticipation. All of the new scales had adequate internal consistency ( $\alpha = .88$  for negative reactivity,  $\alpha = .86$  for extraversion/surgency,  $\alpha = .89$  for effortful control). Only the effortful control construct was used to control for child's temperament in the analyses due to previous findings (e.g. Kochanska & Knaack, 2003; Rubin, et al., 2003).

### Mother's Personality Measure

Mothers completed a Big Five Inventory (John, Donahue, & Kentle, 1991) to assess maternal personality (see Appendix G). The measure contains 44 items asking on a scale of 1 to 5 how strongly a person agrees with statements beginning with "I see myself as someone who." The items yield five dimensions of personality, including Openness, Agreeableness, Extraversion, Conscientiousness, and Neuroticism. Only two dimensions, neuroticism and conscientiousness, were used to control for mother's personality because of previous research and theory (e.g. Kochanska, Clark, & Goldman, 1997). Both of these scales had adequate internal consistency ( $\alpha = .76$  for neuroticism,  $\alpha = .82$  for conscientiousness). Lastly, a demographic sheet (see Appendix H) was given with the questionnaires to return.

## Results

### *Descriptives and Bivariates*

Means and standard deviations for conflict frequency and resolution can be seen in Tables 1 and 2. Because of extremely low proportions of child and mother compromises, all resolution analyses only examined child and mother submissions and unresolved conflicts. Attachment security ranged from  $-.05$  to  $.82$ , with a mean of  $.52$  and standard deviation of  $.19$ . Bivariate relations between the predictors, attachment,

child's gender, mother's personality, and child's temperament, and the conflict outcomes can be seen in Table 3. The child's effortful control was related to the total amount of unresolved conflicts, with those lower in control resolving fewer conflicts. Attachment, mother's conscientiousness (marginally), and child's effortful control were all negatively correlated with the amount of unresolved conflicts during the semi-teaching context. Attachment was marginally positively correlated with the amount of mother submissions during the semi-teaching context, while mother's neuroticism was significantly positively correlated with the amount of child submissions in the semi-teaching context. When conducting correlations separately for girls and boys most of the same patterns occurred. Interestingly, attachment was significantly correlated with the amount of conflict during the teaching context ( $r = -.46, p < .05$ ) for girls, but not for boys ( $r = .21, p > .05$ ), and were in opposite directions.

### *Gender Differences*

Interesting gender differences emerged with respect to both the predictor and outcome variables. There was a trend for mothers of girls to rate their daughters higher on effortful control ( $M = 5.36, SD = .64$ ) than mothers of boys ( $M = 4.96, SD = .76$ ) ( $t(38) = -1.78, p = .08$ ). Regarding conflict frequency, girls exhibited a greater proportion of conflict with their mothers during teaching context ( $M = 1.26, SD = .37$ ) than boys ( $M = .96, SD = .36$ ) ( $t(38) = -2.58, p < .05$ ), and also engaged in a higher proportion of conflict for the entire lab ( $M = 1.02, SD = .23$ ) than boys ( $M = .87, SD = .25$ ) ( $t(38) = -2.03, p = .05$ ). Only one gender difference emerged when examining conflict resolutions. Boys had a higher proportion of unresolved conflicts in the semi-teaching context ( $M = .66, SD = .24$ ) than girls ( $M = .42, SD = .28$ ) ( $t(38) = 2.87, p < .01$ ).



### *Conflict Frequency and Resolution across Contexts*

A repeated measures ANOVA, with Greenhouse-Geisser correction, was conducted to determine if there were differences in the frequency of conflict between the teaching, non-teaching, and semi-teaching contexts. Gender was entered as a between-subjects variable and was also used to assess its interaction with conflict frequency across the contexts. Results indicated that conflict frequency was significantly different across contexts ( $F(2,71) = 8.20, p < .01$ ) (see Figure 1). The dyads exhibited a significantly higher proportion of conflict during the teaching context ( $M = 1.12, SD = .39$ ) than during the semi-teaching ( $M = .95, SD = .40$ ) ( $F(1,38) = 4.52, p < .05$ ) and non-teaching contexts ( $M = .83, SD = .26$ ) ( $F(1,38) = 21.26, p < .01$ ). The semi-teaching context did not significantly differ from the non-teaching context ( $p > .05$ ). There was a marginally significant main effect of gender ( $F(1,38) = 3.68, p = .06$ ), with girls exhibiting more conflict overall. The gender by context interaction was not significant ( $p > .05$ ).

Three repeated measures ANOVAs, with Greenhouse-Geisser correction, were performed to determine if the teaching, non teaching, and semi-teaching contexts differed in the proportions of unresolved conflicts, mother submissions, and child submissions. Gender was again entered as a between-subjects variable and was also used to assess its interaction with conflict resolutions across the contexts. Results indicated that unresolved conflicts were marginally significantly different among the three contexts ( $F(2,70) = 2.74, p = .08$ ). The semi-teaching context had a significantly higher proportion of unresolved conflicts ( $M = .53, SD = .28$ ) than the teaching context ( $M = .45, SD = .19$ ) ( $F(1,38) = 9.06, p = .01$ ), and a marginally significantly higher proportion than the non-teaching context ( $M = .46, SD = .16$ ) ( $F(1,38) = 2.96, p = .09$ ). The teaching and

non-teaching context did not differ ( $p > .05$ ). Although there was no significant gender main effect ( $p > .05$ ), there was a significant gender by context interaction ( $F(2,70) = 6.29, p < .01$ ). Boys had a higher proportion of unresolved conflicts in the semi-teaching context than in the teaching context, while girls had a higher proportion in the teaching context than in the semi-teaching context ( $F(1,38) = 9.06, p < .05$ ) (see Figure 2).

In analyzing mother submissions across contexts, there was a significant difference among the tasks ( $F(2, 57) = 3.78, p < .05$ ) (see Figure 3). The non-teaching context had a significantly higher proportion of mother submissions ( $M = 0.20, SD = .14$ ) than the teaching context ( $M = 0.11, SD = .12$ ) ( $F(1,38) = 16.46, p < .001$ ). The semi-teaching context did not significantly differ from the other two contexts ( $p$ 's  $> .05$ ). The gender main effect and gender by context interaction were not significant ( $p$ 's  $> .05$ ). Child submissions were also found to differ across the contexts ( $F(2, 73) = 8.99, p < .001$ ), but not surprisingly, the opposite pattern was found (see Figure 4). There was a significantly larger proportion of child submissions during the teaching context ( $M = .42, SD = .20$ ) than during the non-teaching ( $M = .30, SD = .14$ ) ( $F(1,38) = 14.22, p < .01$ ) and the semi-teaching contexts ( $M = .28, SD = .22$ ) ( $F(1,38) = 14.23, p < .01$ ). There was no significant gender effect or gender by context interaction ( $p$ 's  $> .05$ ).

### *Predicting Conflict Frequency and Resolution*

To answer questions regarding the effect of attachment on conflict frequency and resolution, hierarchical multiple regressions were conducted. The first multiple regression was built to predict total conflict frequency, regardless of context. The variables of gender, effortful control, and maternal conscientiousness and neuroticism were entered at step 1. Other than the theoretical reasons for controlling these variables

previously mentioned, effortful control had the strongest bivariate relationships of the temperament variables with the conflict outcomes in this sample. Also, although only a few significant bivariate relationships were found in the current study with neuroticism and conscientiousness and conflict outcomes, most of the correlations were in the expected directions. All other personality variables had no significant correlations with conflict variables. Step 2 of the model consisted of the main variable of interest, attachment security. Lastly, an interaction variable of gender by attachment was entered at step 3. Although the gender by attachment interaction significantly predicted aspects of conflict frequency, it did not predict resolution. Because of this, the gender by attachment interaction will not be discussed further regarding conflict resolution.

The regression model predicting total conflict frequency appears in Table 4. The full regression model, accounting for 34.2% of the variance, was significant ( $F(6,33) = 2.86, p < .05$ ). Mother's neuroticism made a significant independent contribution to the model. Mothers who scored higher on the neuroticism scale participated in more conflict episodes with their children. Gender and attachment also significantly contributed to the model, but this was qualified by a significant gender by attachment interaction. For boys, as attachment security increased the frequency of conflict increased. The opposite pattern was found for girls; as attachment security increased the frequency of conflict decreased (see Figure 5).

The second multiple regression contained the same steps, but was built to predict conflict frequency during the teaching context (i.e. hidden pictures and construction tasks) (see Table 5). The full model, accounting for 37.8% of the variance, was significant ( $F(6,33) = 3.34, p < .05$ ). Again, mother's neuroticism made a significant

independent contribution, with those that scored higher engaging in more conflict with their children. Child's gender also made a significant contribution, but this was qualified by a significant gender by attachment interaction. For boys, as attachment security increased the frequency of conflict during the teaching tasks also increased. Girls again displayed the opposite pattern; as attachment security increased the frequency of conflict in the teaching context decreased (see Figure 6).

A third hierarchical multiple regression was conducted with the same three steps to predict conflict frequency during the non-teaching context (i.e. freeplay and clean-up tasks). None of the models were significant ( $p$ 's > .05). The last conflict frequency regression model explored the variables effect on predicting conflict frequency during the semi-teaching context (i.e. reminiscing task). The full model, accounting for 20% of the variance, was not significant, but the interaction on the third step made a marginally significant change in  $F$  (see Table 6). As attachment security increased, conflict decreased for girls and increased for boys (see Figure 7).

Multiple regression models were also conducted to examine attachment's effect on overall resolutions and resolutions in the various contexts. Models were built using control variables on the first step and attachment on the second step to predict resolution (unresolved, mother submissions, and child submissions) throughout the lab (total), during teaching, non-teaching, and semi-teaching contexts. No predictive relationships were found for the total, teaching, or non-teaching unresolved conflicts. For the semi-teaching context, the full model, was significant in predicting the proportion of unresolved conflicts ( $F(5,34) = 4.96, p < .01$ ) (see Table 7). Attachment and mother's neuroticism made significant independent contributions, with those that scored higher on

attachment or neuroticism resolving more conflicts. Child's gender also independently contributed to the model, with males having more unresolved conflicts ( $M = .66$ ,  $SD = .24$ ) than girls ( $M = .42$ ,  $SD = .28$ ) during the semi-teaching context.

None of the regression models built to predict mother submissions were significant ( $p$ 's  $> .05$ ). Also, no predictive relationships were found for child submissions in the total amount of conflict episodes, during the teaching context, or during the non-teaching context. Alternatively, the results for a regression model built to predict child submissions during the semi-teaching context revealed that the full model was significant ( $F(5,34) = 3.19$ ,  $p < .05$ ) (see Table 8). Attachment (marginally) and mother's neuroticism made independent significant contributions to this model, such that those with higher scores on attachment or neuroticism had more child submissions.

## Discussion

This study sought to determine links between conflict frequency and resolution and attachment, while controlling for child's temperament and mother's personality. In line with previous studies (e.g. Laible et al., in press), conflict was found to be normative and frequent among mothers and their toddlers. For the entire sample, dyads were arguing on average about once every minute. There was also tremendous variability in the amount of conflict with some dyads engaging in conflict every two and a half minutes, while others every forty-five seconds. Although these frequency findings are higher than other studies, the variability in conflict frequency was also similar to previous studies (e.g. Laible et al., in press). This variability in conflict frequency led to the investigation of possible factors that contribute to the differences.

One of the possible influences of conflict frequency, context, was found to affect the amount of conflict exhibited between the mother and toddler dyads. The most conflict was found to occur in the teaching context. The teaching tasks were designed to be difficult for a three-year-old to complete without the guidance of the mother, and many children protested the mothers' assistance. Especially in the construction task, children wanted to create their own version of the sample, and ignored or became irritated after their mother's attempts to correct them. Many mothers, realizing there was a goal that needed to be met, struggled with keeping their children on task, causing further conflict. All of these components led to a higher proportion of conflict during the teaching context. Alternatively, the non-teaching tasks had the least amount of conflict because there was no clearly defined goal. The freeplay was mostly child-driven, as mothers hardly gave children directions or limited what they could do. Although the clean-up task could be considered to have an end goal, many children saw this task as routine and were already well socialized to clean. Lastly, the amount of conflict during the semi-teaching context fell in between the teaching and non-teaching contexts as expected. The reminiscing task was believed to have semi-teaching qualities because there was a goal, although lesser than that of the teaching tasks, of creating a narrative about a past event.

The limited previous research on conflict across context has not found consistent results. Eisenburg (1992) found no differences in the amount of conflicts between four-year-old children and their mothers whether they were baking together or riding in a car. Similarly, Laible and Thompson (2002) found that the frequency of conflict during laboratory assessments and home observations did not differ for mother-child dyads.

Alternatively, Matas, Arend, and Srouf's (1978) results demonstrated that context affected the amount of conflict exhibited, but in the opposite direction of the current study. Specifically, children engaged in twice the amount of refusals and noncompliant behaviors during a clean-up task than a tool-using problem-solving task. It appears as though context may only influence the frequency of conflict when contrasting teaching and non-teaching tasks, such as in Matas et al. (1978) and the current study. Perhaps the current study found more conflict during teaching tasks, while Matas et al. (1978) found less, because the children in the current study were older. The three-year-olds of the current study appeared to be more willing and able to challenge their mothers because of the importance of asserting their autonomy at this age. The two-year-olds in Matas et al. (1978) may have responded by being passive learners, especially since the teaching tasks were physics problems, which children of this age would have little exposure to.

Attachment was not found to influence the amount of conflict, except when gender was considered. Surprisingly, a gender by attachment interaction emerged in predicting total conflict frequency in the current study, with boys and girls showing opposite patterns. As attachment security increased, the frequency of conflict increased for boys, but decreased for girls. Researchers have suggested that secure children are more receptive and responsive to the socialization efforts of their mothers (e.g. Kochanska, Askan, Knaack, & Rhines, 2004; Laible & Thompson, 2000). Secure children feel comfortable in their relationship with their mothers, thus creating a positive mood and disposition toward them. This leads the children to become more willing to participate in the socialization process. One type of socialization mothers engage in with their children is gender socialization. Girls are socialized to be less conflictual in a public

setting, such as a lab, whereas there is no restriction for boys. Alternatively, parents reinforce power assertive behaviors of their sons (Maccoby, 1990), and thus boys do not shy away from, and may even instigate conflict. Thus, secure children could have been more open to abiding to gender socialization by their mothers, prompting secure girls to exhibit less conflict than boys.

In predicting conflict during various contexts, securely attached children were hypothesized to exhibit less conflict in the teaching tasks, as found in the Matas et al. (1978) study. The problem-solving tasks provided opportunities for the children to learn, and secure children should recognize the adaptive advantage of compliance. Similarly, securely attached children were expected to engage in less conflict during the semi-teaching context, but to a lesser extent than the teaching tasks. Results showed that as attachment security increased, conflict increased for boys but decreased for girls in the teaching context and marginally in the semi-teaching context. Since more-secure girls argued less during teaching tasks, it appears that Matas et al.'s (1978) reasoning of an adaptive advantage of compliance would only apply to secure girls.

The learning styles children exhibited with their mothers may parallel those seen in the school setting. Classroom studies of children have demonstrated that girls receive reinforcement mainly when they are quiet and compliant (Basow, 2004). Alternatively, boys are reinforced for being dominant and calling out in class, by receiving the attention and even praise for a correct response from the teacher (Basow, 2004). Research has not yet concluded if gender differences in learning styles in the classroom are similar to learning styles at home with the parents. Since secure children are more open to the socialization attempts of their parents these children would likely show these classroom



patterns even before reaching school-age. Thus, in the teaching and semi-teaching contexts, secure girls adapted to being passive learners, while secure boys were more aggressive and engaged in more conflicts. This occurred because the reminiscing and teaching contexts motivated the secure children to change their behavior appropriately, and often times in accordance with the gender norms (e.g. Basow, 2004), to meet the goals. When this advantage of changing behavior does not exist, secure children and non-secure children, as well as males and females alike, have more freedom to act without restrictions. This was apparent in the lack of findings regarding attachment and conflict frequency in the non-teaching context. Here, little was at stake for the children, as there was not an end goal to direct their behavior toward.

In examining the proportions of resolution type across contexts, the proportion of unresolved conflicts during the non-teaching, reminiscing, and teaching contexts were found to marginally differ, but this was mainly driven by a dramatic increase in unresolved conflicts in the semi-teaching contexts. Further examination revealed a significant gender by context interaction, implicating that boys were mainly responsible for this increase during the semi-teaching context. The reminiscing task required higher attention skills from the child, since there was nothing specific to focus on besides the spoken words of the mother. Perhaps boys, who were found to be significantly lower in effortful control in this and previous studies (e.g. Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006), were more distracted during this task. This could have caused the boys to resist the demands of their mothers to stay on task and not respond appropriately, leaving most conflicts to remain unresolved. A second possible explanation for boys lacking resolutions in the reminiscing task has more to do with the context. Reese and Fivush

(1993) have found that parents use higher quality techniques when discussing past events with their daughters. In turn, the daughters participate more in the conversation and recall more than boys (Resse & Fivush, 1993; Lewis, 1999). The reminiscing task may be more difficult for boys, and thus, boys struggle more with obtaining resolutions in this context.

The results of the current study demonstrated that mothers submitted the most during the non-teaching tasks, while the children submitted the most during the teaching tasks. Since the non-teaching tasks were mostly child-centered, mothers often gave in to the child's requests. For example, children would give the setting for the pretend play, which the mothers would sometimes challenge, but eventually submit to allow the children to explore their creativity. Even during the clean-up task, children who resisted were often allowed to play for an additional amount of time before their mothers returned them to the original purpose. Alternatively, mothers were persistent in arguing their point during the teaching tasks, because there were specific rules and goals that needed to be attained in a given time limit. Laible and Thompson (2000) found that children were more likely to submit in lab conflicts than home. These researchers argued that part of the reason for this may be that mothers refused to give in when enforcing rules (Laible & Thompson, 2000). Since the tasks in the current study were difficult for the children, they relied on the guidance of a more knowledgeable person. Here, the mothers persisted until the children submitted after recognizing the mother's arguments were correct.

Regarding the resolution of conflict, secure children were predicted to resolve more conflicts overall, as found in Laible et al. (in press). Because attachment security is characterized by a consistent open, trusting, and harmonious relationship, the high

proportion of conflict resolution should also be consistent across contexts. The results did not support this explanation. None of the variables, including temperament, mother personality, or attachment, predicted the total proportions of unresolved conflicts, mother submissions, or child submissions independent of context. In fact, only two regression models built to predict types of resolution were significant, the proportions of unresolved conflicts and child submissions, but only during the semi-teaching context. Here, attachment security predicted the amount of unresolved conflicts and child submissions. Similar to previous research (e.g. Laible et al., in press), dyads higher in attachment security had a lower proportion of unresolved conflicts. Because the mother and child with a secure relationship are committed to maintaining harmony in the relationship (Laible & Thompson, 2006), the secure dyad is more likely to resolve conflicts to preserve harmony.

Mother's neuroticism and conscientiousness were controlled for because they were believed to influence the amount of conflict exhibited between mothers and their children (e.g. Kochanska, Clark, & Goldman, 1997). After controlling for these variables, neuroticism remained a significant predictor of the amount of conflict across the lab and in the teaching context, with mothers scoring higher on neuroticism engaging in more conflicts. Neurotic mothers have the general tendency to experience negative affect (Clark, Kochanska, & Ready, 2000), which may cause them to instigate or provoke more conflicts overall. For example, during the teaching context, mothers high in neuroticism may have tended to overreact to their children's failed attempts at reaching the goals. Neuroticism also remained a significant predictor of unresolved conflicts and child submissions during the semi-teaching context, with higher scoring mothers exhibiting

more unresolved conflicts and had children who submitted less frequently. There could be many reasons for neurotic mothers to have more unresolved conflicts and less child submissions. Clark, Kochanska, and Ready (2000) found neurotic mothers to be less responsive to their children, which could lead to the lack of conflict resolutions.

Eisenberg and Fabes (1992) suggest that only optimally regulated people are prone to positive affectivity. The neurotic mothers, high in negative affectivity, likely have difficulties regulating their emotion, and thus do not have the emotional resources to resolve the conflicts. The children of neurotic mothers may recognize their mothers' negative affect, and thus may have adapted to dropping the conflict topic to avoid the mothers becoming emotionally overwhelmed.

Interesting differences emerged regarding gender and conflict independent of attachment. Girls were found to have a greater proportion of conflict with their mothers throughout the span of the lab. This difference appears to have been driven by the significant difference between boys and girls during the teaching tasks, and specifically the construction task. The two genders did not differ on other tasks of the lab. Keeping in mind that this effect is qualified by a gender by attachment interaction as discussed earlier, these results first appear to be counterintuitive. Boys would be expected to be more conflictual, but the research on this issue is mixed. Traditional gender theories allow for the possibility that the frequency of conflict could differ according to gender. Boys are socialized to be more assertive, while girls learn to be submissive especially in public settings (e.g. Basow, 2004). Previous research has supported this theory, such that boys have been found to initiate more (Rubin et al., 2003) and resolve fewer conflicts (Laible et al., in press) than girls in a lab setting. Other research has not been able to find

gender differences regarding the frequency of conflict or non-compliance (e.g. Londerville & Main, 1981; Laible et al., in press). More research is needed in this area to determine if, in fact, boys and girls differ in the amount of conflict.

In line with previous research, girls were rated higher on effortful control than boys. The effortful control construct consisted of dimensions related to attention and behavioral inhibition. These constructs are believed to be more characteristic of girls than boys. In fact, a meta-analysis has shown there are consistent gender differences favoring girls on the construct of effortful control as well as many of the dimensions within the factor (Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006). The results of the meta-analysis suggest that girls have an overall better ability to regulate their attention, control inappropriate responses and behaviors, and inhibit their impulses (Else-Quest et al., 2006). These abilities are major developmental tasks in childhood. Else-Quest et al. (2006) suggest that boys may be lagging behind girls in achieving these skills due to social interaction. For example, girls tend to prefer low-intensity activities, one dimension of effortful control, such as playing house (Else-Quest et al., 2006).

Although the findings of this study can add to our knowledge about how personal and relationship characteristics can influence conflict, this study is not without limitations. The current study would have had greater statistical power to detect differences if more participants were included. Also, participants in this study were primarily white and highly educated. Thus, the results of this study cannot be generalized to people of different ethnicities or socioeconomic status. Conflict frequency and resolution would even be expected to vary according to cultural background and socioeconomic status (e.g. Rudy & Grusec, 1999). Additionally, mothers were solely

responsible for reporting on their personality, attachment security, and their children's temperament. Future studies should also include reports from multiple reporters and observations. Furthermore, causal interpretations of the results must be made with caution due to the correlational nature of the study. Although attachment theory can be used to explain why the relationship between the mother and child would influence conflict outcomes, the opposite could also be true. It may be possible that the nature and frequency of the conflict could shape the security felt by the child, or that the relationship between attachment security and conflict is bidirectional. Longitudinal research would be needed to sort the direction of these effects.

Regardless of the limitations, the results of this study are quite interesting. Many conflict studies only examine the total amount of conflict. Because of this, possible reasons for the varying amount of conflict among dyads may have been overshadowed. By taking context into account, this study was able to show that conflict frequency and resolution is influenced by the task and goals, which should steer future conflict researchers to consider contexts. Furthermore, little research examines how the mother's personality can affect the frequency and resolution of conflict. Although only two traits were included in the current analyses, the results indicate that the personality of the mother, and not just the child's temperament, can influence conflict outcomes. In addition, the current study has displayed the importance of examining the child's gender in accordance with attachment. The provocative gender by attachment findings indicate that boys and girls do not always show the same attachment-based behavior patterns, at least with regards to conflict. Lastly, links between attachment and conflict frequency have rarely been found by previous research. Previous research has exhibited the

importance of attachment and the quality of conflict (Laible et al., in press). This study adds credence to the potential influence of attachment security on conflict frequency.

Table 1

*Conflict Frequency Descriptives (Per Minute)*

	Minimum	Maximum	Mean	SD
Total	.40	1.44	.95	.25
Teaching	.41	1.96	1.12	.39
Hidden Pictures	.24	2.10	1.06	.42
Construction	.29	2.20	1.17	.52
Non-Teaching	.25	1.28	.83	.26
Freeplay	.20	1.49	.77	.34
Clean-up	.30	1.57	.90	.29
Reminiscing	0	1.80	.95	.40

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*N* = 40



Table 2

*Conflict Resolution Proportion Scores*

	Minimum	Maximum	Mean	<i>SD</i>
Total				
UR	.28	.75	.48	.12
MS	0	.38	.14	.09
CS	.09	.67	.34	.13
Teaching				
UR	.05	.83	.45	.19
MS	0	.46	.11	.12
CS	.05	.95	.42	.20
Hidden Pictures				
UR	0	1	4.88	.26
MS	0	.67	.13	.16
CS	0	1	.35	.25
Construction				
UR	0	1	.41	.28
MS	0	.67	.08	.16
CS	0	1	.49	.28
Non-Teaching				
UR	.15	.78	.46	.16
MS	0	.5	.20	.14

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CS	0	.67	.30	.14
Freeplay				
UR	0	.93	.47	.20
MS	0	1	.23	.22
CS	0	.75	.27	.19
Clean-up				
UR	0	.89	.46	.23
MS	0	.57	.16	.16
CS	0	.83	.33	.20
Reminiscing				
UR	0	1	.53	.28
MS	0	.75	.14	.22
CS	0	.75	.28	.22

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*N* = 40

Table 3

*Correlations between Conflict Predictors and Outcomes*

	Gender	Attachment	Neuroticism	Conscientiousness	Effortful Control
Total Freq	.31*	.06	.26	.11	.25
Teaching Freq	.39*	-.02	.22	.10	.02
Non-Teaching Freq	.24	-.17	.12	.13	.38*
Reminiscing Freq	.02	-.02	.22	.12	.28+
Total UR	-.10	-.22	.01	-.03	-.36*
Total MS	.18	.18	-.05	-.09	.09
Total CS	.01	.05	.11	.12	.25
Teaching UR	.09	-.17	.20	-.04	.24
Teaching MS	.04	.14	-.13	-.12	-.11
Teaching CS	-.11	.02	-.08	.11	.26
Non-Teaching UR	.01	.11	-.12	.26	.03
Non-Teaching MS	.02	-.07	.18	-.20	-.04
Non-Teaching CS	.01	-.06	.09	-.07	-.04
Reminiscing UR	-.42**	-.46**	-.10	-.31+	-.34*
Reminiscing MS	.22	.29+	-.14	.03	.14
Reminiscing CS	.24	.18	.36*	.25	.25

\* $p < .05$ , \*\* $p < .01$ , + $p < .10$

Table 4

*Hierarchical Multiple Regression Predicting the Total Conflict Frequency*

Variables & Steps	$\beta$ in Full Model	$R^2$	$\Delta R^2$
1. Gender	.34*	.19	.19
Neuroticism	.36*		
Conscientiousness	-.13		
Effortful control	.08		
2. Attachment security	.11*	.20	.01
3. Gender x Attachment	-.39*	.34*	.14*

\* $p < .05$

Table 5

*Hierarchical Multiple Regression Predicting the Frequency of Conflict in the Teaching Context*

Variables & Steps	$\beta$ in Full Model	$R^2$	$\Delta R^2$
1. Gender	.46**	.22+	.22+
Neuroticism	.38*		
Conscientiousness	-.02		
Effortful control	-.25		
2. Attachment security	.09	.23	.01
3. Gender x Attachment	-.41**	.38*	.15**

\* $p < .05$ , \*\* $p < .01$ , + $p < .10$

Table 6

*Hierarchical Multiple Regression Predicting the Frequency of Conflict in the Semi-Teaching Context*

Variables & Steps	$\beta$ in Full Model	$R^2$	$\Delta R^2$
1. Gender	-.04	.11	.11
Neuroticism	.24		
Conscientiousness	.04		
Effortful control	.20		
2. Attachment security	-.03	.11	.00
3. Gender x Attachment	-.30+	.20	.09+

\* $p < .05$ , \*\* $p < .01$ , + $p < .10$

Table 7

*Hierarchical Multiple Regression Predicting the Proportion of Unresolved Conflict during the Semi-Teaching Context*

Variables & Steps	$\beta$ in Full Model	$R^2$	$\Delta R^2$
1. Gender	-.32*	.24*	.24*
Neuroticism	-.34*		
Conscientiousness	.01		
Effortful control	-.02		
2. Attachment security	-.54*	.42**	.18**

\* $p < .05$ , \*\* $p < .01$ , + $p < .10$

Table 8

*Hierarchical Multiple Regression predicting the Proportion of Child Submissions during the Semi-Teaching Context*

Variables & Steps	$\beta$ in Full Model	$R^2$	$\Delta R^2$
1. Gender	.13	.25*	.25*
Neuroticism	.55**		
Conscientiousness	.17		
Effortful control	-.07		
2. Attachment security	-.34+	.32*	.08+

\* $p < .05$ , \*\* $p < .01$ , + $p < .10$



## Figure Captions

*Figure 1.* Conflict across contexts separated for boys and girls.

*Figure 2.* Gender by context interaction for unresolved conflicts.

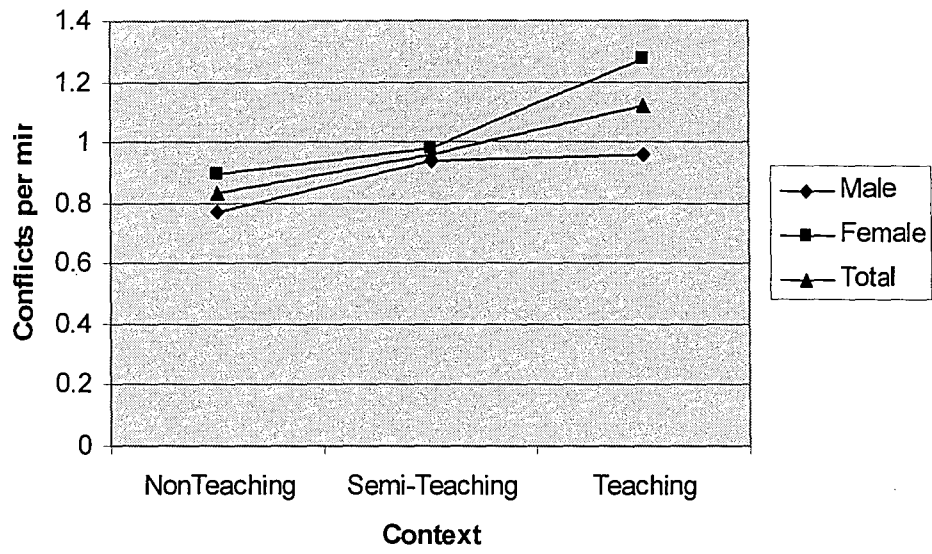
*Figure 3.* Mother submissions across contexts.

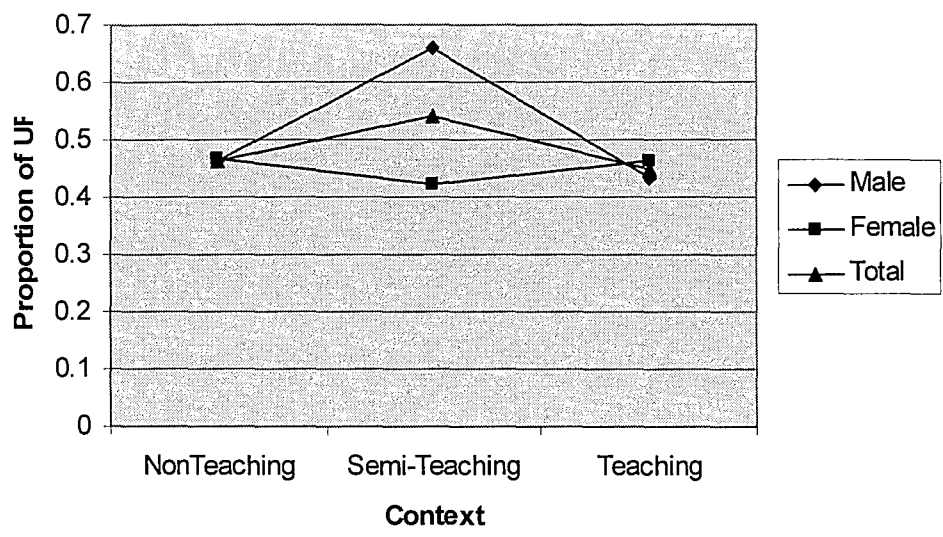
*Figure 4.* Child submissions across contexts.

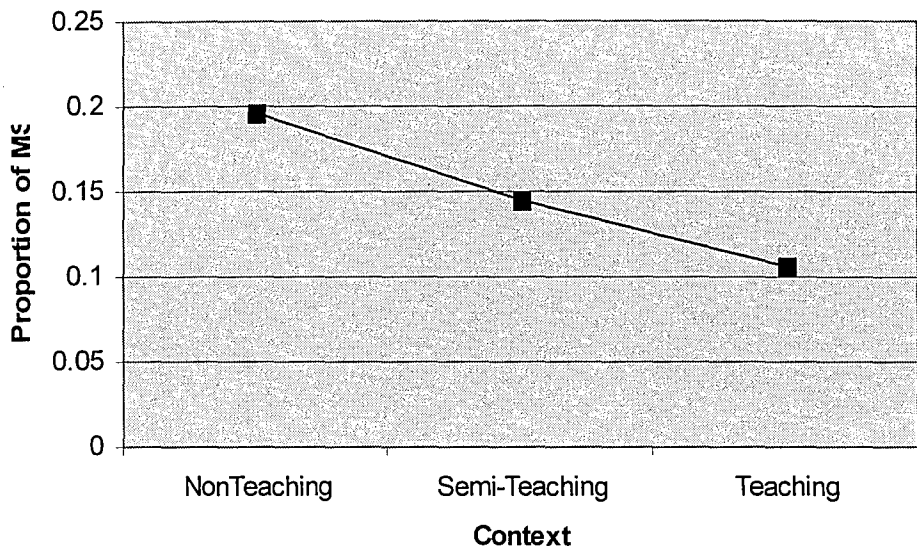
*Figure 5.* Gender by attachment interaction predicting total conflict frequency.

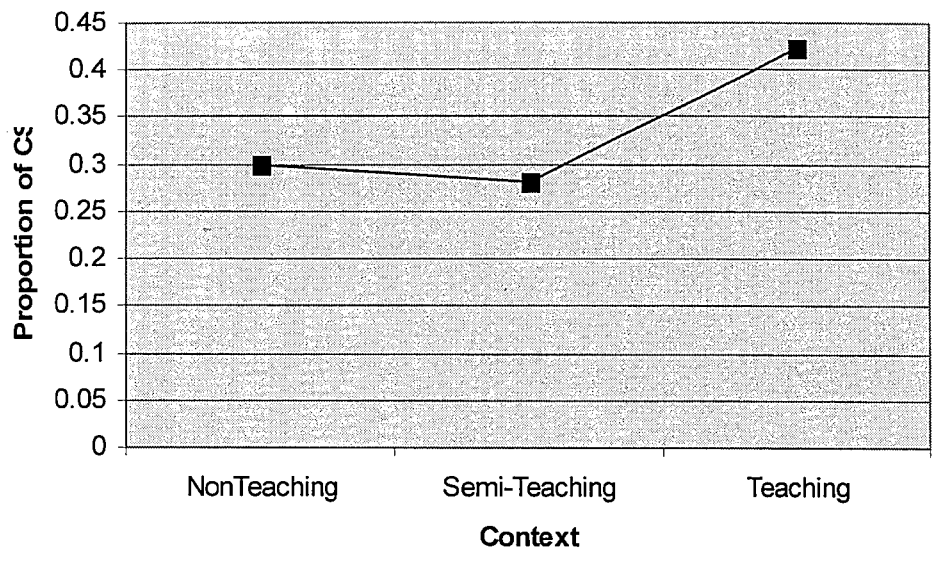
*Figure 6.* Gender by attachment interaction predicting conflict frequency during the teaching context.

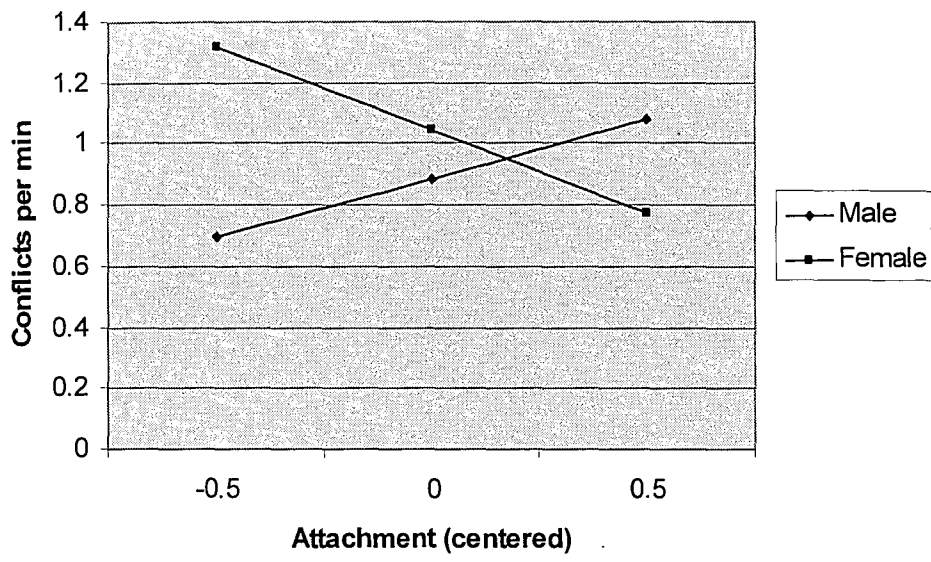
*Figure 7.* Gender by attachment interaction predicting conflict frequency during the semi-teaching context.

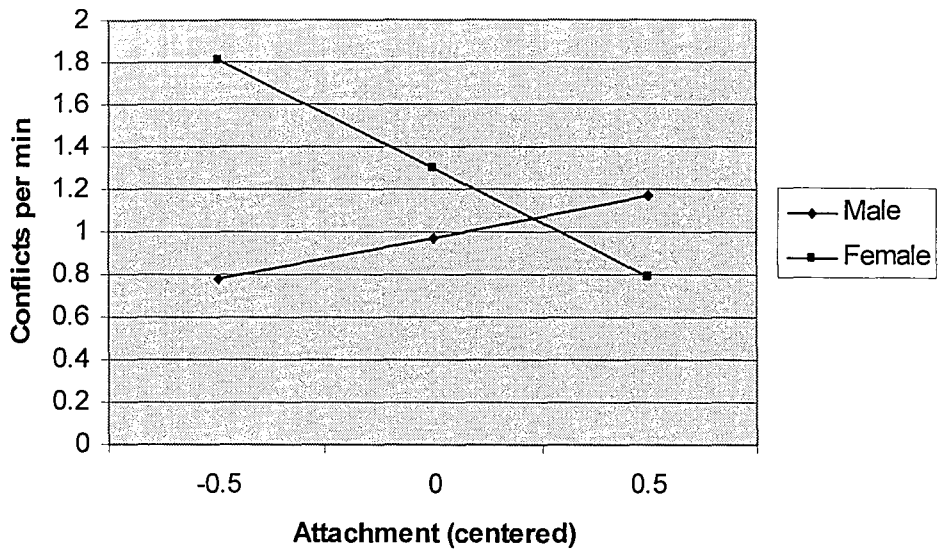




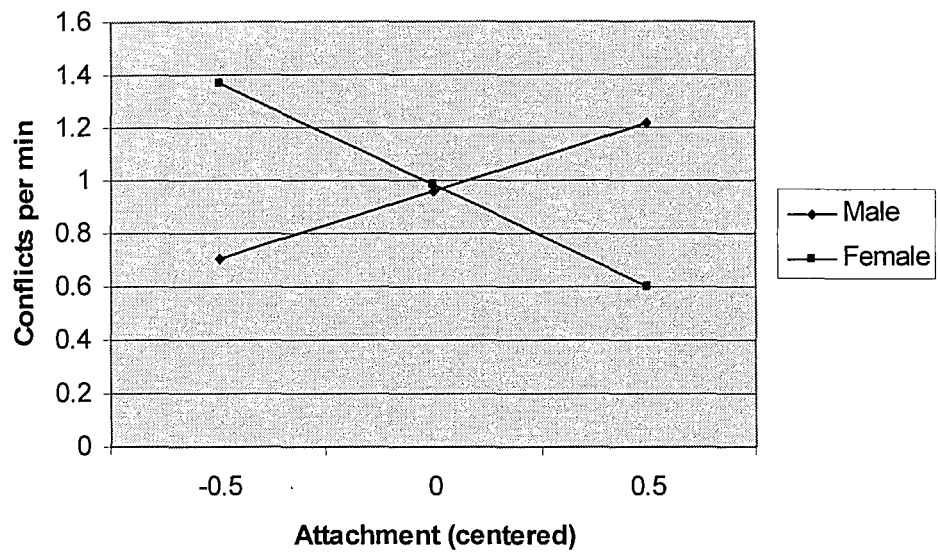








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Dear Mother,

Do you ever wonder what factors contribute to the interactions you experience with your child? I am writing to you because my interests lie in this area. I am a graduate student of developmental psychology and I need your help in answering this question for my Master's Thesis. I am looking for mothers with children who will be 36-months of age (3 years) within the next six months to participate in my study on discourse between mothers and their children.

We will ask you to bring your child into our laboratory playroom at Lehigh University for a videotaped session. During this time you and your child will participate together in:

- 10 minutes of free play
- a clean-up period
- conversations about two recent past events
- two problem-solving tasks

You will then be taken to a room next door to sort a number of descriptive statements (printed on index cards) into different piles, depending on how much they describe your child. During this period of the laboratory session your child will participate in a puppet interview (designed to assess emotional understanding), an empathy task, and a guilt task.

The lab session should last about an hour and a half. Upon leaving you will be given a packet of questionnaires (about the child's temperament and your personality characteristics) to complete along with a stamped envelope to send back to us.

Are there any benefits of participating in the study?

- You will be entered into a drawing for a \$50 cash prize for participating.
- Your child will receive a toy at the end of the laboratory visit.
- You will receive a copy of all results from the study.
- You will have the opportunity to observe your child in new situations.
- You can request a copy of the DVD recording of the lab session.
- Your help will contribute to our knowledge on child development.

If you think that you might be interested in taking part in the study, or if you have any questions, please call or e-mail me (484-919-9701 or [tmp205@lehigh.edu](mailto:tmp205@lehigh.edu)).

Thank You!

Tia Panfile  
Graduate Student  
Lehigh University

**P.s. I hope that you will understand the importance of research on child development and will agree to take part in the study. If you choose to participate I will do everything possible to schedule times for the study that are convenient for you (days/nights/weekends).**

## Appendix B CONSENT FORM

You are invited to participate in a study investigating mother and child interactions, conducted by Tia Panfile under the supervision of Dr. Debbie Laible of the Psychology Department at Lehigh University. The general purpose of this study is to investigate what factors contribute to everyday interactions between a mother and her child.

You and your child will participate in one laboratory session, which should last about an hour and a half. The lab session will be videotaped, which will later be used for transcribing conversations. All DVDs of the lab sessions will be kept in a locked office and will be accessible only by the research team. After five years of the publication of the findings, all DVDs will be destroyed according to proper guidelines to protect your identity.

During the lab session you and your child will participate together in:

- 10 minutes of free play
- a clean-up period
- conversations about two recent past events
- two problem-solving tasks

You will then be taken to a room next door to sort a number of descriptive statements (printed on index cards) into different piles, depending on how much they describe your child. You have been sent these statements in advance so you could think about them and prepare. During this period of the laboratory session your child will participate in a puppet interview (designed to assess emotional understanding), an empathy task (which will involve the experimenter faking distress after bumping an ankle), and a guilt task (which will involve a teddy bear losing his head when your child handles it). The puppet interview does involve some scenes of sibling conflict and parental discipline. Finally, you will be given two questionnaires (one about your child's temperament and one about your personality characteristics) to complete at home and mail back.

One possible risk of the study is that your child may become upset when you are taken out of the room to complete the sorting task. If the child experiences emotional discomfort, we will leave the door to the adjoining room open, so that your child can see you. It is also possible that your child may become mildly distressed during the guilt and empathy tasks. Part of what we are interested in is your child's concern over the broken toy and distressed experimenter. We will reassure the child that the toy is fixed and that the experimenter is fine to eliminate your child's distress. Because you will be in an adjoining room during these two tasks and will be able to see your child, you will have an opportunity to comfort your child, if we are not able to.

Your participation in the study will help increase knowledge in the field of Developmental Psychology that may benefit others in the future. At the completion of the study (likely to be in the spring) all participating mothers will be entered into a



random drawing for a \$50 cash prize. Your child will receive a toy at the completion of the laboratory.

Any data collected will be confidential and only identified by a number, not your name. No information gathered in this study will be disclosed to any persons other than Tia Panfile or Dr. Debbie Laible unless the identities are deleted. In any publication of the results, the identities of the participants will not be revealed. Any information collected through this research project that personally identifies you will not be voluntarily released or disclosed without your separate consent, except as specifically required by law.

Participation is voluntary and you are free to withdraw your consent and discontinue with the study at any time without prejudice toward you.

The investigator will be glad to answer any questions in regard to the procedure of this study. However, answers that may influence the outcome of the study will be deferred until the end of the session. For further questions you may contact Tia Panfile at 484-919-9701.

You may report problems resulting from your participation or direct questions concerning your rights as a research participant to Ruth Tallman, Office of Research and Sponsored Programs, Lehigh University, (610)758-3024. All reports or correspondences will be kept confidential.

To confirm that you have read and understand the foregoing information, that you have received answers to any questions you asked, and to consent to participate in the study, please sign below.

---

Signature

---

Date

To confirm your consent to the participation of your child, a minor, as a subject in the study described, please sign below.

---

Signature of minor subject's parent/guardian

---

Date

Appendix C  
FEEDBACK SHEET

Thank you for participating in our study examining mother-child interactions conducted by Tia Panfile under the supervision of Dr. Debbie Laible of the Psychology Department at Lehigh University.

The purpose of the study is to see what factors influence verbal conflict between mothers and their children, such as attachment status and child's temperament.

If you have any questions about our study or the results you can contact Tia Panfile at 484-919-9701 or Chandler-Ullman Building, 17 Memorial Drive West, Bethlehem, PA 18015.

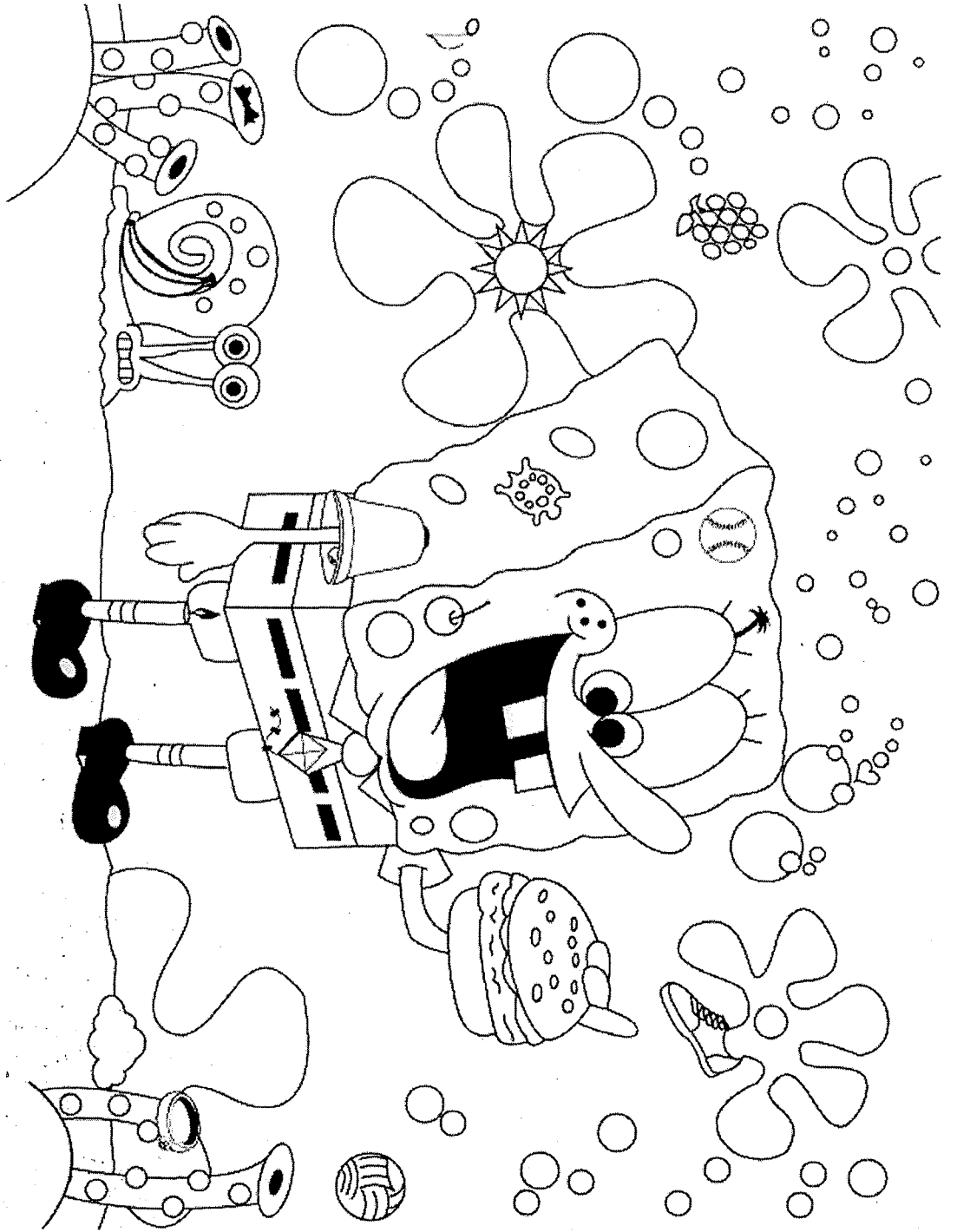
Again, thank you for your participation in our study. If you would like to learn more about the topics presented in this study, you may refer to the following references:

Laible, D. J., & Thompson, R. A. (2002). Mother-child conflict in the toddler years: Lessons in emotion, morality, and relationships. *Child Development, 73*, 1187-1203.

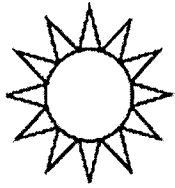
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Appendix D



Key



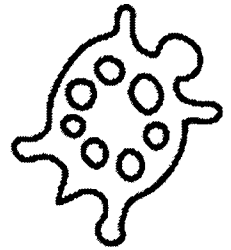
Sun



Palm Tree



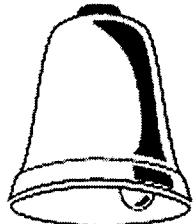
Sneaker



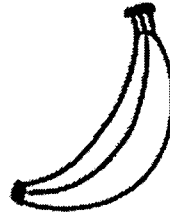
Turtle



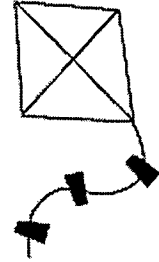
Cherry



Bell



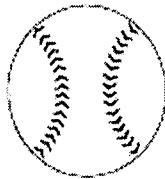
Banana



Kite



Cloud



Baseball



Heart



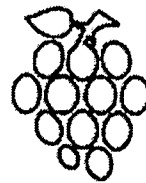
Happy Face



Volleyball



Candle



Grapes



Ring



Music Note



Bow

Appendix E  
Attachment Q-sort Items  
Printed on Index Cards

Mothers sort into 9 equal piles of 10 ranging from most like to least like her child

1. Child readily shares with mother or lets her hold things if she asks to.  
Low: Refuses.
2. When child returns to mother after playing, he is sometimes fussy for no clear reason.  
Low: Child is happy or affectionate when he returns to mother between or after play times.
3. When he is upset or injured, child will accept comforting from adults other than mother.  
Low: Mother is the only one he allows to comfort him.
4. Child is careful and gentle with toys and pets.
5. Child is more interested in people than in things.  
Low: More interested in things than people.
6. When child is near mother and sees something he wants to play with, he fusses or tries to drag mother over to it.  
Low: Goes to what he wants without fussing or dragging mother along.
7. Child laughs and smiles easily with a lot of different people.  
Low: Mother can get him to smile or laugh more easily than others.
8. When child cries, he cries hard.  
Low: Weeps, sobs, doesn't cry hard, or hard crying never lasts very long.
9. Child is lighthearted and playful most of the time.  
Low: Child tends to be serious, sad, or annoyed a good deal of the time.
10. Child often cries or resists when mother takes him to bed for naps or at night.
11. Child often hugs or cuddles against mother, without her asking or inviting him to do so.  
Low: Child doesn't hug or cuddle much, unless mother hugs him first or asks him to give her a hug.
12. Child quickly gets used to people or things that initially made him shy or frightened him.  
Middle: if never shy or afraid.
13. When the child is upset by mother's leaving, he continues to cry or even gets angry after she is gone.  
Middle: if not upset by mom leaving.  
Low: Cry stops right after mom leaves.
14. When child finds something new to play with, he carries it to mother or shows it to her from across the room.  
Low: Plays with the new object quietly or goes where he won't be interrupted.
15. Child is willing to talk to new people, show them toys, or show them what he can do, if mother asks him to.
16. Child prefers toys that are modeled after living things (e.g., dolls, stuffed animals).  
Low: Prefers balls, blocks, pots and pans, etc.

17. Child quickly loses interest in new adults if they do anything that annoys him.
18. Child follows mother's suggestions readily, even when they are clearly suggestions rather than orders.  
Low: Ignores or refuses unless ordered.
19. When mother tells child to bring or give her something, he obeys. (Do not count refusals that are playful or part of a game unless they are clearly disobedient)  
Low: Mother has to take the object or raise her voice to get it away from him.
20. Child ignores most bumps, falls, or startles.  
Low: Cries after minor bumps, falls, or startles.
21. Child keeps track of mother's location when he plays around the house. Calls to her now and then notices her go from room to room. Notices if she changes activities  
Middle: if child isn't allowed or doesn't have room, to play away from mom.  
Low: Doesn't keep track.
22. Child acts like an affectionate parent toward dolls, pets, or infants.  
Middle: if child doesn't play with or have access to dolls, pets, or infants.  
Low: Plays with them in other ways.
23. When mother sits with other family members, or is affectionate with them, child tries to get mom's affection for himself.  
Low: Lets her be affectionate with others. May join in but not in a jealous way.
24. When mother speaks firmly or raises her voice at him, child becomes upset, sorry, or ashamed about displeasing her. (Do not score high if child is simply upset by the raised voice or afraid of getting punished)
25. Child is easy for mother to lose track of when he is playing out of her sight.  
Middle: if never plays out of sight.  
Low: Talks and calls when out of sight. Easy to find; easy to keep track of what child is doing.
26. Child cries when mother leaves him at home with babysitter, father, or grandparent.  
Low: Doesn't cry with any of these.
27. Child laughs when mother teases him.  
Middle: If mother never teases child during play or conversations.  
Low: Annoyed when mother teases him.
28. Child enjoys relaxing in mother's lap.  
Middle: If child never sits still.  
Low: Prefers to relax on the floor or on furniture.
29. At times, child attends so deeply to something that he doesn't seem to hear when people speak to him.  
Low: Even when deeply involved in play, child notices when people speak to him.
30. Child easily becomes angry with toys.
31. Child wants to be the center of mother's attention. If mom is busy or talking to someone, he interrupts.  
Low: Doesn't notice or doesn't mind not being the center of mother's attention.
32. When mother says "No" or punishes him, child stops misbehaving (at least at that time). Doesn't have to be told twice.

33. Child sometimes signals mother (or gives the impression) that he wants to be put down, and then fusses or wants to be picked right back up.

Low: Always ready to go play by the time he signals mother to put him down.

34. When child is upset about mother leaving him, he sits right where he is and cries. Doesn't go after her.

Middle: If never upset by her leaving

Low: Actively goes after her if he is upset or crying.

35. Child is independent with mother. Prefers to play on his own; leaves mother easily when he wants to play.

Middle: allowed or not enough room to play

Low: Prefers playing with or near mother

36. Child clearly shows a pattern of using mother as a base from which to explore. Moves out to play; Returns or plays near her; Moves out to play again, etc.

Low: Always away unless retrieved, or always stays near.

37. Child is very active. Always moving around. Prefers active games to quiet ones.

38. Child is demanding and impatient with mother. Fussing and persists unless she does what he wants right away.

39. Child is often serious and businesslike when playing away from mother or alone with his toys.

Low: Often silly or laughing when playing away from mother or alone with his toys.

40. Child examines new objects or toys in great detail. Tries to use them in different ways or to take them apart.

Low: First look at new objects or toys is usually brief (May return to them later however.)

41. When mother says to follow her, child does so. (Do not count refusals or delays that are playful or part of a game unless they clearly become disobedient.)

42. Child recognizes when mother is upset. Becomes quiet or upset himself. Tries to comfort her. Asks what is wrong, etc.

Low: Doesn't recognize; continues play; behaves toward her as if she were OK.

43. Child stays closer to mother or returns to her more often than the simple task of keeping track of her requires.

Low: Doesn't keep close track of mother's location or behavior.

44. Child asks for and enjoys having mother hold, hug, and cuddle him.

Low: Not especially eager for this. Tolerates it but doesn't seek it; or wiggles to be put down.

45. Child enjoys dancing or singing along with music.

Low: Neither likes nor dislikes music.

46. Child walks and runs around without bumping, dropping, or stumbling.

Low: Bumps, drops, or stumbles happen throughout the day (even if no injuries result).

47. Child will accept and enjoy loud sounds or being bounced around in play, if mother smiles and shows that it is supposed to be fun.

Low: Child gets upset, even if mother indicates the sound or activity is safe or fun.

48. Child readily lets new adults hold or share things he has, if they ask to.

49. Runs to mother with a shy smile when new people visit the home.  
Middle: If child doesn't run to mother at all when visitors arrive.  
Low: Even if he eventually warms up to visitors, child initially runs to mother with a fret or a cry.
50. Child's initial reaction when people visit the home is to ignore or avoid them, even if he eventually warms up to them.
51. Child enjoys climbing all over visitors when he plays with them.  
Middle: if he won't play with visitors.  
Low: Doesn't seek close contact with visitors when he plays with them.
52. Child has trouble handling small objects or putting small things together.  
Low: Very skillful with small objects, pencils, etc.
53. Child puts his arms around mother or puts his hand on her shoulder when she picks him up.  
Low: Accepts being picked up but doesn't especially help or hold on.
54. Child acts like he expects mother to interfere with his activities when she is simply trying to help him with something.  
Low: Accepts mother's help readily, unless she is in fact interfering.
55. Child copies a number of behaviors or way of doing things from watching mother's behavior.  
Low: Doesn't noticeably copy mother's behavior.
56. Child becomes shy or loses interest when an activity looks like it might be difficult.  
Low: Thinks he can do difficult tasks.
57. Child is fearless.  
Low: Child is cautious or fearful.
58. Child largely ignores adults who visit the home Finds his own activities more interesting.  
Low: Finds visitors quite interesting, even if he is a bit shy at first.
59. When child finishes with an activity or toy, he generally finds something else to do without returning to mother between activities.  
Low: When finished with an activity or toy, he returns to mother for play, affection or help finding more to do.
60. If mother reassures him by saying "It's OK" or "It won't hurt you", child will approach or play with things that initially made him cautious or afraid.  
Middle: if never cautious or afraid.
61. Plays roughly with mother. Bumps, scratches, or bites during active play. (Does not necessarily mean to hurt mom)  
Middle: if play is never very active  
Low: Plays active games without injuring mother.
62. When child is in a happy mood, he is likely to stay that way all day.  
Low: Happy moods are very changeable.
63. Even before trying things himself, child tries to get someone to help him.
64. Child enjoys climbing all over mother when they play.  
Low: Doesn't especially want a lot of close contact when they play.



65. Child is easily upset when mother makes him change from one activity to another. (Even if the new activity is something child often enjoys.)
66. Child easily grows fond of adults who visit his home and are friendly to him.  
Low: Doesn't grow fond of new people very easily.
67. When the family has visitors, child wants them to pay a lot of attention to him.
68. On the average, child is a more active type person than mother.  
Low: On the average, child is less active type person than mother.
69. Rarely asks mother for help. Middle if child is too young to ask.  
Low: Often asks mother for help.
70. Child quickly greets his mother with a big smile when she enters the room. (Shows her a toy, gestures, or says "Hi, Mommy").  
Low: Doesn't greet mother unless she greets him first.
71. If held in mother's arms, child stops crying and quickly recovers after being frightened or upset.  
Low: Not easily comforted.
72. If visitors laugh at or approve of something the child does, he repeats it again and again.  
Low: Visitors' reactions don't influence child this way.
73. Child has a cuddly toy or security blanket that he carries around, takes it to bed, or holds when upset. (Do not include bottle or pacifier if child is under two years old.)  
Low: Can take such things or leave them, or has none at all.
74. When mother doesn't do what child wants right away, child behaves as if mom were not going to do it at all. (Fusses, gets angry, walks off to other activities, etc.)  
Low: Waits a reasonable time, as if he expects mother will shortly do what he asked.
75. At home, child gets upset or cries when mother walks out of the room. (May or may not follow her.)
76. When given a choice, child would rather play with toys than with adults.  
Low: Would rather play with adults than toys.
77. When mother asks child to do something, he readily understands what she wants (May or may not obey.)  
Middle if too young to understand  
Low: Sometimes puzzled or slow to understand what mother wants.
78. Child enjoys being hugged or held by people other than his parents and/or grandparents.
79. Child easily becomes angry at mother.  
Low: Doesn't become angry at mother unless she is very intrusive or he is very tired.
80. Child uses mother's facial expressions as good source of information when something looks risky or threatening.  
Low: Makes up his own mind without checking mother's expressions first.
81. Child cries as a way of getting mother to what he wants.  
Low: Mainly cries because of genuine discomfort (tired, sad, afraid, etc. ).

82. Child spends most of his play time with just a few favorite toys or activities.

83. When child is bored, he goes to mother looking for something to do.

Low: Wanders around or just does nothing for a while, until something comes up.

84. Child makes at least some effort to be clean and tidy around the house.

Low: Spills and smears things on himself and on floors all the time.

85. Child is strongly attracted to new activities and new toys.

Low: New things do not attract him away from familiar toys or activities.

86. Child tries to get mother to imitate him, or quickly notices and enjoys it when mom imitates him on her own.

87. If mother laughs at or approves of something the child has done, he repeats again and again.

Low: Child is not particularly influenced this way.

88. When something upsets the child, he stays where he is and cries.

Low: Goes to mother when he cries.

89. Child's facial expressions are strong and clear when he is playing with something.

90. If mother moves very far, child follows along and continues his play in the area she has moved to.

(Doesn't have to be called or carried along; doesn't stop play or get upset.)

Middle if child isn't allowed or doesn't have room to move very far away.

## Appendix F

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### Children's Behavior Questionnaire Short Form Version I

Subject No. \_\_\_\_\_

Date of Child's Birth:

Today's Date \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ \_\_\_\_\_  
Month Day Year

Sex of Child \_\_\_\_\_

Age of Child \_\_\_\_\_

\_\_\_\_\_ months

Years

Instructions: Please read carefully before starting:

On the next pages you will see a set of statements that describe children's reactions to a number of situations. We would like you to tell us what your child's reaction is likely to be in those situations. There are of course no "correct" ways of reacting; children differ widely in their reactions, and it is these differences we are trying to learn about. Please read each statement and decide whether it is a "true" or "untrue" description of your child's reaction within the past six months. Use the following scale to indicate how well a statement describes your child:

- | Circle # | If the statement is:                 |
|----------|--------------------------------------|
| 1        | extremely untrue of your child       |
| 2        | quite untrue of your child           |
| 3        | slightly untrue of your child        |
| 4        | neither true nor false of your child |
| 5        | slightly true of your child          |
| 6        | quite true of your child             |
| 7        | extremely true of your child         |

If you cannot answer one of the items because you have never seen the child in that situation, for example, if the statement is about the child's reaction to your singing and you have never sung to your child, then circle NA (not applicable).

Please be sure to circle a number or NA for every item.

1. Seems always in a big hurry to get from one place to another.

1      2      3      4      5      6      7      NA

2. Gets angry when told s/he has to go to bed.

1      2      3      4      5      6      7      NA

3. Is not very bothered by pain.

1      2      3      4      5      6      7      NA

4. Likes going down high slides or other adventurous activities.

1      2      3      4      5      6      7      NA

5. Notices the smoothness or roughness of objects s/he touches.

1      2      3      4      5      6      7      NA

6. Gets so worked up before an exciting event that s/he has trouble sitting still.

1      2      3      4      5      6      7      NA

7. Usually rushes into an activity without thinking about it.

1      2      3      4      5      6      7      NA

8. Cries sadly when a favorite toy gets lost or broken.

1      2      3      4      5      6      7      NA

9. Becomes quite uncomfortable when cold and/or wet.

1      2      3      4      5      6      7      NA

10. Likes to play so wild and recklessly that s/he might get hurt.

1      2      3      4      5      6      7      NA

11. Seems to be at ease with almost any person.

1      2      3      4      5      6      7      NA

12. Tends to run rather than walk from room to room.  
1 2 3 4 5 6 7 NA
13. Notices it when parents are wearing new clothing.  
1 2 3 4 5 6 7 NA
14. Has temper tantrums when s/he doesn't get what s/he wants.  
1 2 3 4 5 6 7 NA
15. Gets very enthusiastic about the things s/he does  
1 2 3 4 5 6 7 NA
16. When practicing an activity, has a hard time keeping her/his mind on it.  
1 2 3 4 5 6 7 NA
17. Is afraid of burglars or the "boogie man."  
1 2 3 4 5 6 7 NA
18. When outside, often sits quietly.  
1 2 3 4 5 6 7 NA
19. Enjoys funny stories but usually doesn't laugh at them.  
1 2 3 4 5 6 7 NA
20. Tends to become sad if the family's plans don't work out.  
1 2 3 4 5 6 7 NA
21. Will move from one task to another without completing any of them.  
1 2 3 4 5 6 7 NA
22. Moves about actively (runs, climbs, jumps) when playing in the house.  
1 2 3 4 5 6 7 NA
23. Is afraid of loud noises.  
1 2 3 4 5 6 7 NA
24. Seems to listen to even quiet sounds.

- |     |   |   |   |   |   |   |   |    |
|-----|---|---|---|---|---|---|---|----|
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 25. | Has a hard time settling down after an exciting activity.                                   |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 26. | Enjoys taking warm baths.   |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 27. | Seems to feel depressed when unable to accomplish some task.                                |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 28. | Often rushes into new situations.   |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 29. | Is quite upset by a little cut or bruise.   |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 30. | Gets quite frustrated when prevented from doing something s/he wants to do.                 |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 31. | Becomes upset when loved relatives or friends are getting ready to leave following a visit. |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 32. | Comments when a parent has changed his/her appearance.                                      |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 33. | Enjoys activities such as being chased, spun around by the arms, etc.                       |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 34. | When angry about something, s/he tends to stay upset for ten minutes or longer.             |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 35. | Is not afraid of the dark.  |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 36. | Takes a long time in approaching new situations.  |   |   |   |   |   |   |    |
|     | 1   | 2 | 3 | 4 | 5 | 6 | 7 | NA |

37. Is sometimes shy even around people s/he has known a long time.  
1 2 3 4 5 6 7 NA
38. Can wait before entering into new activities if s/he is asked to.  
1 2 3 4 5 6 7 NA
39. Enjoys "snuggling up" next to a parent or babysitter.  
1 2 3 4 5 6 7 NA
40. Gets angry when s/he can't find something s/he wants to play with.  
1 2 3 4 5 6 7 NA
41. Is afraid of fire.  
1 2 3 4 5 6 7 NA
42. Sometimes seems nervous when talking to adults s/he has just met.  
1 2 3 4 5 6 7 NA
43. Is slow and unhurried in deciding what to do next.  
1 2 3 4 5 6 7 NA
44. Changes from being upset to feeling much better within a few minutes.  
1 2 3 4 5 6 7 NA
45. Prepares for trips and outings by planning things s/he will need..  
1 2 3 4 5 6 7 NA
46. Becomes very excited while planning for trips.  
1 2 3 4 5 6 7 NA
47. Is quickly aware of some new item in the living room.  
1 2 3 4 5 6 7 NA
48. Hardly ever laughs out loud during play with other children.  
1 2 3 4 5 6 7 NA
49. Is not very upset at minor cuts or bruises.

- |     |  |   |   |   |   |   |   |    |
|-----|--|---|---|---|---|---|---|----|
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 50. | Prefers quiet activities to active games.  |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 51. | Tends to say the first thing that comes to mind, without stopping to think about it. |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 52. | Acts shy around new people.  |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 53. | Has trouble sitting still when s/he is told to (at movies, church, etc.).            |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 54. | Rarely cries when s/he hears a sad story.  |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 55. | Sometimes smiles or giggles playing by her/himself.                                  |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 56. | Rarely becomes upset when watching a sad event in a TV show.                         |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 57. | Enjoys just being talked to.   |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 58. | Becomes very excited before an outing (e.g., picnic, party).                         |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 59. | If upset, cheers up quickly when s/he thinks about something else.                   |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 60. | Is comfortable asking other children to play.  |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 61. | Rarely gets upset when told s/he has to go to bed.                                   |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |



62. When drawing or coloring in a book, shows strong concentration.
- 1      2      3      4      5      6      7      NA
63. Is afraid of the dark.
- 1      2      3      4      5      6      7      NA
64. Is likely to cry when even a little bit hurt.
- 1      2      3      4      5      6      7      NA
65. Enjoys looking at picture books.
- 1      2      3      4      5      6      7      NA
66. Is easy to soothe when s/he is upset.
- 1      2      3      4      5      6      7      NA
67. Is good at following instructions.
- 1      2      3      4      5      6      7      NA
68. Is rarely frightened by "monsters" seen on TV or at movies.
- 1      2      3      4      5      6      7      NA
69. Likes to go high and fast when pushed on a swing.
- 1      2      3      4      5      6      7      NA
70. Sometimes turns away shyly from new acquaintances.
- 1      2      3      4      5      6      7      NA
71. When building or putting something together, becomes very involved in what s/he is doing, and works for long periods.
- 1      2      3      4      5      6      7      NA
72. Likes being sung to.
- 1      2      3      4      5      6      7      NA
73. Approaches places s/he has been told are dangerous slowly and cautiously.
- 1      2      3      4      5      6      7      NA
74. Rarely becomes discouraged when s/he has trouble making something work.

- |     |  |   |   |   |   |   |   |    |
|-----|--|---|---|---|---|---|---|----|
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 75. | Is very difficult to soothe when s/he has become upset.            |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 76. | Likes the sound of words, such as nursery rhymes.                  |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 77. | Smiles a lot at people s/he likes.                                 |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 78. | Dislikes rough and rowdy games.                                    |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 79. | Often laughs out loud in play with other children.                 |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 80. | Rarely laughs aloud while watching TV or movie comedies.           |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 81. | Can easily stop an activity when s/he is told "no."                |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 82. | Is among the last children to try out a new activity.              |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 83. | Doesn't usually notice odors such as perfume, smoke, cooking, etc. |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 84. | Is easily distracted when listening to a story.                    |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 85. | Is full of energy, even in the evening.                            |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |
| 86. | Enjoys sitting on parent's lap.                                    |   |   |   |   |   |   |    |
|     | 1  | 2 | 3 | 4 | 5 | 6 | 7 | NA |

87. Gets angry when called in from play before s/he is ready to quit.
- 1      2      3      4      5      6      7      NA
88. Enjoys riding a tricycle or bicycle fast and recklessly.
- 1      2      3      4      5      6      7      NA
89. Sometimes becomes absorbed in a picture book and looks at it for a long time.
- 1      2      3      4      5      6      7      NA
90. Remains pretty calm about upcoming desserts like ice cream.
- 1      2      3      4      5      6      7      NA
91. Hardly ever complains when ill with a cold.
- 1      2      3      4      5      6      7      NA
92. Looks forward to family outings, but does not get too excited about them.
- 1      2      3      4      5      6      7      NA
93. Likes to sit quietly and watch people do things.
- 1      2      3      4      5      6      7      NA
94. Enjoys gentle rhythmic activities, such as rocking or swaying.
- 1      2      3      4      5      6      7      NA

---

Please check back to make sure you have completed all the pages of the questionnaire. Thank you very much for your help!

•

## Appendix G

How old are you? (fill in the blank) \_\_\_\_\_ Years old

What is your sex? (check one) \_\_\_\_\_ male \_\_\_\_\_ female

What is Today's date? \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others*? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree Strongly
1	2	3	4	5

### *I See Myself as Someone Who . . .*

<ol style="list-style-type: none"> <li>1. ___ is talkative</li> <li>2. ___ tends to find fault with others</li> <li>3. ___ does a thorough job</li> <li>4. ___ is depressed, blue</li> <li>5. ___ is original, comes up with new ideas</li> <li>6. ___ is reserved</li> <li>7. ___ is helpful and unselfish with others</li> <li>8. ___ can be somewhat careless</li> <li>9. ___ is relaxed, handles stress well</li> <li>10. ___ is curious about many different things</li> <li>11. ___ is full of energy</li> <li>12. ___ starts quarrels with others</li> <li>13. ___ is a reliable worker</li> <li>14. ___ can be tense</li> <li>15. ___ is ingenious, a deep thinker</li> <li>16. ___ generates a lot of enthusiasm</li> <li>17. ___ has a forgiving nature</li> <li>18. ___ tends to be disorganized</li> <li>19. ___ worries a lot</li> <li>20. ___ has an active imagination</li> <li>21. ___ tends to be quiet</li> <li>22. ___ is generally trusting</li> </ol>	<ol style="list-style-type: none"> <li>23. ___ tends to be lazy</li> <li>24. ___ is emotionally stable, not easily upset</li> <li>25. ___ is inventive</li> <li>26. ___ has an assertive personality</li> <li>27. ___ can be cold and aloof</li> <li>28. ___ perseveres until the task is done</li> <li>29. ___ can be moody</li> <li>30. ___ values artistic, aesthetic experiences</li> <li>31. ___ is sometimes shy, inhibited</li> <li>32. ___ is considerate and kind to almost everyone</li> <li>33. ___ does things efficiently</li> <li>34. ___ remains calm in tense situations</li> <li>35. ___ prefers work that is routine</li> <li>36. ___ is outgoing, sociable</li> <li>37. ___ is sometimes rude to others</li> <li>38. ___ makes plans and follows through with them</li> <li>39. ___ gets nervous easily</li> <li>40. ___ likes to reflect, play with ideas</li> <li>41. ___ has few artistic interests</li> <li>42. ___ likes to cooperate with others</li> <li>43. ___ is easily distracted</li> <li>44. ___ is sophisticated in art, music, or literature</li> </ol>
--	---

Please check: Did you write a number in front of each statement?

Appendix H

Participant # \_\_\_\_\_

**Please answer the following questions about yourself and your family:**

Your age \_\_\_\_\_

Your child's age: \_\_\_\_\_ years \_\_\_\_\_ months

Child's gender (please circle): Male      Female

Your child's ethnicity (please circle):

1. Caucasian (not Hispanic)
2. Hispanic
3. African American
4. Asian
5. Other \_\_\_\_\_

Mother's education (please circle):

1. less than high school
2. high school degree or GED equivalent
3. some college
4. college degree
5. post college degree

Father's education (please circle):

1. less than high school
2. high school degree or GED equivalent
3. some college
4. college degree
5. post college degree

Is the child in daycare or preschool:    Yes      No

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### **Biographical Information:**

Date of Birth	January 17, 1894
Place of Birth	Chester, Pennsylvania
Parents	Michael F. and Judy A. Panfile

### **Education:**

January, 2008	Lehigh University, Bethlehem, PA
	M.S. in Psychology
May, 2005	Widener University, Chester, PA
	B.A. in Psychology, Summa Cum Laude

### **Academic and Research Experience:**

2005-Present	Research Assistant to Dr. Deborah Laible, Lehigh University
2007	Teaching Assistant for Statistics, Lehigh University

- 2006-Present      Administering Educational testing for Early Reading First project,  
Lehigh University
- 2004-2005      Tutor of Psychology and Statistics for the Reading and Academic  
Skills Center of Widener University
- 2002-2003      Research Assistant for Dr. Karen Rose in the Department of  
Psychology at Widener University

**Honors and Awards:**

- 2005              Graduated with Summa Cum Laude Honors
- 2005              Psychology Award, Widener University
- 2005              Certificate of Honors in General Education
- 2003-2005      President's List, Widener University
- 2001-2005      Dean's List, Widener University

**Publications:**

Laible, D., Panfile, T., & Makariev, D. (in press). The quality and frequency of mother-toddler conflict: Links with attachment and temperament. *Child Development*.

Laible, D., & Panfile, T. (in press). Mother-child reminiscing in the context of secure attachment relationships: Lessons in understanding and coping with negative emotion. In J. Quas & R. Fivush (Eds). *Emotion and Memory in Development: Biological, Cognitive, and Social Considerations*. Oxford Series in Affective Science. Oxford, UK: Oxford University Press.

**Professional Presentations:**

Panfile, T. M. (2007, March). *Attachment security of mother-toddler dyads: The links with conflict frequency and conflict resolution*. Poster presented at the Biennial Meeting of the Society for Research in Child Development, Boston, MA.

Laible, D. J., Panfile, T. M., Makariev, D. C. (2007, March). *The quality of mother-child conflict: Links with attachment security and child temperament*. Poster presented at the Biennial Meeting of the Society for Research in Child Development, Boston, MA.

**Professional Affiliations:**

Society for Research in Child Development

Psi Chi (Psychology Honor Society)

Pi Gamma Mu (Social Science Honor Society)

Alpha Chi (National Honor Scholarship Society)

**Research Interests:**

My research interests include a variety of aspects within the social development of young children. Within this, my main interest lies in examining socioemotional development including parent-child attachment. I have recently been examining how the attachment security between a mother and her child can predict the frequency and quality of conflict between the dyad. Furthermore, I am interested in the development of moral emotions, especially empathy, guilt, and shame, and how these may be influenced by a child's



attachment security. Lastly, I am interested in gender development and gender differences in young children with respect to socioemotional development.

**END OF  
TITLE**