# The Mediating and Moderating Effects of Maternal Depression on the Relationship Between Maternal Behavior and Presented Self-Esteem in Children

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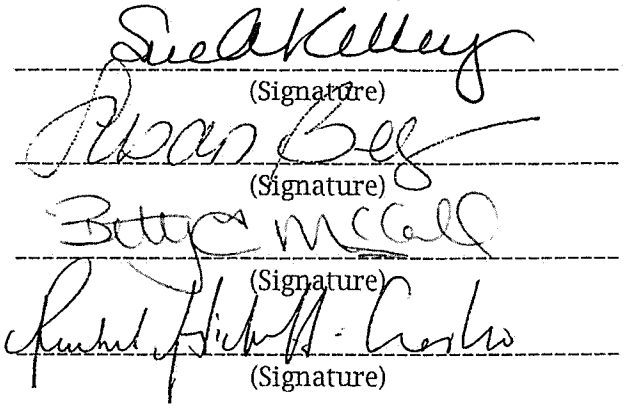

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# The Mediating and Moderating Effects of Maternal Depression on the Relationship Between Maternal Behavior and Presented Self-Esteem in Children

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## Abstract

Previous research has explored direct relations between maternal depression, maternal behavior, and child outcomes, but has failed to adequately investigate the potential mediating and moderating effects of maternal depression on these factors. The current study examines whether maternal depression mediates and/or moderates the relationship between maternal behavior and presented self-esteem in children. Mother-child interactions were observed during an achievement task when toddlers were 25-months old. Maternal depression was also measured at this time. Presented self-esteem was assessed when children were around 5 years of age. Although mothers who reported more depressive symptoms also demonstrated more intrusive control, there was no relationship between maternal depression and maternal positive feedback or children's presented self-esteem. Maternal depressive symptoms did not moderate the relationship between intrusive control or positive feedback and any of the child presented self-esteem outcomes; however, maternal positive feedback moderated the relationship between maternal intrusive control and children's preference for challenge. Results suggest that mild depression may not have direct negative effects on children and that maternal behavior may play a larger role in the development of children's self-esteem.

Adult depression ranks as one of the most common mental health disorders (Cahoon, 2012; England & Sim, 2009). Adult depression not only affects the adult, but also the estimated 15 million children living with a depressed parent (England & Sim, 2009). In fact, children of depressed parents are four times more likely to develop depression compared to children of nondepressed parents (Beardslee, Gladstone, & O'Connor, 2011). In general, depressed parents have been found to offer less parental support, display a more negative attitude, and demonstrate more control over their children's actions (Coyne & Tompson, 2011; Kelley & Jennings, 2003). One way in which support, negativity, and control can be demonstrated is through evaluative feedback, a form of maternal behavior. The current study examines the individual and combined effects of maternal depression and different forms of maternal evaluative feedback on later child presented self-esteem.

**Maternal Depression and Maternal Behavior**

Depressed mothers often feel as though they have less control over both their own parenting behavior and their children's behavior (Coyne & Thompson, 2011). In fact, depressed mothers who feel they lack control over their environment are less likely to be able to mask their depression and negative cognitions (Coyne & Thompson, 2011). These mothers are then more likely to intrude upon their children's actions in a negative manner as a result of their negative cognitions (Coyne & Thomspon, 2011). Depressed mothers may exert control over their children's actions in an attempt to elevate their own locus of

control (Coyne & Thompson, 2011; Kolozian, 2007; Lovejoy, Graczyk, O'Hare, & Neuman, 2000).

Locus of control refers to the amount of personal control individuals believe they have over events and situations that impact them (Puff & Renk, 2016). One reason why depressed mothers may feel little control over not only their own, but also their children's, behavior is because depressed mothers are known for having a more external locus of control (Houck, Booth, & Barnard, 1991). Depressed mothers with an external locus of control often feel that they have little oversight or personal control over their current situation. These mothers may attempt to gain control by explicitly telling their children how to interact with various objects and complete specific tasks as opposed to letting their children explore objects and achieve mastery on their own. This type of controlling behavior may result in children not being able to independently understand challenging tasks because their mothers are intruding upon their thought processes by providing answers before they are needed.

One way in which depressed mothers may intrusively control their children's actions is through the excessive use of directives. Directives are statements that tell a child what to do. Mothers can limit the autonomy of their children in an intrusive manner by providing step-by-step instructions on how to complete a task, hindering their children's personal curiosity and independence (Putnam, 1996). Directives, in this context, are not suggestions, but rather demands made to the child, such as, "Put the blue one here and then push this button." When mothers rely upon directives to guide their children's

actions, their children do not have to independently understand the mechanics of the task at hand. For these reasons, directives not only limit the independent actions of children, but also impede the thought processes guiding such actions in an intrusive manner (Masur, Flynn, & Eichorst, 2005).

Another way in which mothers use intrusive control to guide their children's actions is through the use of prohibitions, which are statements ("No") or physical movements (lifting a child's hand off of a toy) that intend to cause children to disengage from an action. Some mothers verbally tell their children to stop engaging in various behaviors, whereas others nonverbally prohibit their children from engaging in a task by physically redirecting their children's attention. Mothers who frequently use prohibitions to control their children's actions can intrude upon their children's ability to understand objects independently because they prohibit them from engaging in more trial-and-error type processes by telling them what to and what not to do (Joffe, 1981).

Because directives and prohibitions are used to dictate or alter children's behavior, they are viewed as intrusive. Moreover, these intrusive behaviors are likely to foster an external locus of control much like that of depressed mothers themselves. The current study predicts that depressed mothers will demonstrate more intrusive control (i.e., higher amounts of directives and prohibitions) as a way to control their children's actions.

Intrusiveness is not the only characteristic that depressed mothers display; depressed mothers are also known to express more negativity towards

their children (Coyne, Low, Miller, Seifer, & Dickstein, 2007; Coyne & Tompson, 2011; Kelley & Jennings, 2003). One plausible explanation for this display of negativity may be due to the relationship between depression and negative self-cognitions (Milgrom & Beatrice, 2003). These negative self-cognitions can often color the world around depressed mothers making their view of various situations more pessimistic and diffusing into multiple aspects of their lives (Horowitz, Damato, Duffery, & Salon, 2005; Milgrom & Beatrice, 2003).

Depressed mothers frequently have more negative expectations with regard to their own relationships and often display the insecure attachment style (Horowitz et al., 2005; Thompson & Bendell, 2014). Because of this, it is not uncommon for depressed mothers to view their relationships with their children as more negative (Thompson & Bendell, 2014). Specifically, mothers suffering from depression have been found to think less of themselves as mothers and even display more negative attitudes towards the mother role (Fowles, 2010; Horowitz et al., 2005). The increased negativity depressed mothers experience is likely to also be shown in the feedback they provide to their children.

Depressed mothers show negativity towards their children through both the harshness and directness of their feedback (Gamez-Galka, 2000). These mothers are often unable to mask their true emotions when providing evaluative feedback, especially if their depression is more severe (Campbell, Matestic, Stauffenberg, Mohan, & Kirchner, 2007; Coyne & Thompson, 2011). Consequently, these mothers may verbalize exactly what they are thinking,

which can often be viewed as harsh and unfiltered. For these reasons, depressed mothers are known to be stricter, display heightened levels of aggravation, and show less overall warmth (Atzaba-Poria & Pike, 2015). This negativity can be seen through commentary that is both negative in tone and content (e.g., “That’s not where that goes!” or “You’re not very smart.”). The current study predicts that depressed mothers will offer more negative feedback and less warmth to their children.

**Maternal Depression and Child Presented Self-Esteem**

Maternal depression may indirectly influence children through its effect on maternal behavior and it may also directly affect child outcomes. As stated previously, one characteristic of maternal depression is the development and display of negative self-cognitions (Milgrom & Beatrice, 2003). Children exposed to their mother’s negative cognitions often do not receive the positive evaluations and encouraging commentary needed to develop and foster constructive self-cognitions (Goodman, Adamson, Riniti, & Cole, 1994). Further, because depressed mothers often display negative self-cognitions, which are likely to be projected onto their children, their children are at an increased likelihood to both model and develop negative self-perceptions and thoughts (Goodman et al., 1994; Milgrom & Beatrice, 2003). These maladaptive cognitions have the ability to negativity influence children of depressed mothers in many ways, including lowering their self-esteem (Goodman et al., 1994).

Another reason why children of depressed mothers may have lower self-esteem could be due to the negative beliefs that their mothers hold and express

about them (Coyne et al., 2007; Frankel & Harmon 1996; Goodman et al., 1994). When mothers do not have or are not supporting a stable, positive self-image of their children, their children are likely to internalize this view (Coyne & Thompson, 2011; O'Connor, Langer, & Thompson, 2011). For this reason, it is possible that children will begin to internalize the lack of positive support and guidance they receive and view this lack of encouragement as their fault (Campbell, Matestic, von Stauffenberg, Mohan, & Kirchner, 2007; Coyne & Tompson, 2011; O' Connor et al., 2016). Internalizing such negativity has been found to correlate with low self-esteem (Alpern & Lyons-Ruth, 1993; Brennan, Hammen, Anderson, Bor, Najan, & Williams, 2000). Children may internalize the negative views held by their mothers and begin to make negative internal attributions both for their own behavior and the behavior of others. Individuals who make negative internal attributions for poor outcomes often experience low self-esteem (Alpern & Lyons-Ruth, 1993; Brennan, Hammen, Anderson, Bor, Najan, & Williams, 2000).

Depressed mothers are also known to demonstrate poor examples of mood regulation (Coyne & Thomson, 2011). Children are known for their ability to observe their surroundings and then mimic the behavior to which they are exposed (Field, Healy, Goldstein, Perry, Bendell, Schanberg, & Kuhn, 1988). For these reasons, children of depressed mothers are likely to model the mood of their mother, as well as display a consistent negative attitude that matches that of their mother. Consequently, it is expected that maternal depression will have

a direct effect on children's self-esteem such that higher levels of maternal depressive symptoms will relate to lower levels of presented self-esteem.

Maternal depression may also affect children's social interactions which could ultimately influence their self-esteem. Because children are known to model the emotions and actions of their mothers, children of depressed mothers are likely to exhibit a negative, mildly aggressive, and sometimes destructive attitude, which is likely to result in low levels of social interaction (Field, Lang, Martinez, Yando, Pickens, & Bendell, 1996; Greenberg, Lengua, Coie, & Pinderhughes, 2009). If children of depressed mothers hold the belief that other individuals are also negative, they may be less likely to approach and associate with others, which would also limit their social interactions (Murray, Sinclair, Cooper, Ducournau, Turner, & Stein, 1999; Wu, Selig, Roberts, & Steele, 2011). Additionally, others often view these children as less friendly, limiting not only the number of individuals who approach these children, but also their social acceptance (Maughan, Cicchetti, Toth, & Rogosch, 2007). It is likely that these factors will lead to decreased social interaction, which children of depressed mothers may internalize and view as their fault. This negative internal attribution may then result in low self-esteem (Goodman et al., 1994; Murray et al., 1999).

Children begin to become aware of the beliefs and judgments others hold about them, as well as the beliefs they hold about themselves around the age of six (Verschueren, Marcoen, & Buyck, 1998). Although children of this age are becoming aware of these beliefs, they are not yet able to verbalize such feelings

(Harter, 1989). Young children are known to express their attitudes and beliefs through their actions (Harter, 1983) and some propose that the cognitive understanding children hold about their own self-esteem is most reliably acted out through their behavior (Fuchs-Beauchamp, 1996; Harter, 1983). It is because of this that the present study uses the Behavioral Rating Scale of Presented Self-Esteem (Haltiwanger & Harter, 1988) to assess children's presented self-esteem. This scale describes common, yet opposing mannerisms of children that are likely acted out in the classroom and in various social situations (e.g., *makes good eye contact* or *avoids eye contact*). Individuals completing this measure are asked to decide which mannerisms are more or less characteristic of a specific child (e.g., *very much like this child* or *sort of like this child*). This measure enables researchers to evaluate self-esteem in children before children are able to reliably and accurately articulate their self-cognitions.

**Maternal Behavior and Child Presented Self-Esteem**

Maternal depression may directly influence child presented self-esteem, but it may also have indirect effects due to its impact on maternal behavior. When children are repeatedly exposed to authoritarian/controlling/intrusive instruction, they can begin to believe they are completing a task incorrectly or that they are unable to complete a task without another's guidance (Filippello, Sorrenti, Buzzai, & Costa, 2015). Consequently, children may develop a helpless approach to challenging tasks and may become dependent on the commentary of others as they may believe they are incapable of completing tasks independently (Filippello et al., 2015). As a result, when feedback is unavailable

or not offered by mothers, children may be less autonomous (Andrews, 1984). This helpless state of mind is associated with low self-esteem, due to the feelings of both embarrassment and incompetence that helplessness produces (Atzaba-Poria, & Pike, 2015; Filippello et al., 2015; Graybill, 1978; Haimowitz, 1996).

Maternal intrusive control may indirectly foster the development of low self-esteem through the construction of a helpless attitude, but it may also have a direct effect on children's self-esteem. For children, the harshness and domination associated with intrusive control may result in fear and disengagement from tasks, especially when children feel a sense of love withdrawal (Baumeister, Campbell, Kruegar, & Vohs, 2003). When children feel pressured to behave in a specific manner, their personal autonomy is compromised and they can feel as though they lack control over their environment, which corresponds with low self-esteem (Baumeister et al., 2003).

Maternal intrusive control may also be accompanied by negativity, which has been independently associated with low child self-esteem (Rudy & Grusec, 2006). Maternal negativity is shown primarily through negative affect and cognitions. When mothers lack positive expressions, commentary, and thoughts to or about their children, their children are likely to view this absence of warmth and excitement as reflective of themselves (O' Connor, Langer, & Tompson, 2016). Children are known to internalize any negativity shown by their mothers and the internalization of such negativity has been linked to low

self-esteem (Campbell et al., 2007; Cohn, Campbell, Matias, & Hopkins, 1990; Coyne & Tompson, 2011; O' Connor et al., 2016).

Another way in which maternal negativity may foster low self-esteem is if it is used to guilt or shame children into engaging or disengaging in various activities (Graybill, 1978). Some mothers express forms of negativity when their children do not meet expectations or when they engage in actions that do not meet mothers' approval. Instead of children exploring their environment in the way they see fit, the negative pressure they receive from their mothers can control and guide their actions. For these reasons, this negativity can be psychologically intrusive and has been found to correlate with lower levels of child self-esteem (Graybill, 1978).

Maternal negativity may also influence the development of low self-esteem due to the fact that children imitate the behaviors and attitudes of those around them (Field et al., 1988). Negative maternal affect can quickly result in negative child affect because this is the affect that was modeled for the child. When children develop negative affect, they are likely to view themselves more negatively (Graybill, 1978; Haimowitz, 1996). Meaning, they associate themselves with feelings of anger, shame, guilt, contempt, and possibly even fear. Research has found an association between negative affect and self-esteem in children, such that higher degrees of negative affect correlate with lower self-esteem (Cole et al., 2007; Krieger, Hermann, Zimmermann, & Holtforth, 2015).

Although maternal negativity will be measured in the present study, previous research has found that few mothers express negativity towards their children or their children's product/actions when they are aware that their behavior is being observed (Heckhausen, 1993). Because of this, the likelihood of observing a high frequency of maternal negativity is low. Consequently, the current study will also measure positive feedback. It is predicted that mothers who express negative feedback will limit their more negative commentary when being observed, but also that these mothers will fail to demonstrate positive feedback. For these reasons, maternal negativity will not only be evaluated by the amount of negative feedback mothers express, but also by a lack of positive feedback.

**Severity and Chronicity**

There are many factors associated with maternal depression that could affect both maternal behavior and child outcomes. Most studies distinguish and compare depressed and nondepressed mothers at the time of the study (Frye & Garber, 2005, O'Connor et al., 2016). However, the type of depression and the simple fact of having diagnosable depression seem to be less significant than other factors when predicting and analyzing future child outcomes (Hammen & Brennan, 2003). Severity and chronicity of maternal depression have been recognized as variables that impact the mother-child interchange, as well as later child outcomes (Brennan et al., 2000; Mars, Collishaw, Smith, Thapar, Potter, Sellers, & Tharpar, 2012). Severity of depression is often defined by receiving a score that falls into the "severe range" (30-63) of the Beck

Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961; Brennan et al., 2000). Chronicity is commonly defined by the number of times, spanning a set period, in which mothers rate their depression as severe (Alpern & Lyons-Ruth, 1993; Brennan et al., 2000). The two factors of severity and chronicity are both highly correlated, due to their relation to one another (Brennan et al., 2000; O'Connor et al., 2016).

Severity seems to be important because mothers who are depressed, but not severely depressed, have been found to be more sensitive, empathetic, and positive when compared to severely depressed mothers (Campbell et al., 2007). If a mother's depression is less severe, she is more likely to be able to portray a more positive self-image (Frankel & Harmon, 1996). Conversely, if a mother is suffering from more severe depression, meaning she is currently experiencing more depressive symptoms, she is less likely to be able to mask her current negative emotions (Lovejoy, 1991). Severity of symptoms has been found to be correlated with functioning such that greater symptom severity often results in more impaired functioning (Brennan et al., 2000).

Chronicity is significant because researchers now believe that it is the amount of time children have been exposed to their depressed mother that is of importance (O'Connor et al., 2016). Research has shown that mothers who suffered from postpartum depression for six months were much more negative during their mother-child interactions than they were during their interactions at the time when they were only experiencing postpartum depression for two months (Campbell, Cohn, & Myers, 1995). The chronicity of maternal depression

has been found to be more valid when predicting future child outcomes as opposed to the type of depression diagnosis (Campbell et al., 1995). In other words, the amount of time the child has experienced the effects of maternal depression is important. In fact, past maternal depressive history is a more accurate indicator of future child outcomes than current depressive symptoms (O'Connor et al., 2016). However, research also supports the accuracy of combining both severity and chronicity when predicting future child outcomes (O'Connor et al., 2016). For these reasons, the present study will take into account both the severity and the chronicity of maternal depression when evaluating the relationship between maternal behavior and later child presented self-esteem.

In summary, the present study predicts:

1.) Depressed mothers will be more intrusive (i.e., will use more directives and prohibitions) during interactions with their children.
2.) Depressed mothers will demonstrate more negativity and less positivity.
3.) Children of depressed mothers will have lower self-esteem.
4.) Mothers who are more intrusive and mothers who display more negativity/less positivity will have children with lower self-esteem.

5.) Mothers with more severe depression will demonstrate more intrusive behaviors and have children with lower presented self-esteem.

6.) Mothers with more chronic depression will demonstrate more intrusive behaviors and have children with lower presented self-esteem.

Previous research has examined the moderating effects of maternal depression on children's achievement-related behavior (Kelley & Jennings, 2003), but these effects have not been applied to the relationship between maternal behavior and child presented self-esteem. Because of this, the current study will expand upon previous research by observing any potential mediating and moderating effects that maternal depression has on the relationship between maternal behavior and child presented self-esteem. Due to the exploratory nature of this study, no specific predictions regarding the mediating and moderating effects of maternal depression are made.

## Method

### Participants

Participants included 134 mother-toddler pairs who were recruited as part of a larger study focusing on child development at the University of Pittsburgh. College IRB approval was received and after mothers completed an informed consent, all mothers were screened for depression when their children were 18-months of age via the Structured Clinical Interview for DSM-IV (First, Spitzer, Gibbon, & Williams, 1995). Follow-up data was collected

(Behavioral Rating Scale of Presented Self-Esteem and follow-up BDI) from 93 mothers. For this reason, the current study analyzed all data for maternal depression and maternal behavior and 93 mother-child pairs from the original sample for any analyses involving presented self-esteem in children. Of these 93 mothers, 48 mothers reported experiencing clinical depression during some point of their child's lifetime, whereas 45 mothers reported no depression (the full sample consisted of 71 depressed and 63 nondepressed mothers). Depressed mothers were recruited by clinicians and by advertisements displayed at the University of Pittsburgh's psychiatric treatment center. This was a clinical sample, with all depressed mothers being recruited from therapists and receiving some form of treatment. All but one nondepressed mother from the original sample was recruited from a local hospital, with the one exception being a mother who saw the advertisement at the university.

Mothers provided ethnicity classifications when toddlers were 18-months of age. The current sample of participants included 95.7% Caucasian, 2.2% African American, and 2.1% other (the full sample consisted of 89.5% Caucasian, 4.8% African American, and 5.6% Biracial). Social Economic Status (SES) of participants was assessed by the Hollingshead (1975) index of social status ranging on a scale of 1 (*high executive, administrators, professionals*) through 5 (*unskilled menial labor*). The sample included primarily middle class mothers ($M = 1.96$, $SD = 1.03$; full sample $M = 2.02$, $SD = 1.07$). At the time of initial data collection, mothers' ages ranged from 20-47 years old ($M = 33.77$, $SD = 4.89$).

**Materials**

Previously recorded mother-child interactions were coded to examine the frequency of specific behaviors (see Appendix A for full coding manual). Individuals responsible for coding were uninvolved with the administration of the study and were unfamiliar with all participants in the sample. All coders were responsible for coding data independently once reliability was achieved and maintained. Because the length of each interaction varied, all frequency codes were transformed into proportions.

*Directives.* Phrases in which the mother directly commanded her child to engage in some action. The mother did not suggest to try an action; she explicitly told her child to do it ("Put the blue one here," "Press the green button," "Turn the lever").

*Prohibitions.* Either verbal commentary or nonverbal actions that were made to command the child to cease participation in an action. Verbal prohibitions included statements explicitly telling the child what he/she needed to stop doing ("Stop running around," "Don't put that there"). Nonverbal prohibitions were actions made by the mother that stopped or redirected her child's engagement with the toy (e.g., lifting the child's hand off the toy, pushing the child's hand away as the child reached towards the toy).

*Negative Feedback.* Commentary offered by the mother that was negative in both content and tone, and included harshness, condescension, sarcasm, or annoyance. This feedback was directed either toward the child ("*You* know

where it goes!") or the child's product/actions ("That's not where that piece goes!").

*Positive Feedback.* Referred to positive comments made by the mother in a neutral or positive tone regarding the child ("You're a good boy," "You're great!") or the child's product/actions ("That's Right!").

*Maternal Depression.* The Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), a common self-report measure used to assess current depressive symptoms was administered. Higher scores on this measure relate to more depressive symptoms (i.e., greater severity). Specifically, ratings of 30-63 fall into the "severe" range and scores ranging from 19-29 are in the "moderate" range.

*Chronicity.* In the present study, chronicity is defined as the percentage of months that mothers rated themselves as at least mildly depressed over the 25-month period since their child's birth. Mothers completed a chart that served as a record of each mother's current mood from month-to-month (see Appendix B for the actual Depression Chart used). Specifically, every month each mother would label herself as either having a normal mood, being mildly depressed, or depressed. Chronicity was measured numerically based upon each mother's individual percentage of months that she rated herself as at least mildly depressed. Based on the ratings, each mother in the original sample was also categorized into one of three nearly equivalent groups. Group one represented experiencing depression 0-17.5% of months ($n$ = 42), group two

experienced depression 17.51-32.81% of the months ($n$ = 43), and group three experienced depression 32.811-100% of months ($n$ = 42).

*Severity.* Severity of maternal depression was also coded using the Depression Chart, described above. Severity is defined as the mean (average) mood of mothers from their child's birth through 25-months. The three mood classifications were: normal mood (0), mildly depressed (1), or depressed (2). Averages that were closer to 2 resembled more severely depressed mood, whereas averages closer to 0 represented a nondepressed mood.

*Child Presented Self-Esteem.* The Behavioral Rating Scale of Presented Self-Esteem in Young Children (Haltiwanger & Harter, 1988) was used to measure child presented self-esteem. Each item on the scale identified behavioral expressions common in children, but in an opposing form. Pairs of statements were in two columns with the word "but" in-between (e.g., makes good eye contact but avoids eye contact) (see Appendix C). Mothers were instructed to choose which side best matched their child's typical behavior and then decide if this behavior was *sort of* or *very much* like their child. Mothers rated each answer on a four-point scale with higher scores representing more positive self-esteem. This measure is regarded as reliable and valid in interpreting the self-esteem of young child through behavioral observation (Verschueren et al., 1998). This measure is comprised of various subscales: *Preference for Challenge* (e.g., sets high goals for the self), *Initiative/Independence* (e.g., initiates activities confidently), *Social Approach/Avoidance* (e.g., is involved

versus watching), *Social-Emotional Expression* (e.g., smiles readily versus smiles infrequently), and overall *Presented Self-Esteem* (total score from all subscales).

**Design and Procedure**

As part of a larger study, all participants were assessed at 18, 25, and 32-months of age. At each age, mother-child pairs were observed in both the home and the laboratory. As an incentive, mothers who completed the 18 and 25-month home and laboratory visits received $25.00 after each set of visits, and after the 32-month home and laboratory visits mothers received $50.00. Only the maternal data collected during the 25-month home visit was used in the current study. Follow-up questionnaires were mailed to mothers when children were between four and eight years of age ($M = 5.9$).

Each home visit was structured in the same manner. One experimenter would arrive at the home and conduct a structured interview with the mother. Following the interview, a toy task was presented to the mother-child pair. The task presented at 25-months of age was a cash register. The cash register included red, yellow, and blue coins. Corresponding to each coin color was a coin slot. In order to correctly fit a coin in the slot, the children had to match the color of the coin to the color of the slot. Once the coin was correctly inserted into the slot, children pushed a button to release the coin into the cash register and then could choose to make change by opening the drawer, which involved turning a lever on the side of the cash register, or make the coins roll down a “change” chute by pressing a green button on the side of the cash register. This task was intended to be challenging and it was anticipated that

instruction and guidance would be needed for children to understand how to operate the toy. Mothers were given the same instructions which involved asking them to illustrate to their children how the toy worked, as well as assist their children if the children were stuck or struggling with what to do. The experimenter provided no further instruction and was present for, but uninvolved in, all interactions. Mother-child interactions lasted approximately five minutes and were videotaped by a video camera placed in the home.

## Results

### Data Reduction

Descriptive statistics revealed that less than 10% of the sample displayed negative feedback. Due to the low frequency of this behavior, it was not included in any statistical analysis.

Proportion scores (frequency codes of behavior divided by amount of time on task) were created for directives, prohibitions, and positive feedback to account for the differences in the amount of time on task for all participants.

A composite score for the variable “intrusive control” was created by summing the proportion scores for directives and prohibitions.

A categorical chronicity variable was generated. Categorical groupings were created by dividing the quantitative data into three nearly equivalent groups, which are labeled as: no depression (mothers reporting at least mild depression 0-17.5% of months, $n = 42$), mildly chronic depression (mothers reporting at least mild depression 17.51-32.81% of months, $n = 43$), and chronic

depression (mothers reporting at least mild depression 32.811% -100% of months, $n = 42$).

**Reliability**

Percent agreement for maternal variables ranged from .79 (Positive Feedback) to .93 (Prohibitions).

**Descriptives**

Descriptives were calculated for all variables (see Table 1).

**Preliminary Analyses**

*Maternal Depression.* It is possible that depressed mothers may be more critical when evaluating their children's behavior than nondepressed mothers (e.g., Panaccione & Wahler, 1986; Webster-Stratton & Hammond, 1988). Consequently, initial analyses examined whether there was any relationship between maternal depressive symptoms measured at follow-up and presented self-esteem in children. Pearson product-moment correlations indicated that there was no relationship between maternal depressive symptoms at follow-up and child presented self-esteem (all $r$'s < .11, all $p$'s > .31, see Table 2). Because concurrent measures of maternal depressive symptoms were unrelated to all child outcome variables, maternal reports of child presented self-esteem do not appear to be distorted in the current sample and thus these ratings were deemed to be valid indicators of child outcomes. Therefore, maternal ratings were used in all analyses.

*Chronicity.* Because the average BDI score of mothers in the current study was low (7.06 on a 0-63 scale) and because the groups were created using an

equal group split on the full sample, the diversity between the three chronicity groups was analyzed using a one-way ANOVA with Tukey HSD post-hoc test. Results indicated that there was a significant difference in the individual chronicity ratings of mothers between all chronicity groupings (see Table 3). As a function of these analyses, it was determined that the categorical chronicity groupings were valid.

*Socioeconomic Status (SES).* SES is not a main source of interest, but preliminary analyses were conducted to determine if it was related in any meaningful way to the variables in the current study. Not surprisingly, socioeconomic status was related to all measures of depression. Mothers with lower SES reported more depressive symptoms ($r = .38$, $p < .001$), more chronic depression ($r = .24$, $p < .01$), and more severe depression ($r = .26$, $p < .01$). Further, a one-way ANOVA indicated that there was a significant difference in socioeconomic status based on the chronicity categories, $F(2, 131) = 4.51$, $p = .01$. A Tukey HSD post-hoc test revealed that the only significant difference was that mothers in the no depression group had higher SES than mothers in the chronic depression group (see Table 4). There was no relation between SES and any of the maternal behavior variables (all $r$'s $\leq .17$, all $p$'s $\geq .06$) or presented self-esteem (all $r$'s $\leq .14$, all $p$'s $> .18$). Even though SES related to depression, it was not related to any of the maternal variables or outcome measures; thus, SES was not controlled in any analyses.

*Sex of Participant*. Independent sample *t*-tests found no differences in any of the depression variables, maternal behavior, SES, and presented self-esteem

outcome variables based on sex of the child (see Table 5). Consequently, sex was not controlled in any analyses.

**Main Analyses**

*Maternal Depression and Maternal Behavior.* Pearson product-moment correlations revealed that mothers who reported more depressive symptoms demonstrated more intrusive behavior ($r = .20$ $p < .05$). However, mothers who reported more depressive symptoms did not significantly differ in the amount of positive feedback they provided to their children ($r = -.006$, n.s.). There was no relationship between chronicity ($r = -.003$, n.s.) or severity ($r = .04$, n.s.) and intrusive control or between chronicity ($r = -.06$, n.s.) or severity ($r = -.08$, n.s.) and positive feedback. There was also no difference in intrusive control ($F(2, 124) = .71$, n.s.) or positive feedback ($F(2, 124) = 1.54$, n.s.) based on chronicity categories.

A hierarchical regression analysis was employed to examine whether the three depression variables combined had a stronger effect on maternal behavior than when evaluated independently. Chronicity, severity, and depressive symptoms significantly predicted intrusive control $F(3, 120) = 3.36$, $p < .05$, but not positive feedback $F(3, 120) = 1.23$, n.s. Consistent with the pearson product-moment correlations, the individual beta weights indicated that the only variable making a significant contribution towards the prediction of intrusive control was depressive symptoms ($b = .001$, $t = 2.38$, $p < .05$). Chronicity ($b = -.05$, $t = -1.44$, n.s.) and severity ($b = .02$, $t = .87$, n.s.) were not significant factors when predicting intrusive control.

*Maternal Depression and Child Presented Self-Esteem.* No relationships were found between maternal depressive symptoms, severity, or chronicity and any outcomes of presented self-esteem in children (see Table 6, all *p*'s > .17).

*Maternal Behavior and Child Presented Self-Esteem.* Pearson product-moment correlations revealed significant relationships between maternal intrusive control and some of the presented self-esteem outcome variables. Specifically, children of mothers who demonstrated higher levels of intrusive control rated lower in their preference for challenge ($r$ = -.22, $p$ < .05) and lower on social-emotional expression ($r$ = -.20, $p$ = .05). No relationship was found between maternal intrusive control and the presented self-esteem outcome variables of initiative/independence ($r$ = .02, n.s.), social approach/avoidance ($r$ = -.06, n.s.), or overall confidence score ($r$ = -.13, n.s.). Maternal positive feedback was not related to any presented self-esteem outcome variables (see Table 7).

It is possible that maternal intrusive control and positive feedback work together to influence the development of self-esteem in children. Perhaps the effects of the two variables together have a more powerful influence than either variable independently. To test this relationship, both maternal variables were entered into hierarchical regression analyses with the various measures of presented self-esteem as the dependent variables. Results of these analyses indicated that the combined effects of maternal intrusive control and positive feedback did not predict any of the presented self-esteem outcomes (see Table 8).

*Mediational Analyses.* In order to test the mediational effects of maternal depression on the relationship between maternal behavior and child presented self-esteem, all three (i.e., depression, maternal behavior, and child outcomes) variables need to be related (Baron & Kenny, 1986). Although maternal depression did positively correlate with maternal behavior and maternal behavior related to some aspects of children's self-esteem, maternal depression was unrelated to child presented self-esteem. Due to the absence of a relationship between maternal depression and child presented self-esteem, there were no mediational effects of maternal depression on the relationship between maternal behavior and child presented self-esteem.

*Moderation Analyses.* Maternal intrusive control, positive feedback, and depressive symptoms (predictor variables) were centered around the mean to minimize collinearity (Baron & Kenny, 1986) before being entered into hierarchical regression analyses. The product of the centered predictor variables (maternal depressive symptoms and intrusive control, and maternal depressive symptoms and positive feedback) was used as the interaction term in the hierarchical regression analyses.

Maternal depressive symptoms and intrusive control were entered in step 1 of the hierarchical regression analysis and the interaction term for maternal depressive symptoms and intrusive control was entered in step 2. Consistent with the correlation coefficients presented previously, maternal intrusive control independently predicted preference for challenge ($b$ = -21.52, $t$ = -2.47, $p < .05$) and social-emotional expression ($b$ = -8.70, $t$ = -2.15, $p < .05$). However,

maternal depressive symptoms did not moderate the relationship between intrusive control and any presented self-esteem outcome (see Tables 9, 10, 11, 12, and 13) or between positive feedback and any presented self-esteem outcome (see Tables 14, 15, 16, 17, and 18). Further, the increase in $R^2$ was not significant for any of these moderation analyses.

Although maternal intrusive control and positive feedback together did not predict presented self-esteem, it is possible that the feedback that mothers provide (i.e., more positive or neutral) moderates the relationship between maternal intrusive control and children's presented self-esteem. Thus, an interaction term for maternal intrusive control and positive feedback was created (the product of the two centered maternal variables) and hierarchical regression analyses were used to evaluate these relationships.

Results of a hierarchical regression of preference for challenge on maternal intrusive control moderated by maternal positive feedback is presented in Table 19. Maternal intrusive control and positive feedback were entered in the first step of the regression analysis and the interaction term was entered in the second step. The main effect of intrusive control was significant, with higher levels of intrusive control associated with lower preference for challenge. The main effect of positive feedback was not significant and the overall *F*-value was a trend. The moderating effect of positive feedback on the relation between intrusive control and preference for challenge was significant and its inclusion in the model significantly increased the $R^2$. Figure 1 illustrates the effects of positive feedback at 1 *SD* above the mean, at the mean, and 1 *SD*

below the mean. The relation between intrusive control and preference for challenge was not significant when mothers displayed a high level of positive feedback ($t$ = -.42, n.s) and when mothers displayed average levels of positive feedback ($t$ = 1.36, n.s.). The relationship was significant when mothers displayed a low level of positive feedback ($t$ = 2.41, $p < .05$). Specifically, when mothers do not display much positive feedback, children demonstrate more preference for challenge when mothers exhibit high levels of intrusive control.

There were no moderating effects of positive feedback on maternal intrusive control for any of the remaining measures of presented self-esteem (see Tables 20, 21, and 22); however, there was an interesting trend with respect to the hierarchical regression of total confidence/self-esteem on maternal intrusive control moderated by maternal positive feedback (see Table 23). Although the overall $F$-value for the regression was not significant ($F$(3, 89) = 1.80, n.s.), the moderating effect of maternal positive feedback on maternal intrusive control and the increase in $R^2$ both demonstrated strong trends. Consistent with the trend for the overall interaction, none of the simple slopes reached significance (see Figure 2); however, Figure 2 suggests that when mothers demonstrate high levels of positive feedback, children's overall self-esteem/confidence is lower when mothers also provide more intrusive control. Paradoxically, when mothers offer low levels of positive feedback, children have higher overall self-esteem/confidence when mothers demonstrate more intrusive control.

# Discussion

## Maternal Depression and Maternal Behavior

The current study expected to find that depressed mothers would exhibit more intrusive behavior during interactions with their children. Results supported this hypothesis as mothers who reported more depressive symptoms exhibited more intrusive control (i.e., more directives and prohibitions) during mother-child interactions. This finding is logical due to depressed mothers feeling overwhelmed with the various aspects of their life and trying to overcome this emotion by controlling their children's actions (Coyne & Thompson, 2011; Kolozian, 2007). Mothers who experience more depressive symptoms may view their children as the one element of their life that they can control and may establish this control through the more frequent use of directives and prohibitions.

Mothers who experience more depressive symptoms may also demonstrate more intrusive control because they are less patient with their children. Previous research has found that parents who are experiencing more depressive symptoms are more likely to exhibit decreased patience (Reyno, 2011). If mothers who are experiencing more depressive symptoms grow impatient at a much quicker rate than mothers with few depressive symptoms, they may rely on intrusive control (i.e., directives and prohibitions) to ensure that their children complete tasks accurately and efficiently. Indeed, depressed mothers may not let their children engage in the necessary trial-and-error or guess-and-check type processes that are essential for achieving mastery

independently due to their impatience. This lack of patience could have accounted for the heightened levels of maternal intrusive control demonstrated by mothers who were experiencing more depressive symptoms.

Interestingly, there was no relationship between maternal depressive symptoms and positive feedback. Although mothers who reported higher levels of depressive symptoms are providing as much positive feedback to their children as mothers with fewer depressive symptoms, it is important to acknowledge that depressed mothers are more likely to be guiding their children's behaviors through the use of directives and prohibitions (i.e., they are using maternal intrusive control). This is concerning because although depressed mothers are praising or acknowledging their children in a positive manner just as much as nondepressed mothers are, the behaviors they are providing positive feedback for are most likely ones that resulted from their own instruction (i.e., "put that piece there") and not their children's independent action. On the other hand, nondepressed mothers are not controlling their children's actions as often, so when these mothers offer positive feedback, it is likely to be directed at the product of their children's actions and not the product of their own instruction. If the variance in the focus of the positive feedback from depressed and nondepressed mothers is consistent over time, it could ultimately produce differences in child outcomes, perhaps especially those related to achievement.

It is possible that the lack of relationship between maternal depressive symptoms and positive feedback could be due to the emphasis that current

society places on the importance of offering praise. In Western society, many parents, educators, and coaches believe in the effectiveness of praise, which motivates these individuals to utilize and rely upon praise to boost children's self-esteem (Brummelman, 2016). In fact, recent research has found that approximately 87% of parents believe that children need praise in order to feel good about themselves (see Brummelman, 2017). Although mothers who reported more depressive symptoms demonstrated more intrusive control, it is possible that the societal "push" for protecting children's self-esteem is strong enough that mothers can continue to praise their children, even when experiencing depressive symptoms. Depressed mothers' strong urge to exert control over their environment may limit their ability to manage their directives and prohibitions, and the social desirability of "not" providing directives and prohibitions may not be as strong as the social desirability of providing praise.

It is also possible that the presence of the researcher emphasized the "social desirability" of providing praise to children. Consequently, the researcher's presence in the home during the mother-child interaction may have had a stronger effect on the demonstration of positive feedback than on the "limitation" of intrusive control. The presence of a researcher could have altered the mothers' behaviors in a more positive direction (Gonzales, Hiraga, & Cauce, 1998) and prompted mothers to demonstrate more positive feedback as current society believes that more praise is better for children (e.g., Brummelman, 2016). Thus, *all* mothers in the current study may have displayed higher levels of positive feedback than they normally would regardless of their

experience with depressive symptoms. The social desirability of providing positive feedback to their children in this "artificial" context may have been more powerful than any depressive symptoms that mothers were experiencing. Depressed mothers' (in)ability to manage their intrusive control as well as the more limited "social desirability" associated with this behavior may have resulted in mothers' use of directives and prohibitions being less affected by the presence of the experimenter.

There was no relationship between chronicity and severity of maternal depression and maternal behavior. Though maternal depression, chronicity, and severity all predicted maternal intrusive behavior when combined, it was found that the only significant individual predictor of maternal intrusive behavior was maternal depressive symptoms.

Previous research explains this finding by concluding that mothers who experience fewer depressive symptoms are able to portray a more positive self-image when compared to mothers who are experiencing more depressive symptoms (Campbell et al., 2007; Frankel & Harmon, 1996). In the current study, the average Beck Depression Inventory (BDI) score of mothers was 7.06 (based on a 0-63 scale), which illustrates that the sample, on average, reported very few depressive symptoms. This may explain why severity did not independently predict maternal behavior, as the sample had very low levels of depression. Previous research conducted by Frankel and Harmon (1996) found that mothers with a BDI score of 12.6 or less were better able to mask their depressive symptoms when compared to mothers with a BDI score above 12.6.

It is likely that the mothers in the current sample were able to portray a more positive attitude overall.

Chronicity, in the current study, was defined as the number of months mothers rated themselves as depressed from the time of their child's birth until the time of the mother-child interaction (approximately 25 months). Chronicity was also evaluated categorically by dividing mothers into three nearly equivalent groups, with the mean percentage of months' mothers rated themselves as depressed between all three groups being 28%. This shows that some of the mothers who were in the "mild chronic depression" and "chronically depressed" groups may not have been experiencing substantial chronic depression. Although there were significant differences between all three chronicity groups with regards to the individual chronicity ratings of the mothers in each group, not all of the mothers in the current study who were considered to be experiencing some form of chronic depression based on the categorical distinctions may have been experiencing strong chronic depression.

It should be highlighted that all of the depressed mothers in the current sample were actively receiving some form of treatment (i.e., medication and/or cognitive behavioral therapy). Consequently, the lack of both depressive symptoms assessed via the BDI and the relatively low number of months mothers rated themselves as depressed could have been a direct result of the effectiveness of treatment. Maternal responsiveness to treatment is a good thing, but it could have limited the current study's ability to identify differences due to depression. Although some mothers in the current study

reported high levels of depressive symptoms (the maximum BDI score was 40), the overall mean score was low ($M = 7.06$).

**Maternal Depression and Child Presented Self-Esteem**

The current study found no relationship between maternal depressive symptoms, chronicity of maternal depression, or severity of maternal depression and child presented self-esteem. This finding suggests that although depressed mothers are more intrusive in their behaviors, it is the behaviors that mothers demonstrate and not their underlying depressive symptoms that influence their children's presented self-esteem.

It is possible that exposure to maternal depressive symptoms during the first two years of life is not as detrimental as exposure to depressive symptoms at a later time (or with continued chronicity). Perhaps 25-month-old toddlers are not yet able to sense or detect their mothers' depression and incorporate it into their developing sense of self. This hints at the possibility that there may be a short period where the effects of maternal depression are not as detrimental to children as was previously believed (Cornish, McMahon, & Ungerer, 2008; Murray, 1992).

Because the mean level of depressive symptoms reported in the current study is relatively low, it is also possible that the effects of maternal depression are only seen when depression is more severe. Mothers with lower levels of depressive symptoms may be better able to mask their negative self-cognitions (e.g. Campbell et al., 2007; Frankel & Harmon, 1996) as well as any negative

perceptions of their children thereby reducing the likelihood that their children will adopt these maternal negative perceptions themselves.

**Maternal Behavior and Child Presented Self-Esteem**

Maternal intrusive control was found to be related to some aspects of child presented self-esteem. Specifically, children of mothers who demonstrated higher levels of intrusive control rated lower in their preference for challenge, which refers to children's curiosity, persistence when frustrated, and willingness to engage in challenging tasks. When mothers use directives and prohibitions to control their children's behavior, their children do not need to develop the necessary skills and cognitions to complete and understand tasks because they can rely upon their mothers' guidance and more intrusive instruction. Children who are continually told both what and how to perform specific tasks are likely to develop the understanding that they are either performing the task incorrectly or are incapable of completing the task without intrusive instruction (Filippello, Sorrenti, Buzzai, & Costa, 2015). This helpless state of mind is commonly associated with low self-esteem (Filippello et al., 2015; Haimowitz, 1996), and is likely to discourage children from engaging in more difficult tasks (Filippello et al., 2015). When children feel helpless, they are likely to disengage and not want to participate in tasks that they fear will be difficult in nature in order to avoid feelings of both disappointment and embarrassment. It is not uncommon for these children to lower their perceptions of competence due to their belief that they are unable to perform tasks independently.

Additionally, there was a trend for children of mothers who demonstrated more intrusive control to score lower on social-emotional expression. A few characteristics of social-emotional expression are the frequency or infrequency with which a child smiles, shows pride in his or her work, and describes him/herself positively or negatively (Haltiwanger & Harter, 1988). This is consistent with previous research that found that 13-39-month-old children who had more controlling mothers displayed fewer positive emotions and were less likely to call attention to their work (Stipek, Recchia, & McClintic, 1992).

It is understandable that children of mothers who demonstrate more intrusive behavior rate lower in social-emotional expression due to the high amounts of instruction they receive and the feelings of incompetence that are often associated with such instruction (Filippello et al., 2015). It is not uncommon for children who are exposed to more intrusive parenting practices to display more negative affect and develop more negative self-cognitions, both of which are related to feelings of helplessness and low self-esteem (Cole et al., 2007; O'Connor et al., 2006). When children develop low self-esteem and hold negative self-cognitions, it is plausible to assume that they will not take pride in their work. One can also assume that children of mothers who demonstrate more intrusive control are not proud of their work because they may feel as though they were not the ones who achieved mastery, but rather mastery was a result of their mother's instruction.

Results found no relationship between maternal intrusive control and the presented self-esteem outcome variables of initiative/independence and social approach/avoidance. Initiative/independence is assessed by whether or not children lead others spontaneously and assert their point-of-view when opposed. Social approach/avoidance is measured by observing the degree to which a child makes or avoids eye contact and the amount a child engages or withdraws when in a group setting. Although both of these constructs are related to self-esteem, they may be more strongly connected to a child's personality (i.e., extraverted versus introverted) and therefore may be less influenced by intrusive parenting practices, at least during the first two years of life.

There was also no relationship found between the total confidence score and maternal intrusive control. This suggests that although past maternal intrusive behavior does have some negative effects on child presented self-esteem, these negative effects may not be as widespread as previously predicted. Perhaps intrusive control only relates to specific aspects of the self, particularly those related to achievement/helplessness such as one's preference for challenge and social-emotional expression. These two aspects of self-esteem may be most related to motivation to approach or avoid tasks and may thus be more connected to intrusive parenting. Aspects of self-esteem that are more closely affiliated with dispositional/temperamental qualities, such as initiative/independence and social approach/avoidance, may be less affected by parenting, at least in the early years. As children mature and their self-esteem

becomes more consolidated, parenting practices may be more related to the overall construct as opposed to the individual subscales.

Though many studies have evaluated the reliability and validity of Haltiwanger and Harter's (1989) measure of presented self-esteem (e.g., Fuchs-Beauchamp, 1996; Verschueren et al., 1998), such studies have not related other constructs (e.g., parenting, other child characteristics) to the various aspects of presented self-esteem. Future research should look longitudinally at how presented self-esteem relates to later correlates of this construct as well as how temperamental dimensions relate to the various subscales of this measure.

Maternal positive feedback was unrelated to all aspects of child presented self-esteem. A possible explanation for this finding could be related to the potential artificiality of such positive feedback, stemming from the desire of mothers to present themselves in a positive manner (Gonzales, Hiraga, & Cauce, 1998). Although mothers displayed high amounts of positive feedback (.08 positive comments per minute), children may have interpreted such positive commentary as insincere because their mothers may not typically provide such frequent amounts of positive feedback. Moreover, mothers could have been portraying themselves in a more positive manner by providing more positive commentary than they normally offer, due to the presence of both the researcher and video camera. Although the presence of the researcher and the video camera in the home may have created an artificial environment, the interactions did take place in the home and creating an even more naturalistic setting that would yield reliable and valid results would be extremely difficult.

**Moderation**

Maternal depressive symptoms did not moderate the relationship between intrusive control and any of the presented self-esteem outcome variables. Due to the fact that maternal depression was unrelated to all aspects of presented self-esteem, it is not surprising that maternal depression failed to moderate any relationships. The lack of moderation further suggests that maternal behavior may play a larger role in the development of children's self-esteem and achievement-related behavior than maternal depression, although this may only be the case for mothers with relatively mild depressive symptoms.

Maternal depressive symptoms also did not moderate the relationship between positive feedback and any of the presented self-esteem outcome variables. This is understandable because mothers who reported more depressive symptoms did not significantly differ in the amount of positive feedback they displayed to their children when compared to mothers not experiencing high amounts of depressive symptoms. Though this finding may be somewhat surprising at first, a potential reason could again be due to the fact that depressed mothers may have been able to mask their current depressive symptoms (especially if these symptoms were less severe), which allowed mothers experiencing depressive symptoms to offer as much positive feedback to their children during the achievement task as mothers who were experiencing few or no depressive symptoms.

It is important to consider that the praise provided by mothers in the short mother-child interactions evaluated in the current study may not have been truly representative of the praise these mothers typically offer to their children. This could be due to the presence of the researcher/video camera and the "pull" for socially desirable behavior, but also because praise is expected to be given more frequently in some situations than in others. Praise may be offered less often during an intentionally challenging achievement task where mothers are teaching and working with their children on the task than in a situation where children "should" be able to achieve mastery independently. When children are able to engage with tasks without parental instruction, mothers may be more likely to offer praise for children's efforts.

Interestingly, positive feedback was found to moderate the relationship between intrusive control and preference for challenge, but only when mothers displayed low levels of positive feedback. Mothers who displayed low levels of positive feedback and high intrusive control had children with higher preference for challenge and mothers who displayed low levels of positive feedback and low intrusive control had children with lower preference for challenge.

If mothers display high levels of positive feedback due to society's emphasis on promoting children's self-esteem, as well as due to the social desirability elicited in the mother-child interactions in the current study, then mothers who display low positive affect are mothers who are truly disengaged. If these disengaged mothers also demonstrate low intrusive control, then they

are disconnected from their children (both emotionally and behaviorally) and the children's desire to engage with challenging tasks suffers. These children feel no support from their mothers and because their mothers are uninvolved, they have not modeled appropriate task engagement for their children. As a result, these children may withdraw from achievement situations and be reluctant to engage with challenging achievement tasks.

Remarkably, children of mothers who offer low levels of positive feedback and demonstrate more intrusive control have a high preference for challenge. Children may recognize that their mothers are controlling the task, but this also demonstrates that mothers are involved with the task/child and are concerned about completing the task successfully. Low levels of positive feedback, however, reveal that mothers are not showing warmth and acceptance of their children. Even though the feedback these mothers are providing to their children is intrusive, the children may engage in challenging activities because they hope to elicit emotional involvement (i.e., warmth and acceptance) from their mothers.

Maternal intrusive control by itself relates to lower preference for challenge and low social-emotional expression (i.e., self-evaluative affect and cognitions). However, when maternal intrusive control is coupled with emotional detachment (i.e., low positive feedback), children may actively involve themselves in achievement tasks because they are seeking some type of feedback or emotional engagement from their mothers. When mothers are detached both behaviorally and emotionally (i.e., low intrusive control and

positive feedback), children may shy away from challenge. However, when mothers show at least some level of involvement (i.e., high intrusive control), it may be enough to elicit approach behavior in their children. One might argue that this type of approach behavior is maladaptive (e.g., the children may respond to failure with helplessness despite their original preference for challenge), but even so, it is still approach behavior.

No significant moderating effects of positive feedback were found for the relationship between maternal intrusive control and the presented self-esteem outcome variables of initiative/independence, social-emotional expression, and social approach/avoidance. As mentioned earlier, at least two of these subscales of presented self-esteem may be more closely related to personality characteristics and temperamental dispositions as opposed to parenting practices. Positive feedback may not be as important to the development of these subscales of presented self-esteem. Determining more about the constructs related to the various categories of presented self-esteem would be an area for future research.

A trend was found with regards to the moderating effects of positive feedback on the relationship between maternal intrusive control and total self-esteem/confidence. Specifically, the trend revealed that when mothers demonstrate low levels of positive feedback coupled with high intrusive control, children have higher total self-esteem/confidence. Conversely, total self-esteem/confidence is lowest when mothers demonstrate both high levels of positive feedback and intrusive control.

When mothers exhibit high levels of both intrusive control and positive feedback, it sends mixed messages to their children. Research has shown that when children are praised for tasks that they believe are "easy," such praise can actually lower children's perceptions of competence (Barker & Graham, 1997; Meyer, 1992), by conveying that they are incapable of completing a more difficult task (Filippello, 2015). Mothers who display high levels of intrusive control coupled with high levels of positive feedback are both controlling the task and praising children's behavior. Yet, the praise is really focused on the mothers' behavior (i.e., the result of her intrusive control) rather than the children's self-initiated activity. For this reason, these children may believe that the positive feedback is truly demonstrating that they are ineffective and incapable, which could then result in lower total confidence/self-esteem (see Brummelman, 2016).

When mothers demonstrate high intrusive control and low positive feedback, there is a trend for children to have higher total confidence/self-esteem. This trend is consistent with the finding related to preference for challenge and the explanation may be the same. When mothers demonstrate high levels of task engagement, even if it is intrusive in nature, but low levels of warmth and acceptance, children may be driven to demonstrate behaviors that could elicit feedback and emotional engagement from mothers. These children may thus develop a "false" sense of high self-esteem. This "false" self-esteem may be more vulnerable and thus may fluctuate more based on context. If the "high" self-esteem is based on a desire to elicit acceptance in others, then the

behavioral manifestations of self-esteem (i.e., "presented" self-esteem) may look much like the behaviors that children with "true" high self-esteem demonstrate. The underlying construct and evaluative component of self-esteem may differ between those individuals with "true" high self-esteem and those with "false" high self-esteem. The "false" self-esteem may lead to more helpless responses to failure. Further research would be needed to evaluate whether high presented self-esteem further differentiates as children mature and become better able to articulate their underlying self-cognitions.

**Limitations**

Due to the fact that so little negative feedback occurred during mother-child interactions (less than 10% of the sample showed negative feedback), it was not possible to explore relations between negative feedback, maternal depressive symptoms, maternal behavior, and child presented self-esteem. This is unfortunate, but not surprising. Previous research has also failed to identify high levels of negative feedback in mother-child interactions (Heckhausen, 1993). Interacting in a familiar environment (in this case the mother's home) was intended to increase the comfort of both the mother and the toddler, thereby increasing the "naturalness" of the mother-child interaction. Despite the fact that all videotaped interactions occurred within each mother's home, mothers were keenly aware that their behavior was being observed (the experimenter remained in the room and the video camera was always visible). The fact that mothers were both aware of and could visibly make eye contact with the video camera and the experimenter could have resulted in mothers

adjusting their behaviors in a more positive manner. It is not hard to fathom that mothers, or anyone for that matter, would be less likely to act in a negative, harsh, or critical manner when being observed and recorded as opposed to when nobody is watching their actions and verbalizations (Gonzales et al., 1998). For this reason, it is possible that mothers are more critical at times in their everyday life, but that they may have censored their communication and behaviors due to the fact that they knew they were being observed (Gonzales et al., 1998). Demonstrating directives and prohibitions may be seen as less "abrasive" and thus the presence of the experimenter and video camera had less of an effect on these behaviors.

In order to obtain a more accurate representation of mothers' everyday behaviors and communication with their children, a more naturalistic observation method of mother-child interactions would be necessary. However, creating a truly naturalistic environment is extremely difficult, which is why other methods such as specifically inducing negative evaluations of the toddler by the mother, may be preferred. Further, the short five-minute duration of mother-child interactions may not have been long enough to capture maternal negativity, especially if it is a more infrequent behavior.

It is possible that mothers did not need to provide many negative evaluations of their toddlers because the children were performing well on the task-at-hand. The task utilized in the mother-child interaction (in this case a cash register) was specifically selected to be above the child's independent skill level so that toddlers would require maternal assistance. Given this, it is

unlikely that toddlers were so independently self-sufficient that they would not require any corrective or potentially negative feedback. Indeed, mothers demonstrated a considerable amount of intrusive control, which suggests that children required guidance with the task. Still, the competency of the toddlers in their interaction with the cash register was not assessed in the current study. Future research could examine the likelihood of corrective or negative feedback based on children's competency at a task.

Another limitation derives from the fact that this was a clinical sample with all depressed mothers having been recruited from therapists from whom they were receiving treatment. Even though there were individual mothers in this sample that met established criteria for being severely and/or chronically depressed, they were mildly depressed as a whole. This reflects upon the effectiveness of various treatment interventions, but perhaps more significant results would have been yielded if the depressed mothers would have been experiencing more depressive symptoms.

**Future Research**

Although it was found that depressed mothers demonstrate more intrusive control, it is the controlling behavior that relates to later self-esteem and not the mothers' depressive symptoms (at least for a relatively "mildly depressed" sample). This suggests that interventions focusing on maternal behavior can potentially reduce the negative effects of maternal depression on child self-cognitions and behavior. Future studies could evaluate the effectiveness of various interventions that focus on maternal behavior.

The fact that maternal depressive symptoms related to maternal intrusive control suggests that even mild depression can influence intrusive behavior. For this reason, the implementation of parenting interventions for depressed mothers that aim to reduce controlling behavior, increase parental patience, and focus on developing a more internal locus of control would be beneficial in decreasing the potential adverse effects of maternal depression. The results of the current study also highlight the importance of evaluating both controlling behavior and the emotional climate of mother-child interactions.

Future research could take a longitudinal approach and evaluate if lower child presented self-esteem at age 5 evolves into lower self-esteem in adolescence and adulthood. Previous studies have evaluated presented self-esteem across a three-year period and found high degrees of stability (Verschueren et al., 1998), but little research has been done assessing the consistency of presented self-esteem beyond a three-year period. Further, this research could evaluate the different subscales of the Behavioral Rating Scale of Presented Self-Esteem (Haltiwanger & Harter, 1988) and how these different domains relate to other aspects of children's self (e.g., temperament, emotional control, helplessness).

Research on maternal intrusive control may benefit from observing the relationship between early experience with maternal intrusive control and later maladaptive cognitions. Specifically, when mothers display high levels of intrusive control during the early years of their children's lifetime, are their children more likely to develop negative self-cognitions, regardless of maternal

depressive symptoms? Another avenue for future research involves looking into whether or not being under the care of an intrusive schoolteacher has any short and/or long-term effects on children's self-esteem. Due to the results of this study highlighting the potential negative effects associated with maternal intrusive control, future research should be used to determine if the detriments of maternal intrusive control are similar to the detriments of teacher intrusive control.

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Table 1

*Descriptive Statistics*

| | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| **Intrusive Control** | .01 | .13 | .06 | .03 |
| **Directives** | .01 | .13 | .05 | .03 |
| **Prohibitions** | .00 | .01 | .001 | .002 |
| **Positive Feedback** | .00 | .08 | .02 | .02 |
| **BDI** | 0 | 40 | 7.06 | 8.25 |
| **Chronicity** | .00 | 1.00 | .28 | .33 |
| **Severity** | .00 | 2.00 | .40 | .50 |
| **Preference for Challenge** | 4.00 | 15.00 | 7.00 | 2.18 |
| **Initiative/Independence** | 5.00 | 14.00 | 7.23 | 2.06 |
| **Social Approach/Avoidance** | 3.00 | 8.00 | 4.20 | 1.41 |
| **Social Emotional Expression** | 3.00 | 7.00 | 3.80 | 1.00 |
| **Confidence (Total Score)** | 15.00 | 41.00 | 22.23 | 5.51 |

Table 2

*Follow-Up Correlations of Maternal Depressive Symptoms (BDI) and Maternal PSE Ratings*

| **PSE Subscale** | **Correlation Coefficient (*r*)** |
|---|---|
| Preference for Challenge | .08 |
| Initiative/Independence | .11 |
| Social Approach/ Avoidance | -.004 |
| Social-emotional Expression | .10 |
| Confidence (Total Score) | .09 |

Table 3

*Tukey Post-Hoc HSD Test Evaluating Differences in Chronicity Score Based on Individual Chronicity Ratings*

| **Chronicity Category** | **Chronicity Category** | ***Difference*** |
|---|---|---|
| No Depression | Mildly Chronic Depression | -.15** |
| | Chronic Depression | -.69** |
| Mildly Chronic Depression | Chronic Depression | -.54** |

**$p < .001$

Table 4

*Tukey Post-Hoc HSD Test Evaluating Differences in SES Based on Chronicity*

| **Chronicity Category** | **Chronicity Category** | ***Difference*** |
|---|---|---|
| No Depression | Mildly Chronic Depression | -.30 |
| | Chronic Depression | -.64** |
| Mildly Chronic Depression | Chronic Depression | -.35 |

**$p < .01$

Table 5

*Correlations of the Differences in Outcomes Based on Sex of Child*

| | Mean (Girl) | Mean (Boy) | *t*-score |
|---|---|---|---|
| SES | 2.05 | 2.00 | .27 |
| BDI Score | 6.88 | 7.22 | -.23 |
| Chronicity | .29 | .29 | -.124 |
| Severity | .41 | .42 | -.12 |
| PSE -Preference For Challenge | 6.77 | 7.22 | -.99 |
| PSE- Initiative/ Independence | 7.32 | 7.22 | .24 |
| PSE- Social Approach/ Avoidance | 4.20 | 4.27 | -.23 |
| PSE- Social- Emotional Expression | 3.73 | 3.88 | -.74 |
| PSE- Confidence (Total Score) | 22.02 | 22.59 | -.49 |
| Maternal Intrusive Control | .02 | .02 | .05 |
| Maternal Positive Feedback | .06 | .05 | .34 |

Table 6

*Correlations of Maternal Depression and Presented Self-Esteem*

| | **PSE Preference for Challenge** *Correlation Coefficient (r)* | **PSE Initiative/ Independence** *Correlation Coefficient (r)* | **PSE Social Approach/ Avoidance** *Correlation Coefficient (r)* | **PSE Social-Emotional Expression** *Correlation Coefficient (r)* | **PSE Confidence (Total Score)** *Correlation Coefficient (r)* |
|---|---|---|---|---|---|
| **25-month BDI Score** | .12 | .14 | .10 | .07 | .14 |
| **Chronicity** | .02 | .08 | -.04 | .01 | .03 |
| **Severity** | .03 | .07 | -.05 | .01 | .02 |

Table 7

*Positive Feedback and Presented Self-Esteem*

| **Presented Self-Esteem Outcome** | **Maternal Positive Feedback Correlation Coefficients (*r*)** |
|---|---|
| Preference for Challenge | .08 |
| Initiative/ Independence | -.05 |
| Social Approach/Avoidance | -.15 |
| Social-Emotional Expression | -.16 |
| Total Confidence Scale | -.05 |

Table 8

*Intrusive Control, Positive Feedback, and Presented Self-Esteem*

| **PSE Subscale** | ***F*- Value** |
|---|---|
| Preference for Challenge | .92 |
| Initiative/Independence | 1.18 |
| Social Approach/ Avoidance | 1.27 |
| Social-emotional Expression | 1.16 |
| Confidence (Total Score) | 1.17 |

Table 9

*Moderating Effects – Maternal Depression, Intrusive Control, and Preference for Challenge*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .08 | 3.68 | .03 | |
| Maternal Depressive Symptoms | .03 | .03 | 1.76 | .10 | | | | |
| Intrusive Control | -21.52 | 8.72 | -2.47* | .02 | | | | 3.68 |
| Step 2 | | | | | .005 | .46 | .50 | |
| Depressive Symptoms X Intrusive Control | -.77 | 1.14 | -.68 | .50 | | | | |
| Full Model | | | | | | | | 2.59[a] |

*$p < .05$
[a]$p = .06$

Table 10

*Moderating Effects – Maternal Depression, Intrusive Control, and Initiative/ Independence*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .21 | .96 | .39 | |
| Maternal Depressive Symptoms | .05 | .03 | 1.66 | .17 | | | | |
| Intrusive Control | -1.07 | 8.46 | -.13 | .93 | | | | .96 |
| Step 2 | | | | | .12 | 1.15 | .29 | |
| Depressive Symptoms X Intrusive Control | -1.18 | 1.10 | -1.07 | .29 | | | | |
| Full Model | | | | | | | | 1.02 |

Table 11

*Moderating Effects – Maternal Depression, Intrusive Control, and Social Approach/Avoidance*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .02 | .78 | .46 | |
| Maternal Depressive Symptoms | .03 | .02 | 1.39 | .28 | | | | |
| Intrusive Control | -4.86 | 5.81 | -.84 | .43 | | | | .78 |
| Step 2 | | | | | .01 | 1.09 | .30 | |
| Depressive Symptoms X Intrusive Control | -.80 | .76 | -1.05 | .30 | | | | |
| Full Model | | | | | | | | .88 |

Table 12

*Moderating Effects – Maternal Depression, Intrusive Control, and Social-Emotional Expression*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .06 | 2.60 | .08 | |
| Maternal Depressive Symptoms | .01 | .02 | .97 | .27 | | | | |
| Intrusive Control | -8.70 | 4.04 | -2.15 | .03 | | | | 2.60 |
| Step 2 | | | | | .00 | .04 | .17 | |
| Depressive Symptoms X Intrusive Control | .11 | .53 | .21 | .83 | | | | |
| Full Model | | | | .05 | | | | 1.73 |

Table 13

*Moderating Effects – Maternal Depression, Intrusive Control, and Confidence (Total Score)*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .05 | 2.17 | .12 | |
| Maternal Depressive Symptoms | .15 | .08 | 1.85 | .11 | | | | |
| Intrusive Control | -36.15 | 22.37 | -1.62 | .12 | | | | 2.17 |
| Step 2 | | | | | .01 | .81 | .37 | |
| Depressive Symptoms X Intrusive Control | -2.63 | 2.91 | .90 | .37 | | | | |
| Full Model | | | | | | | | 1.71 |

Table 14

*Moderating Effects – Maternal Depression, Maternal Positive Feedback, and Preference for Challenge*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .02 | .89 | .41 | |
| Maternal Depressive Symptoms | .04 | .03 | 1.21 | .28 | | | | |
| Maternal Positive Feedback | 6.98 | 15.99 | .44 | .47 | | | | .89 |
| Step 2 | | | | | .01 | .98 | .32 | |
| Depressive Symptoms X Positive Feedback | -2.69 | 2.71 | -.99 | .32 | | | | |
| Full Model | | | | | | | | .92 |

Table 15

*Moderating Effects – Maternal Depression, Maternal Positive Feedback, and Initiative/ Independence*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .03 | 1.13 | .33 | |
| Maternal Depressive Symptoms | .04 | .03 | 1.57 | .16 | | | | |
| Maternal Positive Feedback | -13.04 | 15.07 | -.87 | .56 | | | | 1.13 |
| Step 2 | | | | | .01 | 1.28 | .26 | |
| Depressive Symptoms X Positive Feedback | -2.88 | 2.55 | -1.13 | .26 | | | | |
| Full Model | | | | | | | | 1.18 |

Table 16

*Moderating Effects – Maternal Depression, Maternal Positive Feedback, and Social Approach/Avoidance*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .03 | 1.55 | .22 | |
| Maternal Depressive Symptoms | .02 | .02 | 1.16 | .29 | | | | |
| Maternal Positive Feedback | -16.90 | 10.31 | -1.64 | .14 | | | | 1.55 |
| Step 2 | | | | | .01 | .70 | .41 | |
| Depressive Symptoms X Positive Feedback | -1.46 | 1.75 | -.84 | .41 | | | | |
| Full Model | | | | | | | | 1.27 |

Table 17

*Moderating Effects – Maternal Depression, Maternal Positive Feedback, and Social-Emotional Expression*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .03 | 1.43 | .24 | |
| Maternal Depressive Symptoms | .01 | .01 | .89 | .44 | | | | |
| Maternal Positive Feedback | -12.37 | 7.28 | -1.70 | .13 | | | | 1.43 |
| Step 2 | | | | | .01 | .63 | .43 | |
| Depressive Symptoms X Positive Feedback | -.98 | 1.24 | -.79 | .43 | | | | |
| Full Model | | | | | | | | 1.16 |

Table 18

*Moderating Effects – Maternal Depression, Maternal Positive Feedback, and Confidence (Total Score)*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .02 | 1.06 | .35 | |
| Maternal Depressive Symptoms | .12 | .08 | 1.52 | .18 | | | | |
| Maternal Positive Feedback | -35.32 | 40.29 | -.88 | .56 | | | | 1.06 |
| Step 2 | | | | | .02 | 1.38 | .24 | |
| Depressive Symptoms X Positive Feedback | -8.01 | 6.83 | -1.17 | .24 | | | | |
| Full Model | | | | | | | | 1.17 |

Table 19

*Moderating Effects – Maternal Positive Feedback, Maternal Intrusive Control and Preference for Challenge*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .06 | 2.82 | .07 | |
| Maternal Positive Feedback | 15.30 | 15.15 | 1.01 | .32 | | | | |
| Maternal Intrusive Control | -19.28 | 8.63 | -2.23 | .03 | | | | 2.82 |
| Step 2 | | | | | .06 | 6.00 | .02 | |
| Positive Feedback X Intrusive Control | -1692.08 | 690.53 | -2.45 | .02 | | | | |
| Full Model | | | | | | | | 3.99 |

Table 20

*Moderating Effects – Maternal Positive Feedback, Maternal Intrusive Control and Initiative/Independence*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .003 | .15 | .86 | |
| Maternal Positive Feedback | -7.59 | 14.76 | -.05 | .61 | | | | |
| Maternal Intrusive Control | 1.98 | 8.40 | .24 | .82 | | | | .15 |
| Step 2 | | | | | .02 | 2.03 | .16 | |
| Positive Feedback X Intrusive Control | -979.66 | 686.87 | -1.43 | .16 | | | | |
| Full Model | | | | | | | | .78 |

Table 21

*Moderating Effects – Maternal Positive Feedback, Maternal Intrusive Control and Social Approach/Avoidance*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .02 | 1.09 | .34 | |
| Maternal Positive Feedback | -13.55 | 10.00 | -1.35 | .18 | | | | |
| Maternal Intrusive Control | -2.66 | 5.70 | -.47 | .64 | | | | 1.09 |
| Step 2 | | | | | .02 | 1.49 | .23 | |
| Positive Feedback X Intrusive Control | -569.47 | 467.07 | -1.22 | .23 | | | | |
| Full Model | | | | | | | | 1.23 |

Table 22

*Moderating Effects – Maternal Positive Feedback, Maternal Intrusive Control and Social-Emotional Expression*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .60 | 2.90 | .06 | |
| Maternal Positive Feedback | -9.32 | 6.92 | -1.35 | .18 | | | | |
| Maternal Intrusive Control | -7.34 | 3.94 | -1.86 | .07 | | | | 2.90 |
| Step 2 | | | | | .003 | .32 | .57 | |
| Positive Feedback X Intrusive Control | -185.25 | 325.31 | -.57 | .57 | | | | |
| Full Model | | | | | | | | 2.03 |

Table 23

*Moderating Effects – Maternal Positive Feedback, Maternal Intrusive Control and Confidence (Total Score)*

| Predictor | B | SE B | *t* | *p* | $R^2$ change | *F* (Change) | *p* | *F*-Value |
|---|---|---|---|---|---|---|---|---|
| Step 1 | | | | | .02 | .88 | .42 | |
| Maternal Positive Feedback | -15.16 | 39.13 | -.39 | .70 | | | | |
| Maternal Intrusive Control | -27.30 | 22.28 | -1.23 | .22 | | | | .88 |
| Step 2 | | | | | .04 | 3.60 | .06 | |
| Positive Feedback X Intrusive Control | -3426.46 | 1805.89 | -1.90 | .06 | | | | |
| Full Model | | | | | | | | 1.80 |

*Figure 1.* Moderating Effect of Maternal Positive Feedback on the Relationship Between Maternal Intrusive Control and Children's Presented Self-Esteem.

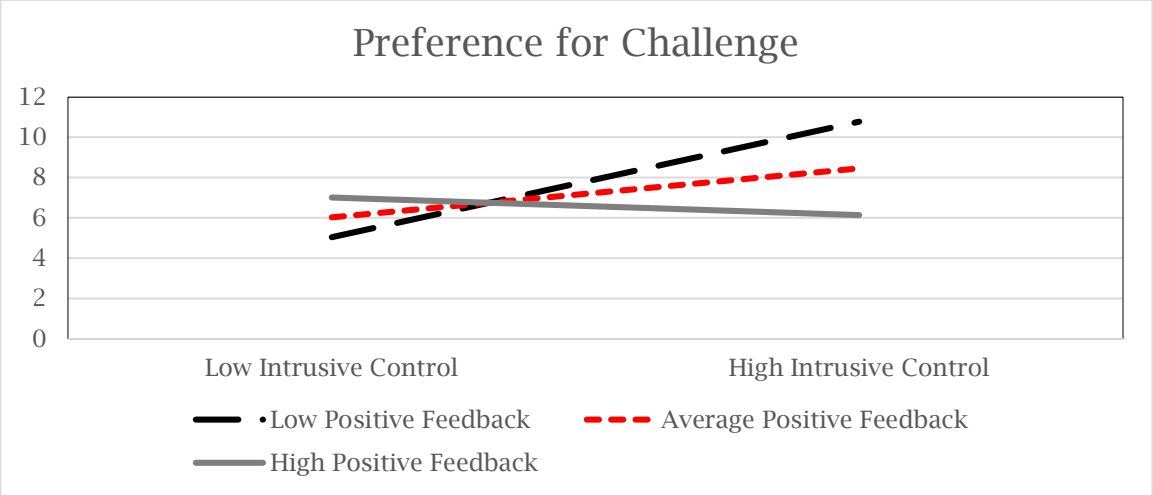
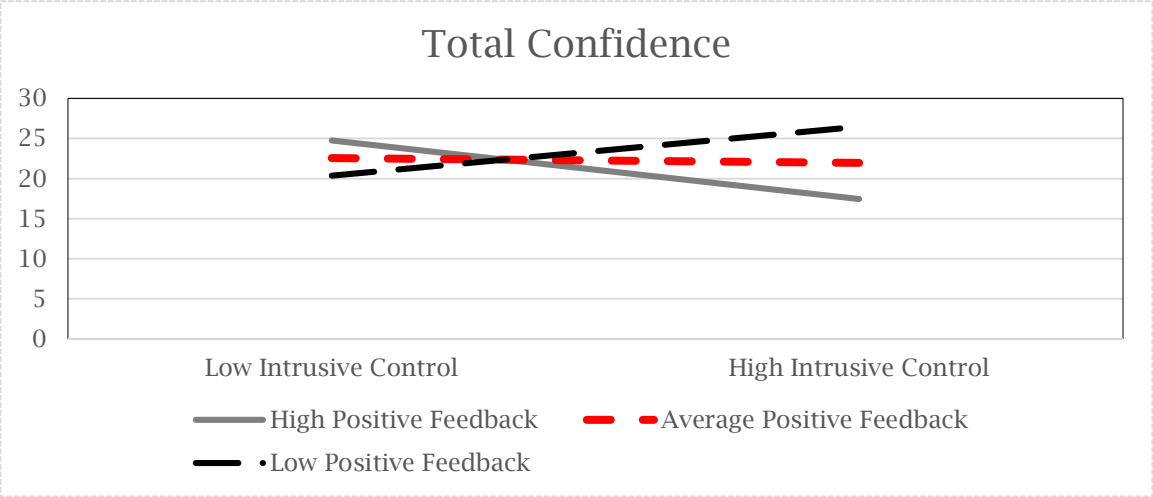


*Figure 2.* Moderating Effect of Maternal Positive Feedback on the Relationship Between Maternal Intrusive Control and Children's Total Confidence/Self Esteem.



# Appendix A

## MATERNAL EVALUATIVE FEEDBACK - CODING MANUAL

Maternal evaluative feedback is coded for 5 minutes while the mother and child are engaged with the teaching task in the home. Coding should begin at the first 5-second interval after the start of the task (i.e., if the task begins at 9:35:33, begin coding maternal evaluative feedback at 9:35:35) and should end exactly 5 minutes later (regardless of whether the task ends at this time). If the task is interrupted, coding ceases during the interruption and if the task ends before 5 minutes are complete, stop coding when the task ends. Coding time is determined by the time clock on the media player.

Positive Feedback of Person: The mother makes a positive global comment about the child; this statement must pertain to the child him/herself, not to the product of his/her actions; the comment is intended to praise the child (“You're a good boy,” "Good Peter," "Yeah Libby,” “That’s a girl,” “You're great!”) and must be directed at the child him/herself.

Inflated Positive Feedback of Person: The mother makes a positive global comment about the child; this statement must pertain to the child him/herself, not to the product of his/her actions; the comment is intended to praise the child and places an extra adjective or adverb before describing the child

(“You're a very good boy,” "You did exceptionally well, Peter”) and must be directed at the child him/herself.

Negative Feedback of Person: The mother makes a negative global comment about the child; this statement must pertain to the child him/herself, not to the product of his/her actions; the comment ridicules the child (this includes harshness, condescension, sarcasm, or annoyance) and must be directed at the child him/herself ("Cameron didn't want to help me," "You're wrong," "You know where it goes!" - stated in a negative tone of voice).

If the mother makes a "negative" statement about the child (i.e., it is negative in content, but positive in tone; "Silly girl," "You're such a nubby nose!"), circle the hash mark to indicate that this comment is "negative" but in a different context than other forms of negative feedback of person.

Positive Feedback of Product/Action: The mother directly comments on the child's actions or product of his/her actions in a positive manner; this statement does not pertain to the child him/herself, but rather to what he/she produced or attempted to produce. This comment is intended to praise the child's product or actions ("Good job!" "There you go," "That's it!" “You’re good at this!” “You can do it!” "Yeah!" "Wow," clapping hands together) and is not directed at the child him/herself; “You did it!” should be coded as feedback of product/action unless the mother physically indicates that she is directing the

comment at the child as a whole (e.g., if she grabs the child and shakes him/her while saying “You did it!”). "There it is" is counted as positive feedback of product/action, but only in the context of an outcome (i.e., not in pointing out the location of a piece).

Inflated Positive Feedback of Product/Action: The mother directly comments on the child's actions or product of his/her actions in a positive manner; this statement does not pertain to the child him/herself, but rather to what he/she produced or attempted to produce. This comment is intended to praise the child's product or action, but the parent places an extra adjective or adverb before describing the product/ action ("That’s a very good job!" “You’re very good at this!”). Statements including, “You can do it!” "Yeah!" "Wow," clapping hands together) that are not directed at the child him/herself; “You did it!” should be coded as feedback of product/action unless the mother physically indicates that she is directing the comment at the child as a whole (e.g., if she grabs the child and shakes him/her while saying “You did it!”). "There it is" is counted as positive feedback of product/action, but only in the context of an outcome (i.e., not in pointing out the location of a piece).

Negative Feedback of Product/Action: The mother directly comments on the child's actions or product of his/her actions in a negative manner; this statement does not pertain to the child him/herself, but rather to what he/she produced or attempted to produce. This comment ridicules the child's product

or actions (this includes harshness, condescension, sarcasm, or annoyance) and is not directed at the child him/herself ("That's not where that piece goes!" "That's the wrong key!" - stated with annoyance).

If the mother makes a comment that is negative in content, but positive or neutral in tone, yet doesn't meet the criteria for corrective feedback, code it as negative feedback of product/action and circle the hash mark to indicate that this statement is "flagged."

Corrective Feedback: There are two types of corrective feedback, "implicit" and "explicit".

Implicit: The mother verbally or nonverbally corrects the child's actions, but in doing so she does not verbally evaluate the child's actions as "wrong" (e.g., the child is attempting to put the wrong color piece in the incorrect hole and the mother points to the correct hole and says "It goes in here"; the mother indicates that the child needs to do something else to complete the task successfully, but does not explicitly indicate that the child has done something wrong; rather, this correction is implicit (e.g., "I don't think it goes there"); or the child says "Pink" and the mom corrects him/her and says "Red"; if the mother makes a suggestion (e.g., maybe another one goes in there...) consider it implicit.

Explicit: The mother makes an evaluative statement that corrects the child's actions; this feedback is generally negative in content ("That's the wrong key," "No, it doesn't go in there," "Can't get it that way," "No") but is neutral or positive in tone; corrective feedback that is negative in tone should be carefully evaluated to determine whether it should be coded as negative/intrusive control, or negative feedback of person or product/action; the intention of corrective feedback is to guide or facilitate the child's actions, but it also conveys to the child that he/she is incorrect in his/her actions -- it indicates that the child has made a mistake; shaking the head as if to say "No."

NOTE: "Turn it" and "try another one" are not corrective, they are directive; a statement can only be counted as corrective once (i.e., it cannot be both implicit and explicit); hence, if maternal behavior fits both descriptions (e.g., mom shakes her head and points to the correct hole), explicit feedback takes precedence (i.e., code it as explicit). Follow the rules listed below for behaviors that are considered within the same bout, but note that negative feedback of product/action and corrective feedback are two separate categories of behavior (thus maternal behavior can be coded as both).

Prohibitions: The mother expresses that the child should not engage in some action. This action can and should be separated into "verbal" and "nonverbal" prohibitions. A prohibition is an action (either verbal or nonverbal) that halts the child's actions.

Verbal: The mother makes a statement indicating that the child should not do something (e.g., “Don’t put that there,” “Don’t turn it upside down,” "Stop running around," "Stay here," "No, let’s do the blue one” - stated as the child attempts the red one).

Nonverbal: The mother demonstrates through her behavior that the child should stop engagement with the toy/an action (e.g., lifts the child’s hand off the toy after the child attempts to put a piece in, pushes the child’s hand away as the child reaches towards the toy).

Directives: The mother explicitly tells the child to engage in some action (“Put the blue one here,” “Sit down,” “Do the blue one,” “You have to put it here,” “Harder,” "Other way"); if the mother suggests an action (e.g., “Want to do the blue one?”), it should not be coded as a directive. (NOTE: “C’mon” and “Here” are not directives; "Maybe try another one" is not a directive).

Note: Behaviors are considered within the same bout (therefore they are only coded once) if they pertain to the same task action (i.e., "Don’t put the red one there," "Don’t put that one there," or “Good job,” “Good job”) and are separated by less than five seconds. Note that these statements do not have to be identical, they just have to pertain to the same task action. They must also be the same category of codes (e.g., positive feedback of product/action, directive,

etc.). If the two statements meet requirements for two different categories of behavior, they should be coded as two different statements.

If verbalizations are of the same category and separated by less than five seconds, but pertain to different actions (e.g., "No, try this one [pertaining to the red piece] ...no, try the blue one"), they should be coded as separate statements (i.e., the above example would be coded as two separate corrective [implicit] feedbacks and two separate directives).

If a behavior is both corrective and directive (e.g., "No, it goes here" while moving the child's hand to the correct spot), code as both and circle the hash mark of each behavior to denote that this behavior was double coded. Note that "No, put it on top" is coded as two separate statements: no=corrective [implicit] and put it on top=directive.

If the mother makes a negative comment about the child (e.g., "You're such a lazy bone," "You are so silly"), but does so in a positive tone of voice that seems to be endearing, code it as a negative comment, but circle the hash mark to denote that this statement did not appear to carry a negative connotation.

Subid: _____
Date on tape: _____
Coded: _____
Coder: _____
Time on Task: _____
Description:

**MATERNAL EVALUATIVE FEEDBACK DURING TEACHING TASK**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Positive Feedback of Person** | | | | | | | | |
| **Inflated Positive Feedback of Person** | | | | | | | | |
| **Positive Feedback of Product/Action** | | | | | | | | |
| **Inflated Positive Feedback of Product/Action** | | | | | | | | |
| **Negative Feedback of Person** | | | | | | | | |
| **Negative Feedback of Product/Action** | | | | | | | | |
| **Corrective Feedback** | | | | | | | | |
| **Implicit** | | | | | | | | |
| **Explicit** | | | | | | | | |
| **Prohibitions Verbal** | | | | | | | | |
| **Nonverbal** | | | | | | | | |
| **Directives** | | | | | | | | |

Appendix B

Depression Chart

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pregnancy | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Normal Mood | | | | | | | | | |
| Mildly Depressed | | | | | | | | | |
| Depressed | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Treatment | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Medication | | | | | | | | | |

Interviewer:

# Months depressed in child's lifetime_____

# Months in treatment in child's lifetime _____

# Months on medication in child's lifetime _____

# Appendix C

## The Behavioral Rating Scale of Presented Self-Esteem in Young Children

Child's Name _____ Age _____ Male or Female

These are statements which describe ways that young children may behave in classroom and playground situations. Please read the entire item across the page, both left and right sides, decide which side best describes the child you are rating, and then check whether that is just sort of like this child or very much like this child. You will just check ONE of the four boxes for each statement.

| | Very Much Like This Child | Sort of Like This Child | | | | Sort of Like This Child | Very Much Like This Child |
|---|---|---|---|---|---|---|---|
| 1. | ☐ | ☐ | Prefers activities that stretch his/her abilities; sets high goals. | BUT | Does not prefer activities that stretch his/her abilities; does not set high goals. | ☐ | ☐ |
| 2. | ☐ | ☐ | Smiles infrequently; face often shows sadness or negative feelings. | BUT | Smiles readily; face does not often show sadness or negative feelings. | ☐ | ☐ |
| 3. | ☐ | ☐ | Trusts his/her own ideas; knows what he/she wants; is able to make choices and decisions. | BUT | Doesn't trust his/her own ideas; acts uncertain in making decisions; needs suggestions from others. | ☐ | ☐ |
| 4. | ☐ | ☐ | Does not move forward to do things on his/her own; does not take initiative. | BUT | Moves forward to do things on his/her own; takes initiative. | ☐ | ☐ |
| 5. | ☐ | ☐ | Lacks confidence to approach challenging tasks; shys away from challenge. | BUT | Approaches challenging tasks with confidence. | ☐ | ☐ |
| 6. | ☐ | ☐ | Able to assert his/her point of view with other children when opposed. | BUT | Not able to assert his/her point of view with other children when opposed. | ☐ | ☐ |
| 7. | ☐ | ☐ | Hangs back; watches only or doesn't get involved. | BUT | Does not hang back; does more than watch, is involved. | ☐ | ☐ |
| 8. | ☐ | ☐ | Describes self in generally positive terms. | BUT | Describes self in generally negative terms. | ☐ | ☐ |
| 9. | ☐ | ☐ | Is able to set goals independently. | BUT | Can not set goals independently. | ☐ | ☐ |
| 10 | ☐ | ☐ | Makes good eye contact. | BUT | Avoids eye contact. | ☐ | ☐ |
| 11 | ☐ | ☐ | Remains in group activities and gets involved; does not withdraw. | BUT | Withdraws from group activities; stays on sidelines or doesn't get involved. | ☐ | ☐ |
| 12 | ☐ | ☐ | Lacks confidence to initiate activities. | BUT | Initiates activities confidently. | ☐ | ☐ |
| 13 | ☐ | ☐ | Eager to try doing new things. | BUT | Not eager to try doing new things. | ☐ | ☐ |
| | ☐ | ☐ | Tolerates frustration caused by his/her mistakes; perseveres. | BUT | Gives up easily when frustrated by his/her mistakes. | ☐ | ☐ |
| 15 | ☐ | ☐ | Shows pride in his/her work or accomplishments. | BUT | Does not show pride in his/her work or accomplishments. | ☐ | ☐ |