

Copyright

by

Kristina Nicole Higgins

2008

The Dissertation Committee for Kristina Nicole Higgins certifies that this is the approved  
version of the following dissertation:

The role of parental attachment and limit-setting on toddler behavior: Separate and  
combined influences of mothers and fathers

Committee:

---

Nancy Hazen-Swann, Supervisor

---

Deborah Jacobvitz

---

Theodore Dix

---

Edward Anderson

---

Janay Sander

The role of parental attachment and limit-setting on toddler behavior: Separate and  
combined influences of mothers and fathers

by

Kristina Nicole Higgins, B.S., M.A.

Dissertation

Presented to the Faculty of the Graduate School of

the University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

December 2008

The role of parental attachment and limit-setting on toddler behavior: Separate and  
combined influences of mothers and fathers

Publication No. \_\_\_\_\_

Kristina Nicole Higgins, Ph.D.

The University of Texas at Austin, 2008

Supervisor: Nancy Hazen-Swann

Much research has been done in the area of toddler compliance/defiance and emotion regulation from a socialization perspective, and although some of this research has used attachment theory as a theoretical basis, there is little empirical literature that measures both attachment in infancy and parental limit-setting in toddlerhood as predictors of toddler compliance, emotionally negative defiance, or emotion regulation. In addition, few studies include fathers' attachment and limit-setting along with mothers, or examine the different combinations of parenting units' influence on toddler behavior. The goals of the current study are to assess how infant-parent attachment and parental limit-setting with mothers and fathers separately predict toddler behavior both with the same parent and with the other parent, and how different combinations of parental units, including mother-infant and father-infant attachment and maternal and paternal limit-

setting, relate to toddler behavior. This study uses longitudinal data, with the infant-parent attachment relationships assessed using the Strange Situation at 12 and 15 months, and at 24-months the toddlers were brought into the lab and videotaped in a 20-minute play session, clean-up, and two teaching tasks with each parent. The parents were rated individually on their use of developmentally appropriate, permissive, and harsh/controlling parenting styles, and the toddlers were rated on compliance and emotionally negative defiance; the toddlers were also rated on emotion regulation in a separate task with an experimenter. Using OLS regression analyses, this study found parental limit-setting to be a stronger predictor of toddler behavior than attachment, and toddler behavior can only be predicted in the interaction with the same parent—maternal limit-setting does not predict toddler behavior with father or vice versa. Combinations of parent-infant attachment classifications were then assessed using ANOVAs, and different combinations of infant-parent attachment were related to toddlers' emotion regulation. Hierarchical clustering techniques were implemented to determine how to create parenting units based on the different parenting styles, and four distinct clusters emerged: both parents developmentally appropriate, both parents are harsh/controlling and permissive, mother is appropriate and father is permissive, mother is permissive and father is appropriate. ANOVAs were then used to relate these clusters to the toddler behaviors.

## Table of Contents

Introduction.....	1
Current Study: Research Questions and Hypotheses.....	26
Methods.....	32
Results.....	40
Discussion.....	54
Tables.....	66
Appendix A.....	76
Appendix B.....	85
References.....	90
Vita.....	100

## Introduction

The goal of the present study is to determine the effects of infant-parent attachment and parental limit setting on toddler compliance/defiance and emotion regulation. These particular toddler behaviors pave the way for children's socialization and the development of self-regulation in childhood and adolescence. Kalb and Loeber (2003) review several studies that link defiance to externalizing problems, including aggression and antisocial behaviors, from toddlerhood to adolescence. Kuczynski and Kochanska (1990) also found that boys that complied frequently with their mothers as toddlers had more internalizing problems at age five than boys who showed some noncompliance and girls. Externalizing and internalizing problems in early and middle childhood are a strong marker for later psychological problems in adolescence and adulthood. Children who have the ability to regulate and properly communicate emotions have better relationships with peers in middle childhood and adolescence, as well as better emotional communication in romantic relationships (Carson & Parke, 1996; Richards, Butler & Gross 2003). Examining the relation of mothers' and fathers' early parenting on compliance/defiance and emotion regulation in toddlerhood can provide insight into influences on children's early development of these behaviors and where to effectively intervene before these behaviors become problematic.

For this study, I will use longitudinal data to examine the unique contributions of mothers' and fathers' attachment with their infants, mothers' and fathers' limit-setting styles with their toddlers, and toddlers' behavior (specifically, compliance/defiance and emotion regulation) at two-years-old. I will also look at the relationship between

attachment and limit-setting with one parent and the child's behavior with the other parent, as well as the different combinations of infant-parent attachment categories and limit-setting styles. This study is unique because it will examine the relation of both mothers' and fathers' attachment relationships and limit-setting styles, considered both as separate predictors and in combination, on toddler behavior. This study will examine the individual influence of each parent on toddler behavior, the combined impact of both parent's influence, and any potential buffering effects one parent's attachment and/or limit-setting style may have on predicting toddler outcomes. Understanding the joint input of both parents' attachment and parenting styles in toddlerhood is important due to the impact that these processes will have on the child's healthy development of compliance/defiance, and emotion regulation.

Individual differences in parenting styles in toddlerhood and their effects on toddler behavior have been studied primarily from two different perspectives: compliance and limit-setting research and empirical research based in attachment theory. Compliance and limit-setting research generally focuses on the cyclical relationships between the parents' and children's behaviors and responses to each other to determine different patterns or styles of parenting and how these styles can influence toddler behavior. Attachment theory hones in on how the different ways parents respond to their children in infancy form a parent-child relationship that creates a set of expectations that determines how the child will form and maintain other relationships in the future. Empirical research based in both perspectives suggests that parenting quality influences toddler's social and emotional development; however, there is little integration between research based in

attachment theory and research on parenting styles and limit-setting. In both of these research areas, the mother-child relationship is almost exclusively studied, and when fathers are included the research is mostly focused on older children and/or boys.

This introduction will first discuss research on the outcome variables of toddler compliance/defiance and emotion regulation in relation to parental limit-setting styles and attachment theory. The relation of these variables to sensitive and developmental appropriate parenting, harsh/controlling parenting, and permissive parenting will be discussed as well. The influence of one parent on the child's behavior with the other parent will be discussed, as well as the dyadic combination of different types of mother-infant and father-infant attachment (e.g. secure-secure, secure-insecure, etc.) and the dyadic combination of different types of limit-setting by the mother and father (e.g. developmentally appropriate-permissive, harsh/controlling-permissive, etc.) in predicting child outcomes. This will be followed by the research questions that will be examined in this study.

### *Toddler behavior*

*Compliance and defiance.* In the compliance literature, parent's responses to toddler behavior and toddlers' reactions determine the nature of toddlers' behaviors. The parent can respond to toddler's oppositional behaviors or defiance through either positive responses, such as firm verbal warnings or giving the child other choices, or they can respond negatively through either setting limits on the autonomous behavior in a punitive way or consistently yielding to the child's demands (Haswell, Hock & Wenar, 1981; Omer, 2001). Within the compliance body of research, compliance itself is sometimes

separated into ‘committed compliance’, in which the child is internally driven to embrace the parent’s agenda, and ‘situational compliance’, in which the child is externally driven to be cooperative and nonoppositional but does not fully embrace the parent’s agenda (Kochanska, Tjebkes, & Forman, 1998). When parent’s responses are more positive, children are more likely to develop committed compliance, whereas if parent’s responses are more negative, children are more likely to develop situational compliance (Kochanska, Coy, and Murray, 2001). Also, defiance can be divided into simple refusal, which is acknowledging the parent’s request and refusing without any negative emotion, passive noncompliance or indirect defiance, in which the child ignores the parent’s request, and defiant noncompliance or emotionally negative defiance, which involves refusing the parent’s request with negative affect (Dix, Stewart, Gershoff, & Day, 2007).

Toddlers who exhibit committed compliance experience compliance itself as self-generated, thus it should not interfere with these children’s autonomous behaviors, whereas children who demonstrate situational compliance may reflect an unsuccessful bid for autonomy and submission to the parent’s agenda. Compliance with parental requests or limits is generally thought to lay the foundation for positive socialization, which is considered “...the process by which societies induce their members to behave in socially acceptable ways” (Crain, 2000, p.197; Kochanska, 1995). Defiance of parental requests can either lead to a healthy level of asserting autonomy, as in the case of simply refusing the parent’s requests, or could be the precursor to a problematic pattern of behavior starting in the toddler years if the child exhibits emotionally negative defiance (Dix et al., 2007).

*Emotion regulation.* Emotion regulation involves a child's ability to control and direct emotional expression, maintain organized behavior in the presence of strong emotions, and to be guided by emotional experiences (DeHart, Sroufe, & Cooper, 2004). In toddlerhood, this involves the first steps in the process of learning to identify the correct emotion for a situation and how to express this emotion in a socially appropriate way. Parents help their children to regulate their emotions throughout their lives, starting with being emotionally available and expressive in infancy and using limit-setting techniques with toddlers that involve helping them to tolerate frustrating situations and delay immediate gratification. A mature ability to regulate emotions (e.g. using self-regulating techniques and verbal expression instead of physical or verbal aggression) can influence a child's social standing amongst peers as well as decrease the rate of externalizing or internalizing problems in the school-aged years (Kochanska, Aksan, & Koenig, 1995). A lack of emotion regulation abilities early on leads to problems with school adjustment and peers in middle childhood.

Compliance and emotion regulation are both types of self-regulation that develop during the toddler and preschool years, with compliance showing an ability to actively regulate one's behavior based on another's request, and emotion regulation involving controlling one's affect in a stressful situation (Karreman, van Tuijl, van Aken & Dekovic, 2006). Defiance could relate to emotion regulation in two ways, with simple refusal being related positively to emotion regulation because the toddler is able to control their negative emotions and tell the parent 'no' without falling apart emotionally, and emotionally negative defiance showing a lack of ability to control one's emotions,

resulting in uncontrolled crying, screaming or tantruming. Toddlers' compliance/defiance and emotion regulation have been found to relate to their parents' styles of setting limits as well as to their attachment relationships with their parents during infancy.

### *Parental limit-setting styles*

Much of the research on the parenting of toddlers examines how parents' different styles of setting limits relate to toddlers' compliance/defiance and emotion regulation, and this stems from several theoretical viewpoints. Social learning theory focuses on how parents try to socialize young children through setting limits or using positive guidance with the intention of helping the child develop self-regulation (Crain, 2000). Kochanska (1995) discusses two extensively studied pathways that lead to socialization and the internalization of self-regulation: one pathway involves mutually responsive and cooperative parent-child dyadic relationships and the other hones in on parenting styles that use arousal or anxiety as the means to self-regulation. Maccoby (1983) suggests that positive mutual responsiveness between the parent and child makes the child more likely to internalize the caregivers goals both within specific situations and long-term. On the other hand, Hoffman (1983) implies that parenting styles which involve low to moderate levels of anxious arousal and gentle discipline that is psychologically oriented also promote self-regulation in children. Parental limit-setting and child compliance in toddlerhood mark the beginning of the process of making self-regulation an internal process instead of regulation being externally controlled by the parent.

Even though limit-setting and toddler behavior research stems from several

different theoretical perspectives, some commonalities exist within this body of literature. Most of the research in this area has been conducted with toddlers or young children, and measurements of toddler behavior and limit-setting are almost exclusively obtained through observational ratings. The general focus of the research involves the differing ways that parents discipline and cope with daily situations (either in the home or recreated in a lab) and how the children respond to their parents.

Several styles of parenting have been found to either positively or negatively influence a child's ability to become a productive member of society, and for the toddler age group, these styles of parenting involve limit-setting in some capacity (Baumrind, 1966; Regalado, Sareen, Inkelas, Wissow & Halfon, 2004). Baumrind's work has strongly influenced the particular variables studied in compliance and limit-setting research. Specifically, she discusses how parents use three main styles of parenting with children: authoritative, authoritarian, and permissive; and these three styles are discussed in several different ways in the context of limit-setting (Baumrind, 1966).

*Parental Sensitivity and Developmental Appropriateness in Limit-setting.*

According to Baumrind (1996), authoritative parenting is characterized by teaching children through setting firm limits in a warm and caring manner that is child-centered and effectively shows the child why the limit is being implemented; these parents are responding sensitively and developmentally appropriately to their child. Although Baumrind argues that more forceful parenting practices may be used by authoritative parents, these parents tend to use more positive guidance techniques than authoritarian or permissive parents, teaching children through redirection, giving them choices, and

explaining the reasons behind the limit (Davies, McMahon, Flessati & Tiedemann, 1984). Developmental appropriateness in limit-setting involves being attuned to the child's developmental level and using parenting strategies that effectively enforce a limit while being sensitive to the child's ability to comprehend the limit being set. Sensitivity in parenting, which involves being both warm and responsive to the child's developmental needs, is one of the key features of both the compliance body of literature and from the research on parenting and child outcomes derived from attachment theory.

Several explanations for individual variations in parental sensitivity have been proposed, including intergenerational transmission of warm parenting (Belsky, Jaffee, Sligo, Woodward & Silva, 2005) and attributing positive or playful intentions to a child's misbehavior (Slep & O'Leary, 1998); however, the exact motivations behind child-centered parenting are probably diverse and depend on individual situations (Dix, 2000). The literature consistently shows that sensitive parenting leads to an array of positive outcomes for toddlers and young children; however, sensitive parenting is not always clearly defined and often just encompasses 'good' parenting.

LeCuyer-Maus (2000) found that mothers who were more sensitive and responsive to their children showed limit-setting strategies that were more geared towards teaching their children, which is a hallmark of developmentally appropriate guidance, whereas mothers who were less sensitive and responsive had limit-setting styles that more aimed at establishing power and control. Mothers and fathers who are sensitive in their styles of parenting are more likely to have children who directly comply with their requests, as well as the requests of other caregivers (Feldman & Kline, 2003; Wahler &

Meginnis, 1997), or to assertively refuse the parents', requests without emotionally negative defiance (Dix et al., 2007). Even when mothers and fathers use harsh discipline techniques, such as physical punishment, high parental warmth negates the negative effects that harsh discipline usually has on children's externalizing behaviors (Deater-Deckard, Ivy & Petrill, 2006). This lends support to Baumrind's (1996) idea that "...authoritative parents endorse the judicious use of aversive consequences, which may include spanking, but in the context of a warm, engaged, rational parent-child relationship" (412). Authoritative parenting relates to higher levels of toddler committed compliance and less resistance, which lays the groundwork for positive social development in preschool and middle childhood (Kaufmann et al., 2000).

*Parental Controlling/Harsh Behavior and Limit-setting.* Authoritarian parents use either physically or psychologically harsh and controlling discipline techniques without accounting for the child's needs or developmental level (Baumrind, 1966; Belsky, Crnic, & Woodworth, 1996). These parents may use the same discipline techniques as authoritative parents (e.g. spanking, time-out); however, the approach is parent-centered as opposed to child-centered, focusing on the parent as the authority figure and not teaching their child the reason behind the limit (Baumrind, 1996). An important aspect to consider is the difference between behavioral control and psychological control, which according to Aunola and Nurimi (2005) can be defined in the following way:

"... behavioral control (e.g., maturity demands, monitoring, limit setting) consists of the regulation of the child's behavior through firm and consistent discipline

and psychological control (e.g., love withdrawal, guilt induction) refers to parents' control of child's emotions and behavior through psychological means" (1145).

Although moderate amounts of behavioral control can be seen as a positive aspect of parenting, especially in conjunction with sensitive parenting, psychological control almost always has negative effects on children.

In the compliance body of literature, researchers have repeatedly demonstrated that in different situations, parental behavioral control generally leads to noncompliant behaviors in toddlerhood and to later externalizing problems, unless the parent also uses positive guidance techniques in conjunction with behavioral control (Belsky et al., 1996; Braungart-Reiker, Garwood & Stifter, 1997). Children whose parents use behaviorally harsh or controlling techniques without warmth or explanation typically exhibit situational compliance; however, they are overall less compliant and show more noncompliance than children with authoritative parents (Marchand, Hock & Widaman, 2002). Children whose parents exhibit psychological controlling techniques have higher levels of noncompliance in toddlerhood and have been found to exhibit externalizing behaviors in preschool (Smith, Calkins, Keane, Anastopoulos & Shelton, 2004).

Aunola and Nurimi (2005) found that, in preschoolers, high levels of behavioral control leads to lower levels of externalizing problems when levels of maternal psychological control were low; however, when there were high levels of psychological control, children display higher levels of externalizing and internalizing problems.

Crockenberg and Litman (1990) also suggest that parents who use less powerful methods

of control have toddlers who show higher levels of self-assertion and high compliance. Bugental and Happaney (1995) studied the relationship between perceived parental power and psychological control; they found that both mothers and fathers who feel as if they have less power in the parent-child relationship are more likely to use psychological control and derogation with their children than parents who perceive themselves as having more power, and this relationship was much stronger for fathers than for mothers.

*Permissive Parenting Behavior and Limit-setting.* Permissive parenting involves behaving in a nonpunitive and affirmative manner towards a child's misbehavior, avoiding situations where limit-setting would be appropriate (Baumrind, 1966). Permissive parenting can be further sub-divided into parenting that is permissive-by-choice versus permissive-by-default (Marion, 2007). Permissive-by-choice parents have a strong belief that the child should not be interfered with by adults. They allow the child to make decisions and regulate their activities above and beyond their developmental level, as well as present themselves as somewhat dependent on the child. Although these parents are highly responsive and warm, they purposefully do not place demands or limits on their children. Toddlers with permissive-by-choice parents become increasingly noncompliant to parental demands, and often exhibit aggressive behaviors in middle childhood (Omer, 2001; Vecchio & O'Leary, 2006). Parents who are permissive-by-default are inconsistent and generally ineffective when setting and enforcing limits (Marion, 2007). They attempt to place demands on their children; however, their demands are usually met with resistance. Permissive-by-default parents tend to have children with low impulse control who lack social competence and self-reliance in middle

childhood.

*Relation of limit-setting and toddler behavior*

Research in the area of toddler behavior and limit-setting shows that toddlers whose mothers and fathers use positive guidance techniques (positive verbal expression, supportive statements, physical affection) as opposed to controlling or interfering techniques to promote emotion regulation tend to be more compliant even when distressed, and they internalize socially appropriate ways to behave by preschool (Calkins & Johnson, 1998; Kochanska, Aksan & Koenig, 1995). These parental behaviors resemble Baumrind's authoritative style of parenting. When mothers and fathers use of negative controlling techniques with their toddlers—the authoritarian style of parenting—the toddlers tend to show more noncompliant behaviors and trouble with delaying gratification and regulating their emotions as preschoolers (Calkins & Johnson, 1998; Mauro & Harris, 2000). Mothers and fathers who use permissive or interfering techniques by preemptively solving a problem for their child tend to have toddlers that are easily distressed and have low frustration tolerance, thus poor emotion regulation (Calkins & Johnson, 1998).

Russell et al. (1998) found that fathers were more likely than mothers to use both authoritarian and permissive styles of parenting, and when the authoritarian style was used with boys, they later developed aggressive behavior problems in preschool. Both boys and girls with permissive fathers were more likely to show externalizing problems as well, and in this same study, children with the highest levels of externalizing problems as preschoolers had mothers who were authoritarian and fathers who were permissive

(Jewell, Krohn, Scott, Carlton, & Meinz, 2008).

Dix et al. (2007) also found that mothers who were highly sensitive and synchronous in behavior with their children have toddlers who exhibit higher levels of active defiance as well as willing compliance than mothers who showed asynchronous behavioral patterns with their children. Along with being a core component of Baumrind's differing styles of parenting, parental warmth and sensitivity is also central to attachment theory's notion of a secure relationship between the child and parent (Bowlby, 1969); thus justifying research that examines parental limit-setting and child compliance from an attachment perspective.

#### *Attachment and toddler behavior*

According to Bowlby (1969), infant attachment to the primary caregiver is a biological function that serves to ensure the infant's survival, and it can be seen in differing cultures and even in other species. The attachment relationship is formed with the primary caregiver, who is the person who does the majority of the caregiving for the infant when the infant is distressed. In the second half of the infant's first year of life, the infant begins showing a strong preference for the primary caregiver over others, and in theory this is because the child seeks out the primary caregiver for protection from harm. The parent-child relationship reflects a balance between the attachment relationship and the infant's natural inclination to explore and learn about its environment (Ainsworth, Blehar, Waters & Wall, 1978). If infants feel secure with their caregivers, they are more likely to actively explore their environments; however, if they feel threatened by their environments, the attachment system is activated and the infant seeks out the primary

caregiver. The infant will only be able to explore again once it has received enough comfort from the primary caregiver to conclude that the environment is safe again, thus balancing the attachment-exploration system.

Based in this theoretical background, Mary Ainsworth developed the Strange Situation to measure the infant's attachment to the primary caregiver, and then went on to identify three patterns of attachment—secure, insecure/anxious-avoidant, and insecure/anxious-resistant—that are influenced by different parenting practices (Ainsworth et al., 1978). Infants who are securely attached to their primary caregiver have caregivers that are warm and sensitive when interacting with their infants and respond quickly and appropriately when the infant is distressed. Infants with an anxious-avoidant attachment relationship have caregivers who meet their physical needs but are emotionally unavailable to the child, even when the child is distressed. Infants with anxious-resistant attachment patterns have caregivers that are inconsistent in meeting their needs when they are distressed, and they are also often intrusive when interacting with their babies. Main and Solomon (1990) later identified a fourth pattern of attachment—disorganization—which represents a breakdown or collapse in attachment strategy. This pattern is commonly seen in high-risk samples, including children who are maltreated or neglected by their parents, and disorganization is seen in infants who have caregivers that show frightening, frightened, or dissociative behaviors when interacting with the infants (Lyons-Ruth & Jacobvitz, 1999; Schuengel, van IJzendoorn, & Bakermans-Kranenburg, 1999).

Fox, Kimmerly, and Schafer (1991) conducted a meta-analysis of eleven studies

that examined attachment in both mothers and fathers, and they found that security with one parent is related to security with the other. They also show that different types of insecurities were related, with children being more likely to show either resistance or avoidance with both parents. One limitation to this study, however, is that disorganization is not included due to the timing of the meta-analysis.

*Relation of parents-infant attachment and parental limit-setting styles.*

Research based in attachment theory focuses on the child's relationship to the parent as a function of the parent's responsiveness and sensitivity toward the child's needs. The quality of the child's attachment to the parent in infancy is highly correlated with individual differences in parenting sensitivity, which in turn relates to the child's socio-emotional competence and social cognition in toddlerhood (Denham, Renwick & Holt, 1991; Steele, Steele & Johansson, 2002), as well as behavioral and emotional problems in middle childhood (Hazen, Jacobvitz, Allen & Higgins, in press). For the most part, attachment research in the area of parenting toddlers has focused on parental sensitivity during infancy and its effects on toddler outcomes, especially toddler emotion regulation (Cassidy & Berlin, 1994; Volling, McElwain, Notaro, & Herrera, 2002) and autonomy (Crowell & Feldman, 1988; Matas, Arend, & Sroufe, 1978), rather than the effects of parents' styles of setting limits with their toddlers on toddler compliance.

Because the parent-infant relationship is based on a system of attachment and exploration, the parent-toddler relationship, which includes limit-setting, should retain characteristics of this earlier relationship. If parents set appropriate limits for their toddlers in a sensitive way, these toddlers should feel more secure with their environment

and be more adept at exploring because they know their parents will set limits to keep them safe. If the parent does not set appropriate limits, the toddler may not feel as safe in their environment and may be less likely to explore because their parent will not protect them from harm. If the parent sets too many arbitrary limits or sets limits in a harsh manner, the toddler may not feel as if the environment is a safe place to explore and may be anxious about how the parent may discipline them if they do something that the parent does not like when they are exploring. Toddlers whose parents set insufficient limits, set too many limits, or who set limits in an insensitive manner, may be inhibited from exploring the environment and thus learning about the world because they are anxious about the consequences from either the environment itself or the parent.

*Attachment and Parental Sensitivity/Developmental Appropriateness.* Although attachment theory initially focused more on maternal sensitivity in infancy (Bowlby, 1969), many of the basic findings about sensitivity in infancy have been shown to hold up through the preschool years as well. Sensitivity in infancy relates to a secure attachment, and attachment security has been related to preschool-aged children's early conscience development and positive social skills (Laible & Thompson, 2000; Steelman, Assel, Swank, Smith & Landry, 2002). Attachment disorganization, which is related to more maladaptive parenting than even insecure attachment relationships, predicts children's emotional and behavioral problems in middle childhood and psychopathology and dissociative tendencies in adolescence (Carlson, 1998; Hazen et al., in press).

Although some research has begun to address sensitivity in fathers, the majority of the literature to date has focused on maternal sensitivity. What is known about paternal

sensitivity is that fathers who are more sensitive generally are older and hold more non-traditional child-rearing beliefs (NICHD, 2000), and paternal sensitivity is related to supporting the child's development of autonomy as shown in problem-solving tasks (Easterbrooks & Goldberg, 1984). Grossman et al. (2002) suggest that the function of the attachment relationship is different for mothers and fathers, with father's sensitivity in play with the child being more important than infant-father security. This highlights an important aspect of examining the child's relationship with both mother and father separately and in different contexts to determine the differential effects of each parent on the child's behavior.

*Attachment and Parental Controlling/Harsh Behavior.* The attachment literature has very little evidence that supports a direct relationship between attachment classification and parental behavioral control in toddlerhood. Maternal intrusiveness and interference in infancy, which involves inconsistency in care and mis-timed responses to the child that can be seen as a form of infant behavioral control, is strongly linked with anxious-resistant attachment relationships (Cassidy & Berlin, 1994; Isabella & Belsky, 1991). These insecure relationships are related to relatively poor outcomes for children later, including inhibited exploratory behavior in toddlerhood and negative social interactions and peer play in the preschool years.

Berlin and Cassidy (2003) found that when mothers were highly controlling of their toddler's expression of negative emotion, which can be seen as a form of psychological control, the toddler's were less likely to be able to express their emotions when put in a frustrating situation. These toddlers were also more likely to be classified

as anxious-avoidant. Toddlers whose mothers did not attempt at all to control their children's expression of negative emotions were more likely to have an anxious-resistant attachment relationship, and toddlers with secure attachment relationships had parents who somewhat controlled their toddler's expression of negative emotions but who also allowed for some emotional expressivity.

Because there is little literature directly relating the parent-child attachment classification to parental controlling behaviors, this may imply that parental control and attachment represent unrelated constructs; controlling behaviors by the parent may not be predicted by either secure or insecure attachment patterns. Although parental control may not be related to attachment in infancy, examining parental control in toddlerhood could provide different results.

*Attachment and Permissive Parenting Behavior.* At this point, there are only a couple of empirical articles that discuss attachment and permissive parenting. Bretherton, Golby, and Cho (1997) indicate that the reasoning behind permissive parenting is more likely to be related to attachment than the observation of permissive parenting itself; for example, parents may yield to their child's demands because they feel that the limit is unnecessary, or they may give in due to a feeling of helplessness. If a parent chooses not to set a limit because they feel as if it unnecessary, this may mean that overall they are capable of setting limits warmly and consistently; however, if a parent gives in to a feeling of helplessness, this may indicate a problem with the underlying parent-child relationship. This emphasizes the importance of examining both the behavioral interactions between the parent and child as well as the impact of the overall relationship.

More empirical research needs to be done in the area of permissive parenting with an emphasis on the underlying reasons for observed permissive behavior, which may have their roots in the parent's internal working model of attachment. All of this research has been done with mothers as well, and examining father's permissive behavior could help researchers better understand the developmental trajectories of young children. These three styles of parenting are based on the amount of consistency and warmth within disciplinary situation, which relates closely to Ainsworth's idea that caregivers need to respond quickly and appropriately to their infant's distress.

*Relation of infant attachment to toddler's compliance/defiance and emotion regulation.*

Attachment theory predicts a strong relation between infant attachment and toddlers' emotion regulation. The infant-parent attachment relationship reflects the underlying emotional climate of their relationship (Berlin & Cassidy, 2003). Their study concluded that parents of secure infants moderately controlled their children's negative emotions; parents of insecure-avoidant infants highly controlled their children's emotions, thus minimizing their emotional expressivity; and parents of insecure-resistant infants were less likely to control their children's negative emotions and emphasized the child's emotional dependence on them.

Children who are securely attached to their mothers and fathers as infants are more likely to show increased emotion regulation at 24 months, and in the preschool years they are more socially competent and ego-resilient than children with insecure attachment patterns (Troy & Sroufe, 1987; Weinfield, Sroufe, Egeland & Carlson, 1999). Children with anxious-avoidant attachments are more likely to show low frustration

tolerance and poor emotion regulation as toddlers, and in preschool are more likely to harass and bully their peers and be rejected by their teachers (Troy & Sroufe, 1987; van Bakel & Riksen-Walraven, 2002; Weinfield et al., 1999). Children with an anxious-resistant attachment also show poor emotion regulation skills and less autonomy in toddlerhood (Cassidy & Berlin, 1994). In preschool, these children are more likely to be treated as infantile by their teachers and bullied by their peers (Troy & Sroufe, 1987; Weinfield et al., 1999). Children with a disorganized attachment status as infants show the lowest levels of emotion regulation as toddlers (Main, 2000; van Bakel & Riksen-Walraven, 2002).

Although compliance and defiance are commonly studied toddler behaviors, they have rarely been examined from the attachment perspective. Matas, Arend, & Sroufe (1978) examined the relationship between infant-mother attachment at 18 months and behavior at 24 months in teaching task situations, and found that securely attached children showed less noncompliance and ignoring of the mother, whereas insecurely attached children showed more noncompliance and ignoring, and specifically, insecure-avoidant children showed more aggression. Due to the timing of this study, however, disorganization was not included in this study. Kochanska and Aksan (1995) demonstrate that mothers and fathers who are warm, responsive, and share mutual positive affect with their infants and toddlers (hallmarks of secure attachment relationships), are more likely to have toddlers that engage in committed compliance and self-regulation, whereas children whose parents use forceful control are lower in self-regulation and less likely to exhibit committed compliance. However, this study measures

both attachment (using the attachment Q-sort designed to assess attachment in this age group) and compliance at the same point in time; it does not take a longitudinal perspective by examining infant attachment, toddler compliance, and later child outcomes.

Because children with different patterns of attachment show differences in emotion regulation and autonomy in toddlerhood, children with different attachment histories in infancy should theoretically show differences in compliance or defiance in toddlerhood. Secure infants may be more likely to demonstrate both committed compliance or refuse the parent's suggestions without negative emotion in limit-setting situations because they trust that the parent will react favorably to both of these circumstances. Avoidant or resistant infants may be more likely to exhibit situational compliance, indirect defiance (e.g. ignoring the parent) or emotionally negative defiance in limit-setting situations because of their lower emotion regulation skills and frustration tolerance as compared to secure children. Disorganized infants should show more submissive compliance due to their fear of how the parent will react if they are noncompliant, or emotionally negative defiant behavior if their parent is dissociative. More research is needed in the area of compliance and limit-setting that also measures attachment classification in infancy to concretely determine how children with different attachment histories will react in limit-setting situations.

Both the attachment and limit-setting/compliance perspectives demonstrate that sensitive and responsive parents are more likely to have toddlers that exhibit healthy development in the areas of emotion regulation and autonomy. Mothers and fathers who

have either controlling, inconsistent, or coercive styles of limit-setting have children that show poor emotion regulation skills and difficulty asserting their autonomy. The current study uses the similarities and difference in how both the attachment literature and the limit-setting/compliance literature currently conceptualize and measure the toddler behaviors to create compliance and defiance measures that attempt to more accurately conceptualize these constructs. The measure of compliance denotes whether or not the toddler complies willingly with the parent's limits or if this compliance is unwilling or submissive, whereas the measure of defiance takes the toddler's emotional state into account. A toddler who refuses the parent's request without any emotional negativity is showing a low level of defiance, whereas a child that shows emotional negativity when defying the parent is showing a high level of defiance. These measures account for both the behavior of the child and the emotional state of the child, thus taking into account how these constructs are viewed from the perspective of attachment theory and research based in compliance.

*Relation of mothers' and fathers' parenting to toddlers' behavior with the other parent*

Several studies have been conducted on parent's mutual influence on each other in the family system (e.g. co-parenting); however, no studies have examined the relationship of the child's attachment with one parent or that parent's style of limit-setting and the child's behavior with the other parent. This study intends to examine the unique contribution of each parent to the toddler's behavior when that parent is no longer present (e.g. the toddler's attachment to mother and maternal limit-setting style on the toddler's behavior with father and vice versa). Although research has not been conducted

in this area, attachment theory would probably suggest that because mothers are usually the primary caregivers for infants and toddlers, the infant-mother attachment and the mother's limit-setting behavior would have more of an overall effect on toddler behavior with both the mother and father, and the infant-father attachment and father's limit-setting behavior will not be as influential on the toddler's behavior with the mother. Research on parenting styles and toddler behavior, however, would probably suggest that the mother's limit-setting behavior, as well as infant mother-attachment, would equally influence the toddler when the toddler is with the mother and father; the reverse would be true for the father's influence on the toddler's behavior when they are with the mother. Examining this concept will help determine if the parent has a lasting influence on toddler behavior even when not physically present, and this will provide information regarding whether mothers and fathers are equally influential or if one parent has more influence than the other across different situations.

*Research examining the relation of both parents' parenting considered in combination.*

Family systems theory denotes that parents form a dyadic parenting system, and each parent acts differently individually with the child than when they are together and part of the system, and through this system each parent influences the other. Examining the parents as a dyadic parenting unit along with observing individual behavior will provide useful information as to how parents may influence each other or how the toddler's behavior may differ based on the type of dyadic parenting system they experience. For example, Main and Weston (1981) determined that there are different influences of infant behavior (specifically relatedness to a clown and conflict behavior)

based on the combination of infant-mother attachment and infant-father attachment. They found that infants who are insecure with mother and secure with father show a strong willingness to form a relationship with the clown than children who are insecure with both parents. Also, infants who are insecure with their mother, regardless of the classification with their father, show higher levels of conflict behavior. Belsky, Garduque, and Hrnair (1984) showed that infants who are securely attached to mother, regardless of the attachment to father, show higher functioning and competence within play than infants who are insecurely attached to mother. Both of these studies, however, involved infants and did not include disorganization as an attachment classification category.

As mentioned in a previous section, Jewell et al. (2008) examined different parenting styles in relation to preschooler's externalizing behaviors, and they found that the combination of authoritarian mothers and permissive fathers were most likely to have children with externalizing problems both at home and at school. Other patterns of interparental disagreement (e.g. authoritative mothers and permissive fathers) led to externalizing problems at home but not at school, suggesting that disagreeing on discipline practices in general negatively impacts children's behavior. Lindsey and Mize (2001) found that disagreement between parents on the topic of discipline led to poorer social competence in children as well. These studies, however, only examine the child's general behavior in the home or classroom; none of these studies focus on the child's behavior specifically with one parent while accounting for the attachment relationship and parenting practices of the other parent.

Research on co-parenting has demonstrated that in the triadic family system (when mother, father, and child interact together), when mothers and fathers both use gentle guidance with their toddlers, the toddler is more likely to show committed compliance, whereas when only one parent shows this type of gentle guidance, the child is less likely to show committed compliance (Volling, Blandon & Gorvine, 2006). Using the same participants, Volling, Blandon and Kolak (2006) found that when children have a secure attachment with both parents, they are more likely to show committed compliance as toddlers. Toddlers that are insecure with fathers but secure with mothers were less likely to show committed compliance with the mother; however, security of attachment with the mother had no impact on compliance with the father. Little is known about how attachment with each parent may influence either toddler defiance with the other parent or emotion regulation in general. This study will examine the unique contribution of each type of dyadic parenting unit for both infant-parent attachment and parental limit-setting styles on the toddler's behavior to determine if there are any differences in parenting dyads and potential buffering effects on toddler's compliance/defiance and emotion regulation.

## Current Study: Research Questions and Hypotheses

At this point, no study has examined both mother-infant and father-infant attachment and parental limit-setting in relation to toddler behavior. This paper has laid out several arguments for using longitudinal measurements across the infant and toddler developmental period to study both mothers' and fathers' attachment and limit-setting styles as predictors of toddler behavior, as well as examining the parents in combination as predictors of toddler behavior, and the cross-over or buffering influences of mothers attachment and parenting styles on toddler's compliance/defiance with fathers and vice versa. Specifically, we will examine the following research questions and hypotheses:

*Research Question 1:* What are the separate contributions of infant-mother attachment and maternal limit-setting to predicting toddler compliance/defiance with the mother; and what are the separate contributions of infant-father attachment and paternal limit-setting to predicting toddler compliance/defiance with the father?

- *Hypothesis 1.1:* Secure attachment to mothers will predict higher levels of toddler compliance and lower levels of defiance with mothers than insecure attachments.
- *Hypothesis 1.2:* Secure attachment to fathers will predict higher levels of toddler compliance and lower levels of defiance with fathers than insecure attachments.
- *Hypothesis 1.3:* Mother's developmentally appropriate parenting will predict higher levels of toddler compliance with mothers than either harsh/controlling parenting or permissive parenting.

- *Hypothesis 1.4:* Father's developmentally appropriate parenting will predict higher levels of toddler compliance with fathers than either harsh/controlling parenting or permissive parenting.
- *Hypothesis 1.5:* Mother's developmentally appropriate parenting will predict lower levels of emotionally negative defiance with mothers than either harsh/controlling parenting or permissive parenting.
- *Hypothesis 1.6:* Father's developmentally appropriate parenting will predict lower levels of emotionally negative defiance with fathers than either harsh/controlling parenting or permissive parenting.

*Research Question 2:* What are the separate contributions of infant-mother attachment and maternal limit-setting to predicting toddler compliance/defiance with the *father*; and what are the separate contributions of infant-father attachment and paternal limit-setting to predicting toddler compliance/defiance with the *mother*? There are no specific hypotheses proposed for Research Question 2 due to the lack of literature about this topic and the exploratory nature of these questions.

*Research Question 3:* What are the contributions of infant-mother and infant father attachment, and maternal and paternal limit-setting on the toddler's emotion regulation when neither parent is present?

- *Hypothesis 3.1:* Secure attachment in both mothers and fathers will predict higher levels of age-appropriate emotion regulation than insecure attachments.
- *Hypothesis 3.2:* Developmentally appropriate parenting will predict higher levels of emotion regulation than either harsh/controlling parenting or permissive

parenting for both mothers and fathers.

*Research Question 4:* Based on the findings in the previous questions, what are the unique contributions of attachment and limit-setting of both mother and father simultaneously on toddler compliance/defiance with mother, compliance defiance with father, and emotion regulation with neither parent present?

- *Hypothesis 4.1:* After entering all of the predictors simultaneously, secure attachment with the mother and developmentally appropriate limit-setting by the mother will primarily contribute unique variance to predicting toddler compliance with the mother.
- *Hypothesis 4.2:* After entering all of the predictors simultaneously, secure attachment with the father and developmentally appropriate limit-setting by the father will primarily contribute unique variance to predicting toddler compliance with the father.
- *Hypothesis 4.3:* Permissive parenting with the mother and harsh/controlling parenting with the mother will primarily contribute unique variance to predicting toddler defiance with the mother.
- *Hypothesis 4.4:* Permissive parenting with the father and harsh/controlling parenting with the father will primarily contribute unique variance to predicting toddler defiance with the father.
- *Hypothesis 4.5:* Secure attachment and developmentally appropriate limit-setting with each parent will all contribute unique variance to predicting toddler emotion

regulation even after controlling for the other predictors.

*Research Question 5:* What impact do different combinations of parental attachment have on toddler compliance/defiance with mother, compliance defiance with father, and emotion regulation with neither parent present? This analysis includes four possible combinations:

1. secure with both parents
  2. secure with mother and insecure with father
  3. insecure with mother and secure with father
  4. insecure with both parents
- *Hypothesis 5.1:* Toddler compliance with mother is expected to be highest for toddlers who were secure with both parents, followed by those who were secure with mother but not father. Toddlers who were insecure with both parents are expected to show the lowest level of compliance. The opposite order is expected for toddler defiance with mother.
  - *Hypothesis 5.2:* Toddler compliance with father is expected to be highest for toddlers who were secure with both parents, followed by those who were secure with father but not mother. Toddlers who were insecure with both parents are expected to show the lowest level of compliance. The opposite order is expected for toddler defiance with father.
  - *Hypothesis 5.3:* Toddler emotion regulation is expected to be highest for toddlers who were secure with both parents, followed by those who were secure with mother but not father. Toddlers who were insecure with both parents are expected

to show the lowest level of emotion regulation.

*Research Question 6:* What impact do different combinations of parental limit setting have on toddler compliance/defiance with mother, compliance defiance with father, and emotion regulation with neither parent present? This analysis could include nine possible combinations:

1. both parents are developmentally appropriate,
  2. both parents are harsh/controlling,
  3. both parents are permissive,
  4. mother is developmentally appropriate and father is harsh/controlling
  5. mother is developmentally appropriate and father is permissive
  6. mother is harsh/controlling and father is developmentally appropriate
  7. mother is harsh/controlling and father is permissive
  8. mother is permissive and father is developmentally appropriate
  9. mother is permissive and father is harsh/controlling
- *Hypothesis 6.1:* Toddlers with parents who both set limits in a developmentally appropriate manner will show the highest levels of compliance and lowest levels of defiance with both parents, as well as the highest level of emotion regulation.
  - *Hypothesis 6.2:* Toddlers with parents who both set limits in a permissive manner will show the high levels of defiance with both parents.
  - *Hypothesis 6.3:* Toddlers with parents who both set limits in a harsh/controlling manner will show the lowest levels of compliance with both parents
  - *Hypothesis 6.4:* Toddlers with parents that have different styles of limit-setting

will show lower levels of compliance and higher levels of defiance with both parents, as well as lower levels of emotion regulation, compared with children whose parents both show developmentally appropriate limit setting.

## Methods

### *Sample*

Participants are part of a longitudinal study assessing the relationship of the parents' views of their childhood experiences to their current patterns of family interaction and their child's developmental outcomes. The original sample included 126 participating families from the Austin metro area recruited in third trimester of their first pregnancy. The sample was predominately Caucasian (85%) but also included Hispanics (8%), African Americans (3%), and 4% who identified themselves as 'other.' The mean age of participants at the start of the study was 30.5 years, and the median family income for the sample was \$30,000-45,000 per year. The majority of participants reported their education as beyond the high school level, with 60% having earned a bachelor's or graduate degree and 30% reporting some college or trade school courses. Only couples that were living together and expecting their first child were included in the study, and 94% of these couples were married.

### *Procedure*

The participants completed four phases of data collection: 1) prenatal (during the last trimester of pregnancy), 2) infancy (when the child was 8, 12, and 15 months old), 3) toddlerhood (when the child was 24 months old), and 4) childhood (when the child was 7 years old); this study will use data from phases two and three. When the infant was 12 and 15 months old, they were brought into the laboratory for the Strange Situation procedure. At 24 months, the parents and children were brought into the lab again for videotaped interactions that included a 20 minute play session, followed by a 5 minute or

less clean-up period, and completion of two teaching tasks. The toddler completed this sequence of events with each parent, and either the mother or father was randomly selected to go first. The toddler also completed two teaching tasks with only an experimenter in the room to help. Due to attrition, this study includes 100 subjects with complete data at both the second and third phase of data collection.

### *Measures*

*Strange Situation.* The infant-parent attachment relationship was assessed using the Strange Situation procedure in the second phase of data collection (Ainsworth et al., 1978). The infants were brought into the lab twice to participate in this procedure with either their mother or father, and then three months later to be assessed with the other parent. The order of the parents was randomly chosen, and the three month time lapse was presumed to be enough for the infant to forget the procedure. Each of these situations was videotaped, and the infant's security of attachment was assessed based on their response to the parent during two reunion episodes.

The Strange Situation procedure involves eight increasingly stressful episodes in a laboratory setting, with each episode lasting approximately 3 minutes (the episodes may be cut short if the child is too distressed). The first episode involves the parent and infant being introduced to the room by a researcher, and the second episode involves the infant and parent alone in the room. In the third episode, a stranger enters, and after three minutes the parent leaves (episode four). The parent then returns and the stranger leaves (episode 5), and the parent then settles the infant back into playing with toys. In episode 6, the parent leaves the infant alone, and in episode 7, the stranger enters alone. In

episode 8, the parent returns and the stranger leaves again for the second parent-infant reunion.

Children are rated on four 7-point scales based on their pattern of behavior throughout the procedure and especially in the two reunion episodes. The four scales are proximity seeking, contact maintenance, avoidance, and resistance, and the patterns of scores on these scales are used to classify the infant as either secure (B), anxious-avoidant (A), or resistant (C) with both their mother and father. Disorganization (D) involves a lack of an organized attachment strategy, and is coded separately from the organized classifications. Coding is based on an infant's contradictory behaviors, interrupted or misdirected movements, fear of the caregiver, freezing or stilling, or confusion and disorientation. Even if a child's primary classification is disorganization, they are also given a sub-classification rating of A, B, or C. The reliability (Cohen's kappa) between the coders for the mothers was .88 and for the fathers was .60. When there was disagreement among coders, a third reliable coder rated the tape as well.

*Parental Limit-setting.* When the children were 24 months old, the parents and toddlers were videotaped in a laboratory setting while interacting with each parent separately during 20 minute play, 5 minutes of clean-up, and up to 10 minutes of completing two teaching tasks. These interactions were coded on three 7-point parental limit-setting scales that were created for this study. These scales focus on the parent's behavior towards the child specifically in limit-setting situations, and they include harsh/controlling responses, permissive responses, and developmentally appropriate responses (see Appendix A). For this study, limit-setting situations are defined as any

time the parent restricts a child's exploration, and these are identified and coded based on the following processes:

1. Determine whether or not a limit needed to be set (is the situation potentially harmful to the parent or child?).
2. Determine whether or not the parent set a limit.
3. Assess the way (e.g., firm, matter-of-fact, harsh, manipulative; verbally or physically) in which the limit was set.
4. Determine the effectiveness of the limit based on the child's behavioral reaction.

Each limit-setting situation was individually identified and assessed on the necessity of the limit, the way the limit was set, and the child's reaction to the limit. For example, a child tries to eat plastic food, and the father says, "No, it's not for real, don't eat it." The child then takes the food out of her mouth. This situation would be labeled as necessary for hygienic reasons, the way the limit was set would be considered verbal and matter-of-fact, and the child willingly complied with the parent's statement. Each parent is rated separately by two trained coders, and disagreements were conference coded. The author of this study was the primary coder for all of the interactions, and undergraduate research assistants were trained to code for reliability purposes. Each interaction was coded first for parental limit-setting and then the same coders revisited the tape several weeks later to rate the toddler behavior. Because the coders rated several parents between the time they coded each parent and child, they were unlikely to remember how they rated the parent on limit-setting, thus minimizing the influence of the raters' perception of the parents when rating toddler behavior. For this study, all of the mothers were coded first

in a random order and the fathers were coded later in a random order; the same individuals coded both mothers and fathers.

For the purpose of this study, limit-setting situations are defined as any situation where the parent restricts or inhibits the child's play or agenda, and only limit-setting situations are examined. Coding of the parents' limit setting on each scale is based on both the frequency with which they use specific responses and the extent to which particular instances are strong or extreme examples. For example, a parent can be rated high on the harsh/controlling scale for several incidents of yelling at the child or one incident of hitting a child, despite how the rest of the interaction looked.

*Harsh/controlling behavior.* Parents who are rated high on harsh or controlling behavior use either gratuitous physical discipline (e.g. spanking, yanking child by the arm) or excessive negative voice tones (e.g. yelling at the child repeatedly). Parents in the middle of this scale may not be as outwardly negative; however, they exhibit a need to arbitrarily control the child's play situation or show curtness in limit-setting situations. Parents on the low end of this scale do not show harsh and controlling behaviors toward their child; however, they may show other negative aspects of limit-setting such as permissiveness. Intraclass correlations were used to calculate reliability, and for this scale  $r = .64$  for the mothers and  $r = .76$  for the fathers.

*Permissive Behavior.* Parents who are rated high on this scale do not set limits when limits are needed (e.g. the child is hitting a mirror with a toy hammer) or they respond as if the child's behavior is appropriate and/or cute (e.g. the child hits the parent and the parent laughs and pats the child's head). Overall, these parents rarely set limits

and when they do, they are ineffective. Parents with the mid-range scores on this scale tend to set limits inconsistently, leading them to be somewhat ineffective but with more compliance from the child than parents on the high end of the scale. These parents may also engage in power struggles with their child over limit-setting situations; if so, they are rated higher if they continually give in to the child's demands during these struggles. Parents on the low end of the scale show a lack of permissive behavior. The intraclass correlations for this scale was  $r = .57$  for the mothers and  $r = .71$  for the fathers.

*Developmentally Appropriate Responses.* Parents on the high end of this scale seem attuned with their child; they set limits at the child's developmental level using positive guidance techniques such as redirection, giving appropriate choices, or providing natural consequences. These parents may set some limits that the child does not respond to at first, but they try new strategies and adjust their methods to find something that works. Parents in the middle of this scale use these techniques some, but they are less likely to adjust what they are doing to meet the needs of the situation, and they are more likely to sometimes use negative language. Parents at the low end of this scale use mostly negative language with their child, and they either routinely expect too much or too little from their child. The intraclass correlations for this scale was  $r = .40$  for the mothers and  $r = .68$  for the fathers.

*Child Behavior at 24 months.* Children's behavior in the 24 months laboratory interactions will be measured using two 7-point scales created for this study: compliance and defiance (see Appendix B). Compliance and defiance will be coded as the child's response to limits set by the parent (as opposed to being coded in the overall interaction).

Four trained coders will rate the children with their mother and father separately (two coders for each parent); thus, each child will receive a separate score of behavior with mother and behavior with father. Disagreements among coders will be conference coded, and similarly to the parental scales, frequency is considered in combination with how extreme or salient particular child behaviors are. For example, a child might show no defiance throughout the play session but then show an angrily defiant temper tantrum at clean-up that heavily influences the defiance score.

*Compliance.* For a child to score high on the compliance scale, the child has to repeatedly and willingly comply with the parent's requests. This enthusiastic compliance has to be pervasive throughout the interaction to be scored high. Mid-range scores on this scale are indicative of a child who is compliant without the enthusiasm. They may do as the parent asks, but they seem to comply less out of willingness and more out of a need to please the parent. Children on the low end of this scale either show submissive compliance (e.g. the parent threatens to spank the child and the child complies out of fear of the parent) or unwilling compliance (e.g. the parent picks the child up and leaves the room - the parent forces the child to comply). The intraclass correlations for this scale was  $r = .44$  for the mothers and  $r = .55$  for the fathers.

*Defiance.* Children who are rated high on this scale tend to defy their parents with much negative emotion (e.g. temper tantrums). They show extreme negative behavior in limit-setting situations, usually using physical aggression, or they directly defy the parent's requests. Children rated in the middle of this scale tend to have some negative emotion in their defiance but not always, or they use indirect defiance (e.g.

ignoring the parent). Children at the low end of this scale either show no defiance or show simple, assertive refusal, which involves the child telling the parent ‘no’ without negative emotion. The intraclass correlations for this scale was  $r = .67$  for the mothers and  $r = .72$  for the fathers.

*Emotion Regulation.* Toddler’s emotion regulation was measured in the teaching task done with the experimenter to assess the child’s ability to regulate their affect outside of their interactions with their parents. The experimenter was instructed to aid the child as little as possible, but this aid would increase if the child got distressed. The emotion regulation scales used in this study was previously developed and coded by Erin Boyd-Soisson (2002). The children were initially rated by trained coders on one seven-point scales on whether or not they showed age-appropriate emotion regulation. Children who were rated a 4-7 on this scale were considered to show appropriate emotion regulation, and children rated a 1-3 on this scale were then further examined for overregulation (e.g. the child suppresses their frustrations after failing to complete the task or showing no joy or pride upon successful completion) or underregulation (e.g. the child’s emotions are uncontrolled; they become so upset that they cannot calm down or ask for help. This process yielded three scales for emotion regulation, and all three of these scales will be used in this paper. Interrater reliability between the two main coders was .89 for appropriate emotion regulation, .85 for overregulation, and .96 for underregulation.

## Results

### *Description of Sample*

The means and standard deviations for the limit-setting and toddler behavior variables are reported in Table 1, and the correlations between these variables are reported in Table 2. Because of the longitudinal nature of this study, data is missing at various phases of this assessment. Missing data for the categorical variables is handled through listwise deletion of cases. Missing data for the continuous variables is accounted for by estimating the means and intercepts with maximum likelihood (ML) estimation (Allison, 2003). This allows for a larger sample when conducting regression analyses to determine the relationships between attachment, limit-setting and toddler behavior.

*Tests of mean differences.* Paired samples t-tests were conducted to determine if there were any differences between toddler compliance with mother and father and toddler defiance with mother and father. Results indicate that there is no significant difference between toddler compliance with mother versus father,  $t(99) = 1.253$ ,  $p = .213$ ), and between toddler defiance versus mother and father,  $t(99) = 1.639$ ,  $p = .104$ . Independent samples t-test also indicate that there are no differences between boys and girls on any of the other control variables, parental limit-setting variables, or toddler behavior variables (see Table 3).

*Infant-parent attachment classification.* When the sample is broken into the four-way classification of infant attachment with mother, the percentages of the different patterns are as follows: 42.3% secure ( $N = 47$ ), 9.9% avoidant ( $N = 11$ ), 14.4% resistant ( $N = 16$ ), and 33.3% disorganized ( $N = 37$ ). Because of the low sample size in the

insecure-organized categories, the sample was dichotomized into secure vs. insecure with disorganized children put into the best-fitting classification. This was done to create groups that are fairly equal in size and reflect infants who respond either positively or negatively to their parents during the reunion episodes of the Strange Situation, whether or not they display disorganized behaviors throughout other parts of the interaction. When collapsed into secure vs. insecure with infants who are disorganized put into the best-fitting classification, 57.7% of infants are secure with mother (N = 56) and 42.3% of infants are insecure with mother (N = 47).

With the fathers, the four-way classification breaks down as follows: 56.2% secure (N = 59), 11.4% avoidant (N = 12), 14.3% resistant (N = 15), and 18.1% disorganized (N = 19). When collapsed into secure vs. insecure with infants who are disorganized put into the best-fitting classification, 53.8% of infants are secure with father (N = 56) and 46.2% of infants are insecure with father (N = 48).

There were 91 valid cases of both infant-mother and infant-father attachment classification, and when infants attachment to both mothers' and fathers' are combined, the percentages of parenting pairs are: 34.1% of infants are secure with both parents (N = 31), 20.9% are secure with mother but insecure with father (N = 19), 23.1% are insecure with mother but secure with father (N = 21), and 21.9% are insecure with both parents (N = 20).

### *Research Question 1*

*What are the separate contributions of infant-mother attachment and maternal limit-setting to predicting toddler compliance/defiance with the mother; and what are the*

*separate contributions of infant-father attachment and paternal limit-setting to predicting toddler compliance/defiance with the father?* The following hypotheses were tested using four OLS regression analyses, with the infant-mother attachment and mothers' limit-setting styles (developmentally appropriate, permissive and controlling) as predictors of toddler compliance and defiance with the mother; and infant-father attachment and fathers' limit-setting styles as predictors of toddler compliance and defiance with the father. The control variables are entered into the regression first, followed by the predictors, to predict toddlers' compliance with mother, defiance with mother, compliance with father, and defiance with father. The standardized and unstandardized coefficients for the OLS regression analyses are reported in Table 4.

*Hypothesis 1.1: Secure attachment to mother will predict higher levels of toddler compliance and lower levels of defiance with mothers than insecure attachments. Secure attachment to mother marginally predicts higher levels of toddler compliance with mother; however, it does not predict toddler defiance with mother.*

*Hypothesis 1.2: Secure attachment to father will predict higher levels of toddler compliance and lower levels of defiance with fathers than insecure attachments. Secure attachment to fathers does not relate to either toddler compliance or toddler defiance with the father.*

*Hypothesis 1.3: Mothers' developmentally appropriate parenting will predict higher levels of toddler compliance with mother than either harsh/controlling parenting or permissive parenting. Toddler compliance with mother is significantly positively predicted by mothers' developmentally appropriate limit-setting and marginally*

negatively predicted by mothers' harsh/controlling limit-setting. Mothers' permissive limit-setting is not related to toddler compliance.

*Hypothesis 1.4: Fathers' developmentally appropriate parenting will predict higher levels of toddler compliance with fathers than either harsh/controlling parenting or permissive parenting.* Toddler compliance with fathers' is significantly negatively predicted by fathers' harsh/controlling limit-setting and permissive limit-setting, and it is marginally positively predicted by fathers' developmentally appropriate limit-setting.

*Hypothesis 1.5: Mothers' developmentally appropriate parenting will predict lower levels of emotionally negative defiance with mothers than either harsh/controlling parenting or permissive parenting.* Toddler defiance with mother is significantly positively predicted by mothers' permissive limit-setting and significantly negatively predicted by mothers' developmentally appropriate limit-setting; mothers' harsh/controlling limit-setting is not related to toddler defiance with mother.

*Hypothesis 1.6: Fathers' developmentally appropriate parenting will predict lower levels of emotionally negative defiance with fathers than either harsh/controlling parenting or permissive parenting.* Toddler defiance with father is significantly positively predicted by fathers' permissive limit-setting; it is not related to fathers' developmentally appropriate limit-setting or harsh/controlling limit-setting.

#### *Research Question 2*

*What are the separate contributions of infant-mother attachment and maternal limit-setting to predicting toddler compliance/defiance with the father; and what are the separate contributions of infant-father attachment and paternal limit-setting to predicting*

*toddler compliance/defiance with the mother?* These analyses were conducted using four OLS regression analyses, with the infant-mother attachment and mothers' parenting styles as predictors of toddler compliance and defiance with the father; and infant-father attachment and fathers' parenting styles as predictors of toddler compliance and defiance with the mother. The control variables are entered into the regression first, followed by the predictors and then the dependent variables. The standardized and unstandardized coefficients for the OLS regression analyses are reported in Table 5. The infant attachment classification with mother and the mothers' limit-setting styles are not related to the toddler compliance or defiance with the father, and the infant attachment classification with father and the fathers' limit-setting styles are not related to the toddler compliance or defiance with the mother.

### *Research Question 3*

*What are the contributions of infant-mother and infant father attachment, and maternal and paternal limit-setting on the toddler's emotion regulation when neither parent is present?* The following hypotheses were tested using two OLS regression analyses, with infant-mother attachment and mothers' parenting styles as predictors of toddler emotion regulation in the first regression, and infant-father attachment and fathers' parenting styles as predictors of toddler emotion regulation in the second regression. The control variables are entered into each regression first, followed by the predictors. The standardized and unstandardized coefficients for the OLS regression analyses are reported in Table 6.

*Hypothesis 3.1: Secure attachment in both mothers and fathers will predict*

*higher levels of age-appropriate emotion regulation than insecure attachments.* Secure mother-infant attachment is significantly related to higher scores on emotional overregulation; however, it does not predict appropriate emotion regulation or emotional underregulation. Father-infant attachment does not relate to emotion regulation in any aspect.

*Hypothesis 3.2: Developmentally appropriate parenting will predict higher levels of emotion regulation than either harsh/controlling parenting or permissive parenting for both mothers and fathers.* Both mother and father limit-setting styles are not related to appropriate emotion regulation, overregulation, or underregulation.

#### *Research Question 4*

*Based on the findings in the previous questions, what are the unique contributions of attachment and limit-setting of both mother and father simultaneously on toddler compliance/defiance with mother, compliance defiance with father, and emotion regulation with neither parent present?* Due to the non-significant findings in the previous three research questions, the only testable hypothesis for Research Question 4 that does not replicate earlier findings is Hypothesis 4.1. This hypothesis was tested using a multiple regression analysis, with infant-parent attachment and developmentally appropriate limit-setting as predictors and toddler compliance with mother as the dependent variable. Again, the control variables were entered into each regression first, followed by the predictors.

*Hypothesis 4.1: After entering all of the predictors simultaneously, secure attachment with the mother and developmentally appropriate limit-setting by the mother*

*will each contribute unique variance to predicting toddler compliance with the mother.*

When entered simultaneously into a regression analysis, secure attachment and developmentally appropriate limit-setting still marginally contribute unique variance to predicting toddler compliance ( $B = .505$ ,  $SE = .271$ ,  $\beta = .200^\dagger$ ;  $B = .225$ ,  $SE = .132$ ,  $\beta = .260^\dagger$ , respectively). However, these two constructs are not related to each other ( $r = -.022$ ,  $p = .830$ ), thus a test for mediation cannot be performed.

#### *Research Question 5*

*What impact do different combinations of parental attachment have on toddler compliance/defiance with mother, compliance defiance with father, and emotion regulation with neither parent present?* This analysis includes four possible combinations:

1. secure with both parents
2. insecure with both parents
3. secure with mother and insecure with father
4. insecure with mother and secure with father

Descriptive analyses were conducted on each of the groups to determine the size of the group and the relationships of the variables, and the following hypotheses were tested using one-way ANOVAs. Table 7 reports the means and standard deviations for each group on each toddler outcome variable, the comparison of means, and post hoc tests to determine the relationship of these means.

*Hypothesis 5.1: Toddler compliance with mother is expected to be highest for toddlers who were secure with both parents, followed by those who were secure with*

*mother but not father. Toddlers who were insecure with both parents are expected to show the lowest level of compliance. The opposite order is expected for toddler defiance with mother. There is no significant difference between the four groups on either toddler compliance with mother or toddler defiance with mother.*

*Hypothesis 5.2: Toddler compliance with father is expected to be highest for toddlers who were secure with both parents, followed by those who were secure with father but not mother. Toddlers who were insecure with both parents are expected to show the lowest level of compliance. The opposite order is expected for toddler defiance with father. There is no significant difference between the four groups on either toddler compliance with father or toddler defiance with father.*

*Hypothesis 5.3: Toddler emotion regulation is expected to be highest for toddlers who were secure with both parents, followed by those who were secure with mother but not father. Toddlers who were insecure with both parents are expected to show the lowest level of emotion regulation. Toddlers who have secure attachments to both parents have marginally lower levels of emotion regulation than children who have a secure attachment with mother and an insecure attachment with father. Also, toddlers who have secure attachments to both parents have marginally higher levels of overregulation than toddlers who have a secure attachment with mother and an insecure attachment with father.*

#### *Research Question 6*

*What impact do different combinations of parental limit setting have on toddler compliance/defiance with mother, compliance defiance with father, and emotion*

*regulation with neither parent present?* This analysis could include nine possible combinations:

1. both parents are developmentally appropriate,
2. both parents are harsh/controlling,
3. both parents are permissive,
4. mother is developmentally appropriate and father is harsh/controlling
5. mother is developmentally appropriate and father is permissive
6. mother is harsh/controlling and father is developmentally appropriate
7. mother is harsh/controlling and father is permissive
8. mother is permissive and father is developmentally appropriate
9. mother is permissive and father is harsh/controlling

A series of analyses were used to determine the groups for this research question. First, a hierarchical cluster analysis was conducted on all of the mother and father limit-setting variables to determine if there were any clusters of cases within the data. Ward's method was used in this process, and all of the limit-setting variables were converted to z-scores (Henry, Tolan, & Gorman-Smith, 2005).

Second, a discriminant function analysis (DFA) was used to determine the relationship of the predicted cluster to the actual cluster up to the four-cluster grouping (after four clusters, some of the clusters were too small to further analyze and the nature of the groups could not be as easily distinguished). The distinction that defined the two-way cluster was either having both parents as developmentally appropriate (N = 79) or both parents as harsh/controlling and permissive (N = 21), and the DFA for the two-way

cluster showed that the predicted groups overlapped with the actual groups 97% of the time. The three-way clusters were defined in the following way: both parents developmentally appropriate (N = 33), mother is developmentally appropriate and father is permissive (N = 46), or both parents are harsh/controlling and permissive (N = 21); and the DFA showed that the predicted groups overlapped with the actual groups 98% of the time. In the four-way cluster, the groups were defined as follows: both parents are developmentally appropriate (N = 33); mother is developmentally appropriate and father is permissive (N = 34); mother is permissive and father is developmentally appropriate (N = 12); and both parents are harsh/controlling and permissive (N = 21). The DFA for the four-way cluster showed that the predicted groups were classified correctly 99% of the time. When the 5-way cluster was examined using the DFA, the actual and predicted groups overlapped 96% of the time, which is a decline from the four-way cluster. The five-way cluster had one group that was too small to be analyzed using ANOVAs (N = 7), and it did not theoretically make much sense when examined with the other four groups.

Finally, the two-, three-, and four-way clusters were then used in one-way ANOVAs to test group mean differences on the toddler behavior variables. The two-way cluster showed significant differences on all of the variables (see Table 8). The three-way cluster showed significant differences on all of the variables except overregulation (which was marginal) and underregulation (see Table 9). Because the four-way cluster groups the subjects in large enough clusters to analyze all of the data, yet it does break down into groups small enough to pull out distinct differences in parenting, it presented

itself as the most methodologically and theoretically sound cluster to use in describing the following hypotheses (see Table 10).

*Hypothesis 6.1: Toddlers with parents who both set limits in a developmentally appropriate manner will show the highest levels of compliance and lowest levels of defiance with both parents, as well as the highest level of emotion regulation.* Toddlers who have parents that are both developmentally appropriate have significantly higher levels of compliance with mother than toddlers who have parents that are both harsh/controlling and permissive. They also have significantly higher levels of compliance with father than children whose parents are both harsh/controlling and permissive and toddlers whose mother is developmentally appropriate and father is permissive. Toddlers who have parents that are both developmentally appropriate have significantly lower levels of defiance with mother than toddlers whose parents are both harsh/controlling and permissive and toddlers who have a mother who is permissive and a father who is developmentally appropriate. They also have significantly lower levels of defiance with father than all of the other groups. These toddlers have significantly higher levels of appropriate emotion regulation and marginally lower levels of overregulation than toddlers whose parents are both harsh/controlling and permissive.

*Hypothesis 6.2: Toddlers with parents who both set limits in a permissive manner will show the high levels of defiance with both parents.* Because this did not turn up as a distinctive group, the permissive parents will be discussed by the groups into which they were clustered.

Toddlers who have a permissive father and a developmentally appropriate mother

have significantly higher levels of compliance with mother than toddlers who have parents who are harsh/controlling and permissive and marginally higher levels of compliance than toddlers who have a permissive mother and developmentally appropriate father. They also have significantly higher levels of compliance with father than toddlers who have parents that are harsh/controlling and permissive, but significantly lower levels of compliance with father than toddlers with developmentally appropriate parents. Toddlers who have a permissive father and a developmentally appropriate mother have marginally lower levels of defiance with mother than toddlers with a permissive mother and a developmentally appropriate father, and they have significantly lower levels of defiance with father than toddlers who have parents that are both harsh/controlling and permissive. They also have significantly higher levels of emotion regulation than toddlers whose parents are both harsh/controlling and permissive.

Toddlers with a permissive mother and developmentally appropriate father are marginally lower on compliance with mother than toddlers who have a developmentally appropriate mother and permissive father. They are significantly higher on compliance with father, though, than toddlers with two harsh/controlling parents. These toddlers show significantly higher levels of defiance with mother than toddlers with two developmentally appropriate parents and marginally higher levels of defiance than toddlers with a developmentally appropriate mother and permissive father; they also show significantly higher levels of defiance with father than toddlers with two developmentally appropriate parents.

Because the last group of parents who are high on permissive are simultaneously

high on harsh/controlling parenting, they will be discussed in the context of the next hypothesis.

*Hypothesis 6.3: Toddlers with parents who both set limits in a harsh/controlling manner will show the lowest levels of compliance with both parents.* Toddlers with both parents harsh/controlling and permissive show significantly lower levels of compliance with mother than toddlers who either have two developmentally appropriate parents or toddlers who have a developmentally appropriate mother and permissive father; they are also significantly lower on compliance with father than all of the other groups. Toddlers with both parents harsh/controlling and permissive have significantly higher levels of defiance with mother than toddlers who have two developmentally appropriate parents; they also have significantly higher levels of defiance with father than toddlers with two developmentally appropriate parents or toddlers with a developmentally appropriate mother and permissive father. These toddlers also have significantly lower levels of appropriate emotion regulation than toddlers with two developmentally appropriate parents or a developmentally appropriate mother and a permissive father; they are marginally higher on overregulation than toddlers with two developmentally appropriate parents as well.

*Hypothesis 6.4: Children with parents that have different styles of limit-setting will show lower levels of compliance and higher levels of defiance with both parents, as well as lower levels of emotion regulation, compared with children whose parents both show developmentally appropriate limit setting.* Toddlers with parents that have different styles of limit-setting showed no difference on compliance with mother than toddlers

with two developmentally appropriate parents; toddlers with a permissive father but developmentally appropriate mother significantly lower levels of compliance with father than toddlers with developmentally appropriate parents, though. Toddlers with a permissive mother and developmentally appropriate father showed significantly higher levels of defiance with mother than toddlers with developmentally appropriate parents, and both of the groups with different styles of parental limit-setting showed significantly higher levels of defiance with father than toddlers with two developmentally appropriate parents. There were no differences on any of the emotion regulation scales.

## Discussion

The current study examined the relationship between attachment, limit-setting, and different aspects of toddler behavior while accounting independently for mothers and fathers as well as examining the effect of the parental dyad. The overarching findings in this study indicate that parental limit-setting styles tend to relate more to toddler compliance, emotionally negative defiance, and emotion regulation than the infant-parent attachment, each style of parental limit-setting relates to toddler behavior in different ways, mothers and fathers limit-setting styles relate to toddler behavior with the same parent but not the other parent, and the different dyadic parenting units strongly predict to differing toddler outcomes.

*Attachment and toddler behavior.* In this study, different aspects of limit-setting were related to toddler compliance, emotionally negative defiance, and emotion regulation; however, the only findings related to attachment was that toddlers with a secure attachment are significantly more likely to overregulate their emotions than toddlers with an insecure attachment, and toddlers with a secure attachment were marginally more likely to be compliant with their mothers than toddlers with an insecure attachment. This latter finding replicates an earlier study conducted by Matas, Arend, & Sroufe (1978), which found that children with a secure attachment are more likely to show compliance with their mothers when completing a difficult task. Overall, though, parental limit-setting seems to be more predictive of toddler behavior, especially toddler compliance and defiance, than attachment.

In regards to the first finding, other studies have shown that young children with

secure attachments have higher levels of emotion regulation than children with insecure attachments (Weinfield et al., 1999). However, their scales may not have accounted for the difference between overregulation and underregulation. Children who overregulate their emotions may have been thought as having high emotion regulation when compared to children who underregulate. The only difference between children who overregulate their emotions and who have appropriate emotion regulation may be the difference in their frustration levels with the given difficult task; children who overregulate may not be as frustrated, which could actually be a sign of higher functioning levels of emotion regulation than children who have even appropriate regulation for 24 months. When the parents' attachment dyad is considered, children with two secure parents are also more likely to overregulate their emotions and less likely to show appropriate emotion regulation than children with a secure mother and insecure father. Again, this could suggest a more advanced level of emotion regulation than is typical for most toddlers, and should be examined in more detail in future studies.

There could be several reasons for the lack of findings between attachment and toddler compliance and defiance. One reason could be the way attachment was dichotomized into secure vs. insecure with disorganized children in the best-fitting classification. The findings may have differed if attachment was dichotomized along the lines of organized vs. disorganized, or even secure vs. insecure with the disorganized infants all placed in the insecure category. With a larger sample, future studies could explore all four attachment classifications separately for their relationship to toddler behavior. Another methodological reason could be due to the timing of the measures.

Because attachment was measured nine to twelve months before toddler compliance and defiance, and limit-setting was measured in the same interaction, the lapse in time could influence the results as well.

A theoretical reason for the lack of findings could be due to the idea that attachment security is related to the infant's reaction under moderate to high distress, yet compliance and defiance were measured when the toddlers were playing with their parents and performing somewhat difficult tasks. This situation may have not induced the amount of stress needed to activate the attachment system, thus the behaviors are not related. The frustrating task with the parent absent that was used to measure emotion regulation, however, may have induced more stress, and thus attachment is related to this construct. Another reason could be that attachment is simply unrelated to toddler compliance and emotionally negative defiance as measured in this study; this could be due to the idea that parents' responses to toddler compliance and defiance may be influenced by what is considered culturally appropriate parenting, however, attachment is a universal system rooted in the idea that the infant needs to be attached to the parent for survival. Attachment may be related to other toddler behaviors that were not measured in this study (e.g. toddler autonomy, toddlers' reaction to high levels of stress, toddlers' sociability), but not specifically toddler compliance and defiance because they could be based in the idea of what behaviors are culturally appropriate for toddlers. Future studies could explore different behaviors in toddlerhood, as well as some behaviors in preschool and middle childhood, such as aggression or social anxiety, which could be linked to both attachment and parental limit-setting.

*Different styles of mothers' and fathers' limit-setting and toddler behavior.* These data show that mothers and fathers limit-setting styles impact toddler compliance and emotionally negative defiance in distinct ways. When either mother or father is more harsh or controlling, their toddlers are less likely to show compliance with that parent but not more likely to be defiant; however, when either mother or father is permissive, their toddlers are more likely to show emotionally negative defiance. This is similar to findings in previous studies which indicate that children with controlling parents are more likely to show some form of noncompliance, whereas children of permissive parents are more likely to have externalizing problems in preschool (Calkins & Johnson, 1998; Jewell et al., 2008; Mauro & Harris, 2000). Externalizing problems in preschool or middle childhood may stem from emotionally negative defiance in toddlerhood, and this should be examined further in future studies.

Of interest as well are the differences in mothers' and fathers' limit-setting styles and the impact on toddler behavior. The only strong difference in the data is that developmentally appropriate mothers tend to have children who are more compliant and less defiant, which replicates findings from several earlier studies (Calkins & Johnson, 1998; Dix et al., 2000; Kochanska, Aksan & Koenig, 1995). However, developmentally appropriate fathers have no impact on toddler compliance or defiance. This may suggest a different function of parenting for mothers and fathers; namely, mothers' positive parenting has positive effects on toddler compliance and emotionally negative defiance, but fathers' parenting only effects the child when it is a negative style (either permissive or controlling). This is along the lines of what Grossman et al. (2002) discussed about

the different impact of the mother-infant and father-infant attachment relationship, with father-infant security being less important than father's sensitivity specifically in the context of play and mother-infant security being more important than mother's sensitivity in play. However, this has not been discussed specifically in relation to mothers' and fathers' developmentally appropriate limit-setting styles.

Although previous studies have found relationships between emotion regulation and limit-setting styles, this study did not find any links. This could be due to the way emotion regulation was measured in three separate components; in particular, separating overregulation and appropriate emotion regulation may have made the differences between the groups too small to show any results. It could also reflect the idea that in toddlerhood, what is considered appropriate emotion regulation is not necessarily predictive of emotion regulation in later years. Further research needs to be conducted into the specific ways emotion regulation relates to parental limit-setting styles.

*The dyadic parenting unit and toddler behavior.* As discussed above, mothers' parenting style is related to the toddler's behavior with her, and the fathers' parenting style is related to the toddler's behavior with him. There were no relationships between the mothers' parenting style and toddler behavior with the father, or the fathers' parenting style and toddler behavior with the mother. This indicates that, at least at 24 months, the child reacts to the specific parent in a specific way; they generally do not carry over behaviors learned with one parent to the other parent. Given these findings, it is interesting that when the parents were considered as a dyadic unit, strong relationships between the parenting unit and toddler behavior were found.

The four types of parenting units as determined by the cluster analysis included a developmentally appropriate unit, a harsh/controlling and permissive unit, and two mixed parenting units: mother is developmentally appropriate and father is permissive, and mother is permissive and father is developmentally appropriate. It is interesting to note that through the cluster analysis, developmentally appropriate parents were only paired with other developmentally appropriate parents or permissive parents, but never with harsh/controlling parents. This could be due to similarities in parenting attitudes and beliefs that may make developmentally appropriate parents more likely to have children with other developmentally appropriate parents or permissive parents, whereas parents who are more harsh and controlling have substantially different attitudes and beliefs about parenting. Parents who are developmentally appropriate and permissive may also have similar backgrounds to each other, which could lead them to be more likely to be attracted to each other, whereas parents who show harsh/controlling behaviors may be less likely to be attracted to developmentally appropriate or permissive parents. More research is needed to explore the different parenting units and how this could impact toddler behavior.

Overall, children with a developmentally appropriate parenting unit showed higher levels of compliance and lower levels of emotionally negative defiance with both parents, along with higher levels of appropriate emotion regulation and lower levels of overregulation than all other groups; this is consistent with several earlier studies (Calkins & Johnson, 1998; Dix et al., 2000; Kochanska, Aksan & Koenig, 1995). Children with a harsh/controlling and permissive parenting unit showed lower levels of

compliance and higher levels of emotionally negative defiance with both parents, along with lower levels of appropriate emotion regulation and higher levels of overregulation than the other groups, and this is consistent with earlier research as well (Jewell et al., 2008; Lindsey and Mize, 2001).

An interesting aspect of these findings is how overregulation is predicted by harsh/controlling and permissive parenting, whereas in infancy, it is predicted by a secure attachment. This could be due to the timing of the measurements and the changing nature of the parent-child relationship; it is possible that in infancy the parents are able to have a secure attachment relationship with their child because the demands of infancy are different than the demands of toddlerhood; however, once they begin setting limits on their child, the parent-child relationship takes on a different function and the parents begin to act differently. More research is needed to determine how the function of the parent-child relationship changes from infancy to toddlerhood. It is important to note, however, that this finding was only marginal, and in addition, interrater reliability for overregulation was relatively low compared to underregulation and appropriate regulation, indicating that this is a very difficult construct to observe in toddlers.

When the dyadic parenting unit was mixed (one parent was developmentally appropriate and the other permissive), the relationship of dyadic parenting to toddler behavior varies according to which parent was developmentally appropriate. When mothers are developmentally appropriate, regardless of the father's parenting style, the child shows higher levels of compliance and lower levels of emotionally negative defiance with mother. This suggests that mothers' developmentally appropriate parenting

is more predictive of toddler behavior with her than either controlling or permissive parenting styles or the indirect influence of fathers' parenting styles.

In contrast, fathers' parenting styles contribute to the child's behavior with father in unique ways. When the father is developmentally appropriate, the toddler shows the highest levels of compliance with the father; however, if the father is permissive but not harsh/controlling, the toddler still shows moderate levels of compliance, and if the father was permissive and harsh/controlling the child shows the lowest levels of compliance. This is also true for emotionally negative defiance with the father; the toddler shows the highest levels of emotionally negative defiance with the father is harsh/controlling along with permissive, then moderate levels when the father is only permissive, and the lowest levels when the father is developmentally appropriate. The child's behavior with the father is determined by the specific parenting style, as opposed to an overall positive or negative style. In this case, adding the harsh/controlling parenting style, as well as having a harsh/controlling mother as opposed to a developmentally appropriate mother, has a stronger negative impact on toddler behavior with the father than just permissive parenting alone. This could be due to harsh/controlling parenting having stronger negative impacts above and beyond permissive parenting, or it could be evidence for the indirect influence of the mother on the toddlers' behavior with the father. Even though there is no direct impact, as shown in the regression equations, there seems to be an indirect maternal influence on toddler behavior with father through the dyadic parenting unit.

These findings indicate that in the parenting dyadic units, mothers'

developmentally appropriate parenting has a stronger positive impact on toddler compliance and defiance, whereas fathers' controlling and permissive parenting has a strong negative impact on these behaviors, although the negative impact of fathers' permissive parenting is not as strong as the negative impact of their controlling parenting. This could also relate to the different functions of mothers' and fathers' parenting styles and how it relates to different toddler outcomes (Grossman et al., 2002). If fathers' sensitivity in play is more important than overall sensitivity, then permissive parenting in play may be seen as a different and slightly less effective form of sensitivity from developmental appropriateness. However, if infant-mother attachment is more important than mothers' sensitivity in play, then all styles of parenting that are not developmentally appropriate may have the same impact on toddler behavior.

#### *Limitations and Future Research*

There are several limitations to the current study that could be addressed in future research. First, the parent-infant attachment was dichotomized into secure vs. insecure, which provided a fairly equal number of groups for the present study. With a larger sample size, future research could analyze all of the attachment classifications separately to examine more closely the relationship between attachment and toddler behavior. Attachment quality could also be dichotomized based by organized vs. disorganized attachment, and the results may have been different.

Another limitation to this study involves the timing of the toddler behavior outcome variables. Because all of the measurements were taken between 12 and 24 months, some of the effects of attachment and limit-setting may not be reflected in the

child's behavior yet. This could also impact the strength of findings related to limit-setting and the lack of findings related to attachment. The time lapse from measuring attachment was nine months to one year; however parental limit-setting and toddler compliance and defiance were measured in the same interaction, and toddler emotion regulation was measured on the same day. Future research should examine the child's behavior in preschool and middle childhood to determine the lasting impacts of the parent-infant attachment and parental limit-setting in toddlerhood on children's later outcomes, or look at parental limit-setting and toddler behavior with some time lapse in the interactions.

An interesting factor in this study that could be closely examined in future research is the relationship of the control variable involving the amount of time the child spends with the father. In the current study, it is *negatively* related to appropriate emotion regulation and *positively* related to overregulation, as well as marginally related to toddler defiance with the father. This variable could provide insight into how the time the toddler spends with the father impacts their emotion regulation and behavior over and above the limit-setting situations specifically measured in this study.

Future research could also more clearly focus on the three components of emotion regulation and how they are related to the parenting attachment unit and the parenting limit-setting unit. The data in the current study indicate that toddlers who are overregulating their emotions are spending more time with their fathers, have a secure parent-child relationship with both parents in infancy, and have harsh/controlling and permissive parents in toddlerhood. This could be a unique subset of children whose

parents' styles change over the course of infancy and toddlerhood, and future research could more clearly denote the long-term impact of this change on these children. Or, overregulation may be unstable and difficult to assess in toddlerhood. Future studies should examine relations between the trajectories of parenting and children's emotion regulation over time.

### *Conclusion*

This study examined the contribution of the parent-child attachment relationship, and the independent relationship of mothers' and fathers' parenting, on toddler compliance, defiance, and emotion regulation, and influence of each type of dyadic parenting unit for both infant-parent attachment and parental limit-setting styles on the toddler's behavior. One unique contribution of this study involves the finding that parental limit-setting was strongly related to toddler compliance and defiance, whereas attachment was not related to compliance and defiance but was related to emotion regulation. This study also concludes that there may be different functions of mothers' and fathers' individual limit-setting on toddler development; mothers' developmentally appropriate parenting has more of a positive impact on toddler behavior and both harsh/controlling and permissive parenting has more of a negative impact, whereas fathers' developmentally appropriate parenting has little impact on toddler behavior but the differences between permissive and harsh/controlling parenting show the impact of fathers' limit-setting.

Another unique contribution of this study is that although there may not be a direct impact of one parent's limit-setting style on toddler behavior with the other parent,

mothers' limit-setting indirectly impacts toddler behavior with the father when examined within the dyadic parenting unit. In conclusion, this study shows the importance of the different types of parental limit-setting on toddler behavior and emphasizes the value of examining the parents as a unit as well as individuals, and looking at the toddlers' behavior with each parent. In sum, this study examined the contribution of the parent-child attachment relationship, the independent relationship of mothers' and fathers' parenting on toddler compliance, defiance, and emotion regulation, and influence of each type of dyadic parenting unit for both infant-parent attachment and parental limit-setting styles on the toddler's behavior.

## Tables

Table 1  
*Means and Standard Deviations for Limit-Setting and Toddler Behavior Variables*

	Mean	S.D.
1. Mother Harsh/ Controlling	2.88	1.52
2. Mother Permissive	3.26	1.73
3. M Developmental Appropriateness	4.49	1.53
4. Father Harsh/ Controlling	2.98	1.51
5. Father Permissive	3.29	1.58
6. F Developmental Appropriateness	3.96	1.27
7. Compliance w/ Mother	4.67	1.32
8. Defiance w/ Mother	4.42	1.46
9. Compliance w/ Father	4.49	1.16
10. Defiance w/ Father	4.14	1.50
11. Appropriate Emotion Regulation	4.97	1.71
12. Overregulation	2.75	1.65
13. Underregulation	1.43	1.17

Table 2  
*Correlations for Limit-Setting and Toddler Behavior Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. M Harsh/ Controlling	1.00												
2. M Permissive	.08	1.00											
3. M Dev. App.	-.68**	-.40**	1.00										
4. F Harsh/ Controlling	.42**	.21*	-.40**	1.00									
5. F Permissive	.04	.07	-.08	.04	1.00								
6. F Dev. App.	-.33*	-.17 <sup>†</sup>	.30**	-.66**	-.32*	1.00							
7. Compliance w/ M	-.43**	-.26*	.48**	-.24*	-.03	.20*	1.00						
8. Defiance w/ M	.14	.50**	-.39**	.24*	.13	-.28*	-.38**	1.00					
9. Compliance w/ F	-.28*	-.13	.22*	-.54**	-.32**	.53**	.30*	-.16	1.00				
10. Defiance w/ F	.29*	.26*	-.33*	.19 <sup>†</sup>	.37**	-.31*	-.26*	.24*	-.33*	1.00			
11. Appropriate Emo. Reg.	-.21*	-.15	.24*	-.24*	-.09	.28*	.34*	-.12	.32*	-.18	1.00		
12. Over- regulation	.14	.09	-.13	.04	.14	-.16	-.15	.02	-.18 <sup>†</sup>	.08	-.77**	1.00	
13. Under- regulation	.09	.10	-.17	.28*	-.04	-.21*	-.28*	.13	-.29*	.20*	-.39**	-.25*	1.00

<sup>†</sup>p < .10, \*p < .05, \*\*p < .001

Table 3

*Independent Sample t-tests for Difference Between Boys and Girls.*

	t <sup>1</sup>	df	Mean difference
Income	-1.255	119	-.286
Temperament	.249	115	.080
Time w/ Father	.609	100	1.25
M Controlling	1.150	101	.351
M Permissive	.802	101	.280
M Dev. App.	-.748	101	-.231
Compliance w/ M	-.309	101	-.082
Defiance w/ M	-.203	101	-.060
F Controlling	1.437	98	.442
F Permissive	1.053	98	.341
F Dev. App.	-.748	98	-.196
Compliance w/ F	-1.392	98	-.330
Defiance w/ F	1.065	98	.328
Appropriate Emotion Regulation	-1.136	97	-.396
Overregulation	.815	97	.275
Underregulation	.308	97	.074

<sup>1</sup>All are non-significant.

Table 4

*OLS Regression of Toddler Behavior on the Control Variables and Limit-setting with the Same Parent*

<b>Step 1</b>	<b>Toddler Compliance w/ Mother</b>			<b>Toddler Defiance w/ Mother</b>		
	<b>B</b>	<b>SE</b>	<b><math>\beta</math></b>	<b>B</b>	<b>SE</b>	<b><math>\beta</math></b>
Income	.127	.111	.124	.082	.125	.070
Gender	-.144	.277	-.056	.277	.314	.095
Temperament	-.025	.077	-.035	-.067	.087	-.083
Time w/ Father	-.021	.016	-.143	-.022	.018	-.131
<b>Step 2</b>						
Income	.100	.104	.098	.121	.114	.104
Gender	-.187	.257	-.073	.287	.283	.098
Temperament	-.090	.071	-.127	-.013	.078	-.016
Time w/ Father	-.019	.014	-.132	-.027	.016	-.165 <sup>†</sup>
Attachment to M	.505	.271	.200 <sup>†</sup>	-.038	.276	-.013
M Controlling	-.190	.109	-.219 <sup>†</sup>	-.176	.129	-.187
M Permissive	-.102	.075	-.133	.296	.088	.357**
M Dev. App.	.242	.119	.276*	-.320	.145	-.326*
<b>Step 1</b>	<b>Toddler Compliance w/ Father</b>			<b>Toddler Defiance w/ Father</b>		
	<b>B</b>	<b>SE</b>	<b><math>\beta</math></b>	<b>B</b>	<b>SE</b>	<b><math>\beta</math></b>
Income	-.057	.105	-.061	.260	.130	.215*
Gender	.324	.270	.136	-.287	.336	-.093
Temperament	.005	.073	.008	-.168	.091	-.200 <sup>†</sup>
Time w/ Father	-.008	.015	-.064	.036	.019	.212 <sup>†</sup>
<b>Step 2</b>						
Income	-.011	.086	-.012	.231	.130	.191 <sup>†</sup>
Gender	.133	.219	.056	-.104	.331	-.034
Temperament	-.030	.058	-.046	-.164	.088	-.195 <sup>†</sup>
Time w/ Father	-.006	.012	-.043	.034	.018	.202 <sup>†</sup>
Attachment to F	-.181	.221	-.077	.285	.335	.094
F Controlling	-.350	.097	-.437**	.094	.147	.090
F Permissive	-.137	.073	-.184 <sup>†</sup>	.284	.110	.293*
F Dev. App.	.175	.125	.180	-.076	.190	-.060

<sup>†</sup>p < 1.0, \* p < .05, \*\*p < .01

Table 5

*OLS Regression of Toddler Behavior on the Control Variables and Limit-setting with the Other Parent*

	Toddler Compliance w/ Father			Toddler Defiance w/ Father		
	B	SE	$\beta$	B	SE	$\beta$
<b>Step 1</b>						
Income	-.037	.102	-.040	.218	.130	.178 <sup>†</sup>
Gender	.280	.256	.120	-.231	.327	-.075
Temperament	-.004	.071	-.007	-.156	.091	-.184 <sup>†</sup>
Time w/ Father	-.007	.015	-.051	.034	.019	.195 <sup>†</sup>
<b>Step 2</b>						
Income	-.021	.105	-.023	.229	.131	.186 <sup>†</sup>
Gender	.160	.258	.069	-.129	.324	-.042
Temperament	-.043	.071	-.067	-.097	.089	-.115
Time w/ Father	-.005	.014	-.035	.031	.018	.180 <sup>†</sup>
Attachment to M	-.206	.253	-.090	.038	.318	.013
M Controlling	-.178	.121	-.237	.139	.152	.140
M Permissive	-.075	.082	-.114	.117	.103	.133
M Dev. App.	.047	.140	.059	-.183	.176	-.174
	Toddler Compliance w/ Mother			Toddler Defiance w/ Mother		
	B	SE	$\beta$	B	SE	$\beta$
<b>Step 1</b>						
Income	.056	.124	.051	.122	.113	.120
Gender	.257	.319	.090	-.139	.292	-.053
Temperament	-.053	.087	-.069	-.010	.079	-.014
Time w/ Father	-.026	.018	-.166	-.022	.016	-.152
<b>Step 2</b>						
Income	.032	.127	.028	.114	.120	.112
Gender	.272	.325	.095	-.194	.306	-.074
Temperament	-.056	.087	-.072	-.021	.082	-.030
Time w/ Father	-.030	.017	-.194 <sup>†</sup>	-.022	.016	-.156
Attachment to F	-.109	.329	-.039	.029	.310	.012
F Controlling	.019	.144	.019	-.170	.136	-.195
F Permissive	.092	.108	.103	-.022	.101	-.027
F Dev. App.	-.248	.186	-.213	-.069	.175	-.065

<sup>†</sup>p < 1.0, \* p < .05, \*\*p < .01

Table 6

*OLS Regression of Emotion Regulation Variables on the Control Variables and Limit-setting with both Parents*

	Appropriate Emotion Regulation			Overregulation			Underregulation		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
<b>Mothers</b>									
<b>Step 1</b>									
Income	.302	.143	.228*	-.097	.143	-.076	-.177	.096	-.207 <sup>†</sup>
Gender	.225	.359	.067	-.204	.358	-.063	-.008	.240	-.004
Temperament	.009	.100	.010	.013	.100	.014	-.027	.067	-.044
Time w/ Father	-.045	.024	-.202 <sup>†</sup>	.041	.024	.189 <sup>†</sup>	.006	.016	.042
<b>Step 2</b>									
Income	.258	.147	.195 <sup>†</sup>	-.042	.144	-.033	-.175	.102	-.204 <sup>†</sup>
Gender	.157	.359	.047	-.124	.353	-.039	-.026	.249	-.012
Temperament	-.041	.101	-.044	.061	.100	.068	-.024	.070	-.040
Time w/ Father	-.043	.024	-.194	.039	.024	.180	.007	.017	.045
Attachment to M	-.432	.351	-.130	.717	.345	.223*	-.198	.243	-.092
M Controlling	-.039	.165	-.037	-.006	.163	-.006	-.008	.114	-.012
M Permissive	-.033	.114	-.034	.013	.112	.014	.013	.079	.021
M Dev. App.	.228	.187	.201	-.251	.184	-.229	-.028	.130	-.038
<b>Fathers</b>									
<b>Step 1</b>									
Income	.317	.138	.252*	-.106	.138	-.088	-.185	.100	-.210 <sup>†</sup>
Gender	.205	.356	.063	-.214	.355	-.069	.024	.257	.011
Temperament	.061	.098	.068	-.040	.098	-.047	-.019	.071	-.030
Time w/ Father	-.052	.023	-.245*	.048	.023	.237*	.004	.017	.030
<b>Step 2</b>									
Income	.390	.142	.310**	-.156	.144	-.130	-.209	.106	-.243 <sup>†</sup>
Gender	.054	.356	.017	-.138	.363	-.044	.091	.266	.041
Temperament	.033	.097	.037	-.038	.099	-.045	.004	.073	.006
Time w/ Father	-.054	.023	-.254*	.051	.024	.250*	.003	.017	.024
Attachment to F	-.545	.375	-.170	.359	.383	.117	.169	.281	.077
F Controlling	-.026	.162	-.024	-.107	.165	-.103	.107	.121	.145
F Permissive	-.125	.118	-.125	.144	.121	.150	-.012	.088	-.017
F Dev. App.	-.235	.206	.179	-.229	.210	-.182	-.040	.154	-.044

<sup>†</sup>p < 1.0, \* p < .05, \*\*p < .01

Table 7

ANOVA: Parental Attachment Classification Pairs X Toddler Outcome Variables

	<b>Group 1:</b> Secure w/ Mother & Secure w/ Father (N = 31)	<b>Group 2:</b> Secure w/ Mother & Insecure w/ Father (N = 19)	<b>Group 3:</b> Insecure w/ Mother & Secure w/ Father (N = 21)	<b>Group 4:</b> Insecure w/ Mother & Insecure w/ Father (N = 20)		Post Hoc: Tukey HSD
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	<u>F</u>	
Compliance w/ Mother	4.54 (1.22)	4.63 (1.39)	4.70 (1.41)	5.01 (1.34)	.561	
Defiance w/ Mother	4.55 (1.64)	4.33 (1.45)	4.36 (1.56)	4.50 (1.19)	.116	
Compliance w/ Father	4.57 (0.96)	4.71 (1.26)	4.62 (1.02)	4.19 (1.48)	.800	
Defiance w/ Father	4.09 (1.45)	4.15 (1.74)	4.01 (1.32)	4.52 (1.54)	.490	
Appropriate Emotion Regulation	4.68 (1.66)	5.81 (1.21)	5.38 (1.44)	4.68 (2.06)	2.546 <sup>†</sup>	1 < 2 (.088)
Over- regulation	3.00 (1.80)	1.91 (0.94)	2.43 (1.29)	3.03 (1.76)	2.549 <sup>†</sup>	1 > 2 (.080)
Under- regulation	1.49 (1.13)	1.37 (1.21)	1.36 (1.31)	1.48 (1.19)	.081	

<sup>†</sup>p < .10

Table 8

*ANOVA: Overall Parental Clustered Limit-setting Pairs (2-way) X Toddler Outcome Variables*

	<b>Group 1:</b> Mother & Father High DA  (N = 79)	<b>Group 2:</b> Mother & Father High H/C and P  (N = 21)	<u>F</u>
	Mean (SD)	Mean (SD)	
Compliance w/ Mother	4.91 (1.22)	3.81 (1.35)	18.373***
Defiance w/ Mother	4.30 (1.48)	4.96 (1.30)	5.658*
Compliance w/ Father	4.79 (1.01)	3.38 (1.01)	41.673***
Defiance w/ Father	3.85 (1.46)	5.25 (1.15)	15.125***
Appropriate Emotion Regulation	5.29 (1.50)	4.05 (2.11)	12.817**
Over- regulation	2.55 (1.52)	3.27 (1.89)	4.032*
Under- regulation	1.31 (0.86)	1.83 (1.90)	4.471*

†p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001

Table 9

*ANOVA: Overall Parental Clustered Limit-setting Pairs (3-way) X Toddler Outcome Variables*

	<b>Group 1:</b> Mother & Father High DA (N = 33)	<b>Group 2:</b> Mother High DA & Father High P (N = 46)	<b>Group 3:</b> Mother & Father High H/C and P (N = 21)		Post Hocs: Tukey HSD
	Mean (SD)	Mean (SD)	Mean (SD)	F	
Compliance w/ Mother	4.95 (1.22)	4.89 (1.23)	3.81 (1.35)	9.107***	1 > 3 (.001) 2 > 3 (.001)
Defiance w/ Mother	3.95 (1.37)	4.55 (1.52)	4.96 (1.30)	5.379**	1 < 2 (.078) 1 < 3 (.006)
Compliance w/ Father	5.08 (0.88)	4.59 (1.06)	3.38 (1.01)	23.862***	1 > 3 (.000) 2 > 3 (.000)
Defiance w/ Father	3.16 (1.28)	4.34 (1.38)	5.25 (1.15)	17.073***	1 < 2 (.000) 1 < 3 (.000) 2 < 3 (.028)
Appropriate Emotion Regulation	5.55 (1.29)	5.09 (1.62)	4.05 (2.11)	7.401**	1 > 3 (.001) 2 > 3 (.014)
Over- regulation	2.31 (1.31)	2.73 (1.66)	3.27 (1.89)	3.003 <sup>†</sup>	1 < 3 (.046)
Under- regulation	1.23 (0.73)	1.37 (0.96)	1.83 (1.90)	2.282	

<sup>†</sup>p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001

Table 10

*ANOVA: Overall Parental Clustered Limit-setting Pairs (4-way) X Toddler Outcome Variables*

	<b>Group 1:</b> Mother & Father High DA (N = 33)	<b>Group 2:</b> Mother High DA & Father High P (N = 34)	<b>Group 3:</b> Mother High P, Father High DA (N = 12)	<b>Group 4:</b> Mother & Father High H/C and P (N = 21)		Post Hoc: Tukey HSD
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	<u>F</u>	
Compliance w/ Mother	4.95 (1.22)	5.08 (1.21)	4.33 (1.19)	3.81 (1.35)	8.310***	1 > 4 (.001) 2 > 4 (.000) 2 > 3 (.090)
Defiance w/ Mother	3.95 (1.37)	4.24 (1.45)	5.46 (1.40)	4.96 (1.29)	5.808**	1 < 3 (.007) 1 < 4 (.009) 2 < 3 (.077)
Compliance w/ Father	5.08 (0.88)	4.42 (1.10)	5.06 (0.76)	3.38 (1.01)	18.596***	1 > 2 (.026) 1 > 4 (.000) 2 > 4 (.000) 3 > 4 (.000)
Defiance w/ Father	3.15 (1.28)	4.20 (1.33)	4.75 (1.51)	5.25 (1.15)	12.117***	1 < 2 (.012) 1 < 3 (.001) 1 < 4 (.000) 2 < 4 (.021)
Appropriate Emotion Regulation	5.55 (1.29)	5.17 (1.68)	4.86 (1.51)	4.05 (2.11)	4.969**	1 > 4 (.002) 2 > 4 (.027)
Over- regulation	2.31 (1.31)	2.53 (1.67)	3.30 (1.55)	3.27 (1.89)	2.674 <sup>†</sup>	1 < 4 (.078)
Under- regulation	1.23 (0.73)	1.45 (1.09)	1.12 (0.31)	1.83 (1.90)	1.777	

<sup>†</sup>p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001

## Appendices

### Appendix A

#### *Limit-Setting Scales*

##### *Harsh/Controlling*

Harsh parents set limits by using controlling or dominating techniques: harsh or punitive voice tones, physically moving the child in a rough manner, or including unnecessary negative consequences of the child's behavior. This also includes parents who attempt to control the child's play by setting arbitrary or unnecessary limits.

Scale Points:

##### 7 – Overly Harsh and Arbitrary

- The parent uses hostile limit setting techniques when setting both necessary and arbitrary limits, including physically manipulating the child for the purpose of control, indicating negative consequences of the child's behavior, or completely changing their voice tone in a negative manner.
- The parent's behavior could be frightening to the child due to a sharp change in voice tone or jerky movements, but this must be in the context of setting a limit (not random or playful frightening behaviors).
- The parent offers no explanation for the limit, and there is an abundance of arbitrary limits set.

##### 6 – Somewhat Harsh and/or Arbitrary

- The parent sets limits in a hostile or controlling manner; however, they are not as frightening towards the child as a 7.

- The parent sets an abundance of arbitrary limits in a somewhat harsh manner and without any explanation to the child.

#### 5 – Harsh but Necessary Limits

- The parent may use a harsh voice tone or negative consequences to set a limit; however, the limits are necessary (the child is in potential danger) and not arbitrary.

#### 4 – Mildly Harsh but Necessary

- The parent sets limits in a somewhat harsh manner, using a controlling voice tone and not explaining to the child why the limit was set; however, the limits are necessary.

#### 3 – Arbitrary Control of Play

- The parent may set limits in an appropriate manner (calm and matter-of-fact), but many of the limits are arbitrary and inappropriate in the context of the interaction.

#### 2 – Somewhat Arbitrary Control of Play

- Most of the limits the parent sets are necessary, but there may be a few arbitrary limits set in the interaction.
- The parent sets limits in an appropriate manner.

#### 1a – Appropriate and Effective

- The parent sets limits when needed or redirects the child away from situations that may elevate to needing a limit; these limits could involve either positive or negative language.
- The parent sets limits almost immediately after the child misbehaves.

- The parent responds in a firm, matter-of-fact way that is effective in stopping the child's behavior.
- The parent explains to the child why the limit is being set (For example, telling a child to take a toy out of their mouth and saying "That's dirty" or "It has germs on it; I don't want you to get sick").
- If the parent makes a consequential statement, they follow through with the action promised (For example, "If you put that toy in your mouth again, I will put it away and we will need to find something else to play with").

#### 1b – Not Harsh

- The parent is not necessarily appropriate or effective; however, they are not harsh and do not set arbitrary limits (may be overly permissive).

#### *Permissive*

Permissive parents have several different patterns of limit – setting (or lack thereof): they can either set no limits when the child needs them, inconsistently set limits, involve the child in power struggles or laugh, smile, or otherwise appear charmed by the child's misbehavior.

#### Scale Points:

#### 7 – Extremely Permissive

- The parent views the child's misbehavior as charming or cute, often smiling or laughing at the child. For example, the child hits the parent and the parent laughs (this would be friendly and coy, not hostile).

- The child is behaving in a way that they could potentially hurt themselves; however, the parent does not set any limits (For example, the child hits the mirror with his fist until he hurts his hand while mom says nothing).
- The parent does not attempt to help the child regulate his/her emotions; the child shows increasing emotional instability until he/she 'loses it.'

#### 6 – Overly Permissive

- The parent may view one or two of the child's misbehaviors as charming or cute and ignore others; however, this is not as pervasive as a 7.
- The child may be in a potentially harmful situation, but the parent does not attempt to set a limit or ineffectively sets limits.
- The parent either does not attempt to help the child regulate his/her emotions but the emotions do not spin out of control, or the parent unsuccessfully attempts to help the child regulate his/her emotions and the child's behavior becomes out of control.

#### 5 – Somewhat Permissive

- The parent is not setting limits when limits are needed but also not treating the behavior as if it were cute. The child is not in a potentially dangerous situation.
- The parent unsuccessfully attempts to regulate the child's emotions; however, the child does not seem to spiral out of control.
- The parent engages the child in several power struggles and the parent gives in.

#### 4 – Ineffective

- The parent may try to set limits sometimes, but the child either ignores the parent

or engages the parent in a power struggle. The child is not in a potentially dangerous situation.

- The parent waits too long to set the limit and it is no longer relevant to what the child is doing.

### 3 – Inconsistent

- The parent may set limits but is inconsistent in implementing them (For example, the child puts a toy in her mouth, the mom reprimands in a firm but caring way; a few minutes later the child puts another toy in her mouth and the mom says nothing).
- The parent may be somewhat delayed in setting the limit.

### 2 – Somewhat Inconsistent or Ineffective

- The parent sets limits appropriately and effectively sometimes; however, at other times, the parent shows inconsistencies in limit setting or may miss one or two limits that were needed.

### 1a – Appropriate and Effective

- The parent sets limits when needed or redirects the child away from situations that may elevate to needing a limit; these limits could involve either positive or negative language.
- The parent sets limits almost immediately after the child misbehaves.
- The parent responds in a firm, matter-of-fact way that is effective in stopping the child's behavior.
- The parent explains to the child why the limit is being set (For example, telling a

child to take a toy out of their mouth and saying “That’s dirty” or “It has germs on it; I don’t want you to get sick”).

- If the parent makes a consequential statement, they follow through with the action promised (For example, “If you put that toy in your mouth again, I will put it away and we will need to find something else to play with”).

#### 1b – Not Permissive

- The parent is not necessarily appropriate or effective, but they are not permissive (may be harsh or set arbitrary limits).

#### *Developmental Appropriateness*

This scale is designed to determine what type of technique the parent uses when disciplining the child and how well the parent understands the child’s developmental level.

#### Scale Points:

##### 7 – Appropriate Positive Response

- The parent almost always makes an effort to identify and acknowledge the child’s emotions, set a specific limit, then either gives the child choices of what to do next or redirects the child’s behavior.
- The parent sets the limit immediately after the child’s misbehavior.
- The parent uses positive language with the child in a calm, matter-of-fact manner.
- The parent’s explanation for the behavior is the appropriate length for a two-year-old (short and simple); it is not so long that it becomes ineffective.

- If the parent sets a limit that is above the child's comprehension, the parent adjusts their technique to be appropriate for the child.

#### 6 – Mostly Appropriate Positive Response

- The parent sets a limit immediately after the child's misbehavior and the parent offers an effective explanation (appropriate for a two-year-old).
- The parent almost always uses positive language, and the parent's demeanor is calm and matter-of-fact.
- The parent may not always identify or acknowledge the child's emotions, but they do attempt to redirect the child's play or give the child choices after setting the limit.
- If the parent sets a limit that is above the child's comprehension, the parent adjusts their technique to be appropriate for the child.

#### 5 – Somewhat Appropriate Positive Response

- The parent sets limits immediately and uses calm, matter-of-fact language; however, they may not use positive wording when setting the limit.
- The parent may have one instance where they do not offer an explanation to the child when reprimanding their behavior but there are other instances in the interaction where the parent does give explanations for limits.
- The parent does not identify or acknowledge the child's emotions, but they almost always try to give the child choices or redirect their play.

#### 4 – Mix of Positive and Negative Response

- About half of the time the parent responds appropriately - a calm, matter-of-fact

manner; attempts to redirect child's play or give child choices; provide an explanation for the child

- The other half of the time, the parent responds inappropriately – not setting a limit when needed or setting too many arbitrary limits; using harsh voice tones with the child; not attempting to engage the child's attention or offer any explanation for the limit

### 3 – Somewhat Inappropriate Negative Response

- For the most part, the parent either inconsistently sets limits or sets many arbitrary limits; the parent may use positive language or appropriate voice tones, but they are not accounting for the limit in the context of the child's developmental level
- The parent may either not offer explanation for the limit or offer too detailed of an explanation so that the child loses interest in the parent's limit.
- The parent may delay setting the limit making the limit somewhat ineffective.
- The parent may engage the child in one or two power struggles.
- The parent may have one or two instances of positive limit setting responses; however, they are disproportionately small when compared to the overall number of situations.

### 2 – Mostly Inappropriate Negative Response

- When a limit needs to be set (the child is in a potentially dangerous situation), the parent responds either by using harsh voice tones/jerky movements, they respond too late for the limit to be effective, or they do not respond at all.
- The parent and child may engage in several power struggles during the

interaction.

- There may be a few instances of a somewhat positive response; however, there is no attempt to emotionally connect with the child when setting limits, or the parent may start out using calm, matter-of-fact language and then change into harsher voice tones.

#### 1 – Inappropriate Negative Response

- The parent may set many arbitrary limits throughout the play using harsh or controlling voice tones, language, or physically moving the child in a jerky manner. The parent may also respond by not setting any limits when they are needed and acting as if they are charmed by the child's misbehavior.
- There are no or very few instances of a positive limit setting response in the interaction.

## Appendix B

### *Child Behavior*

#### *Child Compliance*

This scale reflects the child's willingness to comply with the parent's limit. Children can be compliant by being engaged and agreeable or by being either outwardly unwillingly compliant or submissively compliant. Children who are willingly compliant show a desire to maintain a warm interaction with their parent through behaving as their parent asks, whereas children who are submissive seem to comply with their parent's limits out of fear and/or control. Children who are unwillingly compliant are forced by the parent to comply (usually physically or through threats). This scale should only be used for situations where compliance occurs.

#### Scale Points:

##### 7 – Willing Compliance

- The child willfully complies with the parent's requests throughout most of the interaction.

##### 6 – Mostly Willing Compliance

- The child willfully complies with the parent's requests for the most part, but there may be a couple of instances of submissive or unwilling compliance.
- The submissiveness occurs more around necessary, socialization, or hygienic limit-setting situations rather than when the limits are more arbitrary.

#### 5 – Somewhat Willful Compliance

- The child willfully complies with the parent's requests more than they are submissive or unwillingly compliant; however, there is an element of both in the interaction.
- The submissiveness or unwilling compliance occurs more around necessary, socialization, or hygienic limit-setting situations than when the limits are more arbitrary.

#### 4 – Both Willful Compliance and Unwilling Compliance

- The child is either willingly compliant or submissive in roughly half of the limit-setting situations.
- The unwilling compliance or submissiveness occurs in more necessary and less arbitrary situations.

#### 3 – Somewhat Submissive or Unwilling Compliance

- The child is more submissive than willfully compliant in the limit-setting situations.
- The submissive compliance occurs throughout the interaction.
- The child may also be outwardly unwillingly compliant to the parent's requests

#### 2 – Mostly Submissive or Unwillingly Compliant

- The child acts submissive throughout the interaction; there may be some instances of willful compliance, but the pervasive pattern is submissiveness.
- The child is forced to comply with the parent against their will on several

occasions; the child outwardly protests these instances, but the parent still makes the child comply with their limits.

#### 1 – Submissive or Unwillingly Compliant

- The child acts submissive to the parent throughout the interaction, and they rarely seem to want to comply with the parent's requests but they do so out of either fear or the parent's control.
- The child shows a pervasive pattern of unwilling compliance; they outwardly reject the parent's limits throughout most of the interaction, and when they protest the parent's limits, the parent forces the child to comply.

#### *Child Defiance*

This scale reflects the child's ability to assert their autonomy through the defiance of the parent's limits. Children who are directly defiant will angrily tell the parent 'no', throw a toy, hit the parent, or directly disobey the parent, whereas children who are indirectly defiant will ignore the parent or walk away from the situation. Children who verbally refuse the parent's requests without getting angry or upset are showing more autonomous behaviors. This scale should only be used for situations where defiance occurs.

#### Scale Points:

#### 7 – Mostly Directly Defiant

- The child directly rejects the parent's attempts at setting limits through physical or verbal aggression either directed at the parent or directed at the object of the limit (child screams "No" and throws a toy).

- The child is rejecting the parent while angry or upset.
- The child may directly disobey the parent.

#### 6 – Directly and Indirectly Defiant

- The child both directly and indirectly rejects the parent’s limit setting attempts.
- The child is visibly angry or upset by the limit imposed.

#### 5 – Mostly Indirectly Defiant

- The child uses mostly indirect defiance with the parent; however, there may be instances of direct defiance or simple refusal.
- The child may either ignore the parent’s request, walk away from a limit setting situation, change the subject (i.e. redirect the parent to a new toy), or defy the parent in some other indirect way.
- The child may or may not be visibly upset or angry about the limit.

#### 4 – Indirect Defiance and Simple Refusal

- The child shows both indirect defiance and simple refusal; there may be one or two instances of direct defiance, but they occur when the child has tried other strategies and is pushed by the parents in the limit-setting situation.
- The child is not visibly upset or angry about most limits.

#### 3 – Mostly Simple Refusal, some Indirect Defiance

- The child refuses the parent’s requests either verbally or with verbal attempts; they may even offer an explanation as to why they are defiant (ex. when asked to clean up, the child may say “No, I playing now”).

- The child may show indirect defiance and occasionally direct defiance; however, the majority of the child's defiant behavior is simply refusing the parent's requests.

## 2 – Simple Refusal, or Low Percentage of Indirect Defiance

- The child shows instances of either simple refusal or minimal indirect defiance; however, there are no situations with strong direct defiance.
- The number of situations with defiance is proportionately smaller than the number of limit-setting situations.

## 1 – Little or No Defiant Behavior; if shown, only Simple Refusal

- The child shows almost no defiant behavior; there may be one or two instances of defiance; however, these are proportionately small as compared to the number of limit-setting situations overall.
- When the child does show defiance, it is simple refusal.
- The child may be either willingly compliant or submissive throughout the interaction.

## References

- Ainsworth, M.D.S., Blehar, M.C., Waters, E., & Wall, S. Eds. (1978). *Patterns of Attachment: A Psychological Study of the Strange Situation*. Hillsdale, NJ: Erlbaum.
- Allison, P.D. (2003). Missing data techniques for structural equation modeling. *Journal of Abnormal Psychology, 112*(4), 545-557.
- Aunola, K., & Nurimi, J. (2005). The role of parenting styles in children's problem behavior. *Child Development, 76*(6), 1144-1159.
- Baumrind, D. (1996). The discipline controversy revisited. *Family Relations, 45*(4), 405-414.
- Baumrind, D. (1966). Effects of authoritative parental control on child's behavior. *Child Development, 37*(4), 887-907.
- Belsky, J., Crnic, K. & Woodworth, S. (1996). Trouble in the second year: Three questions about family interaction. *Child Development, 67*(2), 556-578.
- Belsky, J., Garduque, L., & Hrnacir, E. (1984). Assessing performance, competence, and executive capacity in infant play: Relations to home environment and security of attachment. *Developmental Psychology, 20*(3), 406-417.
- Belsky, J., Jaffee, S.R., Sligo, J., Woodward, L., & Silva, P.A. (2005). Intergenerational transmission of warm-sensitive-stimulating parenting: A prospective study of mothers and fathers of 3-year-olds. *Child Development, 76*(2), 384-396.
- Berlin, L.J., & Cassidy, J. (2003). Mothers' self-reported control of their preschool children's emotional expressiveness: A longitudinal study of associations with

- infant-mother attachment and children's emotion regulation. *Social Development*, 12(4), 477-495.
- Bowlby, J. (1969). *Attachment and Loss, vol. I: Attachment*. London: Hogarth Press.
- Boyd-Soisson, E. (2002). Parents' Socialization of Children's Emotions and Children's Socioemotional Adjustment: The Role of Adult Attachment. *Dissertations Abstracts International*, 64(10), 5252b, (UMI No. AAT 3108468).
- Braungart-Reiker, J., Garwood, M.M., & Stifter, C.A. (1997). Compliance and noncompliance: The roles of maternal control and child temperament. *Journal of Applied Developmental Psychology*, 18, 411-428.
- Bretherton, I., Golby, B., & Cho, E. (1997). Attachment and the transmission of values. In J.E. Grusec, & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 103-134). New York: John Wiley.
- Bugental, D.B., & Happaney, K. (1995). Parent-child interaction as a power contest. *Journal of Applied Developmental Psychology*, 21(3), 267-282.
- Calkins, S. & Johnson, M. (1998). Toddler regulation of distress to frustrating events: Temperamental and maternal correlates. *Infant Behavior and Development*, 21, 379-395.
- Carlson, E.A. (1998). A prospective longitudinal study of attachment disorganization/disorientation. *Child Development*, 69(4), 1107-1128.
- Carson, J. & Parke, R. (1996). Reciprocal negative affect in parent-child interactions and children's peer competency. *Child Development*, 67, 2217-2226.

- Cassidy, J., & Berlin, L. (1994). The insecure/ambivalent pattern of attachment: Theory and research. *Child Development, 65*, 971-991.
- Crain, W. (2000). *Theories of Development: Concepts and Applications*. (4th ed.). New Jersey: Prentice Hall.
- Crockenberg, S., & Litman, C. (1990). Autonomy and competence in 2-year-olds: Maternal correlates of child defiance, compliance, and self-assertion. *Developmental Psychology, 26*(6), 961-971.
- Crowell, J.A., & Feldman, S.S. (1988). Mothers' internal models of relationships and children's behavioral and developmental status: A study of mother-child interaction. *Child Development, 59*(5), 1273-1285.
- Davies, G., McMahon, R., Flessati, E. & Tiedemann, G. (1984). Verbal rationales and modeling as adjuncts to a parenting technique for child compliance. *Child Development, 55*, 1290-1298.
- Deater-Deckard, K., Ivy, L., & Petrill, S.A. (2006). Maternal warmth moderates the link between physical punishment and child externalizing problems: A parent-offspring behavior genetic analysis. *Parenting: Science and Practice, 6*(1), 59-78.
- DeHart, G., Sroufe, A. & Cooper, R. (2004). *Child development: Its nature and course*. (5th ed.). Boston: McGraw Hill.
- Denham, S.A., Renwick, S.M. & Holt, R.W. (1991). Working and playing together: Prediction of preschool social-emotional competence from mother-child interaction. *Child Development, 62*(2), 242-249.
- Dix, T. (2000). Understanding what motivates sensitive parenting. *Psychological Inquiry,*

11(2), 94-97.

- Dix, T., Stewart, A.D., Gershoff, E.T., & Day, W.H. (2007). Autonomy and children's reactions to being controlled: Evidence that both compliance and defiance may be positive markers in early development. *Child Development, 78*(4), 1204-1221.
- Easterbrooks, M.A. & Goldberg, W.A. (1984). Toddler development in the family: Impact of father involvement and parenting characteristics. *Child Development, 55*(3), 740-752.
- Feldman, R., & Kline, P.S. (2003). Toddlers' self-regulated compliance to mothers, caregivers, and fathers: Implications for theories of socialization. *Developmental Psychology, 39*(4), 680-692.
- Fox, N., Kimmerly, N., & Schafer, W. (1991). Attachment to mother/attachment to father: A meta-analysis. *Child Development, 62*, 210-225.
- Grossman, K., Grossman, K.E., Fremmer-Bombik, E., Kindler, H., Scheuerer-Englisch, H., & Zimmerman, P. (2002). The uniqueness of the child-father attachment relationship: Fathers' sensitive and challenging play as a pivotal variable in a 16 year longitudinal study. *Social Development, 11*(3), 307-331.
- Haswell, K., Hock, E. & Wenar, C. (1981). Oppositional behavior of preschool children: Theory and intervention. *Family Relations, 30*(3), 440-446.
- Hazen, N., Jacobvitz, D., Allen, S. & Higgins, K. (in press). Pathways from disorganized attachment to later social-emotional problems: The role of gender and parent-child interactions. To appear in J. Solomon & C. George (Eds.), *Disorganization of attachment and caregiving*. New York: Guilford.

- Henry, D.B., Tolan, P.H. & Gorman-Smith, D. (2005). Cluster analysis in family psychology research. *Journal of Family Psychology*, 19(1), 121-132.
- Hoffman, M.L. (1983). Affective and cognitive processes in moral internalization. In E.T. Higgins, D. Ruble, & W. Hartup (Eds.), *Social cognition and social development: A sociocultural perspective* (pp. 236-274). Cambridge: Cambridge University Press.
- Isabella, R.A., & Belsky, J. (1991). Interactional synchrony and the origins of infant mother attachment: A replication study. *Child Development*, 62(2), 373-384.
- Jewell, J., Krohn, E., Scott, V., Carlton, M., & Meinz, E. (2008). The differential impact of mothers' and fathers' discipline on preschool children's home and classroom behavior. *North American Journal of Psychology*, 10(1), 173-188.
- Kalb, L.M. & Loeber, R. (2003). Child disobedience and noncompliance: A review. *Pediatrics*, 111(3), 641-652.
- Karrerman, A., van Tuijl, C., van Aken, M., & Dekovic, M. (2006). Parenting and self-regulation in preschoolers: A meta-analysis. *Infant and Child Development*, 15, 561-579.
- Kaufmann, D., Gesten, E., Lucia, R., Salcedo, O., Rendina-Gobioff, G. & Gadd, R. (2000). The relationship between parenting style and children's adjustment: The parents' perspective. *Journal of Child and Family Studies*, 9(2), 231-245.
- Kochanska, G. (1995). Children's temperament, mother's discipline, and security of attachment: Multiple pathways to emerging internalization. *Child Development*, 66, 597-615.

- Kochanska, G., & Aksan, N. (1995). Mother-child mutually positive affect, the quality of child compliance to requests and prohibitions, and maternal control as correlates of early internalization. *Child Development, 66*, 236-254.
- Kochanska, G., Aksan, N. & Koenig, A. (1995). A longitudinal study of the roots of preschoolers' conscience: Committed compliance and emerging internalization. *Child Development, 66*, 1752-1769.
- Kochanska, G., Coy, K.C., & Murray, K.T. (2001). The development of self-regulation in the first four years of life. *Child Development, 72*(4), 1091-1111.
- Kochanska, G., Tjebkes, T.L., & Forman, D.R. (1998). Children's emerging regulation of conduct: Restraint, compliance, and internalization from infancy to the second year. *Child Development, 69*(5), 1378-1389.
- Kuczynski, L. & Kochanska, G. (1990). Development of children's noncompliance strategies from toddlerhood to age 5. *Developmental Psychology, 26*(3), 398-408.
- Laible, D.J. & Thompson, R.A. (2000). Mother-child discourse, attachment security, shared positive affect, and early conscience development. *Child Development, 71*(5), 1424-1440.
- LeCuyer-Maus, E.A. (2000). Maternal sensitivity and responsiveness, limit setting style, and relationship history in the transition to toddlerhood. *Issues in Comprehensive Pediatric Nursing, 23*, 117-139.
- Lindsey, E. & Mize, J. (2001). Interparental agreement, parent-child responsiveness, and children's peer competence. *Family Relations, 50*, 348-354.
- Lyons-Ruth, K., & Jacobvitz, D. (1999). Attachment disorganization: Unresolved loss,

- relationship violence, and lapses in behavioral and attentional strategies. In *Handbook of Attachment: Theory, Research, and Clinical Applications*, Eds. J. Cassidy & P.R. Shaver. New York: Guilford Press, pp. 520-554.
- Maccoby, E.E. (1983). Let's not over-attribute to the attribution process: Comments on social cognition and behavior. In E.T. Higgins, D. Ruble, & W. Hartup (Eds.), *Social cognition and social development: A sociocultural perspective* (pp. 356-370). Cambridge: Cambridge University Press.
- Main, M. (2000). Disorganized infant, child, and adult attachment: Collapse in behavioral and attentional strategies. *Journal of the American Psychoanalytic Association* 48(4), 1097-1127.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth strange situation. In *Attachment in the Preschool Years: Theory, Research and Intervention*, Eds. M.T. Greenberg, D. Cicchetti, & E.M. Cummings. Chicago: University of Chicago Press, pp. 121-160.
- Main, M. & Weston, D. (1981). The quality of the toddler's relationship to mother and to father: Related to conflict behavior and the readiness to establish new relationships. *Child Development*, 52, 932-940.
- Marchand, J., Hock, E. & Widaman, K. (2002). Mutual relations between mothers' depressive symptoms and hostile-controlling behavior and young children's externalizing and internalizing behavior problems. *Parenting: Science and Practice*, 2(4), 335-353.

- Marion, M. (2007). *Guidance of Young Children* (7th ed.). Upper Saddle River, NJ: Pearson Merrill Prentice Hall.
- Matas, L., Arend, R.A., & Sroufe, L.A. (1978). Continuity of adaptation in the second year: The relationship between quality of attachment and later competence. *Child Development, 49*(3), 547-556.
- Mauro, C. & Harris, Y. (2000). The influence of maternal child-rearing attitudes and teaching behaviors on preschoolers' delay of gratification. *Journal of Genetic Psychology, 161*(3), 292-306.
- NICHD Early Child Care Research Network. (2000). Factors associated with fathers' caregiving activities and sensitivity with young children. *Journal of Family Psychology, 14*(2), 200-219.
- Omer, H. (2001). Helping parents deal with children's acute disciplinary problems without escalation: The principle of nonviolent resistance. *Family Process, 40*(1), 53-66.
- Regalado, M., Sareen, H., Inkelas, M., Wissow, L.S. & Halfon, N. (2004). Parents' discipline of young children: Results from the national survey of early childhood health. *Pediatrics, 113*(6), 1952-1958.
- Richards, J., Butler, E., & Gross, J. (2003). Emotion regulation in romantic relationships: The cognitive consequences of concealing feelings. *Journal of Social and Personal Relationships, 20*(5), 599-620.
- Russell, A., Aloa, V., Feder, T., Glover, A., Miller, H. & Palmer, G. (1998). Sex-based differences in parenting styles in a sample with preschool children. *Australian*

*Journal of Psychology*, 50(2), 89-99.

Schuengel, C., van Ijzendoorn, M.H., & Bakermans-Kranenburg, M.J. (1999).

Attachment and loss: Frightening maternal behavior linking unresolved loss and disorganized infant attachment. *Journal of Consulting and Clinical Psychology*, 67, 54-63.

Slep, A.M., & O'Leary, S.G. (1998). The effects of maternal attributions on parenting:

An experimental analysis. *Journal of Family Psychology*, 12(2), 234-243.

Smith, C., Calkins, S., Keane, S., Anastopoulos, A. & Shelton, T. (2004). Predicting

stability and change in toddler behavior problems: Contributions of maternal behavior and child gender. *Developmental Psychology*, 40(1), 29-42.

Steele, M., Steele, H. & Johansson, M. (2002). Maternal predictors of children's social

cognition: An attachment perspective. *Journal of Child Psychology and Psychiatry*, 43(7), 861-872.

Steelman, L.M., Assel, M.A., Swank, P.R., Smith, K.E., & Landry, S.H. (2002). Early

maternal warm responsiveness as a predictor of child social skills: Direct and indirect paths of influence over time. *Applied Developmental Psychology*, 23, 135-156.

Troy, M., & Sroufe, L.A. (1987). Victimization among preschoolers: Role of attachment

relationships history. *Journal of the American Academy of Child and Adolescent Psychiatry*, 26, 166-172.

van Bakel, H.J.A. & Riksen-Walraven, J.M. (2002). Quality of infant-parent attachment

as reflected in infant interactive behaviour during instructional tasks. *Journal of*

- Child Psychology and Psychiatry*, 43(3), 387-394.
- Vecchio, T. & O'Leary, S. (2006). Antecedents of toddler aggression: Dysfunctional parenting in mother-toddler dyads. *Journal of Clinical Child and Adolescent Psychology*, 35(2), 194-202.
- Volling, B.L., Blandon, A. & Gorvine, B. (2006). Maternal and paternal gentle guidance and young children's compliance from a within-family perspective. *Journal of Family Psychology*, 20(3), 514-525.
- Volling, B.L., Blandon, A., & Kolak, A. (2006). Marriage, parenting, and the emergence of early self-regulation in the family system. *Journal of Child and Family Studies*, 15(4), 493-506.
- Volling, B.L., McElwain, N.L., Notaro, P.C., & Herrera, C. (2002). Parents' emotional availability and infant emotional competence: Predictors of parent-infant attachment and emerging self-regulation. *Journal of Family Psychology*, 16(4), 447-465.
- Wahler, R.G., & Meginnis, K.L. (1997). Strengthening child compliance through positive parenting practices: What works? *Journal of Clinical Child Psychology*, 26(4), 433-440.
- Weinfield, N.S., Sroufe, L.A., Egeland, B., & Carlson, E.A. (1999). The nature of individual differences in infant-caregiver relationships. In *Handbook of Attachment: Theory, Research, and Clinical Applications*, Eds. J. Cassidy & P.R. Shaver. New York: Guilford Press, pp. 89-114.

## VITA

Kristina Nicole Higgins was born in Lafayette, Louisiana on August 24, 1981, the daughter of Lisa Andrew Ellerman and William Thomas Higgins. After graduating from L.V. Berkner High School, Richardson, Texas, in 1999, she entered The University of Texas at Austin. She received the degree of Bachelor of Science from The University of Texas at Austin and a Business Foundations Certification in May 2003. In September of 2003, she entered The Graduate School at The University of Texas at Austin, and earned a Master of Arts in Human Development and Family Sciences in December 2005.

Permanent Address: 5009 N. Hermitage Ave. Fl. 2, Chicago, IL 60640

This dissertation was typed by the author.