

**LIMIT-SETTING DURING TODDLERHOOD IN RELATION TO LATER
PARENTING PRACTICES AND CHILD BEHAVIOR PROBLEMS**

By

Shirin Ojaghi Hiatt

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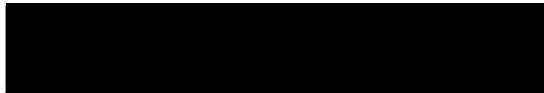
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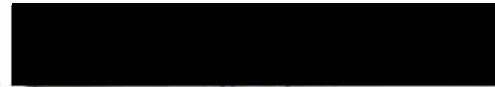
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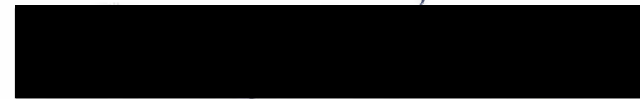
Has been approved



Gail M. Houck, R.N., Ph.D.



Barbara J. Stewart, Ph.D.



Patricia Silk Walker, Ph.D.



Elizabeth A. LeCuyer-Maus, Ph.D., A.R.N.P.

Richard Maurer, Ph.D.
Associate Dean of Graduate Studies

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Abstract

There is a continuing debate over the appropriateness and effectiveness of various discipline strategies to correct the behavior of children. Parenting, socialization, and discipline, and the effects of these on children's development have been studied for many years. The purpose of this exploratory longitudinal pilot study was to examine the relationship between observed and self-reported parenting practices, specifically practices related to discipline, and development of behavior problems in school age children.

Thirty mothers and their children, with complete observational data from child's age of 12, 24, and 36 months, were included in the study. Mothers' reports of their own parenting practices on the Parent Behavior Checklist (Fox, 1992) and the 20-minute structured questionnaire (Socolar & Stein, 1995) and their child's behavior problems at school age on the Child Behavior Checklist (Achenbach, 1991) were obtained. In addition, the children's kindergarten teachers' reports of child behavior problems at school on the Teacher Report Form (Achenbach, 1991) were obtained.

Results showed that observed maternal patterns and style of limit-setting during toddlerhood (12, 24, and 36 months) were congruent with self-reports of their later parenting practices. Specifically, earlier patterns of limit-setting were related to later nurturing practices as well as mothers' reported use of power-based discipline strategies. Early patterns and style of limit-setting, however, were not significantly associated with mothers' and teachers' reports of child behavior problems at school age (kindergarten age). Conversely, self-reported parent discipline practices were related to mothers' report of child externalizing problems. Mothers' self-reported use of power-based discipline strategies was also related to internalizing and externalizing child behavior problems reported by mothers and externalizing problems reported by teachers.

The findings from this pilot study support the need for further investigation of the relationship between parenting practices related to discipline and nurturing and child behavior problems with an adequate sample size. Results also support that survey reports

of parenting practices and beliefs are valid proxies for observational data, consequently, allowing for assessment of larger samples of parent-child dyads.

Introduction

The issue of discipline, both at home and at school, has always been a concern to parents. The debate over the appropriateness of various discipline strategies to correct the behavior of children continues today. Parenting, socialization, and discipline, and the effects of these on children's development have been studied for many years. The following background section reviews the existing literature on parenting, socialization, discipline, and behavior problems in an attempt to provide a conceptual framework for the current study.

Background

Most parents in the United States use spanking and other forms of corporal punishment (CP) to correct the behavior of their children (Straus, Sugarman, & Giles-Sims, 1997). Despite a decrease in the rate of CP since 1985, research shows that more than 90% of parents use CP on toddlers; more than half of these parents continue to use CP into the early teen years (Straus & Donnelly, 1993; Straus & Kantor, 1994). A 1995 Gallup Poll of parents found that 74% of parents with children aged 5 years and younger hit or slapped their children. A nationwide survey of parents with children aged 6 years and younger found that 61% of parents endorsed spanking as a routine form of punishment, even for infants as young as 6 months old (Pruett in Crary, The Associated Press, 2000). Although these rates have decreased, spanking is still a prevalent means of discipline in the United States (US) (Socolar & Stein, 1995; Straus et al., 1997).

This high prevalence of spanking is an indication that parents spank without paying attention to the consequences of their action (Straus et al., 1997). The evidence across cultures suggests that spanking, although not a direct cause for societal violence, is associated with an increased probability of societal violence (Straus, 1996). Whereas most of the world's societies are violent, the United States, with a homicide rate of 8.5 per 100,000, is the most violent of the advanced industrial societies. Straus (1996) argues that, in most societies, children are brought up violently through the use of corporal

punishment. Corporal punishment and assaults have similarities: they are usually impulsive, carried out to correct or control misbehavior, done in anger, and often regretted. CP and assaults differ among cultures and in their degree of severity.

In a study of 1003 mothers in two Minnesota cities Straus (1996) found that 44% of the mothers reported that they had “lost it” more than half the times they used CP. At the same time, more than half of the mothers who had spanked their children also said that spanking was the wrong thing to have done. A Canadian study reported similar findings about spanking (Durrant, 1994). This evidence suggests that spanking and other forms of power-based discipline to correct the behavior of children, especially toddlers and preschoolers, threaten the health of society and teaches children to solve problems by aggressive means rather than cooperation, understanding and consideration for others. The fallacy regarding discipline and punishment may also result in a growing number of overly aggressive, easily frustrated children (Crary, The Associated Press, 2000).

Parenting

The Interaction theory of parenting highlights the bi-directional relationship between parents’ actions and the behavior of children (Maccoby & Martin, 1983; Patterson & Rollins, 1987). Studies of temperament imply that, although parenting behavior is influenced by child behavior, the parent’s actions contribute distinctively to the child’s later behavior (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000). In terms of corporal punishment, a possible consequence of this interaction is an association between the use of physical and verbal punishment by parents and the development of behavior problems in children (Brenner & Fox, 1998). In fact, antisocial behavior models implicate that poor parental use of discipline is the first step in the developmental sequence that leads to behavior problems that can be seen in children by early elementary school (Patterson, 1986) if not in younger children (Brenner & Fox, 1998).

In this way, the interaction between parent and child is a determining factor for the child’s social competence. For many years, experts in child development have focused on

how parenting practices affect a child's development (Druker, Hammer, Agras, & Bryson, 1999). In parenting-focused intervention studies of children of divorced mothers, changes in parenting practices were significantly associated with teachers' report of school adjustment, as well as with changes in the reported adjustment of both children and mothers (Forgatch & DeGarmo, 1999).

Parenting style and practices. Darling and Steinberg (1993) recommend that there should be a distinction between parenting style and parenting practices. They defined parenting style as the collection of attitudes toward the child that are communicated to the child and create an emotional climate for parents to express themselves. Parenting practices, on the other hand, refer to behaviors that are specific and goal-oriented, and through which parents perform their parental duties. Spanking to develop compliance and praise to nurture self-esteem are examples of parenting practices (Darling & Steinberg, 1993). Parenting practices are, in part, shaped by the style of parenting that parents received as children.

Baumrind (1971, 1989) introduced three parenting styles: authoritarian or demanding, authoritative or responsive, and permissive or indulgent. In an authoritarian or power-based style, parents place unreasonable demands on their children. They control the behavior of children according to a set of standards, and use force or punishment (often physical) to alter their behavior. An authoritarian style of parenting has shown to have an inverse relationship with prosocial behavior and is positively associated with later aggression in children (Fletcher, Branen, & Lawrence, 1997).

Parents with a permissive style accept and tolerate a child's impulses, do not assert authority and use minimum punishment. Permissive parents allow their children to regulate their own behavior and make their own decisions. The children of permissive parents tend to have immature behavior and lack self-reliance and impulse control. The more negative effects of a permissive style of parenting include aggression, and an inability to take responsibility (Maccoby & Martin, 1983).

Authoritative or teaching-based parents set firm and clear limits while being affectionate and responsive (Fletcher et al., 1997; Maccoby, 1992). Teaching-based parents encourage independence and autonomy in their children. They expect mature behavior from their children and engage in negotiation, promoting open communication between parents and children, and recognizing and respecting the rights of one another (Maccoby & Martin, 1983). The children of teaching-based parents appear to test, understand, and internalize the standards, rules, and goals in addition to developing the emotional awareness and self-control necessary to the development of social competence (LeCuyer-Maus & Houck, 2001). The children of authoritative parents can reach “optimal internalization” (Druker et al., 1999).

Research on the parenting practices used by parents of very young children is limited. Therefore, the current study was designed to examine styles and practices of parents of young children in relation to later child behavior.

Socialization

In the last century, researchers made long-standing efforts to understand the socialization process (Collins et al., 2000). Students of socialization continue to be concerned with the processes that lead to the healthy functioning of adults in the society (Maccoby, 1992). Children’s effectiveness and success in adolescence and adulthood is attributed to the experience of secure relationships in the family. Parents invest a great amount of time, energy and emotion to prepare their children for a productive role in society (Campbell, 1992). The importance of family in the socialization context has been emphasized because children spend the most time engaged in family interactions and their earliest social experiences occur within the family context (Hartup & Moore, 1990). For children to be productive and responsible adults, they must acquire the habits, values, skills, and motives that will help them avoid antisocial behaviors (Maccoby, 1992). The family has continued to play a major role in the socialization of children despite the fact that other people in a child’s life are also responsible for the socialization of children

(Maccoby, 1992, 2000). Although socialization can, theoretically, occur at any time in the life span, childhood is pragmatically the most crucial period when social skills, personality, social orientations, and values are laid down (Maccoby, 1992).

A review of existing literature revealed agreement among the authors on the belief that discipline is part of the process of socializing children for adult roles (Brenner & Fox, 1998; Christophersen, 1992; Campbell, 1992; Howard, 1991; Mize & Pettit, 1997; Socolar & Stein, 1995; Socolar, et al., 1997; Waterston, 2000). The factors that differentiate children from one another in their social skills are variations in parents' styles of parenting (Baumrind, 1983), techniques of discipline, the selection of behaviors to reinforce or punish, the values they convey (Maccoby, 1984), their parenting practices and their affective and supportive responses.

Parental characteristics do not exist in isolation. Children influence parents as much as parents influence children, and parents and children provide reinforcement to one another. An implication of the sequential idea in developmental psychology is that the nature of the relationship between a parent and a child during the first year or two of life will have an impact on the success of later socialization efforts (Maccoby, 1984). Observations of parent-child interactions provide a clearer picture of family functioning (Maccoby & Martin, 1983).

Discipline

There are wide variations in the definition of discipline as part of parenting and socialization. Socolar and Stein (1995) defined discipline as "the action a parent takes at the time his or her child is misbehaving" (p. 106). They categorized discipline as either negative or positive in approach. A negative approach includes yelling, shaming, ridiculing, and disparaging while a positive approach includes praise, reasoning, compromise, and mediation. Howard (1991) defined discipline as the structure that parents set up for their children to help them fit into the society happily and effectively. This, Howard adds, provides the foundation for the child to develop his or her own self-

discipline, moral judgment and behavior control later in life. Campbell (1992) defined discipline as a component of expectation-setting, where parents help children learn self-control and follow a set of standards. When supportive and encouraging, discipline promotes happy and emotionally healthy children and helps develop problem-solving skills (Campbell, 1992).

Rosenfeld & Levine (1987) argue that the ultimate purpose of discipline is socialization of the child. Negative discipline and spanking have been identified as predictors for development of behavior problems in children. Early patterns of mother-child interactions may determine discipline practices in later life. Children's age also determines the type of discipline that parents use. The current study looked at children 5 to 7 years old and their mother's parenting practices and beliefs in spanking as a predictor for later child behavior problems as reported by mothers and teachers across different settings.

Punishment. Bettelheim (1985) defined discipline according to its original meaning, to refer to "an instruction to be imparted to disciples" (p. 51). In comparing discipline and punishment, he suggested that when parents talk about discipline, often, they think of it as an act that imposes on children rather than one that instills in them. Therefore, what they really have in mind is punishment and not discipline. McCormick (1992) discussed the purpose of discipline as teaching children how to behave whereas the purpose of punishment is to reduce children's misbehavior.

Straus, Sugarman, & Giles-Sims (1997) defined corporal punishment as "the use of physical force with the intention of causing a child to experience pain, but not injury, for the purpose of correction or control of the child's behavior. Examples of CP include slapping hands or buttock and squeezing arms" (p. 761). Smith and Brooks-Gunn (1997) specified the definition of corporal punishment as including physical behavior used by the parents to discipline their children. Parents' physical behavior included spanking and other types of physical punishment such as shoving, shaking, and grabbing.

Simons et al. (1991) defined harsh parenting as a type of punishment that consists of coercive parenting practices from frequent use of corporal punishment to physical abuse. Corporal punishment is a common parenting practice in the United States (Straus, 1991) and is highly tolerated by parents with a childhood history of abuse (Caliso & Milner, 1992). Authoritarian parenting style was shown to be the most important factor influencing the use of physical punishment (Frias-Armenta & McCloskey, 1998).

Previous research established the relationship between CP and child aggression but causal inference has not been drawn primarily due to limitations in the available appropriate research (Straus, 1996). Prospective and longitudinal studies of discipline and its impact on the development and socialization of children is needed to support the attempts to establish causality. However, there are political polarizations regarding the appropriateness of corporal punishment and spanking. Despite the abundance of research on the topic of spanking and CP, with many studies that show that even low levels of spanking may have life-long negative effects, there has not been a study methodologically sound enough to convince the public and politicians to ban spanking and corporal punishment (Hyman, 1996).

Concerns over the physical maltreatment of children and the long-term consequences of such maltreatment for child adjustment have increased, due to the large number of children exposed to parental abusive discipline practices and subsequent physical injury (Fergusson & Lynskey, 1997). Research in this area suggests a consistent dose/response relationship between children exposed to physical punishment during childhood and a wide range of later outcomes such as violent behaviors and offending, psychiatric disorders, substance use and suicidal behaviors with odds ratios ranging from 1.5 to 3.9 (Fergusson & Lynskey, 1997).

Spanking. McCormick's (1994) definition of spanking was: "striking a child one or more times with an open hand on the buttocks or hand, leaving no mark except transient redness" (p. 1050). Spanking has been shown to have negative consequences such as

aggressive behaviors, inferior development of moral reasoning, reduced self-esteem, depression, alcoholism, violence, and physical abuse of children (Socolar & Stein, 1995). In spite of its association with undesired outcomes, spanking remains a common disciplinary technique in the US (Fargason, Chernoff, & Socolar, 1996). In order for parents to decrease or change their disciplinary techniques, they must be confident that they can manage their children's behavior without spanking (Fargason et al., 1996).

Limit-setting. Limit-setting is an inherent component of parental discipline (Houck & LeCuyer-Maus, 2001), and a central context in which the standards, rules, goals, and other social demands may be communicated (Houck, 2001). More specifically, limit-setting involves efforts by parents to change or control the behavior of their children (Houck & LeCuyer-Maus, 2001). During toddlerhood, maternal limit-setting is crucial for the child's safety (Houck, 2001), and the strategies used in limit-setting interactions facilitate the process of the child's self-regulation (Kochanska, 1994; Crockenberg & Litman, 1990).

Research links more positive discipline outcomes for child behavior to parents with authoritative style than to authoritarian or harsh parenting (Baumrind, 1971). Specifically, verbal and physical punishment have been linked to behavior problems in preschoolers and school-aged children (Brenner & Fox, 1998; Dadds, 1987; Patterson, DeBaryshe, & Ramsey, 1989). Power-based strategies (e.g., negative tone, spanking, or punishment) have been largely ineffective and linked to negative behavior outcomes (Belsky, Woodworth, & Crnic, 1996; Brenner & Fox, 1998; Brier, 1995; Crockenberg & Litman, 1990; Rothbaum & Weisz, 1994). For this current report, maternal limit-setting patterns at 12, 24, and 36 months, and maternal limit-setting style throughout toddlerhood were examined in relation to subsequent child behavior problems at school age.

Behavior Problems

Achenbach (1991) defined the behavior problems of children as either internalizing problems or externalizing problems. Internalizing problems are directed toward self and

consist of withdrawal, somatic complaints, anxiety and depressive symptoms.

Externalizing problems are problems that are directed toward others and include aggression and delinquent behaviors (Achenbach, 1991).

Individuals who display severe antisocial behavior in adolescence and adulthood frequently have a history of externalizing problems or acting out behavior extending back to early childhood (Moffitt, 1993; Patterson, Reid, & Dishion, 1992; Robins, 1991).

Disruptive behaviors in early childhood precede a serious antisocial behavior in middle childhood and beyond (Moffitt, 1993). Parent-child relations are among the most important risk factors in the prediction of antisocial behavior (Stormshak, Speltz, DeKlyen, & Greenberg, 1997). Studies of delinquency found that the more CP parents used, the greater the probability of the child being delinquent (Straus, 1994).

Studies of delinquency and non-family assaults show that CP of school-age children and adolescents is associated with later adult violence and other crimes. Tsang (1995), in a study of anger, found that the more CP the mothers had experienced, the more likely they were to have high scores on a current anger scale measure, and the more they used CP on their own children.

If corporal punishment is one of the factors that increase the level of violence in a society, then individual life histories of members of a society should show the same relationships (Straus, 1996). A combination of reward, positive motivational techniques and appropriate, non-physical punishment would prevent most behaviors (Hyman, 1996). Patterson & Forgatch (1995) showed substantial correlation and connections between parental characteristics (e.g., disciplinary practice) and behaviors and children's behavior problems both at home and out-of-home contexts. The current study also attempted to determine the correlations between parent behaviors and practices and child behavior problems in various settings and over time.

Purpose

The purpose of this study was to explore the relationship between limit-setting interactions and later parenting practices, specifically practices related to discipline and punishment, and development of behavior problems in school age children who are 5 to 7 years of age. In this study, the five research questions addressed were:

- 1) What is the relationship between observed mother-child limit-setting interactions during toddlerhood (12, 24, and 36 months) and self-reported parenting practices at school age?
- 2) What is the relationship between observed mother-child limit-setting interactions during toddlerhood (12, 24, and 36 months) and child behavior problems at school age?
- 3) Is there a relationship between self-reported parenting practices and the child's behavior problems at school age?
- 4) To what extent are parents' beliefs in spanking and their parenting practices (discipline, nurturing, power-based discipline strategies) related to one another?
- 5) How does parents' own history of being spanked as a child relate to their later parenting practices and their children's behavior problems at school?

Four hypotheses corresponding to the first four research questions were examined in this study.

- 1) Compared to mothers who use teaching-based or indirect interactions during limit setting, mothers who use power-based and inconsistent limit-setting interactions with their children at 12, 24 and 36 months will report the following parenting practices at school age:
 - a) higher discipline and lower nurturing practices,
 - b) higher power-based discipline strategies, and
 - c) beliefs that spanking is more acceptable.

- 2) Compared to mothers who use teaching-based or indirect interactions during limit setting, mothers who use power-based and inconsistent limit-setting interactions with their children at 12, 24 and 36 months will have children who, at school age, will have more behavior problems, specifically externalizing problems, as reported by mothers and teachers.
- 3) Mothers who believe in spanking and use power-based discipline strategies will have children with more behavior problems.
- 4) Mothers who believe in spanking will use more power-based discipline strategies and will have higher scores on discipline practices and lower scores on nurturing practices.

Methods

Overview

This small-sample, pilot study explored the relationship between observed and self-reported parenting practices—specifically, practices related to discipline and punishment—and development of behavior problems in school-age children. The analysis reported here was based on data from 30 mothers and their children and their kindergarten teachers.

Secondary data: 12, 24, and 36 months. Data at 12, 24, and 36 months were secondary data originally collected for a longitudinal study of mother-toddler interactions (Houck, 1992). On three occasions, when their child was 12, 24, and 36 months old, mothers' behavior patterns were observed using 3-minute videotaped interaction in a limit-setting context.

Secondary data: 5 to 6 years. Additional secondary data regarding children's behavior at 5 years of age were collected as part of a second follow-up study (Houck, 2001). Children's behavior problems were examined at school age (ages 5 and 6) using parent and teacher perspectives.

Primary data: 5 to 7 years. Primary data included parental self-reports of their nurturing and discipline practices. In addition, parents' report of their discipline strategies and beliefs in spanking were also collected for this study.

The aims of the original longitudinal study, "Mother-Toddler Interactions and Adaptation of Toddlers," were: a) to describe the nature and quality of mother-child control-salient interactions; b) to examine the relationship between individual mother and child characteristics and the quality of mother-toddler interactions; and c) to examine the relationship between interactional behavior and the child's development of self-concept and social-competence (Houck, 1992). For the current study, secondary data were analyzed from the original longitudinal observational study of mother-toddler interactions. Additional data were collected from a sub-sample of the longitudinal study

when the children were school-aged. In this study, the school age was defined as when children were 5 to 7 years old, which indicated that children were either in kindergarten or first grade.

Sample

The longitudinal study from which subjects for this research study were recruited consisted of a convenience sample of 162 middle- and lower-income mother-infant dyads. They were recruited from a Family Practice Clinic prior to the child's age of 8 months. African-American and Caucasian mothers who spoke English as their primary language and had children with no disabilities were included in the study. The sample of 162 represented 72% (162/224) of the mother-child dyads identified as eligible for recruitment in a given year based on the clinic population estimates. Data were collected at 12, 24, and 36 months with 153, 135, and 132 dyads, respectively. At 36 months, complete observational data were available for 126 dyads (82%). The sample retention rate at 36-months was 81% (132/162). Loss of subjects was due to inability to contact participants who had relocated and disconnected their phone without leaving a forwarding address ($n = 17$, 10.5%), those whose relocation required a long travel to the location of data collection ($n = 2$, 1%), or those who missed 3 scheduled appointments ($n = 11$, 7%) (G.M. Houck, Personal Communication, 2001).

The sample of 162 was reduced to 78 mother-child dyads, with data from toddlerhood and at the child's age of 5 years, when 87 of 130 mothers who agreed to be contacted for future studies consented to participate in the assessment of the child at 5 years of age. Although no secondary data from the follow-up study were used for the analysis in the current study, it provided the set of 78 mother-child dyads from which the current sample was drawn.

The current investigation used secondary data from a second follow-up of the original mother-toddler study in which the quality of maternal caregiving was examined for its influence on the development of social competence in kindergarten. The second follow-

up study specifically examined the kindergarteners' behavioral adjustment, as obtained by maternal and teachers' reports on a behavior checklist (Spegman, 2000).

For the current parenting practices study, primary data on parenting practices were collected from a subset of mother-child dyads ($N = 78$) with complete data from the first follow-up study. Mothers who were predicted to meet the inclusion criteria of their child's enrollment in kindergarten or first grade by September 1999 based on the child's date of birth were contacted. Thirty-two (41%) of the mothers completed the survey. Complete data, including mother-toddler observation, school age behavior assessment, and parenting practices reports were available for 30 mother-child dyads. Two mother-child dyads were excluded from the final analyses because it was not clear which child in the household the mother reported on for self-report data.

Of the 30 mothers, 25 (83.3%) reported themselves to be Caucasian, 2 (6.7%) were African-American, and 3 (10%) mothers reported they were of other racial/ethnic groups. The mothers' age ranged from 24 to 52 and averaged 38 years ($SD = 7.5$). The number of children in their families ranged from 1 to 5, with an average of two children per family. The children in the study were mostly males ($n = 23$, 77%), whose age at follow-up ranged from 5.0 to 7.5 years ($m = 6.4$ years, $SD = 0.6$). The majority of the mothers ($n = 23$, 77%) were married or cohabitating with the same partner from the 36-month observation. Of the mothers (23.3%) who reported being single parents, 4 (13.3%) had never married, 2 (6.7%) were divorced, and 1 (3.3%) was separated. The majority of the mothers ($n = 25$, 83.3%) were employed. Most mothers ($n = 29$, 97%) reported they served as the primary caregiver for their children.

Procedures

The Oregon Health Sciences University (OHSU) Institutional Review Board (IRB) approved the original mother-toddler study and the two follow-up studies. Approval from the IRB was also obtained for the current parenting practices investigation.

Longitudinal study procedures. Mother and child characteristics were assessed when the child was 8 months old, with subsequent assessment of characteristics and laboratory observations of the dyads at the child's age of 12, 24, and 36 months. Data were collected using 8 maternal report measures, mailed to mothers prior to their scheduled observation visit. Observations of mother-toddler interactions were videotaped at the OHSU School of Nursing and consisted of seven episodes. These episodes varied in sequence according to the age of the child. At 12 months, the limit-setting interaction followed mother-child play and toy clean-up. At 24 and 36 months, the limit-setting interaction followed a mother-toddler teaching interaction.

Self-regulation study procedures. The self-regulation follow-up study assessed children at 5 years of age. Additional child behavior data were collected including an observation of the child in a delay of gratification task. Mothers' reports on child behavior were obtained using a behavior checklist (CBCL).

Second follow-up and current study procedures. In the first follow-up study of self-regulation, 78 mothers indicated a willingness to be contacted for future research on child development. For both the second follow-up study and the current study, these 78 mothers were contacted by phone to obtain permission to send consent forms and questionnaires in the mail. All who were reached ($n = 75, 96\%$) gave researchers their permission to mail research instruments. If an answering machine was reached, the purpose of the phone call was explained and mothers were given a phone number to contact if they had a question or objections to the mailing. Mothers whose phone was no longer in service were sent the packet of information and a letter indicating that attempts had been made to reach them by phone. Mothers were mailed appropriate questionnaires including the Parent Behavior Checklist (PBC) (Fox, 1992), as well as a questionnaire regarding parents' beliefs about and practices with discipline and spanking, and two child behavior checklists (one to be sent to the child's teacher). Participants were asked to return a signed consent form and the completed parent questionnaires to the investigators

in an enclosed stamped, addressed envelope. Mothers' were asked to give their children's kindergarten teachers permission to report on child behavior from their perspectives. Teachers' were also provided with stamped envelopes to return the teacher reports.

The incentive for subject participation included a letter indicating the importance of their opinions and beliefs, and a self-addressed stamped envelope to return the completed questionnaires. Thirty-five (45%) of the mothers who were contacted subsequently returned the signed consent forms and completed questionnaires. All mothers who returned completed questionnaires were mailed a thank you note and a \$10 bill payment in appreciation for their time and efforts. Complete data were available for 30 of the 35 participants. Therefore, the following report is based on a convenience sample of 30 mother-child dyads.

The final sample of 30 for the current parenting practices study was not a representative sample of either the clinic or the general population. For the original longitudinal study, it was estimated that over an 18-month recruitment period, 336 mother-child dyads would be receiving postnatal care at the Family Practice clinic where recruitment for the study occurred. Over the 18-month recruitment period, a final eligible sample of 162 dyads was recruited. The original sample size of 162 was selected in an effort to balance the feasibility of conducting the original longitudinal study with the need for adequate power to carry out the analyses on which to base future studies (G.M. Houck, personal communication, 2001). The sample of 78 in the first two follow-up studies was 48% of the original sample and 60% of the 130 mothers who gave permission to be contacted for future follow-up studies. The sample of 30 for the current parenting practices study represented 38.5% of the sample in the follow-up studies who gave permission to be contacted for future studies, 18.5% of the original eligible sample of 162, and only 13% of the estimated original clinic population per year.

Measures

Five measures were used in this study. Three of these measures, Prohibition Coding Scheme (Medvin & Spiker, 1985, revised by Houck & LeCuyer, 1995), Child Behavior Checklist (CBCL) (Achenbach, 1991), and Teacher Report Form (TRF) (Achenbach, 1991), were used in the previously approved and completed studies; secondary data were used for analysis in the current study. Two new measures, the Parent Behavior Checklist (PBC) (Fox, 1992) and the 20-minute Structured Questionnaire (20 SQ) (Socolar & Stein, 1995), were used to collect additional data for the current study. A copy of the new instrument adapted from the 20-minute Structure Questionnaire is provided in Appendix A. The description for each measure is provided below.

Measure of mother-toddler interaction. The Prohibition Coding Scheme assesses the patterns of maternal control strategies and child compliance in a 3-minute limit-setting situation. During this interaction, all toys, books, and other potential play items were removed from the room and the mother was asked to prevent her child from touching a novel object. All children were given the same novel objects at each age. The objects were: a computer keyboard at 12 months, a xylophone at 24 months, and a toy piano at 36 months. Observers using the Prohibition Coding Scheme rated mother and child separately, but on dimensions that considered the other's behavior and retained their interdependence.

The frequencies of four classes of maternal control behavior (verbal commands, physical directs, distractions, and reasoning strategies) were counted. Maternal responsiveness to her child's negative affect and initiations of activity were also observed. Maternal behaviors were then classified as one of the four limit-setting patterns: indirect, teaching-based, power-based, or inconsistent.

Indirect mothers were those who did not assert a limit around the novel object. The mothers with an indirect limit-setting pattern used distraction as their primary strategy to divert their toddler's attention from the object. Indirect mothers had firm control, but

spent little time clarifying the limit or providing reasoning to their toddlers. Mothers who were categorized as having a teaching-based pattern of limit-setting provided firm control, were relatively clear about the limit and provided reasons and explanations for the limit, and used occasional developmentally appropriate distractions. Power-based mothers used limit-setting strategies that asserted power and control. These mothers used commands and physical directives, with little reasoning. Mothers with an inconsistent pattern of limit-setting seemed inattentive and unresponsive, in addition to lacking organization, timing and clarity in their behavior.

The estimates of interrater reliability for this measure were 82% ($k = .75$) at 12 months, 91% ($k = .87$) at 24 months, and 89% ($k = .82$) at 36 months. See Table 1 for the distribution of maternal limit-setting patterns at each age for the first follow-up study ($N=78$).

The child was observed for behavioral frequencies on the dimensions of autonomy, self-regulation, and engagement. Using proportions, each child was assigned to one of the four behavioral categories: autonomous-disengaged; compliant-engaged; persistent-engaged; and persistent-disengaged. Interrater reliability agreement was reported as 91% ($k = .86$) at 12 months, 91% ($k = .88$) at 24 months, and 97% ($k = .96$) at 36 months. Table 2 shows the distribution of child responses to limit-setting patterns at each age for the first follow-up study ($N = 78$).

Table 1. Distribution of Maternal Limit-setting Patterns at 12, 24, and 36 Months ($N=78$)

Child age	Mothers Limit-setting Patterns			
	Indirect	Teaching-based	Power-based	Inconsistent
12 months	12	28	28	10
24 months	8	39	25	6
36 months	5	49	17	7

Child response patterns were excluded in the final analysis because preliminary analyses revealed no associations between child response to limit-setting patterns and consequent development of behavior problems. In addition, child characteristics were not associated with parenting practices.

Table 2. Distribution of Child Responses to Limit-setting Patterns at 12, 24, and 36 Months (N=78)

Child age	Child Responses			
	Autonomous-disengaged	Compliant-engaged	Persistent-engaged	Persistent-disengaged
12 months	9	16	41	12
24 months	8	21	36	13
36 months	9	43	21	5

For the current study, only maternal limit setting patterns were employed in the data analysis. The four classifications at 12, 24, and 36 months were assessed. An overall maternal limit-setting style variable was computed as well. Maternal limit-setting style was determined based on the mothers' classification of their limit-setting patterns on at least 2 of the 3 observations.

Table 3 indicates the number of mothers who participated in the current study compared to those mothers from the first follow-up study who chose not to participate. The proportion of participants to non-participants at each age for the limit-setting patterns and style was comparable to overall participation rate of 38.5% for the dyads kept in the analysis, except for power-based patterns at 24 and 36 months and overall power-based style which was less representative, 17% and 25%, respectively.

Table 3. Comparison of the Number of Mothers from the First Follow-up Study (N=78) Who Participated or Did Not Participate in the Current Study

Child Age	Months						Months	
	12		24		36		12-36	
	Partic.	Not	Partic.	Not	Partic.	Not	Partic.	Not
Mother Limit-setting Pattern								
Indirect	7	5	5	3	4	1		
Teaching-based	9	18	17	22	18	29		
Power-based	9	18	4	20	4	13		
Inconsistent	5	5	4	1	4	3		
Maternal Limit-setting Style								
Indirect							4	2
Teaching-based							16	24
Power-based							4	16
Inconsistent							6	4

Note. Mothers are grouped based on their limit-setting patterns and style during toddlerhood

Because 78 (90%) of 87 mothers had participated in the follow-up studies, it was estimated that the sample for the current study would be reasonably large for the proposed analyses. Initially, it was estimated that 70 mothers would participate in the current study, representing a 90% response rate, as in the previous follow-up study. The discrepancy between the previous response rates and the response rate in this study could be that this study did not require the participants to travel to OHSU for observational data. Follow-up efforts to encourage participants to complete and return the self-report survey were also limited in this study.

Measure of behavior problems. The Child Behavior Checklist for ages 4-16 (CBCL/4-16), a parent report of emotional and behavior problems in children, was used to assess a child's behavior adjustment at ages 5 and 6 years (Achenbach, 1991). The CBCL consists of 100 items (79 behavior problems and 21 social competence). The items were scored on a 3-point response scale (0 = not true, 1 = sometimes true, and 2 = often true). This measure consisted of two broad behavior problem dimensions (externalizing and internalizing) and eight specific scales, which identify existence of a behavior problem. The externalizing subscale consists of behaviors that are of an acting-out nature whereas the internalizing subscale consists of "inward" behavioral

symptom. Internal consistency and test-retest reliability are well established for this measure (Achenbach, 1991).

The sample for this study ($N = 78$) yielded adequate internal consistency estimates. On the internalizing, externalizing, and total problem scales, alpha coefficients were, respectively, .75, .86, and .87 for girls and .82, .91, and .96 for boys (Houck, 2001).

The Teacher Report Form (TRF), a teacher report of emotional and behavior problems in children, was used to assess child behavior problems during school age. This form is similar to the CBCL/4-16 parent form in content and structure. On the internalizing, externalizing, and total problem scales, the median test-retest Pearson coefficients were, respectively, .85, .89, and .89 for combined samples of boys and girls (Achenbach, 1991). For both the CBCL/4-16 parent report and teacher report, only the internalizing and externalizing scores were used for final analyses.

Measures of parenting practices. The Parent Behavior Checklist (PBC), a 100-item rating scale, measures parenting of children 1 to 5 years of age. This measure has three subscales, derived through factor analysis: expectations; discipline; and nurturing. The expectations subscale includes 50 items that measure a parent's developmental expectations for the child ("My child should use the toilet without help"). The discipline subscale entails 30 items that reflect how a parent responds to difficult child behaviors ("I yell at my child for whining"). The 20 items of the nurturing subscale measures strategies parents use to promote their child's psychological growth ("I read to my child at bedtime"). All items are rated on a 4-point frequency scale (1 = almost never/never to 4 = almost always/always). The higher scores on the discipline subscale indicated that mothers used more discipline practices and the higher scores on the nurturing subscale indicated that mothers used more nurturing practices. Internal consistency estimates (Fox, 1992) for each subscale using coefficient alpha (α) were: Expectations, .97; Discipline, .91; and Nurturing, .82. For the current sample ($n = 30$), internal consistency estimates (α) were: Expectations, .87; Discipline, .83; and Nurturing, .86. Test-retest reliabilities were reported as .98, .87, and .81, respectively (Fox, 1992).

For the final analysis, the Expectations subscale was excluded because the children in the current sample were older than 5 years of age and the developmental expectation items did not seem to adequately reflect the mothers' current expectations for her child. Therefore, only the parent discipline and nurturing practices subscales were included in the final analyses.

The 20-minute Structured Questionnaire (20 SQ) (Socolar & Stein, 1995) questions how parents disciplined their children; it consisted of four sections. Items in Sections 1 and 2 are rated on a 4-point scale and responses range from "1 = never" to "4 = always." Items on Section 4 are rated using "yes" and "no" answers. This measure was constructed to assess beliefs about spanking and discipline (Cronbach's alpha = .90) and practices related to spanking and discipline (Cronbach's alpha = .71).

Section 1 consists of nine items that measure beliefs in the kind of discipline (teaching, spanking, and removing) and six items that measure beliefs in tone of and approach to discipline (positive or negative). To look at several ages, the items ask about children at 9 months, 1, 2, and 3 years of age. For example, each item describes the age of the child and a specific behavior:

<i>When a 9-month-old boy gets too close to a hot iron...</i>				
<i>Spank him when he goes too close</i>	<i>Never</i>	<i>Rarely</i>	<i>Usually</i>	<i>Always</i>
<i>Tell him why he mustn't get close</i>	<i>Never</i>	<i>Rarely</i>	<i>Usually</i>	<i>Always</i>
<i>Remove him from the area so that he cannot get close</i>	<i>Never</i>	<i>Rarely</i>	<i>Usually</i>	<i>Always</i>

Section 2 consists of items that assess beliefs about the appropriateness of various disciplinary practices with different severity for various ages. For example, mothers were asked whether "It is ok to spank a child who is less than 1 year old" or "It is ok to spank a child with something other than a hand." An additional question regarding the appropriateness of disciplining a child when the parent is angry was also asked of mothers.

Section 3 consists of a number of independent factors that authors thought may be associated with parental beliefs and practices. These factors included mothers being

spanked as a child, religion, religiosity, family composition, sex, race, household income, health insurance status, education, hours the mothers spent working, and hours the mothers spent taking care of children. Section 4 assesses the actual practice and frequency of discipline by mothers during the past week; this section consisted of four items.

The 20-minute Structured Questionnaire was designed for administration in a face-to-face interview. In order to use this as a mailed self-report format, a new format that was more appropriate to self-report was developed. Items from the original instrument were included in the self-report version unless the same questions were asked in other instruments or the questions were developmentally inappropriate for children 5 to 7 years of age. The new questionnaire was divided into three sections: Parenting Beliefs; Discipline Strategies; and Parent History.

Parenting Beliefs consisted of 15 items, 14 of which were adapted from Section 2 of the original questionnaire. A new item, "It is ok to spank a child who is 4-6 years old," was added to assess discipline beliefs at the current age of the child. Discipline Strategies consisted of 17 items, 12 of which were adapted from Section 4 of the original questionnaire. Five new questions were added to assess strategies other than spanking. They were: "I yelled at him when he didn't behave as I wanted;" "I threatened him when he didn't behave as I wanted;" "I ignored him when he misbehaved;" "I withdrew his privileges when he misbehaved;" and "I spanked him when he didn't do what I expected." Parent History consisted of 12 items, 9 of which were from the original instrument. Three qualitative questions were added to explore the mother's support network for and religious beliefs on childrearing.

Reliability analysis for Parenting Beliefs and Discipline Strategies yielded two power-based subscales. Parenting Beliefs questions yielded a subscale that reflected "beliefs in spanking" with 7 items (Cronbach's alpha = .78). The Discipline Strategies questions yielded an index that consisted of "power-based discipline strategies" with 8

items (Cronbach's alpha = .60). Five items were included in the Parent History section. One item was eliminated because there was no variability in the response (almost all mothers responded yes to whether they had been spanked as a child). The parental history of spanking as a child yielded a 4-item index with Cronbach's alpha of .68. All three subscales (beliefs in spanking, power-based discipline strategies, and parental history of spanking) were used in the final analyses. Because of the exploratory nature of this study, designed to guide future research, the decision was made to keep the two indexes with an $\alpha < .70$ for this pilot work.

Analysis

The independent variables for this study were maternal limit-setting patterns and overall maternal limit-setting style. The nine dependent variables were parenting practices of discipline and nurturing, parent's belief in spanking, power-based discipline strategies, parent history reported by mothers at children's ages 5 to 7, and child behavior problems (internalizing and externalizing) reported by mothers and teachers at child's school age. The descriptive statistics for all independent and dependent variables were calculated. The maternal limit-setting patterns and style served as grouping variables for one-way analyses of variance (ANOVAs) with five parenting variables: parent nurturing and discipline practices (PBC), beliefs in spanking, power-based discipline strategies, parental history of being spanked as a child. Maternal limit-setting patterns also served as grouping variables for ANOVAs with four child variables: internalizing and externalizing behavior problems as reported by mothers and teachers. Bivariate Correlation analysis was carried out among the dependent variables.

Due to the exploratory nature of this study, the level of significance was set at $p = .05$ for hypothesis testing. However, because the hypotheses were unidirectional, a one-tailed significance for the correlations among dependent variables was used. For the ANOVAs, eta-squared (η^2) was reported to give the proportion of the sum of squares or variation in dependent variables explained by the independent variables. Eta-squared is a statistic

ranging from .00 to 1.00 and is an indicator of the clinical significance or practical magnitude of the relationship between independent variables and dependent variables. Although no published guidelines for eta-squared were found, the "d" or $[(M_1 - M_2)/SD]$ effect sizes of .20 (small), .50 (medium), and .80 (large) correspond to r^2 values of .01, .06, and .14 respectively (Lipsey, 1990). Because $\eta^2 = r^2$ for linear relationships between the independent and dependent variables, an eta-squared of .14 might be viewed as practically important. Developmental psychologists and other behavioral scientists report the strength of the relationship between the independent and dependent variables in terms of effect size (ES) in addition to reporting outcomes in terms of significance levels (p values) (Maccoby, 2000). In this study, eta-squared is reported as one measure of effect size.

Dependent Variables: Parenting Practices, Parent History, and Child Behavior Problems

Table 4 lists the descriptive statistics for the nine scales that measure the dependent variables. The two subscales of nurturing and discipline practices from the Parent Behavior Checklist (PBC) (Fox, 1992) were used as dependent variables. The nurturing subscale consisted of 20 items with a possible range from 20 to 80. The 30-item discipline practices subscale had a possible range from 30 to 120. As shown in Table 5, mean scores fell toward the “nurturing” end and the “non-discipline” end of their respective subscales. Generally, mothers tended to be nurturing and not strong disciplinarians.

Table 5. Means and Standard Deviations of Dependent Variables (N=30)

Dependent Variables	Possible range	Actual range	M	SD
Parenting Practices (PBC)				
Discipline	30-120	30-52	37.7	5.6
Nurturing	20-80	47-76	61.9	8.0
Belief in Spanking	7-28	8-21	12.7	3.3
Power-based Discipline Strategies	8-33	13-24	18.6	2.7
Parent History	4-16	4-13	8.2	2.8
Child Behavior Checklist (CBCL)				
Internalizing	0-64	1-18	6.2	4.5
Externalizing	0-66	1-22	10.6	6.0
Teacher Report Form (TRF) (Winsorized)				
Internalizing	0-72	0-12.1	2.6	3.9
Externalizing	0-68	0-6.1	1.0	2.1

The beliefs in spanking subscale (from the Socolar & Stein, 1995) consisted of 7 items, yielding a possible score range from 7 to 28. The power-based discipline strategies subscale consisted of 8 items with a possible range of 8 to 33. Parental history of spanking consisted of 4 items with a possible range of 4 to 16. As shown in Table 4, the mean belief in spanking score of 12.7 also fell in the lower half of the range, while mean

scores of 18.6 and 8.2 for power-based strategies and parent history, respectively, fell closer to the middle of the range. Overall, based on their scores on the parent history subscale, mothers were not strong believers in spanking or power-based disciplinarians, and did not have a childhood experience of being spanked.

Almost all of the mothers ($n = 29$, 97%) reported that their parents believed in spanking; this item was not included in the subscale. Only one mother reported that she was spanked “frequently” as a child, while the majority of mothers reported being spanked “sometimes” ($n = 10$, 33%) or “rarely” ($n = 18$, 60%).

Raw scores on the internalizing and externalizing dimensions of problem behavior were used for the parent report on the CBCL and the teacher report on the TRF. The parent report of internalizing behavior problems dimension of the CBCL is compiled from three subscales: anxiety/depression (14 items); withdrawal (9 items); and somatic complaints (9 items), with a possible total internalizing behavior problems score of 0-64. The CBCL externalizing behavior problems dimension had 2 subscales: delinquent behavior (13 items) and aggressive behavior (20 items), with a possible total externalizing behavior problems score of 0-66. The TRF internalizing behavior problems dimension also consisted of anxiety/depression, withdrawal, and somatic complaints and had 18, 9, and 9 items, respectively. The possible total score for the TRF internalizing behavior problems was from 0 to 72. The TRF externalizing behavior problems dimension also contained two subscales: delinquent behavior (9 items) and aggressive behavior (25 items), with the possible total externalizing behavior problems score of 0-68.

The teachers' reports of both internalizing and externalizing behaviors had outliers. The internalizing variable had one child with a score of 33, as compared to the other 29 scores ranging from 0-12. The externalizing variable had 2 high scores of 20 as compared to the other 28 scores of 0-6. For both of these variables, the outliers were Winsorized to 12.1 and 6.1, respectively. Based on strategies recommended by Barnett and Lewis

(1984), it was decided to Winsorize the outliers as opposed to excluding them from the analyses. Winsorization is a process that is used to retain the outliers if the direction of the values carry significant information (Barnett & Lewis, 1984). In this process, the extreme values, on each end of the range where outliers exist, are replaced by their nearest neighbors. In order to distinguish between the outliers and the actual values in this study, the outliers were given a value of 0.1 higher than the nearest neighbor. The decision to Winsorize the outliers was made to avoid the elimination of the children with the most externalizing behavior problems from the small sample which would erode power in this exploratory pilot study. The means and standard deviations (SDs) for the original raw scores of TRF internalizing and externalizing were 3.3 (\pm 6.6) and 2.0 (\pm 5.1), respectively, as compared to the Winsorized means and SDs of 2.6 (\pm 3.9) and 1.0 (\pm 2.1).

Correlations: Internalizing and Externalizing Behaviors

Internalizing and externalizing behavior problem scores reported by the mothers were moderately correlated ($r = .55$, $p = .001$), as were the teachers' report of internalizing and externalizing problem scores on the TRF ($r = .43$, $p = .009$). Correlation analysis between internalizing and externalizing behavior problems reported by the mothers on the CBCL and by the teachers on the TRF yielded significant relationships between (maternal report and teacher report of) the externalizing behavior problem scores ($r = .35$, $p = .027$).

Child gender was not significantly related to internalizing problems on maternal or teacher reports, or externalizing problems on maternal report. However, gender was significantly related to externalizing problems at school ($r = .38$, $p = .018$) where males scored higher on externalizing problems reported by teachers. Race was not significantly related to internalizing or externalizing problems at school or to internalizing problems reported by mothers on the CBCL. However, race was significantly related to externalizing behavior problems reported by mothers ($r = -.32$, $p = .044$), with more problems reported on the CBCL by mothers for non-Caucasian children. Age was not

assessed for its relationship with the child internalizing or externalizing behaviors because the data for the child behavior assessment was collected at two different times depending on when the child entered kindergarten. The first half (n = 17) were in kindergarten approximately one year earlier than the second half (n = 13).

Question 1: What is the relationship between observed mother-child limit-setting interactions during toddlerhood (12, 24, and 36 months) and self-reported parenting practices at school age?

Between subjects analyses of variance (ANOVAs) were conducted to determine if variation in parenting practices at School age is associated with earlier maternal limit-setting patterns at the child’s age of 12, 24, and 36 months. Both the F-ratio and eta-squared (η^2), a measure of effect size, are reported in Table 6 and means and standard deviations are reported in Table 7.

To test the directional hypotheses for maternal limit-setting interactions and self-reported parenting practices, planned comparisons were computed. When overall *F* statistics were significant, the least significant difference (LSD) test (two-tailed, $\alpha = .05$) was used to probe for additional significant mean differences.

Table 6. Percent of Variation in Self-reported Parenting Practices at School Age (ages 5-7) Explained by Maternal Limit-setting Patterns at 12, 24, and 36 Months and Styles Across Toddlerhood (Eta²) (N=30)

	Parenting Practices (PBC)		Beliefs	Discipline Strategies	Parent History
	Discipline	Nurturing	Spanking	Power-based	
Maternal Limit-setting Patterns					
12 months	.15	.26*	.13	.19	.00
24 months	.08	.25 [†]	.07	.21 [†]	.01
36 months	.17	.25 [†]	.03	.22 [†]	.07
Maternal Limit-setting Styles					
12–36 months	.19	.25 [†]	.14	.12	.04

[†] $p \leq .10$

* $p \leq .05$

Parenting Practices: Discipline. Mother's limit-setting patterns at 12, 24, and 36 months were not significantly associated with their later parent discipline practices (PBC) ($\eta^2 = .08$ to $.17$). Similarly, maternal limit-setting style was not associated with later parent discipline practices ($\eta^2 = .19$). Although no significant differences existed among means overall, planned comparisons showed that power-based mothers at 12 months had higher discipline practices mean score at school age ($m = 40.3$) as compared to teaching-based mothers ($m = 35.3$, $p = .042$, $ES = .87$).

Table 7. Means and SD of Limit-setting Patterns for Parenting Practices and History

		Parenting Practices (PBC)		Beliefs	Discipline Strategies	Parent History
Mother Limit-setting Patterns		Discipline	Nurturing	Spanking	Power-based	
12 months	Indirect (n=7)	36.3 (5.3)	67.3 (5.5)	11.7 (3.4)	17.7 (1.8)	7.7 (2.9)
	Teaching-based (n=9)	35.3 (5.0)	63.7 (8.1)	11.6 (3.5)	17.4 (2.8)	7.9 (3.6)
	Power-based (n=9)	40.3 (6.4)	59.4 (7.3)	13.7 (3.3)	20.1 (2.5)	8.3 (2.8)
	Inconsistent (n=5)	39.4 (4.6)	55.8 (7.9)	14.4 (1.7)	19.2 (3.1)	8.4 (2.1)
24 months	Indirect (n=5)	37.8 (5.2)	65.0 (7.3)	12.8 (4.1)	16.6 (2.1)	7.8 (2.9)
	Teaching-based (n=17)	37.5 (6.0)	64.0 (7.7)	12.1 (2.8)	18.9 (3.0)	8.2 (3.1)
	Power-based (n=4)	35.2 (4.6)	54.0 (5.0)	13.8 (5.2)	17.5 (1.7)	7.8 (3.1)
	Inconsistent (n=4)	41.2 (6.1)	57.2 (7.3)	14.2 (1.9)	20.8 (1.0)	8.0 (2.9)
36 months	Indirect (n=4)	36.8 (5.3)	66.8 (7.2)	12.5 (4.6)	17.2 (1.7)	7.8 (3.4)
	Teaching-based (n=18)	36.3 (4.8)	62.9 (7.8)	12.4 (3.6)	18.1 (2.6)	8.1 (2.9)
	Power-based (n=4)	42.8 (8.1)	52.5 (5.9)	13.0 (1.4)	19.8 (3.4)	6.8 (1.7)
	Inconsistent (n=4)	40.0 (5.3)	62.2 (5.4)	14.0 (2.2)	21.2 (1.5)	9.5 (3.7)
Maternal Limit-setting Styles						
12-36 months	Indirect (n=4)	36.8 (5.3)	66.8 (7.2)	12.5 (4.6)	17.2 (1.7)	7.8 (3.4)
	Teaching-based (n=16)	35.9 (4.9)	63.8 (7.8)	11.8 (3.0)	18.2 (2.5)	8.1 (3.1)
	Power-based (n=4)	40.8 (8.4)	53.8 (5.1)	15.0 (4.2)	19.5 (3.3)	7.0 (1.8)
	Inconsistent (n=6)	41.3 (4.8)	59.2 (7.1)	13.8 (1.7)	20.0 (3.2)	8.8 (3.1)

Parenting Practices: Nurturing. Mother's limit-setting patterns at 12 months was significantly associated with their later report of nurturing practices (PBC) ($\eta^2 = .26$), while the association with maternal limit-setting patterns at 24 and 36 months, as well as the overall maternal limit-setting style had only a trend for later parent nurturing practices ($\eta^2 = .25$). Planned comparisons indicated that mothers with inconsistent and power-based limit-setting patterns at 12 months had lower nurturing mean scores at school age ($\underline{m} = 55.8$, $p = .014$ and $\underline{m} = 59.4$, $p = .013$, respectively) compared to mothers with an indirect limit-setting pattern ($\underline{m} = 67.3$). Mothers with power-based limit-setting patterns at 24 months also had lower nurturing mean scores ($\underline{m} = 54.0$) compared to mothers with an indirect ($\underline{m} = 65.0$, $p = .016$) or teaching-based ($\underline{m} = 64.0$, $p = .008$, $ES = -1.36$) limit-setting pattern.

At 36 months, mothers with power-based limit-setting pattern also had significantly lower nurturing mean scores ($\underline{m} = 52.5$) compared to mothers with an indirect limit-setting pattern ($\underline{m} = 66.8$, $p = .012$) or teaching-based mothers ($\underline{m} = 62.9$, $p = .013$, $ES = -1.38$). The results were similar for overall maternal limit-setting style, with power-based mothers having the lowest nurturing scores ($\underline{m} = 53.8$), compared to indirect ($\underline{m} = 66.8$, $p = .014$) or teaching-based mothers ($\underline{m} = 63.8$, $p = .008$, $ES = -1.35$).

Beliefs in Spanking. Mother's limit-setting patterns at 12, 24, and 36 months were not significantly associated with their beliefs in spanking ($\eta^2 = .03$ to $.13$). Similarly, maternal limit-setting style was not associated with beliefs in spanking ($\eta^2 = .14$). Planned comparisons pointed to mothers with an inconsistent limit-setting pattern at 12 months who had higher mean scores on beliefs in spanking ($\underline{m} = 14.4$, $p = .036$, $ES = .62$) compared to mothers with a teaching-based limit-setting pattern who had the lowest mean score for beliefs in spanking ($\underline{m} = 11.6$). The results were similar for overall maternal limit-setting style, with inconsistent mothers having the highest scores on beliefs in spanking ($\underline{m} = 13.8$), compared to teaching-based mothers ($\underline{m} = 11.8$, $p = .029$, $ES = .48$).

Power-based discipline strategies. Mother's limit-setting patterns at 12 months and overall maternal limit-setting style were not significantly associated with their use of power-based discipline strategies ($\eta^2 = .19$ and $.12$), while the association between maternal limit-setting patterns at 24 and 36 months had a trend for differences in parents' later use of power-based discipline strategies ($\eta^2 = .21$ and $.22$). Planned comparisons showed that mothers with power-based limit-setting pattern at 12 months had significantly higher mean scores on the use of power-based discipline strategies ($\underline{m} = 20.1$) compared to mothers with an indirect ($\underline{m} = 17.7$, $p = .022$) or teaching-based ($\underline{m} = 17.4$, $p = .025$, $ES = 1.02$) limit-setting pattern. At 24 months, however, it was inconsistent mothers who had higher mean scores on the use of power-based discipline strategies ($\underline{m} = 20.8$) compared to mothers with the indirect ($\underline{m} = 16.6$, $p = .004$) or teaching-based ($\underline{m} = 18.9$, $p = .025$, $ES = .68$) limit-setting patterns. The same pattern emerged at 36 months with inconsistent mothers having higher mean scores on the use of power-based discipline strategies ($\underline{m} = 21.2$) compared to mothers with the indirect ($\underline{m} = 17.2$, $p = .006$) or teaching-based ($\underline{m} = 18.1$, $p = .005$, $ES = .93$) limit-setting pattern.

Question 2: What is the relationship between observed mother-child limit-setting interactions during toddlerhood (12, 24, and 36 months) and child behaviors at school age?

Between subjects analyses of variance (ANOVAs) were also conducted to determine if variation in child behavior problems at school age is associated with earlier maternal limit-setting patterns at the child's age of 12, 24, and 36 months. The F-ratio and Eta-squared (η^2) are reported in Table 8 and means and standard deviations are summarized in Table 9.

Mothers report of internalizing behavior problems (CBCL). The CBCL internalizing problem score was not significantly associated with mother's limit-setting patterns at 12, 24, and 36 months or overall maternal limit-setting style ($\eta^2 = .00$ to $.18$).

Table 8. Percent of Variation in Parent and Teacher Reports of Child Behavior Problems at School Age Explained by Maternal Limit-setting Patterns at 12, 24, and 36 Months and Styles Across Toddlerhood (η^2) (N=30)

	CBCL		TRF	
	Int.	Ext.	Int.	Ext.
Maternal Limit-setting Patterns				
12 months	.00	.02	.04	.13
24 months	.18	.30*	.02	.06
36 months	.06	.08	.09	.05
Maternal Limit-setting Styles				
12-36 months	.10	.08	.01	.18

† $p \leq .10$

* $p \leq .05$

Mothers report of externalizing behavior problems (CBCL). The CBCL externalizing problems score was not significantly associated with mother's limit-setting patterns at 12 and 36 months or overall maternal limit-setting style ($\eta^2 = .02$ to $.08$). The externalizing problems score reported by mothers was significantly associated with mother's limit-setting patterns at 24 month ($\eta^2 = .30$).

Planned comparisons indicated that, as hypothesized, inconsistent mothers at 24 months had children with a higher mean score on externalizing problems ($\underline{m} = 15.2$) compared to both indirect ($\underline{m} = 6.0$, $p = .002$) and teaching-based ($\underline{m} = 12.0$, $p = .050$, $ES = .56$). Additionally, mothers with an inconsistent limit-setting pattern at 36 months had children with a higher mean score on externalizing behavior problems ($\underline{m} = 13.5$) compared to indirect mothers who had the lowest mean scores ($\underline{m} = 7.2$, $p = .018$). However, post hoc LSD tests to probe for significant mean differences for the 24 month results revealed that, contrary to the hypothesis, children of teaching-based mothers had significantly higher externalizing scores ($\underline{m} = 12.0$) as compared to children of power-based mothers ($\underline{m} = 5.8$, $p = .022$).

Table 9. Means and SD of Limit-setting Patterns for Child Behavior Problems

		CBCL		TRF	
Mother Limit-setting Patterns		Int.	Ext.	Int.	Ext.
12 months	Indirect (n=7)	6.6 (4.4)	10.6 (7.4)	2.6 (2.8)	1.1 (1.9)
	Teaching-based (n=9)	6.0 (5.6)	9.7 (5.0)	2.2 (3.9)	0.6 (1.3)
	Power-based (n=9)	6.0 (3.5)	11.8 (6.7)	3.6 (5.4)	2.0 (3.0)
	Inconsistent (n=5)	6.2 (5.4)	10.2 (6.1)	1.4 (1.9)	0.0 (0.0)
24 months	Indirect (n=5)	5.4 (3.6)	6.0 (4.1)	1.4 (3.1)	0.6 (0.9)
	Teaching-based (n=17)	7.6 (5.0)	12.0 (6.1)	2.7 (3.9)	1.3 (2.3)
	Power-based (n=4)	2.2 (0.5)	5.8 (4.1)	2.8 (4.9)	1.5 (3.0)
	Inconsistent (n=4)	5.0 (2.8)	15.2 (2.2)	3.2 (4.7)	0.0 (0.0)
36 months	Indirect (n=4)	6.0 (3.9)	7.2 (3.5)	1.8 (3.5)	0.8 (1.0)
	Teaching-based (n=18)	6.8 (5.2)	10.5 (6.0)	3.2 (4.1)	1.2 (2.3)
	Power-based (n=4)	3.8 (3.6)	11.5 (9.7)	0.0 (0.0)	1.5 (3.0)
	Inconsistent (n=4)	5.8 (1.5)	13.5 (3.0)	3.2 (4.7)	0.0 (0.0)
Maternal Limit-setting Styles					
12-36 months	Indirect (n=4)	6.0 (3.9)	7.2 (3.5)	1.8 (3.5)	0.8 (1.0)
	Teaching-based (n=16)	7.4 (5.2)	11.4 (5.7)	2.9 (4.0)	1.0 (2.0)
	Power-based (n=4)	4.0 (3.4)	8.5 (9.3)	2.5 (5.0)	3.0 (2.5)
	Inconsistent (n=6)	4.5 (2.3)	12.0 (6.0)	2.2 (4.0)	0.0 (0.0)

Teachers' report of internalizing behavior problems (TRF). The TRF internalizing problem score was not significantly associated with mother's limit-setting patterns at 12, 24, and 36 months or overall maternal limit-setting style ($\eta^2 = .01$ to $.09$).

Teachers' report of externalizing behavior problems (TRF). Teachers report on the externalizing problem scores was not significantly associated with mother's limit-setting patterns at 12, 24, and 36 months or overall maternal limit-setting style ($\eta^2 = .05$ to $.18$).

Question 3: Is there a relationship between self-reported parenting practices and the child's behavior problems at school age?

Parent discipline practices (PBC) were significantly related to externalizing behavior problems as reported by mothers on the CBCL ($r = .31, p = .048$). Scores reflecting higher use of power-based discipline strategies were also significantly related to children's higher externalizing behavior problem scores as reported by mothers ($r = .53, p = .001$). The greater use of power-based discipline strategies had a strong trend for relationship with more internalizing behavior problems reported by mothers ($r = .30, p = .054$) and a weak trend for relationship with more externalizing behavior problems reported by teachers ($r = .24, p = .099$). Table 10 summarizes the correlations between parenting variables and child behavior outcomes.

Table 10. Correlations Between Parenting Variables and Child Behavior Problems

	CBCL N=30		TRF N=30	
	Int.	Ext.	Int.	Ext.
Parenting Practices (PBC)				
Discipline	.23	.31*	-.15	.18
Nurturing	.05	-.10	.07	-.15
Beliefs in Spanking	.10	-.01	-.03	.12
Power-based Discipline Strategies	.30[†]	.53*	.09	.24[†]

[†] $p \leq .10$ (1-tailed)

* $p \leq .05$ (1-tailed)

Question 4. To what extent are parents' beliefs in spanking and their parenting practices (discipline, nurturing, power-based discipline strategies) related to one another?

Parent discipline practices (PBC) were significantly associated with beliefs in spanking ($r = .56, p = .001$) and the reported current use of power-based discipline strategies ($r = .54, p = .001$). The scores on beliefs in spanking were also significantly related to mothers' current use of power-based discipline strategies with her child

($r = .42$, $p = .011$). Correlation analysis revealed a weak trend toward a negative relationship between parental nurturing and discipline practices (PBC) scores ($r = -.26$, $p = .085$). The nurturing practices (PBC) scores and scores on beliefs in spanking were not significantly related.

Question 5. How does parents' own history of being spanked as a child relate to their later parenting practices and their children's behavior problems at school age?

Parent History of being spanked as a child. Parent history was not significantly associated with mother's limit-setting patterns at 12, 24, or 36 months and overall maternal limit-setting style ($\eta^2 = .00$ to $.07$)

Parent history of spanking was also not significantly related to any of the parenting practices variables or behavior problems reported by mothers on the CBCL or externalizing problems reported by teachers on the TRF. The correlation between parent history and child behavior was statistically significant only for internalizing behavior problems reported by teachers on the TRF ($r = -.35$, $p = .030$).

Discussion

For the first two research questions of the study, four limit-setting patterns and style (indirect, teaching-based, power-based, and inconsistent) and four parenting practices were examined: nurturing and discipline practices; power-based discipline strategies; and beliefs in spanking.

The first research question explored the relationship between observed limit-setting interactions and later parenting practices. Results showed that mothers who used a power-based pattern of limit-setting at the child's age of 12 months scored higher on the later parent discipline practices, with the difference in the two means having an ES of .87. This suggests that a power-based pattern of limit-setting early in toddlerhood predicts later use of discipline practices, and that discipline practices hold over time.

The mothers who were power-based or inconsistent during toddlerhood also had lower nurturing mean scores at school age compared to indirect or teaching-based mothers. Recall that the nurturing practices are those that promote growth. It, therefore, seems reasonable that the use of nurturing practices would differ by limit-setting patterns since limit-setting promotes and teaches self-regulation. With the power-based and inconsistent styles of parenting, limit-setting was more about power and control than teaching. Of course, these limit-setting patterns were linked to fewer nurturing practices.

The school age scores on nurturing practices were relatively consistent for mothers who had indirect and teaching-based limit-setting patterns at 12, 24, and 36 months. Power-based limit-setting as early as 12 months was associated with low nurturing at school age and may be a good predictor of low nurturing practices later in childhood. Further, mothers who remained power-based at 36 months had the lowest school age nurturing of all four groups.

Compared to the low school-age nurturing practices of mothers who were inconsistent at 12 months, the nurturing practices of mothers who were inconsistent at 36 months were higher and similar to the nurturing practices of indirect and teaching-based

mothers at 36 months. It is possible that some of the mothers who were inconsistent at 12 months and had low nurturing practices at school age became more power-based by 36 months.

On the measure of beliefs in spanking, the inconsistent mothers had higher mean scores than teaching-based mothers. The inconsistent mothers also had higher mean scores on their reported use of power-based discipline strategies when correcting the misbehavior of their school-age children. Previous findings support that children require a certain amount of stability and clarity from their caregivers, especially mothers, and respond better to indirect (consistent and nurturing) and teaching-based (firm, clear, responsive and nurturing) pattern and style as opposed to power-based (firm, controlling and non-responsive) or inconsistent and unpredictable interaction style.

Overall, this study revealed a pattern of findings in which power-based and inconsistent limit-setting patterns during toddlerhood related to highest scores on school-age discipline and lower scores on parent nurturing practices. Therefore, mothers' limit-setting patterns early in a child's life may predict her later parenting practices, and could be the focus of and opportunity for parent education. Broadly, the practitioner could emphasize the importance of parent nurturing practices as early as infancy. Further, power-based and inconsistent interactions could be discouraged. The importance of nurturing and teaching-based limit-setting throughout toddlerhood, even as control and limit-setting are more salient issues, should be emphasized.

The second research question examined the observed limit-setting interactions in relation to the development of behavior problems in school-aged children. Behavior problems were reported by mothers, who observed their children at home and other social settings, and by the kindergarten teachers based on their classroom observation. The patterns of limit-setting at 12 and 36 months were not associated with later behavior problems. Limit-setting patterns at 24 months were significantly associated with externalizing behaviors. As hypothesized, inconsistent mothers had children with more

externalizing behavior problems at school age. Contrary to hypotheses, children of power-based mothers had the fewest externalizing behavior problems at school age.

One possible reason for the nonsignificant and mixed findings between limit-setting patterns and child behavior problems may be due to measurement limitations.

Correlations between the internalizing and externalizing behavior problems reported by mothers and the corresponding behavior problems reported by teachers was significant only for the externalizing behavior problems and this correlation was modest ($r = .35$). The lack of correlation between the internalizing problems reported by mothers and by teachers was conceivable because the detection of these types of problems, such as being fearful, feeling worthless, or being secretive, may be harder for teachers to observe and detect as opposed to behaviors that are of a delinquent and aggressive nature. Also, for the current study, how long teachers had known the children in the study and whether their reports of child behavior problems were reliable were not examined.

Although not significant, the maternal limit-setting patterns at 12 months and the limit-setting style across toddlerhood yielded differences on externalizing behavior problems reported by kindergarten teachers, explaining a small amount of variation. These differences may be explained, in part, by the power-based mothers at 12 months ($n = 9$) and across toddlerhood ($n = 4$) whose kindergarten children had mean externalizing problem scores about one standard deviation higher than did children of teaching-based mothers.

The third research question for this study examined the relationship between self-reported parenting practices and the child's behavior problems at school age. As hypothesized, mothers' discipline practices and use of power-based discipline strategies were significantly related to child externalizing problems reported by mothers. Again, more power-based parenting was linked to children's acting-out behavior. Alternatively, children with more difficult behavior may elicit more parental control. However, difficult child temperament was not related to the power-based limit-setting patterns (LeCuyer-

Maus & Houck, 2001). Teachers' reports of externalizing problems were not significantly related to parenting practices. This finding may have occurred because the parenting practices were assessed, for 17 of the dyads, approximately one year after the data regarding child behavior problems was obtained. Therefore, a design stressing the sequencing of longitudinal data collection is warranted to explore the relationship between parenting practices and child behaviors. Alternatively, the children simply may not act out in the classroom. Parenting practices and discipline strategies were unrelated to internalizing problems, whether reported by mothers or teachers.

The fourth research question investigated the extent to which parents' beliefs in spanking and their parenting practices (discipline, nurturing, power-based discipline strategies) were related. As hypothesized, there were negative relationships between parenting nurturing and discipline practices (PBC), and between nurturing practices (PBC) and beliefs in spanking, although they were weak. These findings weakly supported previous study findings that mothers who nurture their children more tend to use fewer power-based discipline strategies when interacting with their children. However, stronger relationships were expected. It seemed reasonable to expect that power-based mothers would exhibit less nurturing practices. One explanation for these unexpectedly weak findings may be that some mothers in this study used nurturing practices simultaneously with discipline practices and power-based strategies, although not to the same degree. This may especially be true since strong associations between parenting variables and behavior problems were not found.

The relationship between mothers' beliefs in spanking and power-based discipline strategies was consistent with the expectation that mothers who believe and practice spanking are also more likely to use other forms of power-based strategies such as yelling, threatening or withdrawing privileges. Although some studies have found time-outs and withdrawal of privileges as positive strategies for correcting behavior, in the

current study the use of these strategies in a coercive and power-oriented manner were linked to negative consequences and acting out behaviors.

The last research question explored mothers' own history of being spanked as a child in relation to their later parenting practices and their children's behavior problems at school age. The hypotheses that parents who were spanked as children would in turn use the same parenting strategies when disciplining their own children, was not supported.

One reason for the lack of positive association between parent history and parenting practices may be that the mothers in this study were homogeneous in their past experiences of spanking. Therefore, it was not surprising that there was no relationship between parenting practices and parent history in this study.

Additional findings that may be of interest were the negative association between child gender and child internalizing behavior problems reported by both mothers (CBCL) and teachers (TRF)—although these correlations were not significant—which indicated that girls were more likely to show behavior problems through internalizing modes. The number of girls in this study was almost one third that of boys, which could account for the lower, insignificant correlations. Nevertheless, this finding was in accordance with reports from previous studies.

Child race was mildly significant only for externalizing problems reported by mothers. This was partly due to small number ($n = 5$) of non-Caucasian children in the sample. Among the non-Caucasian children, 2 classified themselves as African American, while the other 3 reported "other" as the classification for race or reported themselves to be of more than one racial backgrounds. Future research should also focus on increasing the number of non-Caucasian dyads in order to accurately discern the effect of race on either the parenting variables or the behavior problems of children.

The current sample of 30 had a much larger proportion of indirect mothers who agreed to participate than power-based mothers. The proportion of teaching-based mothers who agreed to participate stayed relatively stable across toddlerhood (33% at 12

month, 44% at 24 months, and 38% at 36 months). This distribution reflects that of the original longitudinal mother-toddler study in which there was a significant shift in the number of teaching-based mothers from 12 to 24 months and 24 to 36 months.

Essentially, other limit-setting patterns shifted to a teaching-based pattern. However, the response rate for the current study was lower among the mothers with a power-based pattern and style of limit-setting as opposed to other patterns and styles. The power-based group was thereby underrepresented in the current study. It is not known why this occurred but the findings must be viewed with caution.

Limitations and Recommendations.

Several limitations to this study deserve discussion. One limitation was that the sequencing of the data collection point was not optimal. The observational data for limit-setting patterns were collected at the time the child was 12, 24, and 36 months of age. The mothers' and the teachers' reports of children's behavior problems were collected at the time the child was in kindergarten (5 or 6 years of age). The self-reported data on the parenting practices of the mothers were collected at the child's school age (5 to 7 years of age). Future studies should aim to collect the report of behavior problems, by either mothers or teachers, at the same time the data on parenting practices are being gathered and measures should be repeated over time. The temporal relationship between parenting practices and later child behaviors could then be assessed. It is not clear from this study whether the power-based practices of parents were in response to externalizing behavior of the child (temperament of the child) or whether the style of parent's limit-setting interferes with the development of self-regulation, and therefore results in behavior problems. Ideally, behavior problem data should be collected at intervals throughout the child's experience in the school setting as an indicator for the child's measure of behavioral competence.

A major limitation of this study was the sample size. Although the overall sample of 30 was sufficient to assess parenting practices, the number of mothers in each limit-

setting pattern and style group shifted dramatically from 12 to 36 months resulting in group sizes as small as 4 (See Table 7). For example, the sample size for teaching-based style of limit-setting across toddlerhood was 16, while the other three groups—indirect, power-based, and inconsistent—had 4, 4, and 6 mothers each, respectively. This was partially due to the fact that mothers shifted from power-based or indirect patterns at 12 months to the teaching-based patterns at 24 and 36 months. The small number of mothers in the latter three groups made it difficult to detect even relatively large mean differences as statistically significant. Future studies should use a larger sample size that would allow sufficient power for detection of meaningful mean differences across patterns and styles, and take into consideration the shift in styles. The non-teaching-based groups could be collapsed, following tests for homogeneity on demographics (e.g., age, education, and socioeconomic status) and dependent variables, thus creating 2 groups. Power analysis based on the current pilot study estimated that a sample of at least 85 dyads in each maternal limit-setting pattern, or a total of 170 in two groups, is required to detect a moderate effect size of .50 with an $\alpha = .05$ and a power of .90 (Lipsey, 1990).

Numerous confounding variables were not accounted for in this study. Unfortunately, the confounders were not included in the secondary data set used for this follow-up study. Further, controlling for confounding variables that were included would require analyses such as regression analysis that was not advisable due to the small sample size. Some of the variables that could have confounded the results were the socioeconomic status of families (including income, employment, education, and family size), quality of marital relationships, temperament of the child, as well as teachers' styles of interaction in the school setting. Social networks of the children and mothers are also worth investigating because, despite negative or positive limit-setting or practices reported by mothers, other people in a child's life—and their interactions with the child— could affect the behavior outcomes of the child. Future studies with a larger sample size and purposeful inclusion of gender and specific racial groups may be useful.

It is also important to consider some of the strengths of the current study. First, the longitudinal design of this study is an important factor in detecting causal relationship between parenting style and practices and child behavior outcomes. Second, this study used data from both observed and self-report parenting styles and practices. Due to the sensitive nature of the discipline topic, self-report alone may be biased by mothers' concern for social desirability of their responses. Observational data, in addition to self-report, can augment the reliability of the data collected. The third strength of this study was that child behavior data were gathered from mothers, as well as teachers to convey a clearer picture of child behavior. Again, behavior problems reported by mothers alone can be subject to biases.

Therefore, future longitudinal study of observed and self-reported parenting practices and interaction styles, of both mothers and teachers and perhaps other caregivers, in relation to child behavior outcomes during early to middle childhood is recommended. Child behaviors should perhaps include more specific types of both internalizing and externalizing problems. A representative sample of both male and female children as well as different racial groups is also warranted. It is important to also include fathers as the caregivers in future studies since more fathers are entering the primary caregiving role.

Conclusions

This exploratory pilot study supports the feasibility of a larger longitudinal study. It suggests that there are advantages to using a teaching-based style of parenting as opposed to power-based or inconsistent styles. Teaching-based styles during toddlerhood are associated with parents' nurturing practices at school age. The findings from this study also supported previous findings that power-based discipline strategies, that temporarily and more immediately stop misbehavior, may interfere with children's ability to learn social skills that can be applied across settings and situations.

Despite the limitations of this study, there were many promising findings that set the groundwork for future research in the area of parental limit-setting and discipline practices and the development of behavior problems in children. This study provides validity for use of survey and self-reported data in lieu of observational methods, since the findings on the self-reported parenting practices were congruent with the limit-setting patterns and styles of mothers during toddlerhood.

The research on parenting practices and behavior problems in children has implications for public health policies such as educating families on effective discipline strategies to correct behavior of children, thus eliminating corporal punishment at home. These types of investigations would help health care providers to understand the underlying problems of more intense externalizing behavior problems (aggression and delinquency) that lead to endangering the well being of larger numbers of children.

With many debates over who is responsible for influencing children and what are the appropriate actions for parents to take when child-rearing, clarification of the role and influence of parents and other caregivers early in life is necessary for the improved behavioral health of children. Parenting, in all its dimensions and with all its implications for child socialization outcomes, requires the support of many disciplines, including sociologists, psychologists, health care providers, and public health officials and policy makers.

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Appendix A

Parenting Beliefs

I would like to hear more about what you believe are appropriate and inappropriate actions to take at the time a child is misbehaving. How often do you believe it is o.k. to do each of the following when a child is misbehaving:

	Never	Rarely	Usually	Always
1. It is o.k. to spank a child who is less than 1 year old.	1	2	3	4
2. It is o.k. to spank a child who is 1-3 years old.	1	2	3	4
3. It is o.k. to spank a child who is 1-3 years old if the child is doing something that is not safe.	1	2	3	4
4. It is o.k. to spank a child who is 4-6 years old.	1	2	3	4
5. It is o.k. to try to get a child interested in something else when they are misbehaving.	1	2	3	4
6. It is o.k. to frighten a child to try to get them to behave.	1	2	3	4
7. It is o.k. if a child gets a mark you can see as the result of spanking.	1	2	3	4
8. It is o.k. for a parent to yell at a child.	1	2	3	4
9. It is o.k. to laugh with a child about their misbehavior.	1	2	3	4
10. Frequently, a parent is angered by the child's misbehavior. How often do you think it is o.k. for a child to be disciplined when a parent is angry?	1	2	3	4
11. It is o.k. to spank a child somewhere besides the buttocks.	1	2	3	4
11a. If yes, where else is it o.k. to spank a child?				
a. hand	1			
b. other than hand	2			
12. It is o.k. to spank a child with something other than a hand.	1	2	3	4
13. It is o.k. to talk with a child about someone else's misbehavior.	1	2	3	4
14. It is o.k. to put a 2 year old child to sit by himself for 2 minutes.	1	2	3	4
15. It is o.k. to punish a child by trying to make the child feel worthless.	1	2	3	4

Discipline Strategies

Think now about your child who is 4, 5, or 6 years old while you answer the following questions. There are a number of possible discipline strategies to use when a child misbehaves. Think about the past week and the times that your child misbehaved. How often would you say you used each of the following strategies at the time your child was misbehaving:

	Never	Rarely	Usually	Always
1. I tried to get him/her interested in something else.....	1	2	3	4
2. I told him/her not to do what he/she was doing	1	2	3	4
3. I gave him/her a "time out" in which he/she was by himself/herself for a period of time	1	2	3	4
4. I explained to him/her why not to do what he/she was doing	1	2	3	4
5. I told him/her I would give him/her something he/she wanted if he/she behaved as I wanted.....	1	2	3	4
6. I told him/her that he/she was a "big boy/girl" when he/she behaved as I wanted	1	2	3	4
7. I tried to set an example and show him/her the right way to behave by acting the way I wanted him/her to act	1	2	3	4
8. I called his/her name to let him/her know that I noticed what he/she was doing, in hopes that he/she would stop	1	2	3	4
9. I yelled at him/her when he/she didn't behave as I wanted	1	2	3	4
10. I threatened him/her when he/she didn't behave as I wanted	1	2	3	4
11. I ignored him/her when he/she misbehaved	1	2	3	4
12. I withdrew his/her privileges when he/she misbehaved	1	2	3	4
13. I spanked him/her when he/she didn't do what I expected	1	2	3	4

Discipline Strategies (CONT.)

If you or any other adult has ever spanked or hit your child, please answer the following questions:

- | | YES | NO |
|--|-----|----|
| 14. Have you ever hit your child somewhere besides the buttocks? | 1 | 2 |
| 15. Has any adult ever hit your child somewhere besides the buttocks? | 1 | 2 |

15a. If yes, what is the relationship?

- Father 1
- Mother 2
- Grandfather 3
- Grandmother 4
- Aunt 5
- Uncle 6
- Care taker/Babysitter 7
- Teacher 8
- Other 9
- (please specify) _____

- | | YES | NO |
|--|-----|----|
| 16. Have you ever used something other than a hand to spank your child? | 1 | 2 |
| 17. Has any adult ever used something other than a hand to spank your child? | 1 | 2 |

17a. If yes, what is the relationship?

- Father 1
- Mother 2
- Grandfather 3
- Grandmother 4
- Aunt 5
- Uncle 6
- Care taker/Babysitter 7
- Teacher 8
- Other 9
- (please specify) _____

Parent History

For questions 1-5, think about the way your parents disciplined you when you were a child:

1. As a child did your parents believe in spanking?
 - Yes 1
 - No 2
2. If yes, how often were you spanked or beaten?
 - Frequently 1
 - Sometimes 2
 - Rarely 3
 - Never 4
3. When you misbehaved, did your mom, dad, or guardian leave a mark you could see as the result of a spanking?
 - Never 1
 - Rarely 2
 - Usually 3
 - Always 4
4. When you misbehaved, did your mom, dad, or guardian spank you with something other than a hand?
 - Never 1
 - Rarely 2
 - Usually 3
 - Always 4
5. Did your mom, dad, or guardian say things that made you feel worthless very often?
 - Yes 1
 - No 2
6. How many hours each weekday (excluding when the child is sleeping at night) do you spend directly taking care of your child?
 - None 1
 - 1-3 hours 2
 - 4-6 hours 3
 - 7-9 hours 4
 - 10 or more hours 5
7. How satisfied are you with the time you have to yourself in which you can do whatever you want?
 - Very satisfied 1
 - Satisfied 2
 - Not very satisfied 3
 - Not at all satisfied 4
8. Who do you talk to to get advice about how to discipline your child?

9. What religion are you affiliated with?
 - Baptist 1
 - Catholic 2
 - Episcopalian 3
 - Jewish 4
 - Lutheran 5
 - Methodist 6
 - Non-Denominational 7
 - Presbyterian 8
 - Protestant 9
 - Do not have any affiliation 10
 - Other 11
 - Please Specify _____
10. Do you practice this religion regularly?
 - Yes 1
 - No 2
11. From your religious background, what have you learned about raising children?

12. What have you gathered from your religion on how to best discipline children?
