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**Effects of Preemptive Parenting
on Misbehavior, Negative Affect,
Praise, Overreactive and Lax Discipline**

A Dissertation Presented

by

Carey Bernini Dowling

to

The Graduate School

in Partial Fulfillment of the

Requirements

for the Degree of

Doctor of Philosophy

in

Clinical Psychology

Stony Brook University

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Abstract of the Dissertation

**Effects of Preemptive Parenting
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Carey Bernini Dowling

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in

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The effects of preemptive parenting (i.e., a form of preventive parenting that occurs prior to child misbehaviors and is comprised of strategies the parent uses to prevent or avoid undesirable child behaviors) on child misbehavior and negative affect and maternal praise and overreactive and lax discipline were examined while mothers were on the phone and children were to play independently. Forty-four mothers and their 24- to 47-month-old toddlers were randomly assigned to either a basic group or an enhanced group. Mothers learned either a basic set of preemptive strategies (setting up the task in a firm and confident manner and giving effective commands, which are similar to strategies included in many parenting interventions) or an enhanced set of preemptive strategies (setting up the task in a firm and confident manner plus engaging and monitoring their children) for managing their children's behavior. Observational data indicated that the hypotheses that the groups would differ significantly on misbehavior,

negative affect, and overreactive discipline were not supported; but, consistent with the hypotheses, mothers in the enhanced group engaged in higher percentages of praise and in lower levels of lax discipline than the mothers in the basic group. Future research should examine the enhanced set of strategies further with a stronger manipulation, as well as explore whether adding the enhanced set of strategies to current parenting interventions results in the interventions being more effective at improving child and maternal behaviors.

Dedication Page

To My Family

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Effects of Preemptive Parenting on Misbehavior,
Negative Affect, Praise, Overreactive and Lax Discipline

Correlational, experimental, and treatment studies all indicate that parental behaviors influence the development and maintenance, or reduction, of child externalizing behavior problems, such as frequent temper tantrums, aggression, noncompliance, and defiance. Much research has focused on the impact of parenting behaviors that follow child behaviors (i.e., consequent parenting behaviors), such as discipline following misbehavior (e.g., Deater-Deckard & Dodge, 1997; O’Leary, Smith Slep, & Reid, 1999) and positive reinforcement following desired behaviors (e.g., Forehand, 1986; D. S. Roberts, Tingstrom, Olmi, & Bellipanni, 2008). Recent research suggests that parenting behaviors that occur prior to child misbehavior, specifically antecedent or preemptive parenting behaviors, may be important in the etiology, and therefore the treatment of, child misbehavior (Dowling, Smith Slep, & O’Leary, 2009; Gardner, Shaw, Dishion, Burton, & Supplee, 2007; Gardner, Sonuga-Barke, & Sayal, 1999; Holden, 1983; Holden & West, 1989). Although targeting antecedents of problem behaviors has become a valued treatment intervention for people with developmental disabilities (see Luiselli, 2006; Luiselli & Cameron, 1998), the full range of preemptive parenting behaviors is not typically utilized in many of the empirically supported parenting interventions. The Positive Parenting Program (Triple-P; Sanders, Markie-Dadds, & Turner, 2001) and Collaborative Problem Solving (CPS; Greene & Ablon, 2006) are important exceptions. Therefore, determining whether preemptive parenting warrants being a more frequent component of parenting interventions designed to reduce externalizing behavior problems in children is important.

Preemptive parenting is a form of preventive parenting that occurs prior to child misbehaviors and is comprised of strategies the parent engages in, such as informing the child

about expectations and rules, engaging the child in appropriate behaviors, making future appropriate behaviors seem more attractive, and altering the environment in ways that make inappropriate behaviors less available (e.g., moving forbidden objects out of reach). In addition to the actual strategies used, preemptive parenting can be implemented in different ways. For example, when explaining the rules or expectations, parents can convey they expect compliance to varying degrees depending on how firm and confident they speak. Or, when the parent is making a boring task (e.g., cleaning up toys) a game to encourage compliance, the parent can use a more or less enthusiastic and excited voice. If parents engage in these preemptive behaviors in a confident manner using appropriate affect, they should have children who engage in fewer inappropriate behaviors (Dowling et al., 2009).

Support for the possible importance of including preemptive parenting in parenting interventions comes from research addressing a similar construct to preemptive parenting, labeled antecedent control, that has been examined primarily with people with developmental disabilities (see Luiselli, 2006; Luiselli & Cameron, 1998). The literature on antecedent control suggests that antecedents to behavior are an important component of interventions to reduce undesirable behaviors. For instance, changing the antecedents of an instructional activity for three students with mental retardation significantly reduced their levels of problem behaviors (Kennedy, 1994), and it was necessary to add antecedent interventions to consequence-based interventions in order to reduce the level of severely aggressive behaviors to an acceptable level in a young boy with acquired brain injury (Pace, Dunn, Luiselli, Cochran, & Skowron, 2005). Antecedent control has also been examined and found to be a promising intervention for children without developmental disabilities. For instance, Folino, Ducharme, and Conn (2008) utilized a procedure labeled “errorless priming” to reduce levels of severe reactive aggression in a young

boy and Powell and Nelson (1997) found that allowing a young boy with Attention Deficit Hyperactivity Disorder to choose his academic assignments significantly reduced his levels of undesirable behaviors.

The literature examining the form of antecedent control labeled preemptive parenting in a non-developmentally disabled population is growing and correlational studies indicate that it appears to be a useful set of strategies for non-developmentally disabled children and their parents as well. In one of the first studies to examine preemptive parenting, Holden (1983) found that mothers who initiated conversations with their children or provided their children with food or a toy during a shopping trip when their children were behaving appropriately had children who engaged in less undesirable behaviors. In addition to reduced levels of undesirable behaviors, preemptive parenting has been associated with increased levels of compliance (Gardner et al., 1999; Karreman, van Tuijl, van Aken, & Dekovic, 2006; D. S. Roberts et al., 2008), including increased compliance with a delay of gratification task (Putnam, Spritz, & Stifter, 2002). Preemptive parenting has also been associated with decreased levels of externalizing behavior problems (Denham et al., 2000; Gardner et al., 1999; Pettit, Bates, & Dodge, 1997; Zahn-Waxler, Iannotti, Cummings, & Denham, 1990) and decreased levels of dysfunctional discipline (Dowling et al., 2009). Furthermore, preemptive parenting uniquely predicted child misbehavior after controlling for the effects of overreactive and lax discipline and maternal praise (Dowling et al., 2009) and uniquely predicted externalizing behavior problems in kindergarteners after controlling for the effects of harsh discipline and other forms of positive parenting (Pettit et al., 1997). Thus, correlational results indicate that preemptive parenting is uniquely predictive of desirable outcomes and not merely a proxy for good parenting in general.

Experimental manipulations of preemptive parenting have verified the causality of some of the correlational results. Increases in preemptive and positive parenting as a result of brief parenting interventions were associated with lower levels of destructive behavior (Gardner et al., 2007) and lower levels of overall externalizing behavior problems (Dishion et al., 2008). Dishion et al. (2008) also found that changes in positive parenting (including preemptive parenting) partially mediated the beneficial effect of the Family Check-Up intervention on child behavior problems. Experimental manipulations of effective commands, which is a specific preemptive strategy, have found that effective commands increase levels of child compliance (e.g., D. S. Roberts et al., 2008; M. W. Roberts, McMahon, Forehand, & Humphreys, 1978). Furthermore, in another experimental study of preemptive parenting, Holden and West (1989) found that when mothers preemptively directed their children's attention toward appropriate activities, their children engaged in decreased levels of misbehavior and increased levels of appropriate play compared to when their mothers were responding reactively.

Further experimental manipulations of preemptive parenting are needed to replicate the findings that preemptive parenting is associated with low levels of child misbehavior and to examine other important outcomes (i.e., dysfunctional discipline, praise, and negative affect). Moreover, given that previous experimental manipulations of preemptive parenting (Holden & West, 1989; D. S. Roberts et al., 2008; M. W. Roberts et al., 1978) found that the *presence* of preemptive parenting influences child misbehavior, it is important to determine in more detail the effects of various preemptive parenting strategies on child misbehavior. Therefore, the present study did not include a control group with no preemptive parenting and instead compared two levels of preemptive parenting. Two sets of preemptive parenting strategies were manipulated and examined in the context of a laboratory interaction that simulated an important phone

conversation in which the toddlers were supposed to play independently. These strategies will be referred to as “basic” and “enhanced” preemptive parenting, respectively.

The basic set of preemptive parenting strategies is similar to the few preemptive parenting strategies included in many parenting interventions (e.g., Eyberg & Child Study Lab, 1999; Forehand & Long, 2002; Kazdin, 2005; Webster-Stratton, 2005). These strategies include giving effective prompts or commands for children to engage in appropriate behaviors (Forehand & Long, 2002; M. W. Roberts et al., 1978). Therefore, mothers in the basic group were taught to give their children brief, specific, firm and confident commands and to prompt their children to not break any of the rules and to follow the expectations of the task in a firm, confident tone of voice.

The enhanced set of preemptive parenting strategies includes the same prompting regarding the rules and expectations plus two other potentially important preemptive strategies. The first additional strategy is preemptively engaging the child in appropriate behaviors in an enthusiastic and confident manner. Engaging children preemptively in appropriate behaviors has been found to be an effective means of reducing child misbehaviors (Holden & West, 1989). The second additional preemptive strategy is monitoring and then re-engaging the child when necessary, which means that mothers were told to be aware of their children’s activities, notice if their children were beginning to get bored or frustrated, and re-engage their children in an appropriate activity before their children misbehaved. By monitoring and then re-engaging their children in this manner, it was hypothesized that the mothers would decrease the likelihood that their children would either engage in an inappropriate activity to reduce their boredom or display negative affect or misbehave because their frustration increased to the level of negative affect or misbehavior (i.e., a frustration-induced temper tantrum or property aggression).

To assess the degree to which the mothers engaged in the preemptive parenting strategies taught, the preemptive parenting strategies were measured and examined to determine if the groups differed as expected on these variables. In addition, several variables that may also influence the dependent variables were also measured, including demographics, effective reprimands, mothers' self-report of child behavior problems, and mothers' self-reported use of dysfunctional discipline.

The primary outcome of interest in previous experimental studies of preemptive parenting has been child misbehavior, including noncompliance (Holden & West, 1989; D. S. Roberts et al., 2008; M. W. Roberts et al., 1978). Therefore, the first purpose of the current study was to extend previous experimental findings regarding the impact of preemptive parenting on child misbehavior. Children in the enhanced group were hypothesized to engage in lower levels of misbehavior than children in the basic group.

Along with child misbehavior, many parents wish to minimize inappropriate child negative affect, which is a prominent feature of temper tantrums. Child negative affect can be aversive to parents and can influence mothers' use of dysfunctional discipline (E. H. Arnold & O'Leary, 1995; Lorber & Slep, 2005). Previous research on preemptive parenting has not examined the relation between preemptive parenting and child negative affect. Given that an important component of some types of preemptive parenting, such as making a game out of cleaning up the toys, requires the parent to be positive and enthusiastic (such as in the enhanced group) it could be the case that the children may "catch" this positive mood through the process of emotional contagion (see Hatfield, Cacioppo, & Rapson, 1993). If the children "catch" a positive mood, then they should also be less likely to display negative affect. Children in the enhanced group were hypothesized to display less negative affect than children in the basic

group because mothers in the enhanced group should intervene and attempt to enthusiastically engage their children in appropriate activities when they are just beginning to get frustrated and before they display negative affect.

A process similar to emotional contagion may also influence how likely mothers are to praise their children during the interaction. Mothers in the enhanced group, who were taught to engage their children in a positive and enthusiastic manner, were hypothesized to display more positive emotions (such as smiling) while engaging their children. The literature of facial efference (i.e., emotional facial action, see review by Adelman & Zajonc, 1989) suggests that the mothers' facial display of positive emotions may influence their subjective feelings of positive moods. Thus, mothers who display more positive emotions while they engage their children were hypothesized to be more likely to praise their children because they themselves were hypothesized to be in a more positive mood. Even though Dowling et al. (2009) did not find a significant correlation between preemptive parenting and praise, it remains possible that increases in the specific enhanced strategies may cause increases in maternal praise because of this influence of facial efference impacting the subjective experience of positive emotions in the mother. Thus, praise is the third outcome of interest. Another important reason for the inclusion of praise is that a key component of many parenting interventions is increasing parents' use of praise (e.g., Eyberg & Child Study Lab, 1999; Forehand & Long, 2002; Kazdin, 2005; Sanders, et al., 2001; Webster-Stratton, 2005). Praise is targeted because it is associated with desirable outcomes, such as decreased levels of noncompliance (Everett, Olmi, Edwards, & Tingstrom, 2005; D.S. Roberts et al., 2008). It was hypothesized that mothers in the enhanced group would engage in higher levels of praise than mothers in the basic group.

As Kendziora and O’Leary (1993) argued, aversive child behaviors should not be the only behaviors that researchers and clinicians are interested in reducing; dysfunctional parenting (including dysfunctional discipline) should be a focus of preventive and treatment interventions in its own right regardless of current levels of child behavior problems. Accordingly, the final purpose of the present study was to determine if enhanced preemptive parenting would result in lower levels of mothers’ use of overreactive and lax discipline than basic preemptive parenting. The correlational results of Dowling et al. (2009) suggest that preemptive parenting may cause lower rates of both overreactive and lax discipline because more preemptive parenting was associated with less of both forms of dysfunctional discipline. Rates of child misbehavior mediated the relation between preemptive parenting and overreactive discipline, but not lax discipline. Therefore, if mothers’ preemptive parenting reduces levels of child misbehavior as hypothesized, mothers’ overreactive discipline should be reduced as well. Thus, it was hypothesized that mothers in the enhanced group would be less overreactive in their discipline than mothers in the basic group. Also, given that an important component of preemptive parenting is parenting in a confident manner, this may predispose the mother to also discipline in a confident manner and thus not engage in high levels of lax discipline. The mothers in the enhanced group were taught to engage in more preemptive strategies that require confident parenting than mothers in the basic group. Thus, the final hypothesis was that mothers in the enhanced group would also be less lax in their discipline than mothers in the basic group.

To summarize, the main purposes of the present study were to compare the effects of basic and enhanced preemptive parenting strategies on five outcomes of interest: child misbehavior, child negative affect, maternal praise, and maternal overreactive and lax discipline. It was hypothesized that mothers in the enhanced group would engage in lower levels of

overreactive and lax discipline, higher levels of praise, and have children who misbehaved and displayed less negative affect than mothers in the basic group.

Method

Participants

Fifty-one mothers and their 2- or 3-year-old toddlers were recruited to participate in the study through one of six recruitment methods: (a) phone calls to participants from previous studies who agreed to be re-contacted (see Appendix A), (b) flyers distributed to local daycares, grocery stores, and libraries that agreed to post or hand out the flyer (see Appendix B), (c) flyers mailed to participants in a longitudinal study conducted by another laboratory on campus (Appendix B), (d) advertisements in community outlets (see Appendix C), (e) flyers mailed to a random sample of a commercially available mailing list of mothers of 2- or 3-year-old toddlers within a ten-mile radius of the university (Appendix B), and (f) referrals by participants in the current study. All forms of recruitment advertised for mothers' participation in a parenting study with their 2- or 3-year-old toddlers. The distribution of the number of participants in each experimental group did not differ by recruitment method.

Mothers were eligible to participate if they had at least one child who would be 2- or 3-years-old at the time of participation, were able to complete questionnaires in English, and speak to their child in English during the interaction. One mother withdrew prior to completing the study protocol because her child had difficulty separating from her for the experimental manipulation and one mother did not meet inclusion criteria because she spoke to her child in a foreign language for 40% of the interaction. Of the 49 remaining dyads who completed the protocol, 24 were randomly assigned to the basic condition and 25 were randomly assigned to the enhanced condition. Two dyads were removed from analyses because technical problems

resulted in incomplete footage of their videotaped interactions. Another two dyads were removed because the nature of their interaction was significantly different from the protocol and other dyads: one because the mother took over 8 minutes to get on the phone, which was 40% of the interaction (all other mothers took 5 minutes or less), and the other because the child brought security items into the interaction room and utilized them to calm himself down at least three times. A final dyad was removed from analyses because the mother was unable to do any preemptive parenting the entire interaction because her daughter cried for 96% of the interaction. Thus, the final sample was 44 mother-toddler dyads.

Twenty-two dyads were in the basic condition (12 boys, 10 girls, mean age = 36.18 months, $SD = 6.99$, 68.2% Caucasian, 13.6% Asian, and 18.2% Mixed Race), and 22 dyads were in the enhanced condition (13 boys, 9 girls, mean age = 34.23 months, $SD = 7.73$, 72.7% Caucasian, 4.5% African-American, 4.5% Hispanic, and 18.2% Mixed Race). Forty-three percent of the participants had a family income of \$74,999 or less, 30% had a family income between \$75,000 and \$149,999, and 27% had a family income of \$150,000 or more. All children were biologically related to their mothers. See Table 1 for additional maternal characteristics and Table 2 for questionnaire-based descriptives. The groups did not differ significantly on any of these variables (i.e., child and maternal age, child sex, child and maternal ethnicity, family income, Eyberg Child Behavior Inventory scores, and mother's Parenting Scale scores, average time spent in caregiving activities per day, education in years, personal income, employment, and marital status).

Mother-toddler dyads were randomly assigned to one of the two conditions utilizing predetermined random assignment sheets. Separate random assignment sheets were utilized for each sex (i.e., one for girl and one for boy participants) in an effort to obtain groups with equal

numbers of boys and girls and an equal number of dyads in each group. All participants were compensated with a parenting book and accompanying DVD; the children received a t-shirt with the university logo and stickers; and they were entered into a raffle for a one-in-ten chance of winning \$50. Due to slow recruitment, one-hour parenting workshops were also offered to the final 78% of the participants.

Procedure

Recruitment began following approval for the study from the Institutional Review Board. Mothers who were interested in participating in the study called the laboratory; the study was explained briefly; and mothers who were still interested in participating scheduled an appointment time. Mothers and their toddlers came to a laboratory on campus where they were greeted and introduced to a research assistant (RA) who was present in order to play with the children while the mothers were occupied with other study tasks. Once the mother and child were settled, the RA began to play with the child. As soon as the mother and child were comfortable and ready to separate, the mother and I went into an adjacent room (the interaction room) to go over the consent form and answer any questions the mother had. Following consent, the mother went back to the room with her child and the RA to complete the Eyberg Child Behavior Inventory (Eyberg & Pincus, 1999) and the Parenting Scale (D. S. Arnold, O'Leary, Wolff, & Acker, 1993). After completing the questionnaires, the mother returned to the interaction room to go over the instructions for the task.

Mothers in both groups were given the same set of instructions regarding the task, room set-up, and rules (see Appendix D for the script). The mother was told that the interaction would take 20 minutes and that she would be on the phone answering questions regarding herself, her child, and their family while her child was expected to play with the toys provided and leave her

alone. The room was set up to simulate a room in a house. The room had a chair and a stationary (disconnected) phone for the mother, educational toys for the toddler, forbidden objects, and tape on the floor delineating the side of the room they both needed to stay on so that they could be seen on the video tape (the child was not informed of the video camera, which was hidden in the wall). The educational toys were three puzzles of varying difficulty, two board books, a stacking toy, and an easy and a difficult shape-sorter; all were chosen because they are relatively “boring” toys. The forbidden objects were a typewriter, office supplies, and a jar of lollipops, which were placed around the room on small tables that were at the toddler’s height, and a colorful hanging mobile. The mothers were able to hear me through a bug-in-the-ear device. Finally, all mothers were told that their child should play independently with the toys and that their child was not allowed to touch the forbidden objects, sit on the chair with them, or cross the tape. The mothers were also told that it was important that they stay on the phone and have a conversation with as few interruptions from their child as possible.

Next, both groups of mothers were reminded that we were attempting to determine the impact of two specific parenting strategies and were told which strategy they were assigned to. The mothers in the basic group were told their strategy was “giving good commands”, and the mothers in the enhanced group were told their strategy was “being the director of their child’s behavior”. They then received identical instructions on how to go over the rules and expectations with their children and both groups received a card with the instructions to serve as a reminder during the interaction (see Appendix D for instructions and cards). The mothers were instructed to tell their toddlers’ the rules and expectations in a firm, confident tone of voice as soon as they entered the room and before they got on the phone. I modeled giving the instructions and then had the mothers role-play. During the role-plays, mothers’ instruction-giving was shaped as

necessary until they mastered it. Mothers in both groups were instructed to respond to misbehavior however they normally would at home.

Mothers in the basic (i.e., “giving good commands”) group were instructed to let their child know they needed to make a phone call and to get on the phone as soon as they finished going over the rules and expectations in a firm and confident manner. Once mothers mastered this basic preemptive strategy, they received an additional set of instructions and an extra role-play to learn how to give their child “good” (i.e., effective) commands if they needed to tell their child to *do* something during the phone call. Effective commands were defined as commands that were brief, specific, firm, and confident.

During the role-play of giving effective commands, I focused only on commands for the child to *do* something, such as, “Come here so I can blow your nose”. A “neutral” example such as this was chosen because I did not want to increase the likelihood that mothers would keep their children engaged throughout the task by giving their children effective commands to engage with the toys (which was an enhanced preemptive strategy). In addition, it was also important to focus only on commands for the child to *do* something because both effective commands and effective reprimands are brief and specific statements given in a firm and confident manner, with the important difference being whether the mother is telling the child to *do* something (command) or stop doing a misbehavior (reprimand). The purpose of the present study was not to examine the effectiveness of reprimands, thus mothers were not taught how to give effective reprimands. However, effective reprimands were measured because it was possible that mothers in the basic group (who were taught to give effective commands) may have generalized this knowledge and given effective reprimands as well. If this happened, it would be difficult to know whether the effective commands or effective reprimands influenced levels of

misbehavior and negative affect because Pfiffner and O'Leary (1989) found that effective reprimands cause lower levels of misbehavior and higher levels of negative affect than ineffective reprimands.

Mothers in the enhanced (i.e., "being the director of their child's behavior") group were instructed to engage their child with at least one toy after they finished going over the rules and expectations in a firm and confident manner and before they got on the phone. Thus, the procedure prior to mothers beginning the phone call only differed between the two groups in that the mothers in the enhanced group engaged their child with at least one toy prior to getting on the phone. I told the mothers to do this by suggesting a toy for their child to play with or a game to play in an enthusiastic, excited tone of voice, but I also told them that they could utilize any strategy they thought would work to engage their child. Mothers were told that as soon as their child was truly engaged with at least one toy, they should remind their child they needed to make a phone call and get on the phone, rather than playing with their child. Once mothers mastered this portion of the enhanced preemptive strategies they received an additional set of instructions and an extra role-play regarding how to interact with their child during the phone call. The mothers were instructed to pay attention to the phone conversation and their child at the same time so that they could notice if their child was beginning to get bored or frustrated and intervene as soon as possible when necessary. Mothers were taught to intervene either non-verbally or verbally in a confident, enthusiastic manner in order to re-engage their child with a toy or toys (e.g., tapping on the puzzle to show the toddler where the piece the toddler is getting frustrated with goes or momentarily getting off the phone to suggest another toy to play with when the toddler is starting to get bored with the current toy).

Mothers in the enhanced group were not taught how to give their children effective commands because mothers in the basic group were taught to give the effective commands during the phone call and mothers in the enhanced group were taught an alternative set of strategies to use during the phone call that was incompatible with firm commands. More specifically, the enhanced groups' strategies required the mothers to be excited and enthusiastic, not firm. It is important to note, however, that mothers in both groups were taught to give the rules and expectations prior to getting on the phone by utilizing effective commands and prompts, so mothers in the enhanced group received implicit instructions in how to give effective commands.

Regardless of the mothers' group, once they mastered the strategies I reminded them of everything we went over and gave them an opportunity to ask questions before we left the interaction room to get their child. In an attempt to prevent the need for breaks during the interaction, mothers were also asked if they or their child needed to get a drink of water or go to the bathroom prior to beginning the interaction. I instructed the mother to bring her child into the room as soon as they were ready and begin the interaction immediately. I sat in an adjacent small room with the recording equipment and a microphone so that the mother could hear me through the bug-in-the-ear device and I could hear her but we could not see each other. I blocked my view of the interaction on the recording screen so that I did not inadvertently influence the mother's parenting behaviors by, for example, unintentionally pausing when she should have intervened because her child was bored. Once the mothers completed engaging in their assigned initial preemptive strategies, they picked up a disconnected phone and said "Hello". I immediately began to follow a semi-structured demographic and informational interview created for this study (see description below) and continued with the interview until the total interaction

had lasted 20 minutes. No mothers inquired during the interaction about how to engage in the preemptive parenting strategies or how to handle misbehavior.

Measures

Semi-structured phone interview. A semi-structured phone interview was utilized in order to obtain relevant demographic data and occupy the mother during the interaction. In addition to demographic questions, the interview included questions regarding the mother's pregnancy with the toddler; the toddler's developmental, educational, and daycare history; the toddler's preferences and personality; and the mothers' personal history, spirituality, and personality. There were a total of 120 possible questions but some questions were skipped if they were not relevant for that particular mother (e.g., information about her child's daycare if her child did not attend daycare). The mother was asked the questions in order until the interaction had lasted a total of 20 minutes. Thus, the number of questions the mother was asked and answered varied depending on how long she took engaging in the preemptive strategies prior to getting on the phone, how much she interacted with her child while on the phone, and how long she took to answer the questions. Only one mother answered all relevant questions during the interaction. Two mothers were unable to answer all of the demographic questions during the interaction because they spent a large part of the interaction disciplining their child; they were both asked the remaining demographic questions after the interaction.

Observational coding. Four independent groups of research assistants (RAs) blind to the research hypotheses were trained to code the videotapes of the mother-child interactions for the relevant constructs. One group coded child misbehavior and negative affect; the second group coded overreactive and lax discipline; the third group coded preemptive parenting; and the fourth group coded praise and effective reprimands. Once the RAs (ten in total) learned their assigned

code and demonstrated adequate proficiency on training tapes (i.e., Kappa or Finn's r of .8 or above), they coded the tapes independently. Fifty percent of the tapes were coded by a second RA in order to determine reliability.

Preemptive parenting. Two trained undergraduate RAs watched videotapes of the mother-child interaction and coded the tapes for the basic and enhanced preemptive parenting strategies in order to determine if the manipulation was effective. Preemptive parenting was only coded when the child was behaving appropriately and the mother was not responding to current or recent misbehavior or praising her child. Preemptive parenting was also coded independent of the amount of misbehavior, negative affect, and levels of dysfunctional discipline and maternal praise. RAs gave the mothers four global scores on 5- or 7-point scales: (a) rules-and-expectations, (b) engagement, (c) monitoring-and-re-engaging, and (d) effective commands. RAs were allowed to give half scores for all four global scores (e.g., 6.5 out of 7).

Rules-and-expectations measured whether and how the mother told the child what the rules and expectations of the task were prior to getting on the phone. Scores ranged from 1 to 7, with 7 indicating that the mother told her child almost all (i.e., out of the 7 rules and expectations, she clearly stated at least 5 and at least implied 1 more) or all of the rules and expectations in a firm and confident manner prior to getting on the phone. All mothers were taught to give the rules and expectations in a manner consistent with a score of 7. Thus, rules-and-expectations was measured in order to test whether the groups differed on the portion of the manipulation they received in common.

Engagement measured whether and how the mother engaged her child with the toys provided prior to getting on the phone. Scores ranged from 1 to 5, with 5 indicating she did a great job engaging her child in a confident and enthusiastic manner and ensured that her child

was engaged in an appropriate activity prior to getting on the phone. Only the mothers in the enhanced group were taught to engage their children in a manner consistent with a score of 5. Thus, engagement was measured in order to test whether the groups differed on the first portion of the manipulation that only the enhanced group received.

Monitoring-and-re-engaging measured whether and how the mother monitored her child and intervened to re-engage her child in appropriate activities when her child was beginning to get (or was) bored or frustrated. Monitoring-and-re-engaging was scored from the time the mother picked up the phone and said hello to the end of the interaction. Scores ranged from 1 to 7, with 7 indicating that throughout the phone conversation she did a great job monitoring her child and intervening to re-engage her child in appropriate activities when her child was beginning to get bored or frustrated, and that she did so in a confident, enthusiastic manner. Monitoring-and-re-engaging was coded based on the relevant components for each interaction. For example, if it was not necessary for the mother to intervene or keep her child engaged, such as when her child was displaying low levels of misbehavior and negative affect, her monitoring-and-re-engaging score was based largely on the quality of her monitoring. Only the mothers in the enhanced group were taught to engage in these behaviors during the phone conversation. Thus, monitoring-and-re-engaging was measured in order to test whether the groups differed on the second portion of the manipulation that only the enhanced group received.

Commands measured how often the mother used effective commands when telling her child to do something preemptively throughout the task. Effective commands were defined as commands that were brief, specific, firm, and confident. Commands were measured for the length of the interaction (i.e., prior to getting on the phone and during the phone conversation). Scores ranged from 1 to 3, with 3 indicating that she almost always or always used effective

commands when telling her child to do something. The scores were determined based on the proportion of effective commands given out of all of the commands given. Only mothers in the basic condition were taught to give effective commands when telling their children to do something throughout the task. Thus, commands was measured in order to test whether the groups differed on the portion of the manipulation that only the basic group received.

Fifty percent of the tapes were coded by both RAs in order to compute interobserver reliability. Finn's r was utilized as the measure of interobserver reliability for the global codes because it is not sensitive to skewness and kurtosis in the data but it is sensitive to the level of disagreement (Whitehurst, 1984). Interobserver reliability was good for rules-and-expectations (Finn's $r = .79$), excellent for engagement (Finn's $r = .96$), good for monitoring-and-re-engaging (Finn's $r = .81$), and excellent for commands (Finn's $r = .93$).

Dysfunctional discipline. Two trained undergraduate RAs watched videotapes of the mother-child interaction and coded the tapes for overreactive and lax discipline. Overreactive discipline refers to harsh or authoritarian responses, or expressed anger, in response to misbehavior, such as yelling, grabbing, and spanking. Lax discipline refers to permissive responses to misbehavior, such as reprimanding the child in a "wimpy" way, failing to enforce rules the mother put in place, giving in to the child by no longer requiring compliance or giving the child what the child is whining for, and reinforcing or rewarding misbehavior (e.g., responding to interruptions while on the phone). RAs gave the mother two global scores at the end of the interaction ranging from 1 to 7, with 7 indicating a mother who displayed a high degree or frequency of that form of dysfunctional discipline during possible discipline interactions. Thus, a mother who responded once to her child who interrupted her phone conversation three times received the same lax score as a mother who responded to three out of

nine interruptions. Overreactive and lax discipline were measured in order to test whether the groups differed as expected on dysfunctional discipline. Fifty percent of the tapes were coded by both RAs in order to compute interobserver reliability. Reliability was good for lax discipline (Finn's $r = .85$) and excellent for overreactive discipline (Finn's $r = .97$).

Misbehavior and negative affect. Two trained undergraduate RAs watched videotapes of the mother-child interaction and coded the tapes for the presence or absence of misbehavior and negative affect every 10 seconds. Misbehavior was coded when the child was aggressive towards the mother or property; was oppositional, resistant, or defiant; touched a forbidden object; climbed on, stood on, or moved the tables with forbidden objects placed on them; left the taped-in area; or engaged in behaviors that could interfere with the mothers' phone conversation, such as talking to her or climbing on her. Negative affect was coded when the child cried, screamed, yelled, whined loudly, tantrummed, or made negative gestures, such as stomping her feet. The percentage of intervals with the relevant child behavior present was computed. Misbehavior and negative affect were measured in order to test whether the groups differed as expected on these child behaviors. Fifty percent of the tapes were coded by both RAs in order to compute interobserver reliability. Interobserver reliability was excellent for misbehavior (Kappa = .86, percent agreement = 95%) and good for negative affect (Kappa = .70, percent agreement = 97%).

Praise and effective reprimands. Three trained undergraduate RAs watched videotapes of the mother-child interaction and coded the tapes independently for the presence or absence of praise and effective reprimands every 10 seconds. Praise was coded when the mother expressed approval of her child's behavior or her child and this approval was directed at her child (i.e., she wasn't saying something positive about her child to the experimenter). Therefore, saying "Great job putting the puzzle together" and giving her child a high-five are both examples of praise.

Praise was coded regardless of tone, unless the mother's tone was sarcastic. Praise was measured in order to test whether the groups differed as expected on praise.

Effective reprimands were coded during any 10-second interval in which the mother verbally disapproved of her child's current or recent misbehavior by telling her child to stop doing something or to not do something the child was currently doing or that the child had just done. Maternal responses to their child's verbalization were not coded as reprimands (e.g., the child said "I want candy" and the mother responded, "No, you can't have candy"). Consistent with Pfiffner and O'Leary (1989), effective reprimands were coded if the reprimand was immediate (i.e., within 3 seconds of the misbehavior), short (i.e., equal to or less than seven words long), and firm (i.e., said in a firm, monotone, deep, or sharp tone of voice). Effective reprimands were measured in order to test whether mothers in the basic group gave a higher percentage of effective reprimands than mothers in the enhanced group.

The percentage of intervals with the relevant maternal behavior present was computed and utilized as the measure of praise and effective reprimands. Fifty percent of the tapes were coded by two RAs in order to compute interobserver reliability. Interobserver reliability was excellent for praise ($Kappa = .83$, percent agreement = 99%) and fair for effective reprimands ($Kappa = .59$, percent agreement = 98%).

Parenting Scale. The Parenting Scale (PS; D. S. Arnold et al., 1993) is a 30-item self-report questionnaire measuring dysfunctional discipline of young children. Parents rate on a 7-point scale how likely they are to have utilized either a dysfunctional or effective response to 30 child misbehaviors. The revised scoring system of Rhoades and O'Leary (2007) was utilized, which results in Overreactive, Lax, and Hostile factor scores. Factor scores range from 1 to 7 with 7 indicating dysfunctional discipline. The PS has good construct and predictive validity as

well as good internal consistency (Rhoades & O’Leary, 2007). The PS was given as a descriptive measure of mothers’ typical levels of dysfunctional discipline outside of the laboratory interaction and to determine if scores on the PS should serve as covariates in the analyses.

Eyberg Child Behavior Inventory. The Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) is a 36-item self-report questionnaire measuring typical toddler behavior problems. Parents rate how often each item occurs from 1 (*never occurs*) to 7 (*always occurs*) and these scores are summed to create an Intensity score that ranges from 36 to 252. Parents also rate whether each item is a problem for their child and these scores are summed to create a Problem score that ranges from 0 to 36. The ECBI is a reliable and valid scale that differentiates children with and without behavior problems and is sensitive to changes due to treatment (Eyberg & Pincus, 1999; Eyberg & Ross, 1978). The ECBI was given as a descriptive measure of children’s typical levels of behavior problems and to determine if scores on the ECBI should serve as covariates in the analyses.

Data Analysis

Data cleaning. Prior to data analyses, all variables were inspected for missing and invalid values. There were no invalid values and there were no missing values on any of the major study variables. The major quantitative study variables were then examined to determine if they were normally distributed without outliers. Examination of box plots, histograms, and Z-scores for skewness and kurtosis revealed many variables with outliers and many non-normal variables with outliers. Therefore, Kolmogorov-Smirnov tests were conducted to determine if variables were significantly non-normal. Based on the results of the Kolmogorov-Smirnov tests and examinations of box plots, rules-and-expectations, engagement, overreactive discipline, effective reprimands, PS Hostility, and maternal income were significantly non-normal with

outliers. Also based on the examination of box plots, monitoring-and-re-engaging, negative affect, lax discipline, praise, ECBI Problem, PS Overreactivity, maternal age, and maternal education all had at least one outlier. See Table 3 for Kolmogorov-Smirnov p values and number of outliers.

Transformations were conducted for both non-normal and normal variables with outliers to determine if data transformations would allow the use of parametric statistics on these variables. If a transformation resulted in a normal distribution without outliers, the transformed variable was utilized in analyses. For variables that were non-normal, if no transformation resulted in a normal distribution without outliers, an independent samples Mann-Whitney U test was utilized instead of a parametric test to test group differences for that variable because, unlike parametric tests, the Mann-Whitney U test is robust to non-normal data (Aron, Aron, & Coups, 2009). For variables that were normal but had outliers and no transformation resulted in a normal distribution without outliers, the outliers' scores were changed to equal the next most extreme score in the distribution for their respective group. See Table 3 for the remedy undertaken for each of the sixteen variables that had outliers. Variables that were square-root and outlier transformed will be referred to by their original names.

Group differences analyses. In order to determine whether the experimental manipulation resulted in the expected parenting and child behaviors for each group, a series of analyses were conducted. Prior to testing group differences on each of the normally distributed major study variables, correlations among the relevant major study variable and the major demographic characteristics (i.e., child and maternal age, PS scores, and ECBI scores) were computed to determine if any of the demographic variables should be included as covariates. If any demographic variables were significantly correlated with the major study variable, a series of

tests were conducted to determine if the assumptions of analysis of covariance (ANCOVA) were met and thus ANCOVA could be used to test group differences on that variable. In order to utilize an ANCOVA, the dependent variable and covariate(s) had to be normally distributed with no outliers and linearly related with no multivariate outliers, the variances for the dependent variable had to be homogeneous across groups, and there had to be no interaction between group and the covariate(s). When ANCOVA was utilized, an independent groups *t*-test was conducted as a comparison and an ANCOVA was conducted controlling for the covariate(s) utilizing Type I variance partitioning to determine the group differences controlling and not controlling for the covariate(s). Group differences were tested utilizing the most appropriate test for the relevant variable (i.e., an independent groups *t*-test was utilized for normally distributed variables that were not correlated with any demographic variables, an independent samples Mann-Whitney *U* test was utilized for non-normally distributed variables that did not respond to transformation, and an ANCOVA was utilized for normally distributed variables that were significantly correlated with at least one demographic variable).

Results

See Table 4 for descriptive statistics of the major study variables by group and Table 5 for correlations among the major study variables for each group. As expected, misbehavior and rules-and-expectations were significantly negatively correlated in the basic group ($r = -.48, p < .05$), but this correlation was not significant in the enhanced group ($r = -.31, p > .05$). Also as expected, praise and monitoring-and-re-engaging were significantly positively correlated in the basic group ($r = .44, p < .05$), but this correlation was not found in the enhanced group ($r = -.09, p > .05$). Praise was not significantly correlated with anything in the enhanced group, although there were medium correlations between praise and engagement ($r = .39, p > .05$) and between

praise and commands ($r = -.39, p > .05$). As expected, commands and rules-and-expectations were significantly positively correlated in the enhanced group ($r = .44, p < .05$), but this correlation was not significant in the basic group ($r = .26, p > .05$).

In both groups the relations among misbehavior, negative affect, overreactive discipline, and lax discipline were as expected. Misbehavior and negative affect were significantly positively correlated ($r_s = .57$ and $.69, p < .01$) in the basic and enhanced groups respectively. Misbehavior and lax discipline were significantly positively correlated ($r_s = .79$ and $.75, p < .001$) in the basic and enhanced groups respectively. Negative affect was significantly positively correlated with lax discipline ($r_s = .47$ and $.71, p < .05$) in the basic and enhanced groups respectively, and significantly positively correlated with overreactive discipline ($r_s = .48$ and $.45, p < .05$) in the basic and enhanced groups respectively. Finally, overreactive and lax discipline were significantly positively correlated in the enhanced group ($r = .45, p < .05$), but this correlation was not significant in the basic group ($r = .33, p > .05$).

Group Differences on Manipulation Check Variables

Rules-and-expectations was significantly non-normal with outliers; therefore an independent samples Mann-Whitney U test was conducted to test group differences. As intended, the groups did not differ on rules-and-expectations, Mann-Whitney $U = 236.50, n_1 = n_2 = 22, p = .88$, two-tailed, such that the median score for the basic group was 7 (interquartile range (IQR) = 6.13 – 7.00) and the median score for the enhanced group was 7 (IQR = 6.38 – 7.00). Thus, mothers in the basic and enhanced group did not differ significantly in whether or how they gave their children the rules-and-expectations of the task.

Engagement was significantly non-normal with outliers; therefore an independent samples Mann-Whitney U test was conducted to test group differences. As hypothesized, the

groups did differ significantly on engagement, Mann-Whitney $U = 11.00$, $n_1 = n_2 = 22$, $p = .000$, one-tailed, such that the median score for the basic group was 1 (IQR = 1.00 – 1.50) and the median score for the enhanced group was 5 (IQR = 4.38 – 5.00). Thus, mothers in the enhanced group engaged their children with the toys prior to getting on the phone significantly more than mothers in the basic group.

Monitoring-and-re-engaging did not correlate significantly with any demographic variables; therefore, an independent groups t -test was conducted. Based on the results of the Levene's test for equality of variance, the groups did not have homogenous variances, $F = 4.52$, $p = .04$, therefore an unequal variance t -test was utilized. As hypothesized, the groups differed significantly on monitoring-and-re-engaging, $t(35.85) = -4.09$, $p = .000$, one-tailed, Cohen's $d = 1.23$, such that the mean monitoring-and-re-engaging score for the basic group ($M = 3.80$, $SD = 1.47$) was significantly lower than the mean monitoring-and-re-engaging score for the enhanced group ($M = 5.32$, $SD = 0.95$). Thus, the manipulation had a large effect on monitoring-and-re-engaging, with mothers in the enhanced group engaging in more of the additional preemptive parenting behaviors they were taught (i.e., monitoring and intervening to re-engage their child if necessary) than mothers in the basic group (who were not taught these behaviors).

Commands did not correlate significantly with any demographic variables; therefore, an independent groups t -test was conducted. The groups did not differ significantly on commands, $t(42) = .721$, $p = .24$, one-tailed, Cohen's $d = .22$, such that the mean score for the basic group ($M = 2.23$, $SD = .81$) was not significantly higher than the mean score for the enhanced group ($M = 2.07$, $SD = .64$). Thus, the manipulation had a small, but not statistically significant, effect on commands, with mothers in the basic group giving only slightly more effective commands than

mothers in the enhanced group, even though only mothers in the basic group were taught how to give effective commands.

Effective reprimands was significantly non-normal with outliers; therefore an independent samples Mann-Whitney U test was conducted to test group differences. The groups did not differ significantly on effective reprimands, Mann-Whitney $U = 199.50$, $n_1 = n_2 = 22$, $p = .29$, two-tailed, such that the median percentage of intervals in which the mother gave effective reprimands was 0.00% (IQR = 0.00% - 2.00%) for the basic group and 1.00% (IQR = 0.00% - 4.25%) for the enhanced group. Thus, mothers in the basic and enhanced group did not differ significantly in the percentage of effective reprimands given.

Group Differences on Outcome Variables

Misbehavior correlated significantly with child age, $r = -.51$, $p = .000$, two-tailed. Thus, as child age increased, the levels of misbehavior decreased. Child age did not correlate significantly with group, $r = -.14$, $p > .05$, two-tailed, and none of the assumptions of ANCOVA were violated. The groups did not differ significantly when child age was not statistically controlled, $t(42) = .52$, $p = .30$, one-tailed, Cohen's $d = .16$, or when child age was statistically controlled, $F(1, 41) = 1.29$, $p = .13$, one-tailed, Cohen's $d = .29$. See Table 6 for means and adjusted means. Child age was the only significant predictor of misbehavior, $F(1, 41) = 14.82$, $p = .000$, two-tailed, Cohen's $d = 1.16$. Thus, child age was the only statistically significant predictor of misbehavior, and the manipulation had a small, but not statistically significant, effect on misbehavior with children in the enhanced group engaging in a slightly smaller percentage of misbehavior than children in the basic group.

Negative affect correlated significantly with child age, $r = -.46$, $p = .002$, two-tailed, and PS Overreactivity, $r = -.39$, $p = .01$, two-tailed. Thus, as child age increased and as mothers' self-

reported overreactive discipline increased, the percentage of negative affect displayed by the child during the interaction decreased. Child age and PS Overreactivity did not correlate significantly with group, $r_s = -.14$ and $-.07$, respectively, $p_s > .05$, two-tailed, and none of the assumptions of ANCOVA were violated. The groups did not differ significantly when the covariates were not statistically controlled, $t(42) = -.51$, $p = .31$, one-tailed, Cohen's $d = .15$, or when the covariates were statistically controlled, $F(1, 40) = .001$, $p = .49$, one-tailed, partial $\eta^2 = .000$. See Table 7 for means and adjusted means. Child age significantly predicted negative affect, $F(1, 40) = 12.12$, $p = .001$, two-tailed, partial $\eta^2 = .23$ and PS Overreactivity also significantly predicted negative affect, $F(1, 40) = 5.09$, $p = .03$, two-tailed, partial $\eta^2 = .11$. Thus, child age and PS Overreactivity were the only statistically significant predictors of negative affect, and there was not a statistically significant difference in the percentage of negative affect displayed by children in either group as a result of the manipulation.

Praise did not correlate significantly with any demographic variables; therefore, an independent groups t -test was conducted. The groups differed significantly on the percentage of intervals in which the mother praised her child, $t(42) = -2.67$, $p = .01$, one-tailed, Cohen's $d = .80$, such that mothers in the enhanced group gave significantly more praise ($M = .19$, $SD = .11$), than mothers in the basic group ($M = .11$, $SD = .09$). See Table 4 for descriptive statistics of praise prior to transformation. Thus, as hypothesized, the manipulation had a large effect on praise, with mothers in the enhanced group giving a higher percentage of praise than mothers in the basic group.

Overreactive discipline was significantly non-normal with outliers; therefore an independent samples Mann-Whitney U test was conducted to test group differences. The groups did not differ significantly on overreactive discipline, Mann-Whitney $U = 200.00$, $n_1 = n_2 = 22$, p

= .07, one-tailed, such that the median score for the basic group was 1 (IQR = 1 - 1) and the median score for the enhanced group was 1 (IQR = 1 - 2). Thus, inconsistent with the hypothesis, there were no significant group differences on overreactive discipline.

Lax discipline correlated significantly with child age, $r = -.33$, $p = .03$, two-tailed. Thus, as child age increased, levels of lax discipline decreased. Child age did not correlate significantly with group, $r = -.14$, $p > .05$, two-tailed, and none of the assumptions of ANCOVA were violated. The groups did not differ significantly when child age was not statistically controlled, $t(42) = 1.41$, $p = .08$, one-tailed, Cohen's $d = .42$. However, consistent with the hypothesis, the groups differed significantly on lax discipline when child age was statistically controlled, $F(1, 41) = 3.31$, $p = .04$, one-tailed, Cohen's $d = .53$. See Table 8 for means and adjusted means. Child age also significantly predicted lax discipline, $F(1, 41) = 5.30$, $p = .03$, two-tailed, Cohen's $d = .69$. Thus, the manipulation had a medium effect on lax discipline that was only statistically significant when child age was statistically controlled for. When child age was statistically controlled, mothers in the basic group displayed higher levels of lax discipline than mothers in the enhanced group, as hypothesized.

Discussion

Mothers in both groups were taught to give their children the rules and expectations of the task prior to getting on the phone in an identical manner and, as expected, the groups did not differ significantly on this strategy. Only mothers in the enhanced group were taught to engage their children with the toys prior to getting on the phone and to monitor and intervene to re-engage their children when necessary during the phone call. As expected, mothers in the enhanced group engaged in these preemptive behaviors significantly more than mothers in the basic group.

Only mothers in the basic group were taught to give their children effective (i.e., brief, specific, firm and confident) commands. However, the manipulation only had a small, but not statistically significant, effect on commands, with mothers in the basic group giving only slightly more effective commands than mothers in the enhanced group. It is possible that the code utilized to measure commands was not sensitive enough to pick up on group differences. It is also possible that because when mothers in the basic group were being taught how to give effective commands they were given vague examples of when to give effective commands, so as to not encourage them to engage in the enhanced group's engagement strategy, they did not have a clear understanding of when and how to utilize this strategy and thus did not utilize it optimally. In addition, it is possible that the mothers in the enhanced group engaged in higher levels of effective commands than may have occurred naturally because they were implicitly taught to give effective commands when learning how to give the rules and expectations of the task.

In addition to testing group differences on the preemptive strategies taught, it was also important to examine whether teaching mothers in the basic group how to give effective commands also taught mothers to give effective reprimands. The mothers in the enhanced and basic groups did not differ significantly on the percentage of effective reprimands they gave during the interaction. This result suggests that the tests of group differences on misbehavior and negative affect are likely not influenced by the mothers' effective reprimands. However, it is possible that the groups did not differ significantly on effective reprimands because the groups did not differ significantly on commands either. Therefore, despite no evidence that the groups gave significantly different percentages of effective reprimands in the present study, future research should continue to include measures of effective reprimands when manipulating

commands in order to test for the possibility that effective reprimands influence misbehavior and negative affect in addition to, or more than, effective commands.

There was mixed evidence for the hypothesized effects of the manipulation on both child and maternal behaviors. Consistent with the hypotheses, mothers in the enhanced group engaged in significantly higher levels of praise and significantly lower levels of lax discipline than mothers in the basic group. However, the hypotheses that the manipulation would have a statistically significant effect on child misbehavior, negative affect, and maternal overreactive discipline were not supported.

The hypotheses that toddlers in the enhanced group would engage in lower levels of misbehavior and negative affect than toddlers in the basic group were not supported. The manipulation had a small, but not statistically significant, effect on misbehavior and virtually no effect on negative affect. In fact, the only statistically significant predictor of misbehavior was child age. Similarly, the only statistically significant predictors of negative affect were child age and mothers' self-reported overreactive discipline. Thus, as children's age increased, they engaged in lower levels of misbehavior and negative affect.

While previous studies on preemptive parenting have not examined its relationship with negative affect, previous experimental studies have found support for the hypothesis that preemptive parenting causes higher levels of compliance and lower levels of misbehavior (e.g., Holden & West, 1989; D. S. Roberts et al., 2008; M. W. Roberts et al., 1978). Although on the surface it appears that the present study is inconsistent with these results, the previous studies did not compare levels of preemptive parenting like the current one did. Furthermore, both D. S. Roberts et al. (2008) and M. W. Roberts et al. (1978) found that merely increasing levels of effective commands (which was a significant part of the basic strategy) was enough to increase

child compliance. Therefore, it is possible that the strategies taught to mothers in the basic group in the present study were enough to effectively manage overall levels of misbehavior.

Consistent with the hypothesis that the strategies taught to mothers in the basic group were enough to effectively manage overall levels of misbehavior, the levels of misbehavior and negative affect were relatively low given the difficulty of the interaction. In addition, the levels of misbehavior and negative affect were low compared to previous studies utilizing a very similar laboratory interaction. In these studies toddlers misbehaved an average of 49.4% of the time (Dowling et al., 2009) and displayed negative affect 31.0% of the time (Lorber & Slep, 2005). Thus, on average the toddlers in the present study misbehaved approximately 36% less and displayed approximately 61% less negative affect than the toddlers in the previous laboratory studies (Dowling et al., 2009; Lorber & Slep, 2005). Thus, consistent with previous research, in which teaching caregivers to give effective commands reduced levels of noncompliance (e.g., D. S. Roberts et al., 2008; M. W. Roberts et al., 1978), it is possible that teaching mothers the basic preemptive strategies reduced levels of misbehavior, although it is impossible to truly test this hypothesis in the current study because a control (i.e., no preemptive parenting intervention) condition was intentionally not included. Furthermore, it is possible that while the additional strategies taught to the mothers in the enhanced group also reduced misbehavior, it did not reduce misbehavior enough to create meaningful group differences. Future research should include a control condition in order to test the hypothesis that teaching mothers any level of preemptive parenting causes a meaningful decrease in misbehavior.

The hypothesis that mothers in the enhanced group would engage in a higher percentage of praise than mothers in the basic group was supported. To my knowledge, the relationship between preemptive parenting and praise has only been examined by Dowling et al. (2009), and

this result is inconsistent with the fact that Dowling et al. (2009) did not find a significant correlation between preemptive parenting and praise. However, there is support for the theory that mothers' use of engagement strategies is associated with higher levels of praise. There was a medium correlation between praise and engagement in the enhanced group and a significant medium correlation between praise and monitoring-and-re-engaging in the basic group, which suggests that it may be that the more mothers are actively trying to engage their children with toys in a positive, enthusiastic manner, the more likely they are to praise their children. Although the purpose of the present study was not to examine the proposed mechanism for the association between engagement strategies and praise, it might be an interesting avenue for future research to explore whether this association occurs through facial efference influencing the mother's subjective experience of positive emotions and this process mediating the relationship between preemptive parenting and praise. Alternatively, mothers in the enhanced group may have engaged in a higher percentage of praise because they interacted with their children slightly more than mothers in the basic group, and it was not due to the hypothesized influence of facial efference. Future research on preemptive parenting should continue to explore the relationship between preemptive parenting and praise given the inconsistent findings of the present study with Dowling et al. (2009).

The hypothesis that mothers in the enhanced group would engage in lower levels of dysfunctional discipline than mothers in the basic group was partially supported. The groups did not differ significantly on overreactive discipline but did differ significantly on lax discipline, with mothers in the enhanced group engaging in lower levels of lax discipline than mothers in the basic group, as hypothesized. Previous research had not experimentally tested whether preemptive parenting causes lower levels of dysfunctional discipline. However, in comparison to

the correlational results found by Dowling et al. (2009), the present findings are inconsistent with respect to overreactive discipline but consistent with respect to lax discipline.

The hypothesis that mothers in the enhanced group would engage in significantly lower levels of overreactive discipline than mothers in the basic group was not supported. However, 81.8% of the sample received a score of 1 out of 7 and 97.7% of the sample received a score of 3 or below, despite the overreactive code ranging from 1 to 7. These scores indicate that all but one mother engaged in no more than one or two mild examples of overreactive discipline during the entire interaction. It is possible that the code was not sensitive enough to slight variations in maternal overreactive discipline and thus the code resulted in the majority of mothers receiving such low scores. It is also possible that this result is a function of a cohort effect wherein mothers participating in a parenting study in 2009 and 2010 were less likely to utilize overreactive discipline than the mothers who participated in the study utilized by Dowling et al. (2009), which was conducted in the 1990s, because overreactive discipline has become less culturally acceptable over time.

But it is also possible that the preemptive strategies taught to mothers in both groups were enough to influence the majority of mothers to engage in low levels of overreactive discipline either directly through a change in their discipline style, or indirectly through the relationship between misbehavior and overreactive discipline. Given the fact that Dowling et al. (2009) found child misbehavior mediated the relationship between preemptive parenting and overreactive discipline it is possible that the low levels of misbehavior found for both groups in the present study influenced low levels of overreactive discipline. Thus, future work should include a control group in order to test this hypothesis or make the interaction even more

challenging to encourage higher levels of misbehavior and thus make it more likely for mothers to engage in overreactive discipline.

The hypothesis that mothers in the enhanced group would engage in lower levels of lax discipline than mothers in the basic group was supported when child age was statistically controlled for. Child age was also a statistically significant predictor of lax discipline, with lax discipline decreasing as toddlers' age increased. It is important to keep in mind that the lax discipline result was significant at the $p = .04$ level and multiple other statistical analyses were conducted. However, there was a medium effect of the manipulation on lax discipline and future research should examine whether this effect will replicate. For the present study, it is possible that mothers in the enhanced group engaged in lower levels of lax discipline than mothers in the basic group because mothers in the enhanced group learned and utilized more confident preemptive strategies than mothers in the basic group and this influenced them to be more confident in their discipline as well.

A major strength of the present study is that it utilized an experimental design in which dyads were randomly assigned to groups, which allows for causal inferences to be made. Another major strength of the present study is that the major study variables were coded by four separate groups of trained undergraduate research assistants, thus reducing the likelihood that the measurements are reflective of coder bias rather than the constructs being measured.

However, three primary limitations should be kept in mind when interpreting the results and considering the implications of the results. First, the sample consisted of only 44 primarily Caucasian, married mothers and their toddlers. Thus, it is unclear whether these results would generalize to fathers or a more diverse population.

A second limitation of the present study was that mother-toddler dyads were not matched on child age and sex and then randomly assigned to groups; instead dyads were randomly assigned to groups using separate random assignment sheets for each child sex. This is a limitation because even though the groups did not differ significantly on child age, child age was a strong predictor of misbehavior, negative affect, and lax discipline. The importance of child age is consistent with previous research. For instance, Hawk and Holden (2006) found that preemptive parenting levels decreased as children got older and Holden and West (1989) found that 2-year-olds were more noncompliant with the rules than 3-year-olds. It is possible that the results would have differed significantly for 2-year-olds and 3-year-olds if the dyads had been matched on age and then randomly assigned. Therefore, future research should either use a within-subject design, such as that used by Holden and West (1989), or match on child sex and age and then randomly assign dyads to groups in order to test for the possibility that the results differ by child age.

The third limitation of the present study is that although the groups did differ significantly as expected when looking at the statistical tests of group differences on all preemptive strategies except commands, 27.3% of mothers in the basic group and 31.8% of mothers in the enhanced group did not meet minimal criteria set forth a priori to determine if they engaged in the preemptive parenting skills they were taught (excluding commands). (Mothers in the basic group who parented according to the instructions they were given and the role-plays they engaged in, should have received at least a 5 out of 7 on rules-and-expectations, and no higher than a 2.5 out of 5 on engagement. Mothers in the enhanced group who parented according to the instructions they were given and the role-plays they engaged in, should have received at least a 5 out of 7 on rules-and-expectations, no lower than a 3 out of 5 on

engagement, and no lower than a 5 out of 7 on monitoring-and-re-engaging.) In addition to the 27.3% of mothers in the basic group who did not meet these criteria, an additional 18.2% of the mothers in the basic group naturally engaged in high levels of monitoring-and-re-engaging during the phone call. Thus, there were only 12 mothers, or 54.5%, in the basic group, and only 15 mothers, or 68.2%, in the enhanced group who behaved as intended. The low percentages of mothers in each group engaging in the optimal preemptive strategies as intended should be kept in mind when interpreting the tests of group differences.

It is possible that if the manipulation had been more effective and more mothers had behaved as intended, the groups would have differed significantly on misbehavior, negative affect, and overreactive discipline, as well as praise and lax discipline. Given the low number of mothers who behaved as intended, the effect size needed to be approximately 1 in order to detect a significant group difference utilizing an independent groups *t*-test with 80% power. Thus, it remains unclear whether adding enhanced preemptive strategies to the basic preemptive strategies already included in many parenting interventions may result in reduced levels of misbehavior, negative affect, and overreactive discipline. Future research should utilize a stronger manipulation in order to be able to more accurately test these hypotheses.

Implications and Future Directions

Given that increasing parents' use of praise and decreasing parents' use of dysfunctional discipline are key targets for many parenting interventions (e.g., Eyberg & Child Study Lab, 1999; Forehand & Long, 2002; Kazdin, 2005; Sanders et al., 2001; Webster-Stratton, 2005), these results suggest that teaching parents to engage in enhanced preemptive parenting strategies may be an additional method to achieve these key targets. The increase in praise and decrease in lax discipline found in the present study for the enhanced group is also important because this

may suggest that the inclusion of a module teaching parents to engage in the enhanced preemptive parenting strategies early on in treatment may make the remaining treatments more effective. By increasing praise and reducing lax discipline early on by teaching the enhanced preemptive strategies, the mother may be more amenable later on to learn how to optimally utilize contingent praise and appropriate discipline techniques, which are both contingency-based approaches. Clearly, these are speculative hypotheses that would require further study.

Given that parenting interventions (e.g., Eyberg & Child Study Lab, 1999; Forehand & Long, 2002; Kazdin, 2005; Sanders et al., 2001; Webster-Stratton, 2005) are already effective at increasing parents' use of praise and decreasing parents' use of dysfunctional discipline (e.g., Gardner, Burton, & Klimes, 2006; Hawes & Dadds, 2006), future research is needed to determine if including a module on the enhanced preemptive parenting strategies increases the effectiveness of these programs enough to warrant the addition of another module (even though the module may be brief).

A growing body of research (Dishion et al., 2008; Gardner et al., 2007) has found support for the hypothesis that existing parenting interventions cause increases in preemptive and positive parenting and these increases partially mediate the impact of the interventions' effect on decreasing child behavior problems. Therefore, future research should examine the possibility that adding a specific preemptive parenting module may enhance this mediational effect and further decrease child behavior problems.

Future research should continue to examine whether additional preemptive parenting strategies, such as the enhanced strategies, may add to the preemptive strategies already found in many parenting interventions. For instance, future research should determine if a stronger manipulation would result in all of the hypothesized effects. One possibility would be for

mothers to come in for a longer intervention session in which they learn and practice the strategy they are assigned to, and then practice those strategies at home with their child for a week prior to engaging in the standard laboratory interaction. It is possible that if this methodology is utilized, more mothers would behave as intended and there would be larger group differences. This methodology would also more closely replicate the effects of changes in parenting as found in parenting interventions in which the parent practices the strategy at home in order to master the strategy and produce gradual change in their own and their child's behaviors.

Given that the task utilized in the present study may not have been difficult enough to observe high levels of misbehavior and negative affect in the context of the preemptive parenting behaviors, future research should examine different tasks (for instance, a clean-up task). It is possible that the hypothesized effects may be found in more challenging tasks. An additional benefit of examining alternative tasks would be to examine if other contexts, such as a clean-up compliance task, would benefit more from these strategies or require different forms of preemptive parenting. It is also important for future research to examine the effects of other forms of preemptive parenting (for instance, removing forbidden objects and the use of a consistent routine).

Finally, in addition to child age, future research should examine other child characteristics that may influence the effectiveness of the preemptive strategies utilized. For instance, some children were able to effectively inhibit touching the forbidden objects after only being told to do so in the beginning of the task whereas other children required repeated reminders throughout the task to not touch the forbidden objects and to be continually re-engaged with the toys in order to inhibit touching the forbidden objects.

In summary, preemptive parenting is a construct that warrants further study to fully understand how it relates to other variables of interest. The present study adds to the growing literature on preemptive parenting that suggests preemptive parenting may be important to include in parenting interventions designed to reduce child externalizing behaviors.

Table 1

Selected Maternal Characteristics By Group

Characteristic	Basic				Enhanced			
	%	<i>M (SD)</i>	Min	Max	%	<i>M (SD)</i>	Min	Max
Age (in years)		37.68 (6.11)	20	44		35.20 (4.17)	28	44
Education (in years)		17.36 (2.92)	12	26		16.89 (3.26)	12	26
Personal Income (in thousands)		\$25 (\$40)	\$0	\$145		\$41 (\$57)	\$0	\$250
Caregiving ^a		10.80 (3.87)	4	18		9.63 (3.64)	4	16
Married	81.8				72.7			
Employment Status								
Homemaker	36.4				27.3			
Part-time	31.8				18.2			
Full-time	31.8				54.5			
Ethnicity								
Caucasian	81.8				81.8			
African-American	0				9.1			
Hispanic	4.5				4.5			
Asian	13.6				0			
Mixed Race	0				4.5			

Note. Statistics are based on raw data (i.e., all variables are un-transformed and include outliers' real scores where relevant).

^aAverage hours spent in caregiving activities per day.

Table 2

Questionnaire Scores By Group

Questionnaire	Basic			Enhanced		
	<i>M (SD)</i>	Min	Max	<i>M (SD)</i>	Min	Max
ECBI Intensity	105.95 (25.54)	66	164	109.95 (20.83)	74	153
ECBI Problem	8.77 (7.76)	0	23	9.59 (6.77)	0	27
PS Laxness	2.40 (0.76)	1.00	3.80	2.69 (0.72)	1.60	4.20
PS Overreactivity	3.16 (1.08)	1.20	5.20	3.07 (0.75)	1.60	4.80
PS Hostility	1.73 (1.22)	1.00	5.00	1.59 (0.84)	1.00	4.00

Note. Statistics are based on raw data (i.e., all variables are un-transformed and include outliers'

real scores where relevant). ECBI = Eyberg Child Behavior Inventory; PS = Parenting Scale.

Higher scores indicate higher self-reported levels of the construct.

Table 3

Data Cleaning Information

Variable	Kolmogorov-Smirnov <i>p</i> value	Number of outliers in basic group	Number of outliers in enhanced group	Remedy that resulted in normal distribution without outliers
Outcome variables				
Negative affect		2		Changed outliers' scores from 66% and 72% to 34%
Lax discipline			5	Changed three outliers' scores from 1 to 2 and the remaining two outliers' scores from 6 to 5
Overreactive discipline	.000	2		No successful remedy
Praise		3	1	Square-root transformation
Manipulation check variables				
Rules-and-expectations	.000	5	2	No successful remedy
Engagement	.015	2	1	No successful remedy
Monitoring-and-re-engaging			1	Changed outlier's score from 3 to 3.5

Table 3 Continued

Variable	Kolmogorov-Smirnov p value	Number of outliers in basic group	Number of outliers in enhanced group	Remedy that resulted in normal distribution without outliers
Manipulation check variables continued				
Effective reprimands	.004	2		No successful remedy
Demographic variables				
Mother's personal income	.007	3	1	Square-root transformation
Mother's education in years		3	1	Changed basic outliers' scores from 12 to 13 and 22 and 26 to 21 and enhanced outlier's score from 26 to 22
Maternal age in years		1		Changed outlier's score from 20 to 28
ECBI Problem			1	Changed outlier's score from 27 to 20
PS Overreactivity Factor			1	Changed outlier's score from 4.8 to 4.2
PS Hostility Factor	.002	2	3	No successful remedy

Note. Only significant Kolmogorov-Smirnov *p* values reported.

Table 4

Descriptives for Major Study Variables by Group

Variable	Basic ^a			Enhanced ^a		
	<i>M (SD)</i>	Min	Max	<i>M (SD)</i>	Min	Max
Outcome Variables						
Misbehavior ^b	33.05% (22.38%)	4.00%	90.00%	29.73% (19.75%)	1.00%	70.00%
Negative affect ^b	14.32% (19.55%)	0.00%	72.00%	13.18% (15.18%)	0.00%	44.00%
Lax discipline ^c	4.05 (1.29)	2.00	6.00	3.50 (1.44)	1.00	6.00
Overreactive discipline ^c	1.27 (1.08)	1.00	6.00	1.36 (0.66)	1.00	3.00
Praise ^b	1.95% (2.06%)	0.00%	7.00%	4.95% (4.73%)	0.00%	20.00%
Manipulation Check Variables						
Rules-and-expectations ^c	6.23 (1.40)	2.00	7.00	6.50 (0.96)	3.50	7.00
Engagement ^d	1.41 (0.96)	1.00	4.50	4.57 (0.70)	2.00	5.00
Monitoring-and-re-engaging ^c	3.80 (1.47)	1.00	6.00	5.30 (1.00)	3.00	7.00
Commands ^e	2.23 (0.81)	1.00	3.00	2.07 (0.64)	1.00	3.00
Effective reprimands ^b	1.64% (3.19%)	0.00%	12.00%	2.41% (3.00%)	0.00%	9.00%

Note. Statistics are based on raw data (i.e., all variables are un-transformed and include outliers' real scores where relevant).

^a*n* = 22. ^bPercent of the interaction with the behavior present. ^cScores ranged from 1 – 7. ^dScores ranged from 1 – 5. ^eScores ranged from 1 – 3.

Table 5

Correlations Among Major Study Variables By Group

	1	2	3	4	5	6	7	8	9
1. Rules-and-expectations ^a	–	-.04	.22	.44*	-.31	-.31	.15	-.14	-.11
2. Engagement ^a	.19	–	-.02	-.06	-.12	-.09	.15	.01	.39
3. Monitoring-and-re-engaging ^b	.38	.07	–	.14	-.30	-.23	.19	-.30	-.09
4. Commands	.26	-.32	.42	–	.10	-.19	.11	-.20	-.39
5. Misbehavior	-.48*	-.09	-.15	-.17	–	.69***	.31	.75***	.16
6. Negative Affect ^b	.05	.19	.19	-.08	.57**	–	.45*	.71***	.10
7. Overreactive Discipline ^a	.13	-.11	.01	-.29	.35	.48*	–	.45*	-.21
8. Lax Discipline ^b	-.32	.00	-.41	-.40	.79***	.47*	.33	–	.17
9. Praise ^c	.13	.17	.44*	.05	-.00	-.03	.04	-.15	–

Note. Correlations for the enhanced group ($n = 22$) are presented above the diagonal; correlations for the basic group ($n = 22$) are presented below the diagonal.

^aSignificantly non-normal with no successful remedy. ^bOutlier(s)' scores changed. ^cSquare-root transformed.

* $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.

Table 6

Means and Adjusted Means for Misbehavior by Group

	<i>M (SE)</i>	<i>Adjusted M (SE)^a</i>
Basic (<i>n</i> = 22)	33.05% (4.77%)	34.5% (3.9%)
Enhanced (<i>n</i> = 22)	29.73% (4.21%)	28.3% (3.9%)

^aAdjusted by child age.

Table 7

Means and Adjusted Means for Negative Affect by Group

	<i>M (SE)</i>	<i>Adjusted M (SE)^a</i>
Basic (<i>n</i> = 22)	11.14% (2.36%)	12.1% (2.4%)
Enhanced (<i>n</i> = 22)	13.18% (3.24%)	12.2% (2.4%)

^aAdjusted by child age and PS Overreactivity .

Table 8

Means and Adjusted Means for Lax Discipline by Group

	<i>M (SE)</i>	<i>Adjusted M (SE)^a</i>
Basic (<i>n</i> = 22)	4.05 (.28)	4.10 (.24)
Enhanced (<i>n</i> = 22)	3.55 (.23)	3.49 (.24)

^aAdjusted by child age.

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Appendix A

Phone call for previous Point of Woods Participants who gave permission to be re-contacted

Hello _____, this is Carey Dowling calling from the Point of Woods Parenting Laboratory. You recently participated in a study with Kim Rhoades (Vinny Grande) and indicated that you would be interested in being contacted regarding future research opportunities. I am currently recruiting mothers and their 24- to 47-month-old-toddlers for a study. Would you like to hear more about the study?

Great! I'll tell you a little bit more about the study and if you are still interested we can schedule a time for you and your toddler to come in. We are interested in examining the effects of two parenting strategies for toddlers. The study will involve coming to Stony Brook University with your toddler for about an hour and a half. When here you will fill out some questionnaires then learn one of the strategies that we are studying and practice that strategy with me. During this time your toddler will be playing in an adjacent room with a qualified research assistant. Then you will utilize the strategy you learned during a 20-minute phone conversation with myself while your child plays in the room with you. If you decide to participate you will receive a free parenting book with DVD and be entered into a raffle for a one in ten chance of winning \$50. The whole time at the lab should be no longer than an hour and a half, but may range from 1-2 hours. We can also provide childcare for additional children if you need it. Would you like to schedule a time to participate?

Wonderful! I have openings ...

Mothers' name:

Child's sex:

What is your child's name?

How old is s/he?

I would like to send you directions to our lab and a voucher that you are a participant in a research study for the parking garage. Would you like me to mail it or send you an e-mail?

Name:

Child's Name:

Address:

E-mail:

The parking voucher is because sometimes the garage says it is full but they should let you in if you show them the voucher. If you have any issues or need to reschedule, please give me a call at this number. I look forward to meeting you and _____ at _____ on _____.

Appendix B

Recruitment Flyer



Point of Woods Parenting Laboratory
Psychology Department
SUNY, Stony Brook
Stony Brook, NY 11794-2500

Do you have a 2- or 3-year-old toddler?



The Point of Woods Parenting Laboratory at Stony Brook University is seeking mothers and their 2- to 3-year-old toddlers for participation in a research study. Participation should take about an hour and a half. Monday - Saturday times are available, as well as childcare for additional children if needed. All participants will receive a free parenting book with DVD, a prize for their child, and be entered into a raffle for a 1 in 10 chance of winning \$50! One hour parenting workshops will also be offered to interested participants! For more information contact Carey Dowling at (631) 632-7874.

Appendix C

Advertisement for Community Outlets

PARENTING STUDY: The Point of Woods Parenting Laboratory at Stony Brook University is **seeking mothers and their 2- to 3-year-old toddlers** for participation in a research study. Participation should take about 1.5 hours. Monday - Saturday times are available, as well as childcare for additional children if needed. *All participants will receive a free parenting book with DVD, a prize for their child, and be entered into a raffle for a 1 in 10 chance of winning \$50! One hour parenting workshops will also be offered to interested participants!* For more information contact **Carey Dowling at (631) 632-7874.**

Appendix D

Manipulation Instructions

Instructions for mothers in the basic group

Now we are going to go over what I want you to do during the videotaped interaction. The interaction itself will take 20 minutes; you'll be on the phone with me while your child is playing. You can pretend like this room is a room in your house, and there are specific rules. As you can see, the room has a chair for you to sit on, a phone for you to talk to me on, toys for _____ to play with, objects that are not appropriate for _____ to touch, and places that you don't want _____ to go. The task is for you to have a phone conversation with me on this disconnected phone; you will be able to hear me through this bug-in-the-ear device; I'll get you set up with it later. _____ needs to play independently with the toys and follow a set of rules. _____ cannot touch any of the objects on the tables or the hanging mobile; if it helps you can think of these objects like expensive and breakable items or objects that are dangerous for _____ to touch. _____ also cannot cross the tape; if it helps you can think of the tape like a wall to another room where you don't want _____ to go. Actually, it is important that you both stay on this side of the tape because we cannot see you on the camera if you are on the other side. It is also important that _____ plays by him/herself and doesn't sit on the chair with you and that you stay on the phone with me and have the conversation as though it is an important conversation that you need to complete with as few interruptions from _____ as possible.

So let's go over how I want you to interact with _____ during the task. It may be different from what you normally do, but please try your best to use the strategies and follow the rules of the task so that we can learn what are the most effective strategies to teach mothers. We are really trying to isolate the impact of two specific strategies, and your strategy is giving your child clear commands. When you come into the room with _____ I want you to tell _____ the rules of the task and what you expect _____ to do in a firm, confident voice. [I gave the mom the Instruction card at this point.]

Let's practice. First I'm going to show you how I want you to do it. [I modeled getting down to the child's level as I said the commands] _____ I want you to look at Mommy. There are a lot of things you can't touch in here. Look over here. [I pointed to each item as I said] You can't touch the things on this table, this table, this table, and the mobile. No touch! Look at this tape. You have to stay on this side of the tape. Mommy is going to make a phone call, and I want you to play with these toys right here and don't talk to Mommy while I'm on the phone. Please play with the toys right here. Mommy is going to make her phone call now. [I then modeled getting on the phone.]

Do you have any questions before you try it? This time I'll be _____ and you be yourself. [I practiced with the mother a few times, praising her for what she did correctly each time and encouraging her to do it better the next time if necessary. For example: "Great job using a firm tone of voice and telling me what you wanted me to do. This time make sure to tell me all of the rules."]

[When the mother was able to role-play telling her child the rules and expectations of the task well with me I said] Excellent, so after you tell _____ the rules and expectations you will pick up the phone, pretend to dial me, and we will begin our phone conversation. I'll be asking you a lot of questions about _____, you, and your family and I want you to pretend it is an

important phone conversation that you don't want _____ interrupting. If you need to tell _____ to **do** something important during the phone conversation, be brief and specific and tell _____ in a firm, confident tone of voice. For example, [Into the phone] Hold on one second. [To the child] _____ come over here so I can blow your nose. [Into the phone] Ok, I'm back. Or [Into the phone] Hold on one second. [To the child] _____ let me tie your shoe. [Into the phone] Ok, I'm back.

Let's practice this too. Tell me to **do** something simple in a firm, confident, specific, and brief way. [I shaped the mothers' command giving as necessary.]

[As soon as I felt the mother mastered telling her child the rules and expectations in a firm, confident tone of voice and giving effective commands, I reminded her of everything before we got started by saying] OK, I think we're almost ready to get started. Please remember that _____ is not allowed to touch the typewriter, mobile, office supplies, or candy; cross the tape; or sit with you. _____ is supposed to play with the toys by him/herself and not bother you while you talk with me on the phone. Your strategy is giving good commands. So, as soon as you get in the room you will set up the task by telling _____ the rules and expectations in a confident, firm way. Then I want you to pick up the phone and pretend to dial me. We will then have our phone conversation and I'll ask you a lot of questions about _____, you, and your family. During the phone call, please use clear, firm, specific, and brief commands if you need _____ to **do** something. If _____ touches something s/he shouldn't touch, goes across the tape, or does something else that you don't like; please respond however you normally would at home. Remember the card here is to remind you of what I want you to do. Do you have any questions before we get started? [I got her set up with the bug-in-the-ear device and checked the volume.] Okay, let's go get _____. Do either of you need to use the bathroom or get a drink before we get started?

Instruction Card for Mothers in the Basic Preemptive Group

Instructions

Rules/Expectations for your child:

1. Do not touch: the mobile and the objects on the tables (typewriter, office supplies, and candy jar)
2. Do not leave the taped-in area
3. Play with the toys by yourself
4. Leave Mommy alone while she is talking on the phone

During the task:

1. Give brief, specific, firm and confident commands if you want your child to do something
2. Do not hold your child or allow your child to sit on the chair with you
3. Respond to your child when he/she does something you don't like however you normally would at home

Instructions for mothers in the enhanced group

Now we are going to go over what I want you to do during the videotaped interaction. The interaction itself will take 20 minutes; you'll be on the phone with me while your child is playing. You can pretend like this room is a room in your house, and there are specific rules. As you can see, the room has a chair for you to sit on, a phone for you to talk to me on, toys for _____ to play with, objects that are not appropriate for _____ to touch, and places that you don't want _____ to go. The task is for you to have a phone conversation with me on this disconnected phone; you will be able to hear me through this bug-in-the-ear device; I'll get you set up with it later. _____ needs to play independently with the toys and follow a set of rules. _____ cannot touch any of the objects on the tables or the hanging mobile; if it helps you can think of these objects like expensive and breakable items or objects that are dangerous for _____ to touch. _____ also cannot cross the tape; if it helps you can think of the tape like a wall to another room where you don't want _____ to go. Actually, it is important that you both stay on this side of the tape because we cannot see you on the camera if you are on the other side. It is also important that _____ plays by him/herself and doesn't sit on the chair with you and that you stay on the phone with me and have the conversation as though it is an important conversation that you need to complete with as few interruptions from _____ as possible.

So let's go over how I want you to interact with _____ during the task. It may be different from what you normally do but please try your best to use the strategies and follow the rules of the task so that we can learn what are the most effective strategies to teach mothers. We are really trying to isolate the impact of two specific strategies, and your strategy is being the director of your child's behavior. So, when you come into the room with _____ I want you to tell _____ the rules of the task and what you expect _____ to do in a firm, confident voice and then make sure that _____ is engaged with at least one toy. Then I want you to get right on the phone with me, don't keep playing with him/her. [I gave the mom the Instruction card at this point.]

Let's practice this part, first I'm going to show you how I want you to do it. [I modeled getting down to the child's level as I said the commands] _____ I want you to look at Mommy. There are a lot of things you can't touch in here. Look over here. [I pointed to each item as I said] You can't touch the things on this table, this table, this table, and the mobile. No touch! Look at this tape. You have to stay on this side of the tape. Mommy is going to make a phone call, and I want you to play with these toys right here and don't talk to Mommy while I'm on the phone. Please play with the toys right here. Look, there is a puzzle! [I broke the modeling at this point and told the mother the following.] Choose one of the toys that you think your child will like the best to make a big deal out of. Another thing some mothers do is to suggest a game for their child to do like build big towers with the blocks. Whatever you suggest, make sure to do so in an enthusiastic, excited tone of voice. Please don't play with _____ but make sure that _____ is actually engaged with at least one toy before you say something like, OK, Mommy is going to make her phone call now.

Do you have any questions before you try it? This time I'll be _____ and you be yourself. [I practiced with the mother a few times, praising her for what she did correctly each time and encouraging her to do it better the next time if necessary. For example: "Great job using a firm tone of voice and telling me what you wanted me to do. This time make sure to tell me all of the rules."]

[When the mother was able to role-play setting up the task well with me I said] Excellent, so after you set _____ up playing with the toys you will pick up the phone, pretend to dial me, and we will begin our phone conversation. I'll be asking you a lot of questions about _____, you, and your family and I want you to pretend it is an important phone conversation that you don't want _____ interrupting. But _____ is probably going to get bored or possibly start to get frustrated with a toy so you will need to multi-task while you are on the phone with me. You will need to pay attention to our phone conversation and pay attention to _____ so that you notice when _____ is starting to get bored or frustrated. As soon as you see that _____ is getting bored, I want you to intervene and get _____ re-engaged with the toys in a confident, enthusiastic way. I also want you to intervene as soon as you see _____ is about to get frustrated with a toy (like having trouble putting the puzzle together). Sometimes it can be simple, like bending down, taking the pieces out of the puzzle, and tapping the empty puzzle in a way that communicates you want _____ to put it together. [I modeled this as I said it.] Sometimes it needs to be more involved, like asking me to wait a minute and enthusiastically suggesting something for _____ to do. For example, [Into the phone] Hold on one second. [To the child] All done playing with the puzzle? Wow, did you see the book? Look at this cool book! [Into the phone] Ok, I'm back.

Let's practice this too. I'll pretend to be _____. This first time I want you to intervene without speaking to me. [I then pretended to play with the toys and acted as though I was starting to get frustrated and then starting to get bored at random times. Just like before I praised the mother for whatever she did well and encouraged her to make any necessary changes. We also practiced a verbal intervention.]

[As soon as I felt the mother had mastered all of the components: telling her child the rules and expectations in a firm, confident tone of voice, monitoring her child during the task, intervening in an effective, enthusiastic, and confident manner; I reminded her of everything before we got started] Okay, I think we're almost ready to get started. Please remember that _____ is not allowed to touch the typewriter, mobile, office supplies, or candy; cross the tape; or sit with you. _____ is supposed to play with the toys by him/herself and not bother you while you talk with me on the phone. Your strategy is being the director of your child's behavior. So, as soon as you get in the room you will set up the task by telling _____ the rules and expectations in a confident, firm way and then getting _____ involved with at least one toy in a confident, enthusiastic way. Then I want you to pick up the phone and pretend to dial me. We will then have our phone conversation and I'll ask you a lot of questions about _____, you, and your family. During the phone call, please pay attention to _____ and intervene when you notice _____ is starting to get bored or frustrated. If _____ touches something s/he shouldn't touch, goes across the tape, or does something else that you don't like, please respond however you normally would at home. Remember the card here is to remind you of what I want you to do. Do you have any questions before we get started? [I then got her set up with the bug-in-the-ear device and checked the volume.] Let's go get _____. Do either of you need to use the bathroom or get a drink before we get started?

Instruction Card for Mothers in the Enhanced Preemptive Group

Instructions

Rules/Expectations for your child:

1. Do not touch: the mobile and the objects on the tables (typewriter, office supplies, and candy jar)
2. Do not leave the taped-in area
3. Play with the toys by yourself
4. Leave Mommy alone while she is talking on the phone

During the task:

1. Pay attention to what your child is doing so that you can notice if she/he is starting to get bored or frustrated
2. If s/he is starting to get bored or frustrated, intervene in a confident, enthusiastic way
Examples:
 - take apart the puzzle and tap it
 - suggest a way to play with another toy
3. Do not hold your child or allow your child to sit on the chair with you
4. Respond to your child when he/she does something you don't like however you normally would at home