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THE IMPACT OF PARENTAL VALUES ON PARENTING BEHAVIORS AND CHILD FUNCTIONING IN FAMILIES WITH A MENTALLY RETARDED CHILD

By

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ABSTRACT

THE IMPACT OF PARENTAL VALUES ON PARENTING BEHAVIORS AND CHILD FUNCTIONING IN FAMILES WITH A MENTALLY RETARDED CHILD

By

Catherine Lynn Costigan

The impact of parents' values on parenting practices and outcomes for children were examined longitudinally among 165 families raising a child with mental retardation. Self-report measures assessed parents' autonomy and conformity values, parents' disciplinary practices, and children's independent functioning skills. Parent-child interactions were observed in the home. The results provide partial support for theories positing a central role for parental cognitions in the socialization process. Contrary to expectations, values were not consistently related to parenting behaviors. However, as expected, values were significantly associated with child outcomes, as parents' autonomy values predicted child functioning 18-24 months later. These results were maintained after controlling for parents' behaviors. The findings suggest that high autonomy values may actually promote gains in independent functioning. Follow-up analyses examining gender differences suggest this is particularly evident for boys.

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INTRODUCTION

The family is the most important influence in the socialization process (Maccoby, 1984). A child's social knowledge, moral character, and to a lesser extent, cognitive development are determined primarily by the family (Baumrind, 1980). Recently, however, researchers have become interested in why parents behave in a particular way, and attention has been directed at the role of social cognitions as determinants of parental behavior (Goodnow, 1988; Musun-Miller, 1989). That is, researchers have become interested in the way in which parents' values, beliefs, attributions and expectations mediate parental responses to child behaviors. Instead of treating parents as inadvertent responders to child behavior, it is increasingly recognized that parents actively organize and interpret child behaviors and that these interpretations affect parents' behavioral and affective responses (Bacon & Ashmore, 1986; Goodnow, 1988).

Early work in the study of social cognition focused on parents' global attitudes toward child-rearing. Questionnaire measures of parents' child-rearing attitudes assess distinctions in parenting practices and styles (e.g., authoritarian, permissive, overprotective, accepting), which are considered indicative of parenting behaviors. While it has been established that different parents endorse different attitudes about the most effective child-rearing practices, researchers have had a more difficult time establishing a link between these attitudes and parental behavior. In a critical review of the research employing parent child-rearing attitude instruments, Holden and Edwards (1989) note the failure of parent's self-reported attitudes to translate

into predictable behaviors, and attribute this failure to both theoretical and methodological shortcomings. They argue that attitudes are not necessarily stable and coherent, global attitudes do not necessarily encompass specific ones, and that unidimensional or bipolar conceptualizations of child-rearing attitudes (e.g., warmth or permissiveness) do not capture the complexity of parent-child interactions. In addition, they argue that questionnaire items are often ambiguous, acontextual, confound different types of social cognition, and possess poor or unknown psychometric properties.

As a result of these difficulties, researchers have turned to more specific and differentiated cognitive variables and improved assessment methods in an attempt to account for the effects of situational variations, child influences, and developmental processes on parents' social cognitions. Additionally, this research is guided by a different set of assumptions about what aspects of cognitions are relevant. Drawing on recent developments in cognitive psychology, research focuses on cognitive schemas and cognitive processing instead of generalized "attitudes." In particular, the research draws on the premise that parents' reactions to child stimuli are determined in part by how a parent categorizes and attributes the child's behavior (e.g., age-appropriate/age-inappropriate, intentional/ unintentional) as well as how closely the behavior conforms to the parent's beliefs about child development and their goals for that particular child (Dix & Grusec, 1985; Musun-Miller, 1989; Miller, 1988; Sigel, 1985). By uncovering the frameworks that parents use to organize child behavior, and by eliciting parents implicit theories of child development, it is likely that more direct links from cognitions to behaviors can be established (Bacon & Ashmore, 1986; Sameroff & Feil, 1985).

The most frequently studied cognitive variables are values and goals, beliefs, and attributions (Bacon & Ashmore, 1986). Much research

demonstrates individual differences in the content and salience of parents' child-rearing goals, beliefs, and attributions. For instance, Emmerich (1969) found that parents had definite goals for their children (e.g., assertiveness, obedience) and that various parents prioritized these goals differently. In addition, parental goals were relatively stable, even when it was clear that the goal was inappropriate or too difficult to achieve. Similarly, Miller (1988) concluded that parents hold varying beliefs about children and about development and that there is an underlying coherence to these beliefs. For instance, McGillicuddy-DeLisi (1985) found that parents hold widely varying beliefs about the extent to which children learn either through active experimentation or passive instruction. Also, Dix, Ruble, Grusec, and Nixon (1986) showed that parents differ in the attributions that they make to specific child behaviors and that these attributions show developmental changes. For example, in responding to short vignettes about children's behavior, parents viewed misbehavior as more intentional and controllable in older children than in younger children. Likewise, Gretarsson and Gelfand (1988) found that mothers attributed the causes of children's positive behavior as more internal and stable than their negative behavior, which was seen as externally caused and unstable.

Unfortunately, similar to studies about generalized attitudes, many investigations with these more specific cognitive variables have been unable to find a predictive relationship between cognitive variables and parental behaviors because of difficulties assessing relevant parental cognitions and defining the most pertinent parent behaviors (Miller, 1988). However, a few studies have been able to establish a link between values and beliefs and both self-reported parental behaviors and direct observations of parent-child interactions.

Parental Beliefs and Parenting Behavior

Beliefs are ideas that people hold which are presumed to be true, but which could, in principle, be proved or disproved (Sigel, 1985; Antill, 1987). Parenting beliefs refer to ideas that parents hold concerning how children develop and learn and how children should be raised. These latter beliefs are considered evaluative beliefs, because they contain an emotional or attitudinal component.

Two studies highlight the relationship between parents' beliefs and parents' behavior. As part of a larger project with the Educational Testing Service, McGillicuddy-DeLisi (1985) established a link between fathers' beliefs about how children develop cognitively and their teaching strategies with their children during story-telling and paper folding tasks. This study contrasted parents who believe that children learn through experimentation and abstraction of experience (constructivist beliefs) and parents who believe that children learn through direct instruction or observation. Teaching styles were measured in terms of the parents' use of distancing strategies, in which the parent guides the child to a solution by making suggestions or asking questions instead of giving specific directions. It was found that fathers who endorsed constructivist beliefs about children's cognitive development employed more distancing strategies during videotaped interactions than fathers who believed that children learn through direct instruction or observation. However, there was not a strong relationship between mothers' beliefs about how children learn and their teaching strategies. Presumably, because mothers spend more time with the children than fathers, their behaviors are based on their knowledge of the specific children rather than their general beliefs about children as a whole.

In a similar investigation, Elias and Ubriaco (1986) studied the relationship between parental beliefs about how children develop social competence and their teaching strategies during an interpersonal problem solving task. Using an idiographic assessment of four families' problem solving discussions, consistent relationships were found between parents' self-reported beliefs about how children learn and their interactional styles. For example, the parents who believed that children learn by monitoring their own experiences typically employed the teaching strategies of asking questions and suggesting solutions, while parents who believed that children learn through parental rewards and punishments made frequent use of the strategies of telling the solution and giving positive and negative commands.

Finally, a longitudinal study of maternal child-rearing beliefs and socialization practices assessed the relationship between beliefs and behaviors concurrently, as well as the predictive value of beliefs across time (Kochanska, Kuczynski, & Radke-Yarrow, 1989; Kochanska, 1990). During the first wave of the project, the investigators clustered mothers' child-rearing beliefs into two large categories of authoritative/democratic beliefs and authoritarian/restrictive beliefs. At this time, mothers and their toddlers were videotaped for 90 minutes, which included periods of structured activities and free time, and the strategies that mothers used to influence their child's behavior were coded. Authoritarian beliefs were found to be consistently associated with mothers use of direct commands, reprimands, and prohibitive ("don't") interventions, while authoritative beliefs were associated with mothers use of polite suggestions and positive incentives, and negatively associated with direct commands and prohibitions. During the second wave, 2-3 years later, mothers and their now 5 year old children were once again videotaped for 90 minutes. After controlling for the stability of the

maternal behavior itself, several categories of maternal behavior at Time 2 continued to be associated with child-rearing beliefs endorsed at Time 1. Specifically, authoritative beliefs at Time 1 continued to be associated with frequent use of positive incentives and negatively associated with prohibitive interventions at Time 2.

Parental Beliefs and Child Outcomes

In addition to studies showing that parental cognitions predict parents' socialization behaviors, some studies also demonstrate relationships between parent cognitions and child outcomes. The two studies discussed above, regarding teaching strategies that promote cognitive competence (McGillicuddy-DeLisi, 1985) and social competence (Elias & Ubriaco, 1986), also considered the ways in which parental beliefs influenced children's actual performance. For instance, using a causal path analysis, McGillicuddy-DeLisi (1985) found that parental beliefs had a direct association with children's competence that was independent of the parent's teaching behaviors. That is, the children of parents who believed that children learn through their own construction of knowledge had higher levels of representational abilities on a variety of cognitive tasks. Similarly, the children in Elias and Ubriaco's (1986) study whose parents believed that children learn by monitoring their own experiences were more skillful problem-solvers than the children whose parents believed that children learn best through rewards and punishments.

Parental cognitions may affect not only children's actual competence, but also their perceived competence. In one study, children's self-perceptions of their abilities in math were related more directly to their parent's perceptions of their abilities than to their actual past performance in math

(Parsons, Adler, & Kaczala, 1982). Likewise, Phillips (1987) found that children's self-perceptions of cognitive competence in general were more strongly associated with the parent's beliefs about the child's ability (which were often inaccurate) than with actual achievement scores. Thus, it seems that parents provide important feedback about the child's abilities which may be more important than actual performance in socializing children to expect different levels of academic achievement.

Parental Values and Parenting Behavior

In addition to their beliefs, parents' values are important concerns in studying how cognitions influence the socialization process. A value is a judgment about a desirable end-state of existence or broad mode of conduct, such as equality or honesty (Bem, 1970). Values differ from beliefs in that they require no logical justification. In addition, values are more stable than beliefs, because they involve a stronger emotional investment (Goodnow, 1988). Values are considered core beliefs that partially determine how one behaves, how one judges the behaviors of others, and how one defines the end states worth striving for in oneself and one's children (Rokeach, 1972).

Within the realm of parenting, values are equivalent to socialization goals (Antill, 1987). Maccoby (1984) defines socialization as "how children acquire the motives, values, knowledge, and behavior patterns that are needed to function adequately in the society in which they will live as adults" (p. 317). However, which motives, values, knowledge, and behavioral patterns the child acquires will depend to a large extent on what his or her parents value and therefore deem necessary. In this way, parents base their socialization goals on the qualities or end-states that they value and want to see in their children. These values or goals determine the way in which

parents respond to children's behavior, as well as how they organize the environment and structure the future (Trommsdorff, 1983).

Two studies illustrate the way in which parents' values relate to parents' behaviors and intentions. In a study by Ames and Archer (1987), mothers' achievement values were divided into two categories; mothers who are "mastery oriented" value effort over ability in their child's school performance, while mothers who are "performance oriented" value good grades over effort. These investigators found that mothers who rated themselves as mastery oriented had different perceptions, preferences, and attributions regarding schooling priorities than mothers who rated themselves as performance oriented. Specifically, mastery oriented mothers viewed working hard and behaving well to be more important than getting good grades or doing better than others, they preferred feedback related to their child's effort over feedback related to their child's performance, they preferred tasks that were challenging over those that were easy, and they attributed success to effort rather than ability. Similarly, Antill (1987) found a relationship between parents' sex-role values and their sex-typed child-rearing practices. Two sex-role values were distinguished; parents who hold egalitarian values believe that there should be no distinctions between men and women's roles or opportunities, whereas parents who hold traditional values believe that men and women should have separate roles. It was found that egalitarianism, relative to traditionalism, was associated with discouraging sex-typed characteristics and interests (masculine or feminine) and encouraging cross-sex characteristics and interests in their children. In addition, egalitarian parents reported that they would treat their child the same had he or she been of the opposite sex.

Relationship between Values and Beliefs

Parental beliefs and parental values are closely related. That is, beliefs are often used to justify values and one can typically predict someone's beliefs once their values are known (Bem, 1970). For example, the study by Antill (1987) discussed above measured both parental sex-role values and sex-role beliefs (e.g., beliefs regarding the basis of sex differences), and found them to be consistently related. For instance, parents who held egalitarian values believed that sex differences are caused by social rather than biological factors, while parents who believed in traditional sex-role values believed the opposite. Thus, there was considerable coherence to the parent's values and beliefs. Nevertheless, although a few of the sex-role beliefs demonstrated independent predictive power, parental values were clearly the strongest predictors of parents' sex-typed child-rearing practices.

Autonomy versus Conformity

Two constructs that are central to the study of parents' child-rearing values are autonomy and conformity. The autonomy/conformity distinction in socialization goals has long been recognized (Kohn, 1977). For example, a sociological study conducted in the 1920's compared and contrasted parents' child-rearing styles in terms of the degree to which they encouraged either autonomy or obedience (Lynd & Lynd, 1929, cited in Alwin, 1988). The concept of autonomy implies independence of thought and behavior: self-direction, self-reliance, and independent thinking. For parents, valuing autonomy is correlated with encouraging original ideas, imagination, and learning how to learn. Conformity refers to obedience and respect, and is correlated with traditional authoritarian beliefs and valuing manners and

neatness (Schaefer & Edgerton, 1985; Segal, 1985; Luster et al., 1988; Kohn, 1977).

Parents differ in the extent to which they permit and facilitate the development of autonomy (Trickett & Susman, 1988). Parents' valuation of autonomy versus conformity in their children will contribute to the formulation of their socialization goals and determine their role in the socialization process. Thus, parents who value autonomy should employ parenting practices that they believe will instill this quality in their children through both explicit instructions and everyday interactions.

Using a Q-sort instrument, Segal (1985) measured maternal values in six categories: competition, obedience, success in school, cooperation, ethical values, and process goals (autonomy). The results of the Q-sort demonstrated that mothers disagreed most about the importance of developing process goals (e.g., I want my child to be an independent learner), and that these values largely determined how mothers defined their parenting role. That is, the mothers who valued autonomy defined their role as an educator rather than a disciplinarian and also valued creativity, imagination, and problem-solving skills. On the other hand, mothers who valued obedience defined their role as a disciplinarian, valued conformity to rules and authority figures, and considered teaching to be exclusively up to the schools. Furthermore, the mothers who valued autonomy spent significantly more time participating in a home-based educational program than the mothers who valued obedience. In this way, parents' values translate into specific behaviors for parents and socialization goals for children.

Two studies, both using an adaptation of Kohn's (1977) rank ordering of parental values, further illustrate how values of autonomy and conformity are reflected in socialization practices and child outcomes. In both studies,

parents rank ordered their child-rearing values, resulting in two constructs: valuing self-direction and valuing conformity. Luster, Rhoades, and Haas (1988) studied the behavioral correlates of mothers' value rankings. Mothers who valued self-direction encouraged their young child to explore the environment more than mothers who valued conformity. In addition, these mothers read, talked, and interacted more with their children. On the other hand, mothers who valued conformity used punishment and restrictions more frequently, and enforced more household rules. Similarly, Schaefer and Edgerton (1985) assessed the child correlates of parents' value rankings. In this study, a high value placed on conformity was associated with relatively lower mental test scores for the child and lower teacher ratings of the child's curiosity and creativity. On the other hand, the strength of parents' self-direction values showed positive, though lower, correlations with mental test scores and with teacher' ratings.

In the present paper, it is hypothesized that parents' valuation of autonomy versus conformity will have a direct effect on the socialization practices of parents raising children with mental retardation, as well as a direct effect on the child's level of independent functioning. The model is presented in Figure 1.

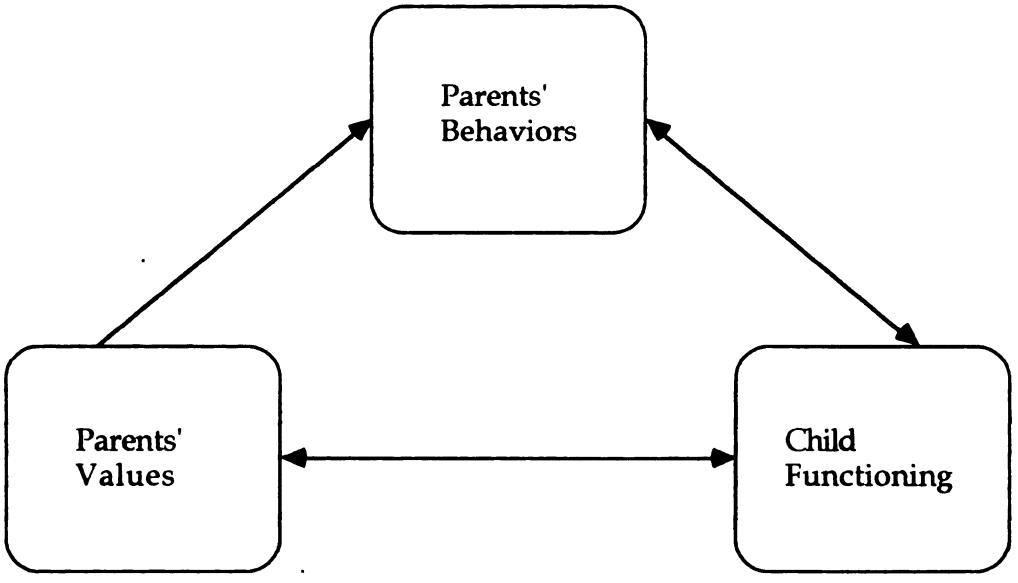


Figure 1. Proposed model of influence among values, behaviors, and child functioning.

Socialization of Mentally Retarded Children

So far, parental cognition and behaviors have been discussed as if they exercise a unidirectional effect on child outcomes. However, characteristics of the child influence caretaking behaviors just as parenting behaviors influence the child, and parent-child relationships should be considered in terms of reciprocal effects (Belsky & Vondra, 1989). Child effects on parenting behavior have been studied in terms of the child's activity level, the child's degree of dependence/independence, and the child's initiation of and responsiveness to social behavior (reviewed by Bell & Chapman, 1986). In all of these cases, the parents were responsive to the differing characteristics of the children and altered their behavior as a result.

Child effects can be expected to be particularly salient when raising a mentally retarded child. Mentally retarded children often lack or are delayed in the basic social skills necessary for typical socialization and development, such as language skills, play and imitation skills, and social competence (Blacher-Dixon, 1981). Also, mentally retarded children are necessarily more dependent. These special characteristics of mentally retarded children affect parents' caretaking behaviors, so that the role the parent adopts in the socialization process can be very different from the role that they would have adopted with typically developing children. For example, a mentally retarded child's reduced verbal abilities may create less opportunity or motivation for the parent to label objects or to repeat what the child has said (Howard, 1978).

These characteristics of mentally retarded children may have an effect on parents' cognitions as well as parents' behaviors. As stated earlier, in parenting a typically developing child, parents' values translate into their socialization goals. However, when raising a child with mental retardation, certain parental values translate into unattainable or inappropriate

socialization goals. This is the case with valuing autonomy versus conformity. The expectancy-value approach to decision making (Edwards, 1954; Trommsdorff, 1983) suggests that in choosing socialization goals, parents consider both the value of a particular goal, as well as the likelihood (expectancy) that this goal will be achieved. If the goal is not highly valued or if it is unlikely the goal will be attained, parents do not emphasize it as a socialization goal. Thus, in raising a mentally retarded child, though autonomy may still be valued, parents need to be responsive to child characteristics and alter their socialization goals, adopting more realistic goals for their child's independent achievement. Failure to do so will result in stress and frustration for the parent, as their efforts to facilitate independent functioning will be met with limited success.

When parents of mentally retarded children do alter their expectations, the functional definitions of autonomy and conformity take on a different meaning. That is, the long term autonomy goals become considerably different from typical goals for children with average intelligence and above (e.g., assimilating to a sheltered workshop versus having a successful career and raising a family). In this context, autonomy may mean acquiring sufficient social and economic skills to live independently, whereas autonomy for typically developing children may imply thinking for oneself and independent initiative (i.e., not following the crowd).

Altering one's expectations to meet the needs of the mentally retarded child is often a difficult task for parents. In fact, the most frequently cited concern of parents raising a child with mental retardation is uncertainty over what goals and expectations are appropriate (Strom, Rees, Slaughter, & Wurster, 1981). Using the Parent's Strengths and Needs Inventory (PSNI), Strom and McCalla (1988) found that parents of mentally retarded children

are most concerned about what goals should be set for their child's behavior, what responsibilities their child should have, and how much independence should be allowed. Similarly, using the Parent as a Teacher Inventory (PAAT), Strom and his colleagues found that parents of mentally retarded children had less confidence in their ability to provide the necessary learning experiences at home, were less willing to encourage creativity and play, and felt the need for more control over their child than parents of typically developing children (Strom, Daniels, Wurster, Rees, & Goldman, 1984; Strom et al., 1981).

The present study

It is hypothesized that parents' values are an important determinant of the role they adopt in the socialization of a mentally retarded child. Specifically, it is predicted that parental valuation of autonomy versus conformity in their mentally retarded child will be systematically related to parenting behaviors and child outcomes. The present study will examine the effects of parents' values in three areas: parent-child interactions, discipline practices, and the child's level of independent functioning.

Upper and Lower Limit Controls

The first area of parenting behaviors that are predicted to be related to parental values concerns parents-child interactions. Bell's (1971; 1979) control theory of parent-child interaction proposes that parents and children have upper and lower limits of behavior that they are willing to tolerate from one another. From the parent's perspective, behaviors such as aggressiveness, destructiveness, and impulsiveness from the child exceed the parent's upper limit and thus elicit upper level control reactions. The control

reactions serve to "redirect or reduce the excessive or inappropriate behavior" (Bell, 1974. p. 66) and include actions such as distraction, restraint, or commands (Brunk & Henggeler, 1984; Bell & Chapman, 1986). On the other hand, behaviors such as shyness, incompetence, low activity, and withdrawal from the child exceed the parent's lower limits of acceptability, and thus elicit lower level control reactions. These reactions serve to "stimulate, prime, or in other ways increase the insufficient or nonexistent behavior" (p. 67) by rewarding, helping, urging, or prompting (Brunk & Henggeler, 1984; Bell & Chapman, 1986).

Bell and Chapman (1986) state that a parent's upper and lower limits are based on their expectations for the child's behavior, which in turn is based on past experience with the child. Though these investigators were not considering parental cognitions, it seems plausible that a parent's expectations and limits for their child's behavior are also based on which behaviors and qualities the parents value. In this way, the same child stimulus behavior can evoke different reactions from different parents, depending on what they value. For instance, one parent may interpret a child's ongoing behavior as "aggressive" and inappropriate, and will respond with upper limit controls, while a parent who values assertiveness will not consider the behavior inappropriate and no controls will be evoked.

Parents' upper and lower limit controls will be studied in the context of a family problem solving discussion. The family problem solving discussion is a promising means of seeing how parental values translate into behavior towards the impaired child. The ability of mentally retarded children to participate meaningfully in discussions is usually impaired and requires direct instruction and explicit encouragement by the parents to promote its development. Therefore, participating in a family problem solving

discussion taxes and pushes the limits of mentally retarded children's abilities, and is a fruitful test of parents' interest and commitment to involving the child.

This study tests the hypothesis that parents' valuation of autonomy and conformity will be related to their use of upper and lower limit controls. Specifically, it is hypothesized that the more a parent values autonomy in their mentally retarded child, the more likely they will be to use lower limit control reactions in an attempt to stimulate and involve the child. Parents who highly value autonomy will reach their tolerance for lower limits early, and will therefore focus their energy on encouraging the participation of the mentally retarded child, involving him or her in the discussion as much as possible, even if it is at the expense of actual problem solving. Thus, for example, if the child is not paying attention to the conversation, the child's attention will be solicited. In addition, the parents will frequently direct requests for an opinion at the child.

Alternatively, it is predicted that the more a parent values conformity in their mentally retarded child, the more likely the parent will be to use upper limit control reactions in an attempt to reduce the child's inappropriate behaviors. Parents who highly value conformity will reach their tolerance for upper limit behaviors early and will be most concerned with maintaining control and monitoring behavior. For example, if the child is being disruptive, the parents will attempt to reduce or terminate the aversive behavior by issuing commands. Finally, since parents who strongly value conformity will be more interested in discipline than in involving the child in the discussion, these parents will use fewer lower limit controls. Therefore, if the impaired child is not being disruptive, he or she will not be disturbed.

Discipline Practices

A second area of parenting behavior concerns parents' disciplinary practices. Discipline techniques that teach children self-control and allow them to internalize standards of conduct promote autonomy, while discipline strategies that require obedience to external controls encourage conformity. Baumrind's (1966) classification of parental disciplinary styles (permissive, authoritarian, and authoritative) reflect varying degrees of valuation of autonomy versus conformity. According to Baumrind, the permissive parent makes few demands for child compliance and does not encourage obedience to external authority, instead allowing the child to regulate his or her own behavior. Authoritarian parents, on the other hand, impose structure and rules, employ punitive means to control child behavior, and encourage obedience to authority. The authoritative parent employs control paired with positives, valuing a certain degree of autonomous self- direction, but at the same time requiring a reasonable amount of conformity to household rules and minimal standards of conduct.

Two opposing types of discipline strategies, reasoning and power assertion, are related to these different parenting styles. Reasoning, which involves providing the child rationales and explanations for requiring compliance, is a characteristic of the authoritative parents. Research on internalization has focused on parental disciplinary styles, such as reasoning, which encourage children to attribute their compliance to internal factors and to rely on their own capacity for self-regulation (Trickett & Kuczynski, 1986). This literature has found that strategies such as reasoning promote autonomy by stimulating cognitive development (Henry, 1980) and providing internal motivations for compliance (Kuczynski, 1984), so that children learn to regulate their own behavior. On the other hand, power assertion, which

involves direct commands and rewards and punishments, is a characteristic of the authoritarian parent. Power assertion provides external motivations for compliance, such as fear of detection (Kuczynski, 1983; 1982). These strategies have been found to be more effective for immediate compliance, thus maintaining conformity, but less effective for obtaining desired behavior change in the long run (Kuczynski, 1984).

A parent's values or goals for their child's behavior is a prominent determinant of which disciplinary strategy a parent chooses. For example, Kuczynski (1984) found that mothers' goals in a situation (either short-term or long-term compliance) influenced their choice of disciplinary techniques. In this study, mothers were instructed to elicit their 4 year olds' cooperation in performing a monotonous sorting task. Mothers in the short- term compliance condition were only told about an initial observation of the mother and child working together, while mothers in the long-term compliance condition were told that they would be called from the room and that their child would be observed alone to see if he/she continued working or if he/she was distracted by the toys in the room. It was found that mothers in the long-term compliance condition used more reasoning strategies (e.g., justifications and explanations) to obtain compliance. Therefore, it seems that parents do consider their long-term goals when deciding how to obtain compliance.

This study will test the hypothesis that parents' values regarding autonomy and conformity will be related to their preferred discipline strategies. That is, the more a parent values autonomy in their child, the more frequently he/she will report using reasoning as a discipline strategy, because parents whose goal is autonomy will be interested in developing internal attributions for compliance and self-regulation of behavior.

Alternatively, the more a parent values conformity in their child, the more frequently he/she will report using power assertion as a discipline strategy, because parents whose goal is conformity will be more interested in immediate compliance than long-term learning.

Independent Functioning

In addition to parenting behaviors, parental values are hypothesized to be directly related to outcomes for the mentally retarded child. A fundamental aspect of autonomy for mentally retarded children is basic self-care skills. This includes such things as being able to wash and dress oneself, use the telephone and public transportation, feed oneself, and use appropriate table manners. In this study, the child's level of independent functioning will be assessed using an adaptive behavior scale filled out by both the parents and the teachers. It is hypothesized that the child's level of functioning will be related to parents' values. That is, one can assume that parents who value autonomy in their child will spend more time explicitly teaching their child independence skills and will structure their child's daily environment in a way that facilitates the development of autonomy. These practices should result in higher adaptive behavior scores for the children of parents who highly value autonomy. Thus, parental autonomy values should be correlated with the child's adaptive functioning, even after controlling for variance in adaptive functioning associated with the cognitive functioning of the child. Also, parental values regarding autonomy should be associated with the rate at which the child improves in adaptive skills.

Hypotheses

Stability of values.

1. Parental values will be relatively stable from Time 1 to Time 2, though they may show developmentally appropriate changes. That is, autonomy scores may increase over time and conformity scores may decrease over time.

Upper and Lower Limit Controls.

2. Parental values will be associated with interactional styles.

a) The more a parent values autonomy, the more frequently he/she will use lower limit controls. That is, higher autonomy scores will be associated with parent behaviors that are designed to stimulate or engage the child in the discussion. In addition, autonomy scores will be negatively associated with the parents' use of upper limit controls.

b) The more a parent values conformity, the more frequently he/she will use upper limit controls. That is, higher conformity scores will be associated with parent behaviors that are designed to reduce or redirect the child's inappropriate or disruptive behaviors. In addition, conformity scores will be negatively associated with the parents' use of lower limit controls.

c) The impact of child age and family size on parents' behavior will be evaluated and controlled for if necessary. These analyses are exploratory and child age and family size may not affect the parents' use of upper and lower limit controls. However, if they are related, it is expected that the parents' use of lower limit controls will increase with older children and decrease in larger families and the parents' use of upper limit controls will decrease with older children and increase in larger families.

Child Involvement.

3. Lower limit controls will be positively related to the mentally retarded child's level of involvement in the interactions.

Discipline Practices.

4. Parental values will be related to preferred disciplinary styles, after controlling for the child's developmental level. Specifically, the more a parent values autonomy, the more often they will report using reasoning as a disciplinary style and the less often they will use power assertive techniques. Alternatively, the more a parent values conformity, the more often they will report using power assertion as a disciplinary style and the less often they will use reasoning.

Independent Functioning.

5. Valuation of autonomy will be positively related to the child's independent functioning and valuation of conformity will be either unrelated or negatively related to the child's independent functioning.

a) Valuation of autonomy at Time 1 will be positively related to the child's independent functioning at both Times 1 and 2, as reported by the child's parents and teachers on the Adaptive Behavior Scale. Specifically, autonomy values will be associated with the personal self-sufficiency, community self-sufficiency, and personal-social responsibility factor scores from the teacher's version of the ABS and the independent functioning, self-direction, and socialization scale scores of the parents and teachers' versions of the ABS. On the other hand, valuation of conformity will be either unrelated or negatively related to these indices of the child's level of

independent functioning. Finally, these relationships will be significant after controlling for the effects of the child's cognitive ability.

b) The more a parent values autonomy, the more independent functioning scores will increase from Time 1 to Time 2.

Predicting Child Outcome from Parental Behaviors and Values.

6. Finally, a regression analysis will be used to assess the relative contributions of parental behaviors and parental values in predicting outcomes for the child. It is hypothesized that parental values will account for a significant portion of the variance in independent functioning scores at Time 2. That is, values will have a direct effect on child outcomes, even after accounting for the association between child outcomes and parent behavior.

Method

Subjects

The subjects participated in a two-wave, longitudinal investigation of family functioning in families with mentally retarded children. Subjects were initially recruited by mailing letters to families with children between six and eighteen years old enrolled in Educable Mentally Impaired (EMI) and Trainable Mentally Impaired (TMI) classes. Though only 10% of the families contacted through this bulk mailing contacted us, 75% of those who responded enrolled in the study, resulting in 171 families. Each family received $50 for their participation.

A follow-up investigation was conducted to assess changes in family functioning across time. Subjects were re-contacted by phone or mail 1 1/2 to 2 years after the initial study to participate in a follow-up study. 87% of the original sample agreed to participate in the follow-up. Again, each family was paid $50.

Though 87% of the families participated at Time 2 (n=149), the number of subjects in each set of analyses varied because of missing data (e.g., defective video tapes, families who moved and did not complete interview sessions). In general, data at Time 1 were available for 165 mothers and 122 fathers. Data at Time 2 were available for 115 mothers and 78 fathers.

Table 1

Demographic Data: Means and Standard Deviations of Family and Child Characteristics

Variable	Mean (S.D.)	Range
Age of Parent (years)		
Mothers	36.57 (7.05)	25-64
Fathers	39.22 (7.45)	25-64
Length of Marriage (years)	11.70 (7.93)	0-37.5
Yearly Income	$26,530 ($19,620)	4-132
Hollingshead Index	34.85 (14.21)	8-66
Age of Target Child	10.93 (3.44)	6-18
Number of Siblings	1.59 (1.23)	0-7
Gender of Target Child (Frequency)		
Boys	87	
Girls	85	
Primary Educational Placement (Frequency)		
EMI	116	
TMI	56	

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

Demographic information is presented in Table 1. At Time 1, the average age of the mothers in this study was 37 (S.D.=7.05), and the average age of fathers was 39 (S.D.=7.45). The average length of marriage was 11.7 years (S.D.=7.93). 20% of the sample consisted of single parents. The average number of siblings in each family was 1.6 (S.D.=1.2). 17% of the mothers and 5% of the fathers are ethnic minorities. 89% of the sample were Caucasian, 8.6% were African-American, 1.7% were Hispanic-American, and .7% were Asian-American. The mean yearly income for the sample was $26,530 (S.D.=$19,620). The average Hollingshead four-factor index of social status was 34.8, with the sample representing the full range of socio-economic status, from unskilled laborers to professionals (range: 8-66). 87% of the mothers (n=148) finished high school and 12% (n=21) completed a college degree or more. 83% of the fathers (n=120) finished high school and 19% (n=27) completed a college degree or more.

The average age of the mentally retarded children at Time 1 was 10.93 years old. Placement in special education classes involves an assessment of intellectual functioning and evidence of impairment in adaptive functioning. Based on scores from individually administered intelligence tests (WISC-R and Stanford-Binet), 115 (67.3%) of the children obtained IQ scores in the range 55-70 and were enrolled in EMI classes, while 56 (32.7%) obtained IQ scores in the range 40-54 and were enrolled in TMI classes. The average Verbal IQ scores are 65 and 44 for the two groups. These EMI and TMI classes correspond with DSM-IIIR criteria for mild and moderate mental retardation. There were approximately equal numbers of boys and girls in each group.

Procedure

At both Time 1 and Time 2, each family participated in two sessions in their home. Each session lasted approximately two hours and they were scheduled one week apart. Families were requested to have all family members living at home present for both sessions. At the beginning of the first session, the purposes and procedures of the study were explained, and both parents signed an informed consent form and a release to obtain information from their mentally retarded child's school. At the first session, the parents completed a battery of questionnaires measuring parenting attitudes, family functioning and relationships, discipline practices, and child adjustment. In addition, the parents completed questionnaires assessing marital functioning, psychological distress, and social support which are not included in this report. The questionnaires used at Time 1 were the same at the follow-up, with the addition of questionnaires measuring the parents' discipline practices and their perceptions of change in the mentally retarded child's functioning during the interval since Time 1.

The remainder of the two sessions were spent videotaping interactions. Subjects completed a marital discussion, a 50 minute unstructured family interaction, and a 10 minute family problem solving discussion. Only interaction data from the Time 1 unstructured family interaction and family problem solving discussion will be used in this report.

Family Problem Solving Discussion

During the second session, each family member completed a questionnaire (see Appendix A: Family Problem Inventory) which required the subject to rate, on a 5 point scale, how much of a problem each of 12 common family problem areas was at the time (e.g., chores and

responsibilities around home, cooperation among children). In addition, the subjects were given the opportunity to add any family problem not listed that they felt was important for their family. With the assistance of an interviewer, the family as a group identified an area which they all agreed was a problem and which they all felt capable of discussing. The family was then asked to each define the identified problem as they see it, to include everyone in the discussion, and to attempt to resolve it. The interviewers started the video camera and left the room. The discussion lasted 10 minutes.

Unstructured Family Interaction

The unstructured family interaction was also completed during the second session. During this time, the family selected an activity to perform together for 50 minutes. The only rules governing to choice of activity were that the activity was not a rule-based game, that all family members stayed within sight of the videocamera, and that phone calls, visitors, and television were not allowed. Typical activities included preparing, eating, and cleaning up dinner, baking cookies, or putting a puzzle together.

Observational Measures

Coding family discussion. The family problem solving discussion was coded using a system that combines codes from other well-validated coding systems. Behaviors are coded in "thought units," the smallest unit of behavior that expresses a complete thought, so that several codes may occur within a floor-switch. That is, the coding system labels each discernable event (emphasizing verbalizations) in a continuous manner, so that a different code is given to each independent behavior. The coding system includes 38 codes, groups into 7 categories: Problem Solving (e.g., solution/ compromise),

Neutral (e.g., problem talk), Defensive/Withdrawn (e.g., no response/ignore), Questions (e.g., leading questions), Supportive/ Facilitative (e.g., agree), Aversive (e.g., attack question), and Command (e.g., direct command). A complete list of codes is given in Appendix B. As described below, this report used two categories of codes (Supportive/ Facilitative and Commands), as well as four other individual codes, to operationalize upper and lower limit controls by parents (i.e., opinion probe, question, leading question, and clarification request).

Coding was done in pairs by trained behavioral coders. 20% of the tapes were independently coded by two coding teams in order to evaluate interobserver agreement. Any discussion not achieving an average percent agreement [agreements/ (disagreements + agreements)] of .75 was reevaluated. The average kappa for reliability checks is .76 (Range: kappa=.60-.90).

Coding unstructured family interaction. The unstructured family interaction videotapes were coded with the Family Process Coding System (Dishion, Gardner, Patterson, Reid, Spyrou & Thibodeaux, 1984), an updated version of the Family Interaction Coding System developed by Patterson and associates (Patterson, Ray, Shaw & Cobb, 1969). Unknown to the family, every 10 minutes a different family member was designated the focus. All behaviors performed by the focus and anyone who interacted with the focus were coded. Each parent served as the focus for one 10-minute block, the mentally retarded child was the focus for two 10-minute blocks, and a randomly selected sibling between the ages 6-18 was the focus for one block. The focus order was randomly determined for each family.

The Family Process Coding System exhaustively labels each action in a continuous manner using 26 content codes, with a new code recorded each

time a new action is performed. Each action receives a five-part code for (a) the general activity (e.g., play, eating), (b) the speaker, (c) the content, (d) the recipient, and (e) a rating of the positiveness of the speaker's affect on a 5-point scale. The present study examines only exchanges between the mentally retarded child and the parents. As described below, this report used three categories of commands and three parent responses to aversive child behavior.

The coding was completed by coders at the Oregon Social Learning Center. The coders completed several weeks of training before coding actual data, and they were required to reach 90% agreement with a "calibrator" who served as the master coder. Reliability was evaluated on an ongoing basis for 20% of the tapes. Coders who failed to maintain 70% agreement with the calibrator were reassigned to training. For the categories of behaviors related to the codes used in this report, the average percent agreement for pairs of coders was 80%, with mean Kappa =.73.

Operationalizing upper and lower limit control reactions. A central hypothesis of this study is that the more parents value autonomy, the more frequently they will display lower limit control reactions, and the more parents value conformity, the more frequently they will display upper limit control reactions. Upper and lower limit control reactions were operationalized through two types of parent behaviors: spontaneous parent behaviors not elicited by the child and parents' reactions to the child's behavior. Therefore, the following variables utilize base rate scores of parent behaviors and conditional probability scores for child-parent sequences. The behavior variables are presented in Table 2.

Table 2

Behavior Variables

Lower Limit Controls

1. Opinion Probe (frequency, FPS)
2. Clarification Request (frequency, FPS)
3. Questions (frequency, FPS)
4. Supportive-Facilitative (frequency, FPS)
5. Open vs. Leading Questions (questions/(questions + lead questions), FPS)
6. Reason-Redirect *p* (Parent neutral / Child negative, UFI)

Upper Limit Controls

1. Commands-1 (frequency in FPS)
2. Clear Commands (relative frequency, UFI)
3. Ambiguous Commands (relative frequency, UFI)
4. Commands-2 (relative frequency in UFI)
5. Clear Corrections *p* (Parent clear command / Child negative, UFI)
6. Ambiguous Corrections *p* (Parent ambiguous command/ Child negative, UFI)

Child Behaviors

1. Positive Behavior (frequency of positive FPS codes)

Note. FPS = family problem solving discussion; UFI = unstructured family interaction.

1. Lower Limit Control Reactions. Six variables were used to measure parents use of lower limit control reactions. These variables represent a parent's effort to encourage their mentally retarded child's participation in the discussion and explicit attempts to involve the child.

a) Opinion Probe. This is the frequency of parent opinion probes coded in the family problem solving discussion. Opinion Probe is coded when the parent asks a question to learn the child's thoughts or feelings. Opinion Probe represents a parent's attempt to involve the mentally retarded child in the discussion in a meaningful way.

b) Clarification Request. This is the frequency of parent clarification requests coded in the family problem solving discussion. Clarification Request is coded when the parent did not hear or understand the child and asks him or her to repeat or further explain what was said. Clarification Request is another parent strategy for involving the child in the discussion in a meaningful way.

c) Questions. This is the frequency of parent questions in the family problem solving discussion. Questions is coded when the speaker asks a question in order to gain factual knowledge from another.

d) Supportive-Facilitative. This is the frequency of the codes in the Supportive-Facilitative category of the family problem solving discussion coding system. These are instances in which parents reward and encourage their mentally retarded child's participation in the conversation by providing attention for involvement. For instance, the category Supportive- Facilitative includes the codes assent/echo, which is a quick verbalization that acknowledges what the speaker has said, and approval/acceptance, which is a

statement that shows approval or acceptance of the speaker's thoughts or feelings.

e) Open vs. Leading Questions. This is the proportion of the parent's questions in the family problem solving discussion that are open and allow the child to respond freely, as opposed to questions that force the child to answer in a particular way (i.e., questions/ [questions + leading questions]). A higher proportion of parent questions represents the parent's preference for the child to answer on their own, instead of merely responding to a question which has an implied correct response.

f) Reason-Redirect. This is the probability that the parent will respond to the mentally retarded child's aversive behavior with a neutral behavior. Reason-redirect is coded in the unstructured family interaction when a parent's response to negative child behavior is to reason or offer suggestions rather than command. Reason-redirect represents a parent's attempt to modify a child's negative behavior through non-coercive means.

2. Upper Limit Control Reactions. Parents who value conformity are primarily concerned with maintaining order and are less willing to tolerate inappropriate behavior (Bell & Chapman, 1986). Six variables were used to represent upper limit control reactions. These variables represent the parent's attempts to limit their child's disruptive behavior.

a) Commands-1. Commands-1 is the frequency of all of the codes in the family problem solving discussion from the command category. Parents who value conformity frequently use commands and physical direction to ensure orderly behavior and to correct inappropriate behavior (Luster et al., 1988). Commands-1 is an index of the relative amount of effort parents put into directing the child's behavior as opposed to other actions towards the child.

b) Clear Commands. This is the relative frequency of clear commands coded in the unstructured family interaction. Clear command is coded when the parent gives a clear and firm directive for behavior change (e.g., "Pick up your toys now"). Clear commands represent a parent's attempt to control and direct the child's behavior.

c) Ambiguous Commands. This is the relative frequency of ambiguous commands coded in the unstructured family interaction. Ambiguous command is coded when the parent gives an unclear but firm directive for behavior change (e.g., "Stop whining!").

d) Commands-2. This is the relative frequency of clear and ambiguous commands coded in the unstructured family interaction and is another index of the amount of effort parents put into directing the child's behavior as opposed to other actions towards the child.

e) Clear Corrections. This is the probability the a parents will respond to aversive child behavior in the unstructured family interaction with a clear command. That is, it is the likelihood that a parent will display upper level controls given disruptive child behavior.

f) Ambiguous Corrections. This is the probability the a parents will respond to aversive child behavior in the unstructured family interaction with an ambiguous command.

3. Child Positive Behavior. Child Positive Behavior is an index of the amount of appropriate contributions the mentally retarded child makes in the family problem solving discussion, as opposed to disruptive or withdrawn behaviors. If the variables selected to represent lower limit controls are valid, then Child Positive Behavior should increase as the parents' use of lower limit controls increases. Child Positive Behavior includes child behaviors directly related to the problem solving discussion

(e.g., problem talk, plan suggestion), as well as behaviors coded as Supportive-Facilitative (e.g., agree, compliance).

Questionnaire Measures

Autonomy. Parents' valuation of autonomy was assessed with the Autonomy scale (see Appendix C), completed by both parents during the first session. This scale was developed for the purposes of this study and is comprised of 11 true-false items from the Questionnaire on Resources and Stress (Holroyd, 1974). The scale was constructed by identifying items on the QRS which were thought to reflect an underlying valuation of autonomy for the mentally retarded child (e.g., It is easier for me to do something for _____ than to let him/her do it himself/herself and make a mess, reverse scored). Items which were not internally consistent were then discarded, resulting in an alpha of .71. Items on this scale reflect parents' valuation of self-direction, self-sufficiency, and independent functioning in their mentally retarded child.

Conformity. Parents' valuation of conformity was assessed with the "Overcontrol" scale of the Family Experiences Questionnaire (Frank, Jacobson, & Hole, 1986). This scale measures parents' valuation of strictness, orderliness, and obedience (see Appendix D). The Overcontrol scale consists of 11 items (e.g., When my children show their will, I make sure they know who is boss), rated on a four point scale ranging from "strongly agree" to "strongly disagree" and was filled out by both parents.

Discipline Practices. Both parents completed the Discipline Practices and Conflict Management scale (see Appendix E). This questionnaire asks parents to recall the number of times in the past month they tried each of 14 different methods of discipline with their mentally retarded child. In

addition, parents are asked to rated how effective they felt the action was, on a scale of 1 ("not effective at all") to 5 ("completely effective"). Asking parents to judge their use of discipline strategies across a range of discipline issues is preferred to asking them to respond to a specific scenario. This is because a parent's action in any individual discipline situation will be influenced by several considerations, and it is unlikely that there will be a direct correspondence between values and discipline practices (Goodnow, 1988). However, a parent's values will be reflected in their overall preference for different discipline strategies, so that the influence of their values will be seen over time. A score for reasoning as a discipline strategy was defined as the relative frequency of item #1 ("Discussed the issue calmly"). A score for power assertion as a discipline strategy was defined as the relative frequency of items 7 through 13. This scale was constructed for the purposes of the larger project.

Independent Functioning. The mentally retarded child's level of independent functioning was assessed with both the parent and teacher versions of the Adaptive Behavior Scale (Nihira, Foster, Shellhaas, & Leland, 1974). These scales are widely used as measures of parents and teachers' perceptions of children's functioning (see Appendix F for parent version, and Appendix G for teacher version).

The first half of the teacher's version clusters adaptive skills into three factors: Personal Self-Sufficiency (e.g., table manners, washing, dressing), Community Self-Sufficiency (e.g., eating in public, public transportation, telephone), and Personal-Social Responsibility (e.g., school/ job performance, cooperation, interaction with others). From the parent's version, three scales were used: Independent Functioning (e.g., eating, toilet use, dressing and undressing), Self-Direction (e.g., initiative, perseverance), and Socialization

(e.g., cooperation, interaction with others). This report looks at scores in all six of these categories at Times 1 and 2, as well as change scores from Time 1 to Time 2. The Adaptive Behavior Scale is the most commonly used measure of adaptive functioning for mentally retarded children and its reliability and validity have been well-documented (Nihira, 1976).

Results

Stability of Values

The first set of analyses tested Hypothesis 1, that parental values would remain stable from Time 1 to Time 2. The mothers' and the fathers' values were examined separately with a series of paired t-tests and correlations. The results are presented in Table 3.

Table 3

Paired T-Tests and Correlations: Mothers' and Fathers' T1-T2 Autonomy and Conformity Scores

Variable	Mean (SD) Time 1	Time 2	r	df	t
		Autonomy			
Mothers	5.96 (2.55)	6.21 (2.63)	.61***	106	1.14
Fathers	6.24 (2.50)	6.17 (2.47)	.48***	69	0.24
		Conformity			
Mothers	2.43 (.25)	2.28 (.30)	.47***	112	5.39***
Fathers	2.49 (.26)	2.32 (.27)	.33**	74	4.82***

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

As expected, both the mothers and the fathers' autonomy values were highly correlated between Time 1 and Time 2 (mothers, $r(108)=.61$, $p<.001$; fathers, $r(75)=.48$, $p<.001$), and there were no significant changes in the parents' reports of autonomy values over time. The mothers' and fathers' reports of conformity values were also significantly correlated between Time 1 and Time 2 (mothers, $r(115)=.47$, $p<.001$; fathers, $r(78)=.33$, $p<.01$), however, both the mothers and the fathers showed significant decreases in conformity values over time. These changes are considered developmentally appropriate, as older children are more capable of regulating their own behavior and require less parental control.

In order to evaluate more thoroughly developmental changes in parents' values, the autonomy and conformity values were submitted to a series of MANOVAs (2X4) with Time as a within-subjects factor and four Child Age groups as between subjects factors. The results for autonomy values are presented in Table 4 and the results for conformity values are presented in Table 5.

Table 4

MANOVA Results: Mothers and Fathers' Autonomy Values by Child Age and Time

	Mean Scores (SD)		F-Scores		
Child Age	T1	T2	Child Age	Time	Age x Time
		Mothers			
6-7 Yrs	5.50 (2.6)	5.75 (2.2)			
8-10 Yrs	6.11 (2.5)	6.39 (2.6)			
11-13 Yrs	6.25 (2.8)	6.08 (3.0)			
14-18 Yrs	6.04 (2.1)	6.63 (2.8)			
Total	5.96 (2.6)	6.21 (2.6)	0.52	1.16	0.46
		Fathers			
6-7 Yrs	6.00 (2.9)	5.84 (2.3)			
8-10 Yrs	7.04 (1.9)	6.50 (2.3)			
11-13 Yrs	5.86 (2.4)	6.71 (2.7)			
14-18 Yrs	5.73 (2.8)	5.60 (2.7)			
Total	6.24 (2.5)	6.17 (2.5)	0.95	0.00	0.89

Note. df's= 103 for mothers and 66 for fathers.

* $p < .05$, ** $p < .01$. *** $p < .001$.

For both the mothers and the fathers, there were no significant differences across age groups in mean autonomy scores. In addition, for both the mothers and fathers, there was no significant effect for Time and no significant Child Age x Time interaction. Therefore, autonomy values did not show any developmental changes.

Table 5

MANOVA Results: Mothers and Fathers' Conformity Values by Child Age and Time

	Mean Scores (SD)		F-Scores		
Child Age	T1	T2	Child Age	Time	Age x Time
		Mothers			
6-7 Yrs	2.44 (.27)	2.33 (.31)			
8-10 Yrs	2.42 (.27)	2.27 (.26)			
11-13 Yrs	2.40 (.20)	2.24 (.34)			
14-18 Yrs	2.46 (.26)	2.28 .29)			
Total	2.43 (.25)	2.28 (.30)	0.36	28.25***	0.30
		Fathers			
6-7 Yrs	2.56 (.28)	2.36 (.30)			
8-10 Yrs	2.43 (.24)	2.35 (.22)			
11-13 Yrs	2.44 (.23)	2.24 (.28)			
14-18 Yrs	2.54 (.27)	2.30 (.28)			
Total	2.49 (.26)	2.32 (.27)	0.95	25.14***	1.13

Note. df's= 109 for mothers and 71 for fathers.

* p< .05, ** p< .01. *** p< .001.

Similarly, the parents' conformity values did not differ significantly across child age groups and there was no significant Child Age x Time interaction. However, like the paired t-tests, both the mothers and the fathers' conformity scores showed a significant effect for Time. That is, the parents' conformity scores decreased from Time 1 to Time 2, regardless of the child's age. Therefore, this finding may indicate that the parents are moving into a new stage of family development, as all of the children age, rather than reflecting a developmental process specific to the child with mental retardation.

Upper and Lower Limit Controls

As a first step in evaluating the relationships between parental values and behaviors (Hypothesis 2), the impact of the child's age and the family size (indexed by the number of siblings in the home) on these variables was examined. It was hypothesized that the parents' use of lower limit controls might increase with older children and decrease in larger families. Alternatively, it was hypothesized that the parents' use of upper limit controls might decrease with older children and increase in larger families. These data are presented in Table 6.

Table 6

Correlations of Parents' Behaviors and Parents' Values with Child Age and Family Size, Time 1

Behavior and Values	Mothers' Behavior (n=161)		Fathers' Behavior (n=118)	
	Age	Family Size	Age	Family Size
Lower Limit Controls				
Opinion Probe	-.16*	.00	-.10	-.05
Clarification Request	-.09	-.10	-.06	-.15[a]
Question	.09	-.10	.04	-.16*
Supportive-Facilitative	.01	-.11[a]	.03	-.32***
Open vs. Leading	.13*	-.06	.12	.07
Reason-Redirect	.05	.00	.05	-.21**
Upper Limit Controls				
Commands-1	-.33***	.06	-.38***	-.04
Clear Commands	-.33***	.03	-.19*	.07
Ambiguous Commands	-.14*	.01	.09	-.08
Commands-2	-.31***	.03	-.07	.00
Clear Corrections	-.24***	-.05	-.20*	.05
Ambiguous Corrections	-.05	-.15*	.06	-.02
Values				
Autonomy	.14*	.03	.06	.04
Conformity	-.02	.01	-.14[a]	.04

[a] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.

Age. For lower limit controls, consistent with expectations, the mothers were more likely to use open versus leading questions, but they used fewer opinion probes with older children. The remaining 4 of the mothers' lower limit controls were unrelated to age. Similarly, the fathers' use of lower limit controls was unrelated to the child's age. The mothers' use of upper limit controls was most clearly associated with the child's age, as 5 of the 6 variables that comprise mothers' upper limit controls were negatively correlated with age. In general, mothers used fewer upper limit controls with older children. For the fathers, half of their upper limit control behaviors were also negatively correlated with age. Finally, the mothers' valuation of autonomy showed a small but significant positive correlation with age. Likewise, there was a trend for fathers to report less valuation of conformity with older children. Mothers' conformity values and fathers' autonomy values were not associated with the child's age.

Family Size. The mothers' use of lower limit controls was unrelated to family size, with the exception of a trend where the mothers tended to use fewer supportive-facilitative behaviors in larger families. However, the fathers' use of lower limit controls were associated with family size. In general, consistent with expectations, the fathers used fewer lower limit controls in larger families. With one exception, both the mothers' and the fathers' use of upper limit controls was unrelated to family size. The mothers were less likely to use ambiguous corrections (e.g., responding to an aversive child behavior with an ambiguous command) in larger families. Finally, none of the measures of the parents' values were associated with family size.

In summary, the use of upper and lower limit controls were related to the child's age and family size in a consistent manner. The parents, especially the mothers, used fewer upper limit controls with older children and the

fathers used fewer lower limit controls in larger families. Because of these relationships, the child's age and family size were controlled for in subsequent analyses.

Table 7

Partial Correlations of Parents' Behaviors with Child's Behavior Controlling for Child Age, Family Size, and EMI/TMI Status

Parent Behavior	Child Positive Behavior	
	Mothers	Fathers
Lower Limit Controls		
Opinion Probe	.11[a]	.11
Clarification Request	.32***	.37***
Question	.25***	.10
Supportive-Facilitative	.26***	.31***
Open vs. Leading	.01	-.09
Reason-Redirect	.15*	.20*
Upper Limit Controls		
Commands-1	.07	.04
Clear Commands	-.22**	-.13[a]
Ambiguous Commands	-.08	-.06
Commands-2	-.20**	-.13[a]
Clear Corrections	-.04	-.02
Ambiguous Corrections	.04	.00

[a] = $p < .10$; * = $p < .05$; ** = $p < .01$; *** = $p < .001$.

Child Involvement. In order to test the assumption that the parents' use of lower limit controls during the family problem solving discussion would be associated with a greater frequency of appropriate contributions by the mentally retarded child in the discussion (Hypothesis 3), Child Positive Behavior was correlated with the parents' behaviors, controlling for the child's age, family size, and the child's EMI/TMI status. These data are presented in Table 7. As expected, the majority of the mothers' lower limit behaviors were significantly positively correlated with the child's positive involvement. Similarly, half of the fathers' lower limit behaviors were positively correlated with the child's involvement. Table 7 also shows that the parents' upper limit controls were not associated with a greater frequency of child positive involvement. In fact, two measures of the mothers and the fathers' commands suggested the reverse, that higher rates of commanding was associated with lower levels of involvement by the child. Though no predictions were made concerning the relationship between the parents' use of upper limit controls and the child's level of involvement, these findings are consistent with expectations. That is, parental behaviors that are designed to redirect or reduce inappropriate behaviors would not be expected to increase the child's positive behaviors.

Parent Behaviors and Values. The following analyses tested parts a) and b) of Hypothesis 2, that parental values would be systematically related to parental behaviors. These hypotheses were tested by calculating the partial correlations between the parents' autonomy and conformity values and the upper and lower limit control variables, controlling for the child's age, family size, and the child's EMI/TMI status. In addition, composite scores for the use of the upper and lower limit controls were calculated by summing the

standardized scores for the relative frequencies of each group of six upper and lower limit behavioral variables. In addition, research on gender-differentiated socialization suggests that parents emphasize autonomy more for boys and conformity more for girls (e.g., Block, 1983). Therefore, the results are presented separately for boys and girls.

The results for the parents' lower limit control behavior are presented in Table 8 and the results for the parents' upper limit control behavior are presented in Table 9.

Table 8

Partial Correlations of Parents' Lower Limit Controls with Parents' Values Controlling for Child Age, Family Size, and EMI/TMI Status

Lower Limit Controls	Autonomy Values		Conformity Values	
	Boys	Girls	Boys	Girls
		Mothers		
Opinion Probe	-.06	.04	.03	.06
Clarification Request	.00	-.13	.13	-.32**
Question	.04	-.16[a]	.10	-.26**
Supportive-Facilitative	.01	.00	.06	.04
Open vs. Leading	.10	-.03	-.04	-.23*
Reason-Redirect	.14	.10	-.13	.06
Composite	.14	-.07	-.06	-.22*
		Fathers		
Opinion Probe	-.01	.01	.15	.09
Clarification Request	.05	.21[a]	.28*	.04
Question	.05	-.07	.09	-.05
Supportive-Facilitative	.00	.16	.39**	.16
Open vs. Leading	.20[a]	-.02	-.22[a]	-.06
Reason-Redirect	-.10	.04	-.13	-.03
Composite	.06	.01	.09	-.01

[a] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.

Autonomy. The first hypothesis proposed that the more parents valued autonomy, the more frequently they would use lower limit controls. These results are shown in Table 8. First, for the mothers, autonomy values were not related to any of the lower limit controls for the mothers of boys, and were significantly related to only one lower limit control for the mothers of girls. Contrary to expectations, there was a trend for the mothers of girls who valued autonomy relatively highly to ask fewer questions than mothers with low autonomy scores. Similarly, the fathers' autonomy values showed an association with only two of their lower limit controls. Consistent with expectations, there was a trend for the fathers of boys who relatively highly valued autonomy to ask more open versus leading questions, and for the fathers of girls who reported higher autonomy values to use relatively more clarification requests.

Table 9

Partial Correlations of Parents' Upper Limit Controls with Parents' Values Controlling for Child Age, Family Size, and EMI/TMI Status

Upper Limit Controls	Autonomy Values		Conformity Values	
	Boys	Girls	Boys	Girls
	Mothers			
Commands-1	-.16[a]	-.09	.34***	.02
Clear Commands	-.13	-.18[a]	.08	-.08
Ambiguous Commands	-.29**	-.12	.10	-.04
Commands-2	-.23*	-.19*	.11	-.08
Clear Corrections	.00	-.09	.23*	-.13
Ambiguous Corrections	-.24*	.04	.20	-.01
Composite	-.29**	-.15	.24	-.11
	Fathers			
Commands-1	.14	-.10	.12	.10
Clear Commands	-.07	-.20[a]	-.02	-.09
Ambiguous Commands	-.27*	-.18[a]	.21[a]	.00
Commands-2	-.24*	-.25*	.15	-.06
Clear Corrections	.17	-.21[a]	.19[a]	-.21[a]
Ambiguous Corrections	-.26*	-.16	.11	-.07
Composite	-.10	-.29*	.11	.02

[a] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$, two-tailed.

The second hypothesis proposed that the parents' autonomy values would be negatively related to their use of upper limit controls. The results, presented in Table 9, showed that autonomy values were significantly or showed trends toward being associated with five of the seven upper limit control variables for the mothers of boys, in the expected direction. For the mothers of girls, autonomy values were significantly related or showed trends to upper limit controls in two instances, each consistent with expectations. Similar results were found for the fathers, though the number of significant results were reversed for boys and girls. For the fathers of boys, autonomy values were significantly related to three of the seven upper limit controls, in the expected direction. For the fathers of girls, autonomy values were significantly related or showed a trend to five of the seven upper limit controls in the expected direction.

Conformity. The third hypothesis tested was that the more parents valued conformity, the more frequently they would use upper limit controls. As shown in Table 9, conformity values were related to two upper limit controls for the mothers of boys. That is, the more the mothers of boys reported valuing conformity, the more likely they were to issue commands in the family problem solving discussion and the more likely they were to use clear corrections. For the mothers of girls, conformity values were not related to their use of upper limit controls. Conformity values were positively related to two upper limit controls for the fathers of boys and to only one upper limit control for the fathers of girls. Consistent with expectations, there was a trend for the fathers of boys who highly valued conformity to use more ambiguous commands and clear corrections. Contrary to expectations, there was a trend for the fathers of girls who highly valued conformity to use fewer clear corrections.

The fourth hypothesis proposed that parents' conformity values would be negatively related to their use of lower limit controls. As shown in Table 8, for the mothers of boys, conformity values were unrelated to their use of lower limit controls. However, for the mothers of girls, conformity values were significantly related to their use of lower limit controls in four cases, and in the expected direction. The mothers of girls who highly valued conformity asked fewer clarification requests, asked fewer questions, and asked a relatively lower proportion of open to leading questions. In addition, the mothers of girls who highly valued conformity were less likely to use lower limit controls overall (composite score). For the fathers of boys, conformity values were related to three of their lower limit controls. Consistent with expectations, the fathers who highly valued conformity were less likely to use open versus leading questions, though this was only a trend. However, contrary to expectations, the fathers of boys who highly valued conformity were more likely to make clarification requests and to use supportive-facilitative behaviors. Finally, for the fathers of girls, conformity values were not related to their use of lower limit controls.

Overall, these analyses provided only partial support for Hypothesis 2. Although several relationships were found in the expected directions, they were modest in magnitude, and occurred in the context of many non-significant findings. The most consistent relationship was found between the parents' autonomy values and their use of upper limit controls, so that relatively high autonomy values were negatively correlated with commanding behaviors. This relationship was especially clear for the mothers of boys and the fathers of girls. Finally, for the mothers of girls, high conformity values were relatively consistently associated with using fewer lower limit controls.

Discipline Practices

A series of partial correlations were used to test Hypothesis 4, that parents' values would be related to their preferred disciplinary styles. In these analyses, the child's EMI/TMI status was controlled for because the mothers' disciplinary styles were significantly correlated with the child's developmental level. Two indices of disciplinary styles, reasoning and power assertion, were calculated for the mothers and fathers separately. Scores for power assertion were computed by summing the relative frequencies of the seven items on the Discipline Practices Questionnaire related to discipline through punishment (e.g., scolding, grounding, taking away privileges). Scores for reasoning were computed as the relative frequency of the first item on the questionnaire (i.e., Discussed the issue calmly). The results are presented in Table 10 for the entire sample. In addition, because research on parental disciplinary styles suggests that the gender of the child influences the parents' disciplinary strategy (e.g., Kuczynski, 1984), results are presented separately for boys and girls.

Table 10

Partial Correlations of Discipline Practices with Values Controlling for EMI/TMI Status

Discipline Practices	Parental Values: Autonomy	Parental Values: Conformity
Mothers		
Reasoning		
Total Sample	.09	-.01
Boys	.11	-.18[a]
Girls	.10	.10
Power Assertion		
Total Sample	-.15[a]	.24**
Boys	-.19[a]	.42***
Girls	-.10	-.06
Fathers		
Reasoning		
Total Sample	-.11	-.06
Boys	-.16	.03
Girls	.07	-.10
Power Assertion		
Total Sample	-.10	.02
Boys	-.17	.13
Girls	-.06	-.08

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

[a] = $p < .10$; * = $p < .05$; ** = $p < .01$; *** = $p < .001$

Autonomy. The first hypothesis tested was that the more parents valued autonomy, the more often they would use reasoning as a disciplinary style and the less they would use power assertion. However, no relationship was found between the mothers or the fathers' autonomy values and their use of reasoning. This was true even when families with boys and girls were considered separately. However, consistent with expectations, there was a trend for the mothers' valuation of autonomy to be negatively related to their use of power assertion, especially for mothers of boys.

Conformity. The second hypothesis stated that the more the parents valued conformity, the more often they would report using power assertion as a disciplinary style and the less they would use reasoning. Consistent with expectations, the mothers' valuation of conformity was positively correlated with their use of power assertion, especially for the mothers of boys (entire sample, $r(96)=.24$, $p<.01$; boys, $r(51)=.42$, $p<.001$). Furthermore, the mothers' conformity values were negatively related their use of reasoning with boys, though this was only a trend. Alternatively, there was no relationship between the fathers' conformity values and their discipline strategies.

Thus, support for Hypothesis 4 was limited because few of the partial correlations were significant. A notable exception was that the mothers of boys who highly valued conformity reported relatively frequent use of power assertion as a disciplinary style.

Independent Functioning

A series of partial correlations, controlling for the child's developmental level, tested hypothesis 5, that the parents' values at Time 1 would be related to the child's level of independent functioning at Times 1 and 2. Specifically, it was hypothesized that autonomy values would be positively associated with the parents and the teachers' reports of the child's independent functioning, self-direction, and socialization, and with composite scores for the parents' reports. These composite scores were calculated by summing the three parent domain scores (independent functioning, self-direction, and socialization). In addition, autonomy values were hypothesized to be positively associated with the teachers' reports of the child's personal self-sufficiency, community self-sufficiency, and personal-social responsibility. Alternatively, conformity values were expected to be either unrelated or negatively related to these measures of the child's independent functioning.

Table 11

Partial Correlations of Parental Values with Child Independent Functioning at Time 1 Controlling for EMI/TMI Status

Domain	Autonomy		Conformity	
	Mothers	Fathers	Mothers	Fathers
	Parent Report			
Independent Functioning	.29***	.32***	.00	.00
Self-Direction	.36***	.26**	-.11	-.01
Socialization	.33***	.20*	-.10	-.03
Composite	.40***	.30***	-.08	.00
	Teacher Report			
Independent Functioning	.12	.22*	-.06	-.07
Self-Direction	.18*	.25**	-.01	-.06
Socialization	.12	.13	-.01	-.24**
Personal Self-Sufficiency	.08	.14	.05	.04
Community Self-Sufficiency	.05	.08	.01	.10
Personal/Social Responsibility	.12	.16	-.05	-.14

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

[a] = $p < .10$; * = $p < .05$; ** = $p < .01$; *** = $p < .001$

Time 1. Consistent with expectations, all of the partial correlations between the mothers and fathers' autonomy values and the parents' reports of the child's independent functioning at Time 1 were significant. As shown in Table 11, higher autonomy values were associated with higher levels of independent functioning, self-direction, and socialization, as well as with the composite score (mothers, $r(158)=.40$, $p<.001$; fathers, $r(112)=.30$, $p<.001$). On the other hand, only three of the partial correlations between the parents' autonomy values and the teachers' reports of child functioning reached significance. Specifically, higher autonomy values reported by both the mothers and the fathers were associated with higher teacher reports of self-direction, and the fathers' autonomy values were positively correlated with teachers' reports of independent functioning.

Alternatively, the conformity values reported by the mothers and fathers showed no relationship with the independent functioning scores reported by either the parents or teachers, with one exception. When the fathers highly valued conformity, the teachers reported lower socialization scores.

Table 12

Partial Correlations of Parental Values at Time 1 with Child Independent Functioning at Time 2 Controlling for EMI/TMI Status

Domain	Autonomy		Conformity	
	Mothers	Fathers	Mothers	Fathers
	Parent Report			
Independent Functioning	.36***	.30**	.03	-.07
Self-Direction	.33***	.19[a]	-.05	.07
Socialization	.24**	.15	.00	-.20[a]
Composite	.40***	.27*	-.01	-.09
	Teacher Report			
Independent Functioning	.01	.02	-.10	-.22[a]
Self-Direction	.06	.18	-.16	-.12
Socialization	.04	.24[a]	-.05	-.08
Personal Self-Sufficiency	.17*	-.01	-.16	.00
Community Self-Sufficiency	-.06	.04	-.17	-.26*
Personal/Social Responsibility	.11	.11	-.17	-.12

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

[a] = $p < .10$; * = $p < .05$; ** = $p < .01$; *** = $p < .001$.

Time 2. As shown in Table 12, the partial correlations between the parents' values at Time 1 and the child's functioning at Time 2 were similar to the relationships found between Time 1 scores. With one exception, the mothers and fathers' autonomy values were significantly positively correlated with all of the parents' reports of child functioning, including the composite score (mothers, $r(94)=.40$, $p<.001$; fathers, $r(67)=.27$, $p<.05$). Alternatively, parents' autonomy values were related to only one of the teachers' reports of independent functioning. Specifically, when the fathers endorsed higher autonomy values, the teachers rated the child higher in socialization.

On the other hand, the mothers' reports of conformity values were unrelated to parent or teacher reports of child functioning. Fathers' conformity values were related to parent and teacher reports of child functioning in only three instances. When the fathers highly valued conformity, the teachers rated the child lower in community self-sufficiency. In addition, there was a trend for the fathers' higher conformity values to be associated with lower levels of socialization reported by the parents and lower levels of independent functioning reported by the teachers. Overall, Hypothesis 4 was supported most clearly for the parents' reports of the child's level of independent functioning.

Change over Time. The second hypothesis related to the child's level of independent functioning was that the more the parents valued autonomy, the more the child's independent functioning scores would increase from Time 1 to Time 2. To test this hypothesis, a multiple regression analysis was used to determine how autonomy values related to changes in independent functioning across time. First, the composite score of parents' reports of independent functioning at Time 2 was regressed on the parents' reports at

Time 1, resulting in a residual index of change. Next, the autonomy score at Time 1 was entered into the equation, resulting in a partial correlation between autonomy values at Time 1 and changes in independent functioning. Finally, autonomy scores at Time 2 were entered into the equation, resulting in a partial correlation between changes in autonomy values and changes in independent functioning. These results are presented in Table 13.

Table 13

Regression Results for Predicting Change in Child Independent Functioning from Time 1 to Time 2

Criterion/Predictors	Zero-order *r* or partial *r*	R^2	R^2Cha	F
Mothers				
Time 2 Independent Functioning				
Independent Functioning (Parent) Time 1	.59***	.34		48.9***
Autonomy Time 1	.25**	.39	.04**	29.1***
Autonomy Time 2	.16	.40	.02	20.5***
Fathers				
Time 2 Independent Functioning				
Independent Functioning (Parents) Time 1	.66***	.43		47.6***
Autonomy Time 1	.00	.43	.00	23.4***
Autonomy Time 2	.12	.44	.01	15.8***

* = p<.05; ** = p<.01; *** = p<.001.

The results show that the mothers' autonomy values at Time 1 predicted changes in the child's level of independent functioning from Time 1 to Time 2. Greater increases in the child's level of independent functioning occurred in families where the mothers reported high autonomy values at Time 1. However, changes in mothers' autonomy values from Time 1 to Time 2 (i.e., the R^2 change associated with entering Time 2 autonomy values in the equation) did not make a significant contribution to the prediction of change in independent functioning scores. For the fathers, only Time 1 independent functioning scores predicted Time 2 independent functioning scores. The fathers' autonomy values at Time 1, and changes in fathers' autonomy values from Time 1 to Time 2 did not add to the prediction of change in the child's independent functioning from Time 1 to Time 2. Thus, the second part of Hypothesis 5 was supported, but only for mothers.

Predicting Child Outcome from Parental Behaviors and Values.

Finally, a series of multiple regression analyses were used to assess the relative contributions of parental behaviors and parental values in predicting outcomes for the child. Specifically, Hypothesis 6 predicted that parental values would account for a significant portion of the variance in independent functioning scores at Time 2. In order to test this hypothesis, two regression models were tested. In both regressions, the composite score of independent functioning at Time 2 was first regressed on three covariates: child age and family size, because of their relationship with the parents' behaviors, and the child's EMI/TMI status, because of its relationship with the child's level of independent functioning. In Step 2, an index of the parents' behaviors was entered in the equation. In the first regression, the composite score of lower limit controls was entered. In the second regression, the composite score of upper limit controls was entered. Finally, the parents' values were entered in the equation; autonomy values were entered in the first regression and conformity values were entered in the second regression. For both regression models, the univariate or partial correlation for each predictor variable with the criterion is presented, as well as the R^2 for each set of predictors. In addition, in order to evaluate the contributions of each predictor, the change in R^2 when each predictor is added to the model is presented.

Table 14

Predicting Child Independent Functioning at Time 2 from Parents' Lower Limit Controls and Autonomy Values at Time 1

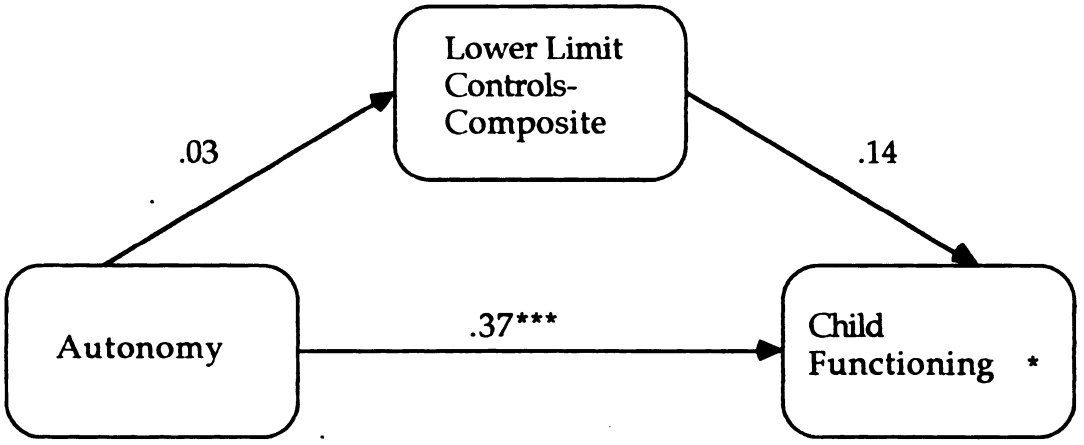
Predictors	Zero-order *r* or partial r	R^2	R^2 Cha	F
	Mothers			
Step 1. Covariates		.10		3.56*
Child Age	.09			
EMI/TMI	.30**			
Family Size	-.18[a]			
Step 2. Behaviors		.12	.02	3.18*
Lower Limit	.14			
Step 3. Values		.24	.12***	5.82***
Autonomy	.37***			
	Fathers			
Step 1. Covariates		.15		3.42*
Child Age	.27*			
EMI/TMI	.27*			
Family Size	-.24[a]			
Step 2. Behaviors		.17	.02	3.00*
Lower Limit	.16			
Step 3. Values		.25	.08*	3.81**
Autonomy	.31*			

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

a = $p<.10$; * = $p<.05$; ** = $p<.01$; *** = $p<.001$.

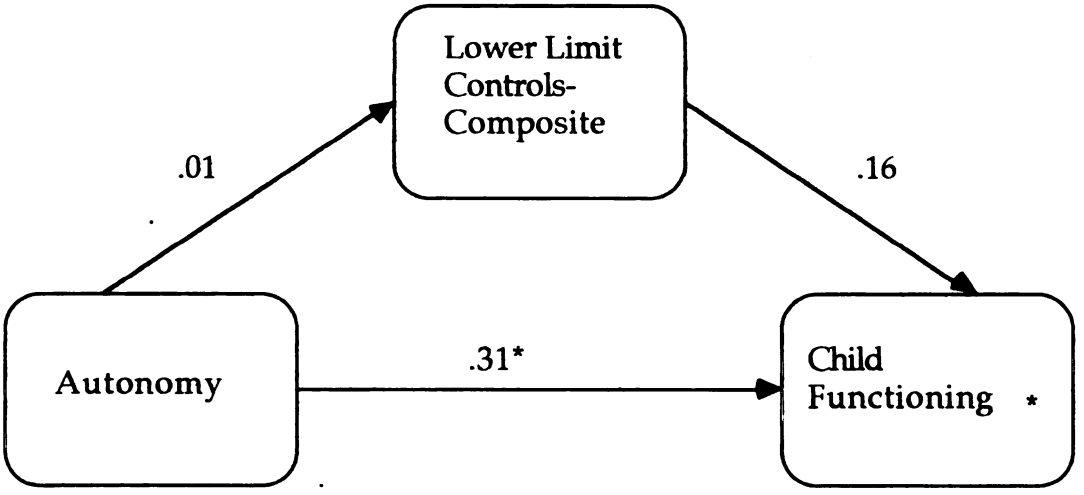
Lower Limit Controls and Autonomy. Table 14 presents the regression model for the mothers and the fathers when the composite scores of lower limit controls were entered in Step 2 as the measure of the parents' behaviors and autonomy scores were entered as the measure of the parents' values. For the mothers, the full regression model accounted for 24% of the variance in child independent functioning scores at Time 2, $F(5.92)=5.82$, $p < .001$. After accounting for the variance in independent functioning scores associated with the covariates, the mothers' behaviors did not make a significant contribution to the prediction. However, the mothers' autonomy values at Time 1 did predict child functioning at Time 2 after accounting for the effects of the covariates and the mothers' behavior, with 12% of the variance in the full regression model uniquely attributable to mothers' autonomy values.

For the fathers, the full regression model accounted for 25% of the variance in child independent functioning at Time 2, $F(5,57)=3.81$, $p < .01$. As with the mothers, the fathers' behaviors, after accounting for the effects of the covariates, did not make a significant contribution to the prediction. However, after accounting for behaviors, the fathers' autonomy values predicted independent functioning scores at Time 2, with 8% of the variance uniquely attributable to the fathers' autonomy values. These results are portrayed in Figures 2 and 3.



* Corrected for child's age, family size, and EMI/TMI status.

Figure 2. Path analysis results for the mothers' autonomy values and lower limit controls.



* Corrected for child's age, family size, and EMI/TMI status.

Figure 3. Path analysis results for the fathers' autonomy values and lower limit controls.

Upper Limit Controls and Conformity. Tables 15 presents the results for the mothers and fathers' regressions when composite scores of upper limit controls were entered in Step 2 as the behavioral predictors and conformity scores were entered as the measures of the parents' values.

Table 15

Predicting Child Independent Functioning at Time 2 from Parents' Upper Limit Controls and Conformity Values at Time 1

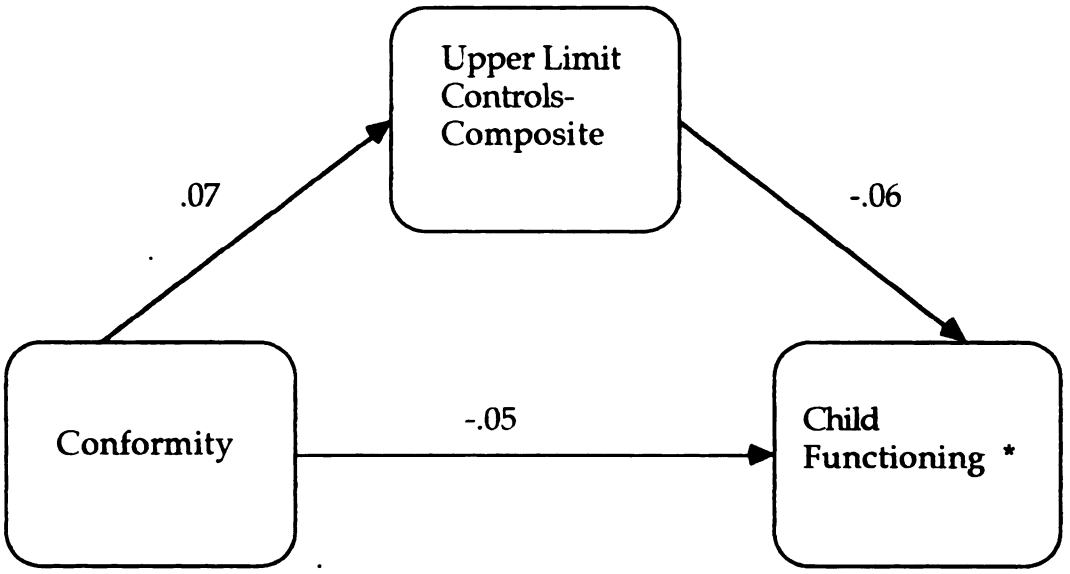
Predictors	Zero-order *r* or partial r	R^2	R^2 Cha	F
		Mothers		
Step 1. Covariates		.11		3.87**
Child Age	.13			
EMI/TMI	.30**			
Family Size	-.19*			
Step 2. Behaviors		.11	.00	2.97*
Upper Limit	-.06			
Step 3. Values		.11	.00	2.40*
Conformity	-.05			
		Fathers		
Step 1. Covariates		.12		2.90*
Child Age	.20[a]			
EMI/TMI	.25*			
Family Size	-.24*			
Step 2. Behaviors		.17	.05*	3.25*
Upper Limit	-.24*			
Step 3. Values		.17	.00	2.57*
Conformity	-.03			

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

a = $p<.10$; * = $p<.05$; ** = $p<.01$; *** = $p<.001$.

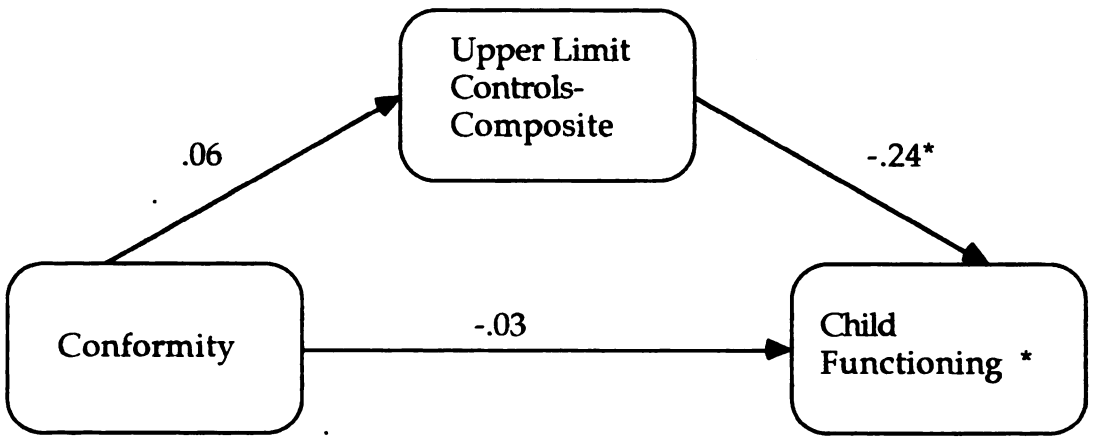
For the mothers, the full regression model accounted for 11% of the variance in independent functioning, $F(5,94)=2.40$, $p < .05$. Similar to the previous regressions, the mothers' upper limit controls did not contribute to the prediction of Time 2 independent functioning scores. However, unlike the previous regressions, after entering the covariates and the upper limit controls, the mothers' conformity values did not predict Time 2 independent functioning.

For the fathers, the full regression model accounted for 17% of the variance in child functioning, $F(5,64)=2.57$, $p < .05$. Unlike the results for the mothers, the fathers' upper limit controls made a significant contribution to the prediction of child functioning, but similar to the results for the mothers, the fathers' conformity values did not predict child functioning at Time 2. These results are portrayed in Figures 4 and 5.



* Corrected for the child's age, family size, and EMI/TMI status.

Figure 4. Path analysis results for the mothers' conformity values and upper limit controls.



* Corrected for the child's age, family size, and EMI/TMI status.

Figure 5. Path analysis results for the fathers' conformity values and upper limit controls.

Specific Behaviors. As a further test of the contributions of parental behaviors and parental values in predicting outcomes for the child, specific parent behaviors were entered in Step 2 as the measure of parents' behaviors instead of the composite scores for upper and lower limit controls used in the previous regressions.

Table 16

Correlations of Parents' Behaviors and Values with Time 2 Independent Functioning

Behaviors and Values	Mothers	Fathers
	Lower Limit Controls	
Opinion Probe	-.02	-.18
Clarification Request	-.00	-.07
Question	-.01	-.05
Supportive-Facilitative	.03	-.20
Open vs. Leading	.08	.25*
Reason-Redirect	-.02	.13
Composite	.06	.13
	Upper Limit Controls	
Commands-1	-.07	-.20
Clear Commands	-.05	-.26*
Ambiguous Commands	-.13	-.15
Commands-2	-.10	-.29*
Clear Corrections	-.02	.00
Ambiguous Corrections	-.03	-.06
Composite	-.11	-.24*
	Values	
Autonomy	.41**	.32**
Conformity	.00	-.06

[a] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.

Table 16 presents the correlations between the parents' behaviors and the child's Time 2 independent functioning. None of the mothers' behaviors, and only three of the fathers' behaviors were significantly associated with child independent functioning at Time 2. Only these behaviors were entered into regression analyses. Therefore, only two additional regressions were run. In the first regression, the fathers' score for open versus leading questions was entered in Step 2 as the measure of lower limit control behaviors, and the fathers' autonomy scores were entered as the measure of values. In the second regression, the fathers' scores for clear commands and for their overall commanding in the unstructured family interaction were entered in Step 2, and the fathers' conformity scores were entered as the measure of values. These results are presented in Table 17.

Table 17

Predicting Child Independent Functioning at Time 2 from Fathers' Specific Behaviors and Values at Time 1

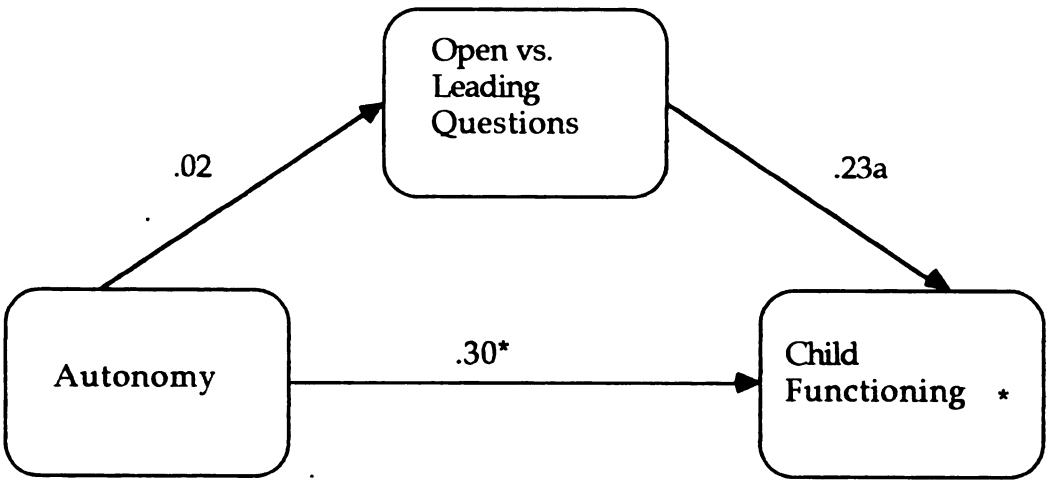
Predictors	Zero-order *r* or partial r	R^2	R^2 Cha	F
Open versus Leading Questions				
Step 1. Covariates		.14		3.37*
Child Age	.26*			
EMI/TMI	.26*			
Family Size	-.24*			
Step 2. Behaviors		.19	.05[a]	3.49**
Open vs. Leading	.23[a]			
Step 3. Values		.26	.07*	4.15**
Autonomy	.30*			
Clear Commands and Commands-2				
Step 1. Covariates		.11		2.90*
Child Age	.18			
EMI/TMI	.26*			
Family Size	-.24*			
Step 2. Behaviors		.19	.08*	3.11**
Clear Commands	-.17			
Commands-2	-.29*			
Step 3. Values		.19	.00	2.57*
Conformity	-.03			

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

a = $p<.10$; * = $p<.05$; ** = $p<.01$; *** = $p<.001$.

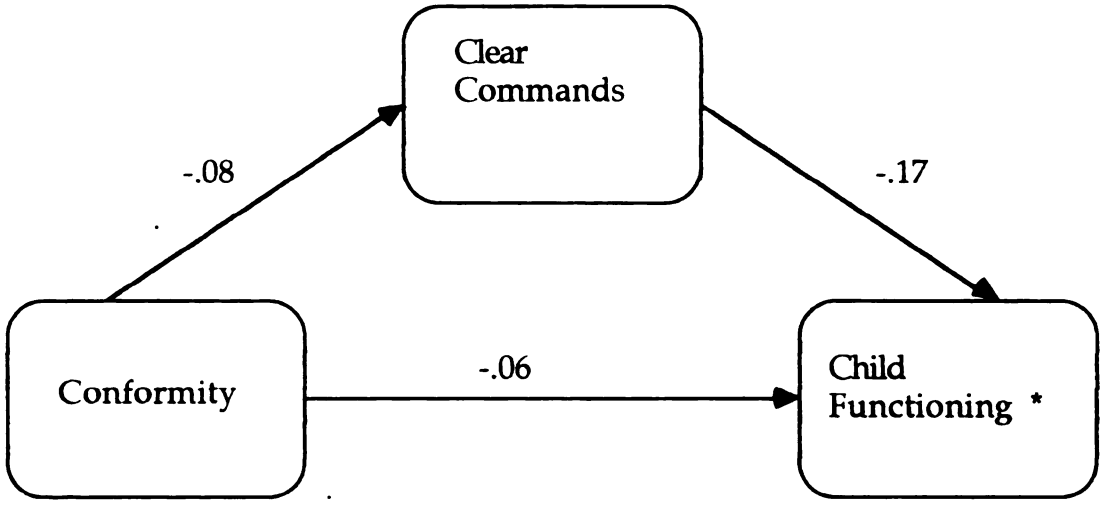
For open versus leading questions, the full regression model accounted for 26% of the variance in independent functioning, $F(5.58)=4.15$, $p < .05$. The fathers' open versus leading questions made a contribution to the prediction of child outcomes, though this was only a trend. In addition, autonomy values continued to predict child functioning at Time 2, accounting for 7% of the variance in the full regression model.

For the specific commands, the full regression model accounted for 19% of the variance in the child's level of independent functioning at Time 2, $F(6.65)=2.57$, $p < .05$. The fathers' commands made a significant contribution to the prediction of child functioning. As can be seen in Table 17, this effect was due to the negative relationship between commands from the unstructured problem solving discussion and the criterion. The fathers who issued more commands at Time 1 had children with lower independent functioning scores at Time 2. Finally, the fathers' conformity values did not predict child functioning. These findings are portrayed in Figures 6, 7, and 8.



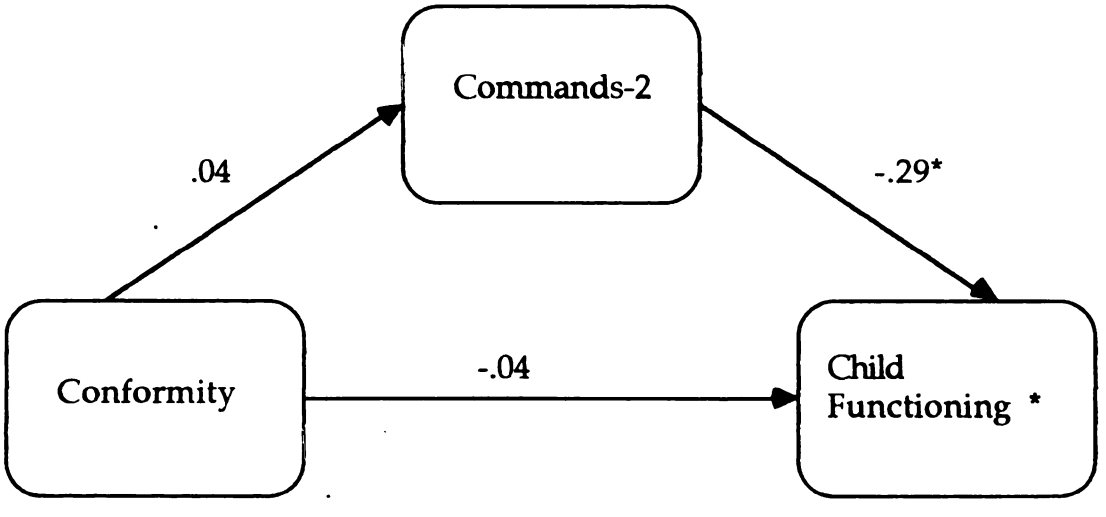
* Corrected for child's age, family size, and EMI/TMI status.

Figure 6. Path analysis results for the fathers' autonomy values and open versus leading questions.



* Corrected for the child's age, family size, and EMI/TMI status.

Figure 7. Path analysis results for the fathers' conformity values and clear commands.



* Corrected for the child's age, family size, and EMI/TMI status.

Figure 8. Path analysis results for the fathers' conformity values and commands in the unstructured family interaction.

Overall, consistent with Hypothesis 6, both the mothers' and the fathers' autonomy values consistently predicted child independent functioning scores at Time 2. These relationships were maintained after controlling for relevant parent behaviors, largely because the behaviors were not predictive of the outcome. On the other hand, conformity values failed to predict child functioning in any regression model for either the mothers or the fathers, particularly after controlling for significant relationships between behaviors and outcomes. Therefore, autonomy values were clearly more important predictors of the child's level of independent functioning than conformity values.

Gender Follow-Up Analyses

Because many of the relationships between the parents' behaviors and the parents' values differed by the child's gender (see Tables 8 and 9), a series of follow-up regressions were run for the parents of boys and girls separately. In order to determine which behaviors were most likely to differentially influence child functioning based on the child's gender, correlations between parents' behaviors and Time 2 independent functioning scores were calculated for the parents of boys and girls separately. These results are presented in Table 18.

Table 18

Correlations of Parents' Behaviors and Values with Time 2 Independent Functioning for Boys and Girls

Behaviors and Values	Mothers		Fathers	
	Boys	Girls	Boys	Girls
Lower Limit Controls				
Opinion Probe	.09	-.12	-.20	-.15
Clarification Request	.15	-.19	.01	-.26
Question	.23	-.28*	-.04	-.08
Supportive-Facilitative	.22	-.14	-.32*	-.01
Open vs. Leading	.33*	-.26	.31	.17
Reason-Redirect	.11	-.17	.12	.14
Composite	.41**	-.31*	.21	.02
Upper Limit Controls				
Commands-1	.06	-.19	-.11	-.30
Clear Commands	.05	-.21	-.15	-.43*
Ambiguous Commands	-.16	-.11	-.24	.07
Commands-2	-.03	-.21	-.30	-.29
Clear Corrections	.00	-.03	.20	-.15
Ambiguous Corrections	-.01	-.04	-.13	.15
Composite	-.04	-.20	-.17	-.38*
Values				
Autonomy	.49**	.33*	.45**	.15
Conformity	.00	.00	-.11	.03

[a] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.

As shown in Table 18, the mothers' use of questions, their use of open versus leading questions, and the lower limit control composite all showed gender differences in their correlations with independent functioning. In addition, there were gender differences in correlations between child independent functioning and the fathers' use of supportive-facilitative behaviors, their use of clear commands, and the upper limit control composite. Therefore, six regression models were tested for the parents of boys and girls separately. In the first three regressions, specific lower limit controls (i.e., questions, open vs. leading question, and the lower limit control composite) and autonomy values of the mothers are examined. In the fourth regression, the fathers' supportive-facilitative behaviors and autonomy values are examined. In the last two regressions, specific upper limit controls (i.e., clear commands and the upper limit control composite) and conformity values of the fathers are examined. These results are presented in Tables 19 to 24.

Table 19

Predicting Child Independent Functioning at Time 2 from Mothers' Lower Limit Controls and Autonomy Values at Time 1 for Boys and Girls

Predictors	Zero-order *r* or partial r	R^2	R^2 Cha	F
		Boys		
Step 1. Covariates		.18		0.52
Child Age	-.10			
EMI/TMI	.11			
Family Size	-.07			
Step 2. Behaviors		.21	.18**	3.10*
LLC Composite	.43**			
Step 3. Values		.38	.17***	5.60***
Autonomy	.46***			
		Girls		
Step 1. Covariates		.36		7.95***
Child Age	.36**			
EMI/TMI	.57***			
Family Size	-.34**			
Step 2. Behaviors		.36	.00	5.90***
LLC Composite	-.07			
Step 3. Values		.38	.02	5.02**
Autonomy	.18			

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

a = p<.10; * = p<.05; ** = p<.01; *** = p<.001.

Table 20

Predicting Child Independent Functioning at Time 2 from Mothers' Questions and Autonomy Values at Time 1 for Boys and Girls

Predictors	Zero-order *r* or partial r	R^2	R^2 Cha	F
	Boys			
Step 1. Covariates		.04		0.71
Child Age	-.06			
EMI/TMI	.17			
Family Size	-.08			
Step 2. Behaviors		.11	.07*	1.62
Questions	.28*			
Step 3. Values		.31	.19***	4.33***
Autonomy	.46***			
	Girls			
Step 1. Covariates		.37		8.83***
Child Age	.40**			
EMI/TMI	.54***			
Family Size	-.31**			
Step 2. Behaviors		.37	.00	6.56***
Questions	-.07			
Step 3. Values		.40	.02	5.64***
Autonomy	.19			

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

a = $p<.10$; * = $p<.05$; ** = $p<.01$; *** = $p<.001$.

Table 21

Predicting Child Independent Functioning at Time 2 from Mothers' Open vs. Leading Questions and Autonomy Values at Time 1 for Boys and Girls

Predictors	Zero-order *r* or partial r	R^2	R^2 Cha	F
		Boys		
Step 1. Covariates		.03		0.52
Child Age	-.10			
EMI/TMI	.11			
Family Size	-.07			
Step 2. Behaviors		.17	.14**	2.43[a]
Open vs. Leading	.38**			
Step 3. Values		.35	.18***	5.07***
Autonomy	.47***			
		Girls		
Step 1. Covariates		.36		7.95***
Child Age	.36**			
EMI/TMI	.57***			
Family Size	-.34**			
Step 2. Behaviors		.38	.02	6.26***
Open vs. Leading	-.16			
Step 3. Values		.40	.02	5.42***
Autonomy	.20			

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

a = $p<.10$; * = $p<.05$; ** = $p<.01$; *** = $p<.001$.

Table 22

Predicting Child Independent Functioning at Time 2 from Fathers' Supportive Facilitative Behaviors and Autonomy Values at Time 1 for Boys and Girls

Predictors	Zero-order *r* or partial r	R^2	R^2 Cha	F
		Boys		
Step 1. Covariates		.04		0.48
Child Age	.09			
EMI/TMI	.15			
Family Size	-.15			
Step 2. Behaviors		.19	.15*	2.00
Facilitative	-.40*			
Step 3. Values		.35	.15**	3.43**
Autonomy	.44**			
		Girls		
Step 1. Covariates		.41		6.78**
Child Age	.51**			
EMI/TMI	.53**			
Family Size	-.35*			
Step 2. Behaviors		.41	.00	4.96**
Facilitative	-.07			
Step 3. Values		.41	.00	3.83**
Autonomy	-.03			

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

a = $p<.10$; * = $p<.05$; ** = $p<.01$; *** = $p<.001$.

Table 23

Predicting Child Independent Functioning at Time 2 from Fathers' Upper Limit Controls and Conformity Values at Time 1 for Boys and Girls

Predictors	Zero-order *r* or partial r	R^2	R^2 Cha	F
		Boys		
Step 1. Covariates		.03		0.34
Child Age	.03			
EMI/TMI	.13			
Family Size	-.12			
Step 2. Behaviors		.06	.04	0.61
ULC Composite	-.20			
Step 3. Values		.07	.00	0.52
Conformity	-.08			
		Girls		
Step 1. Covariates		.50		8.69***
Child Age	.47**			
EMI/TMI	.53**			
Family Size	-.47**			
Step 2. Behaviors		.51	.01	6.61***
ULC Composite	-.16			
Step 3. Values		.53	.01	5.37**
Conformity	.17			

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

a = $p<.10$; * = $p<.05$; ** = $p<.01$; *** = $p<.001$.

Table 24

Predicting Child Independent Functioning at Time 2 from Fathers' Clear Commands and Conformity Values at Time 1 for Boys and Girls

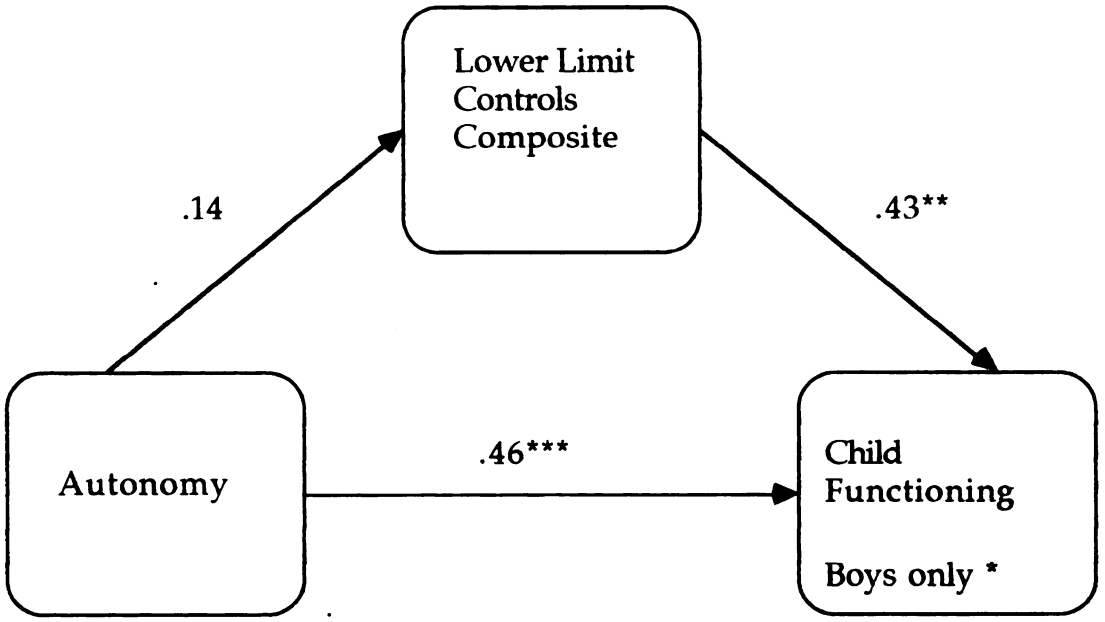
Predictors	Zero-order *r* or partial r	R^2	R^2 Cha	F
		Boys		
Step 1. Covariates		.03		0.38
Child Age	.03			
EMI/TMI	.13			
Family Size	-.13			
Step 2. Behaviors		.05	.02	0.47
Clear Commands	-.14			
Step 3. Values		.06	.01	0.44
Conformity	-.10			
		Girls		
Step 1. Covariates		.45		7.51***
Child Age	.43**			
EMI/TMI	.54**			
Family Size	-.45**			
Step 2. Behaviors		.48	.03	6.14***
Clear Commands	-.24			
Step 3. Values		.49	.00	4.76**
Conformity	.05			

Note. EMI= Educable Mentally Impaired; TMI= Trainable Mentally Impaired.

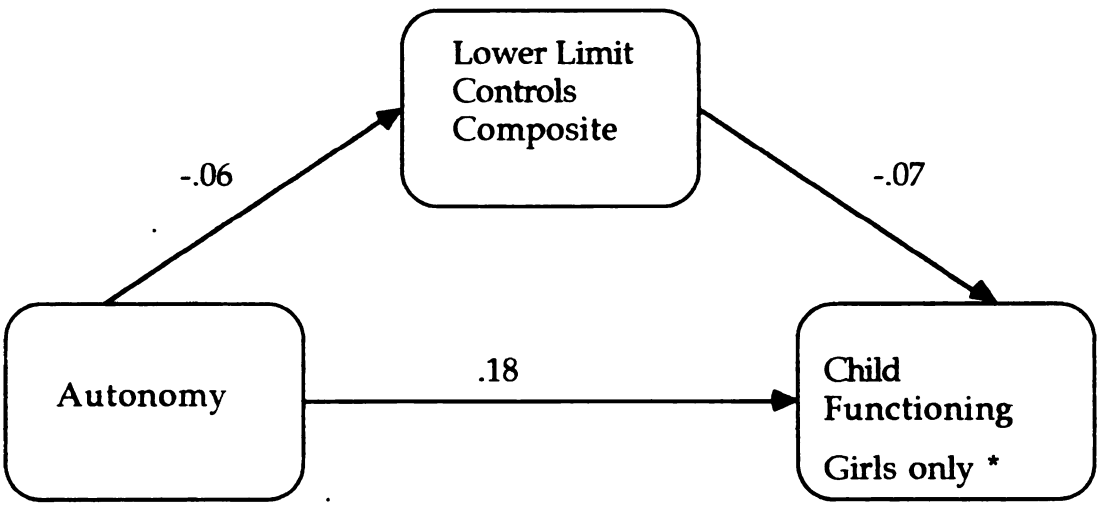
a = $p<.10$; * = $p<.05$; ** = $p<.01$; *** = $p<.001$.

The results of these regressions showed a consistent pattern. For both the mothers and the fathers of boys, the specific lower limit control behaviors and autonomy values predicted child outcomes beyond the variance accounted for by the covariates (i.e., child age, EMI/TMI status, and family size). In fact, the covariates did not add to the prediction of child outcomes for the parents of boys. Alternatively, for the parents of girls, neither the specific lower limit control behaviors nor the autonomy values added to the prediction of Time 2 independent functioning after entering the covariates. Instead, for the parents of girls, Time 2 independent functioning scores were predicted only by the three covariates.

Concerning conformity values, only the fathers' data were relevant. For the specific upper limit controls, behaviors and conformity values did not add to the prediction of child outcomes for the fathers of boys or the fathers of girls. However, similar to the previous regressions, the covariates predicted Time 2 independent functioning for the fathers of girls only. These results are presented in path analyses in Figures 9 to 14.

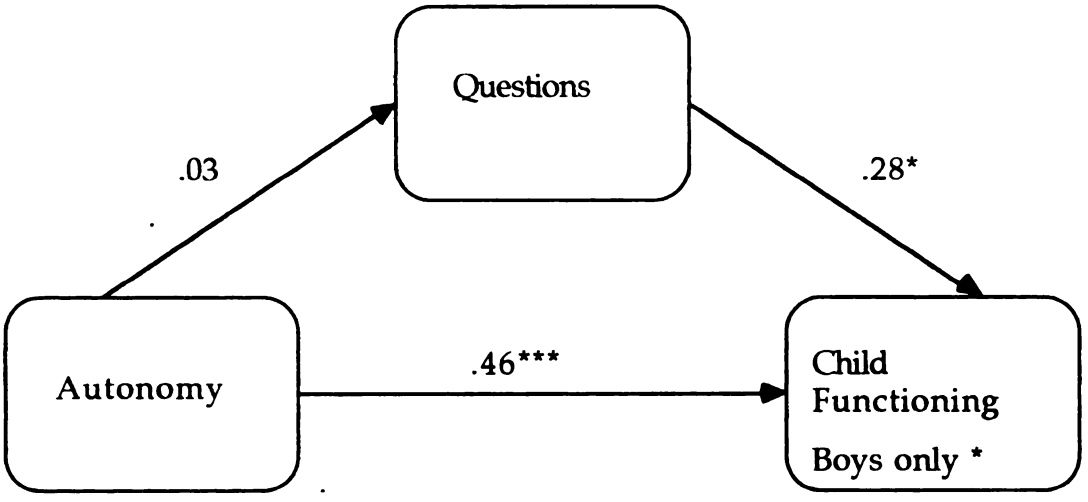


* Corrected for child's age, family size, and EMI/TMI status.

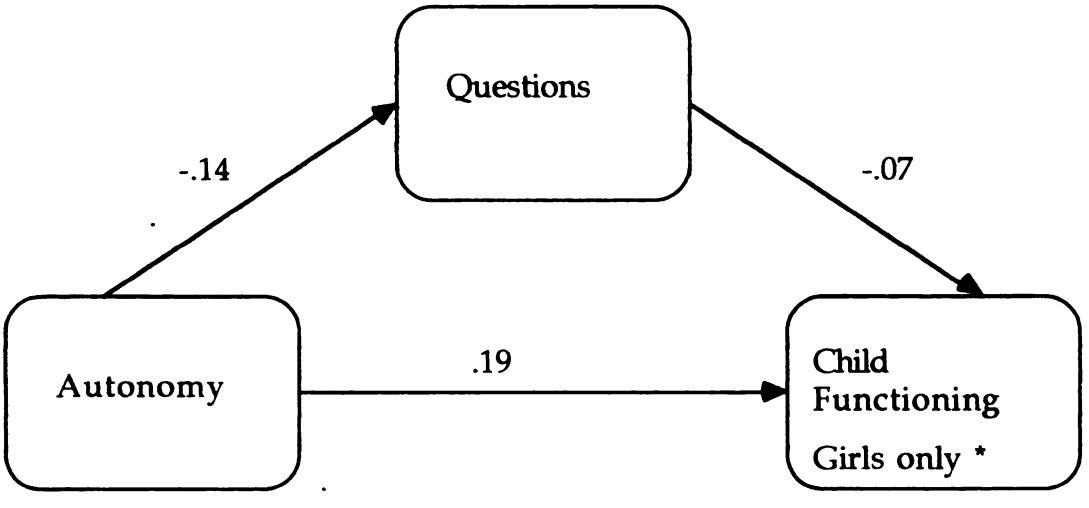


* Corrected for child's age, family size, and EMI/TMI status.

Figure 9. Path analysis results for the mothers' autonomy values and lower limit controls for boys and girls.

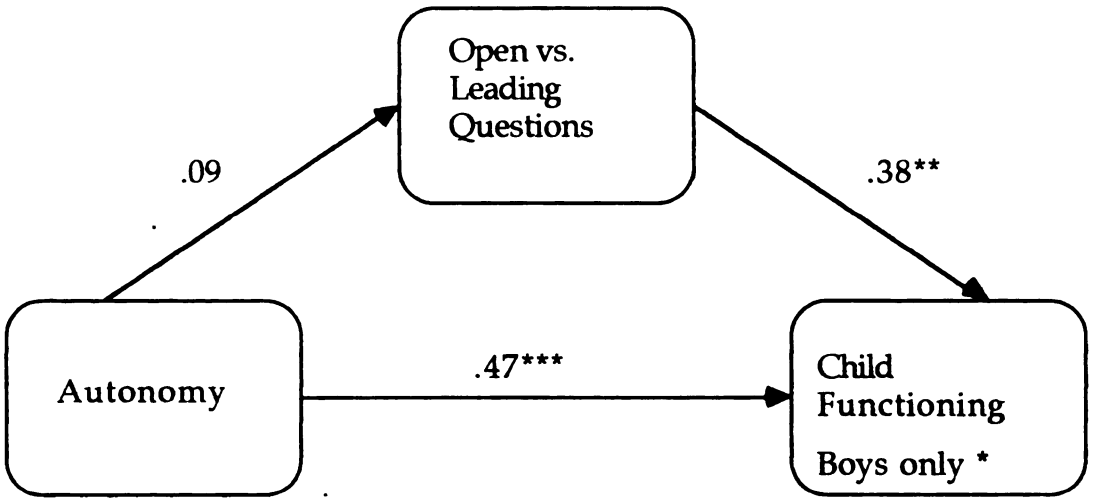


* Corrected for child's age, family size, and EMI/TMI status.

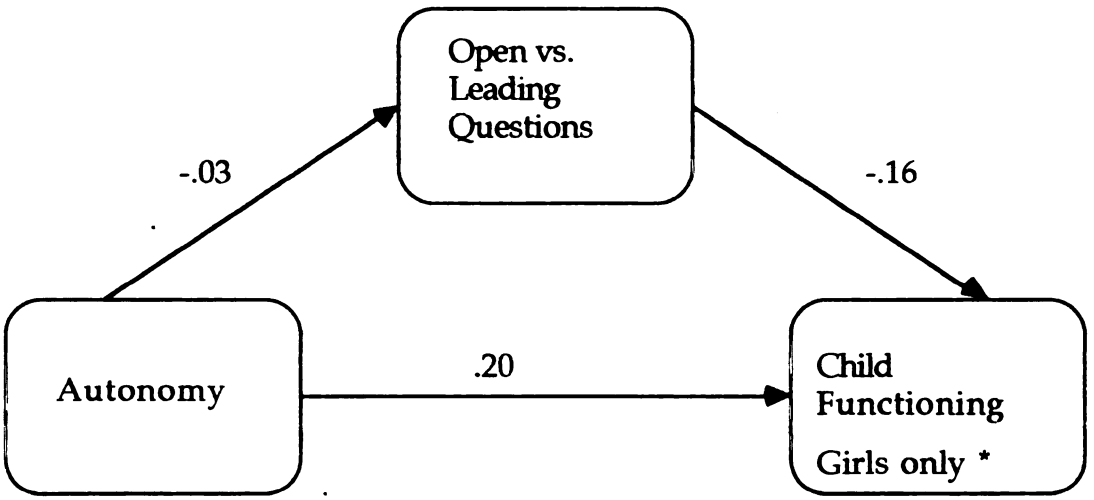


* Corrected for child's age, family size, and EMI/TMI status.

Figure 10. Path analysis results for the mothers' autonomy values and questions for boys and girls.

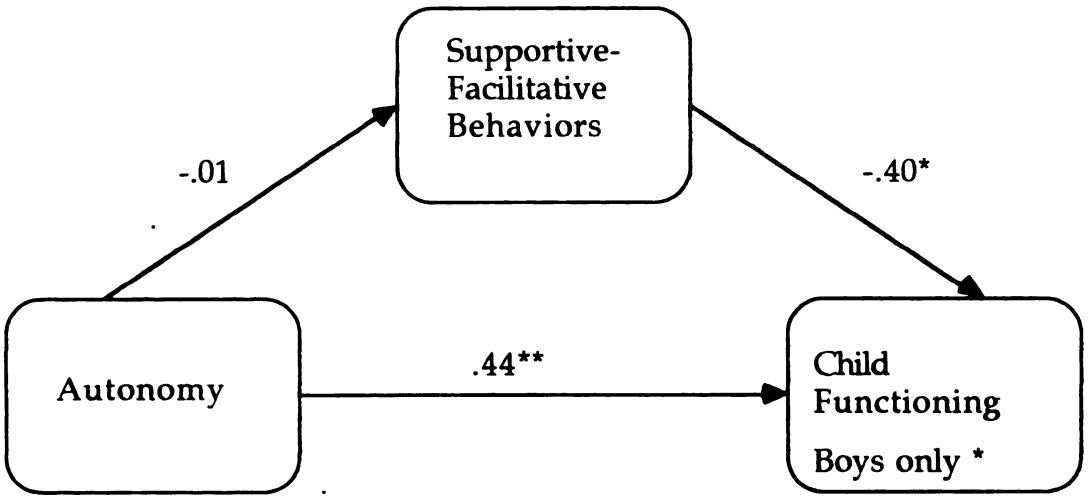


* Corrected for child's age, family size, and EMI/TMI status.

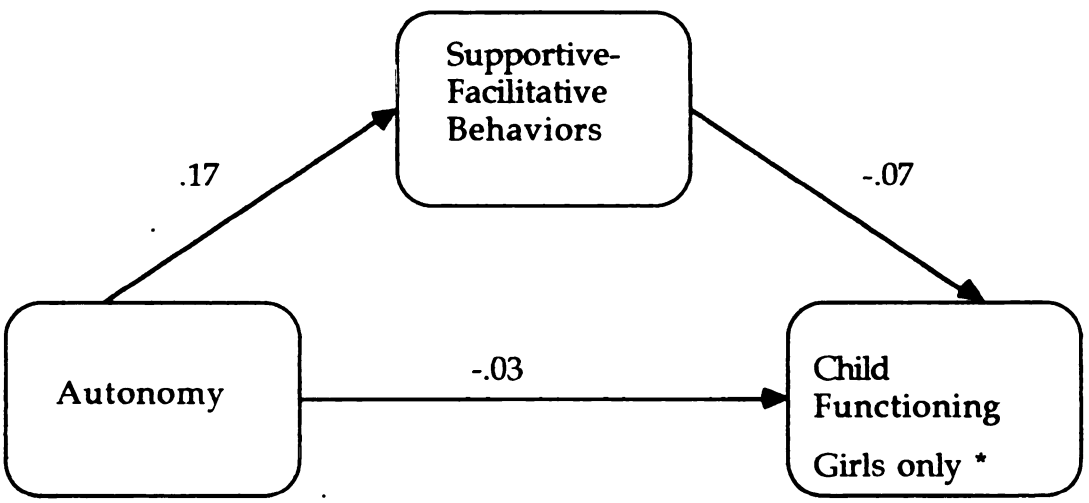


* Corrected for child's age, family size, and EMI/TMI status.

Figure 11. Path analysis results for the mothers' autonomy values and open versus leading questions for boys and girls.

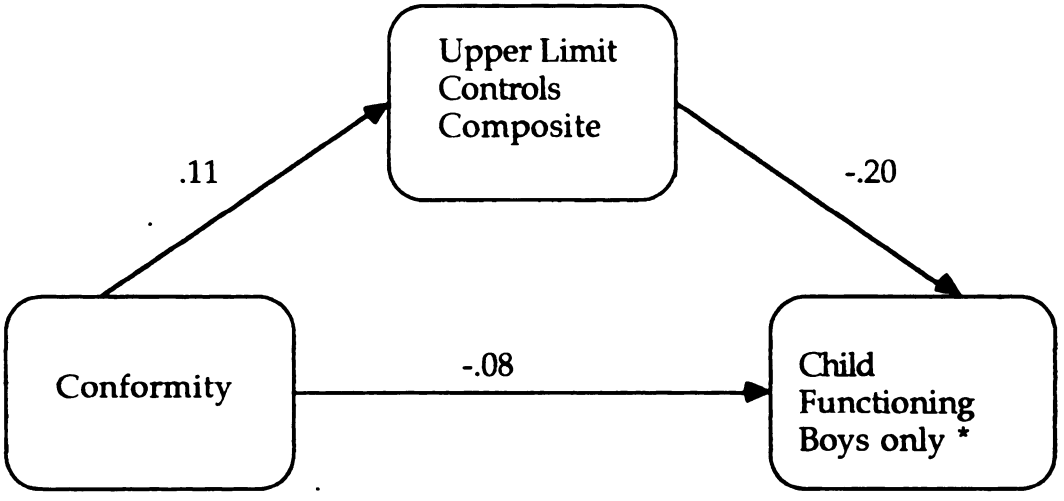


* Corrected for child's age, family size, and EMI/TMI status.

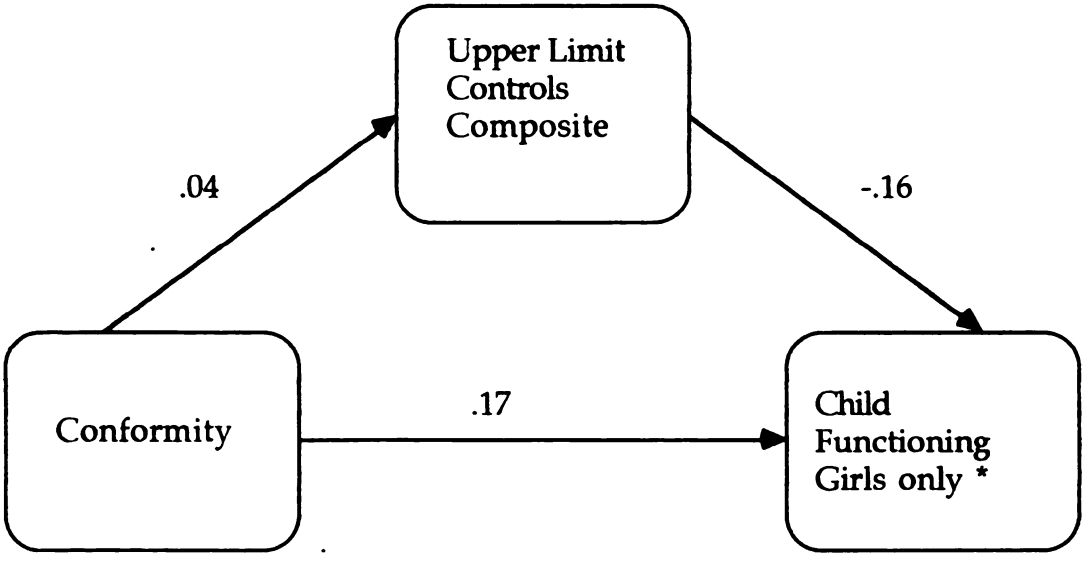


* Corrected for child's age, family size, and EMI/TMI status.

Figure 12. Path analysis results for the fathers' autonomy values and supportive-facilitative behaviors for boys and girls.

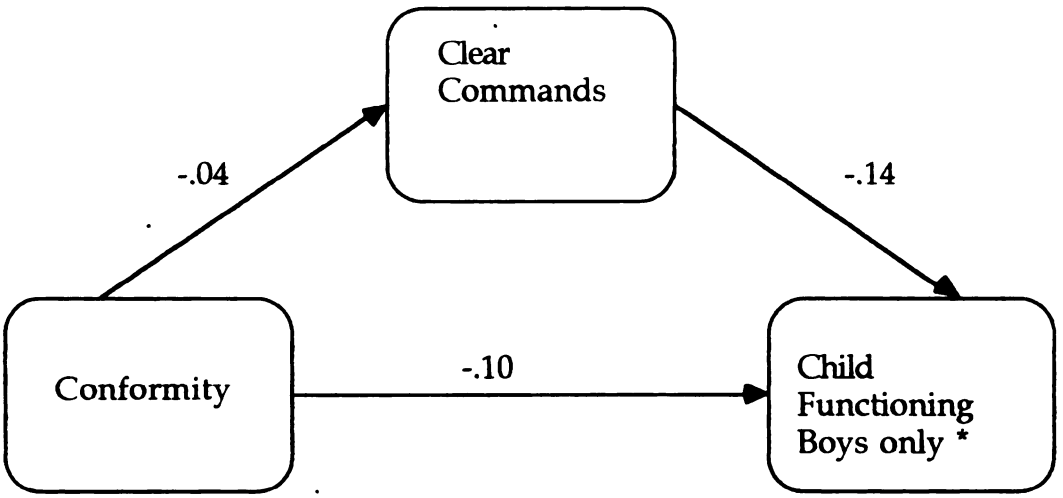


* Corrected for the child's age, family size, and EMI/TMI status.

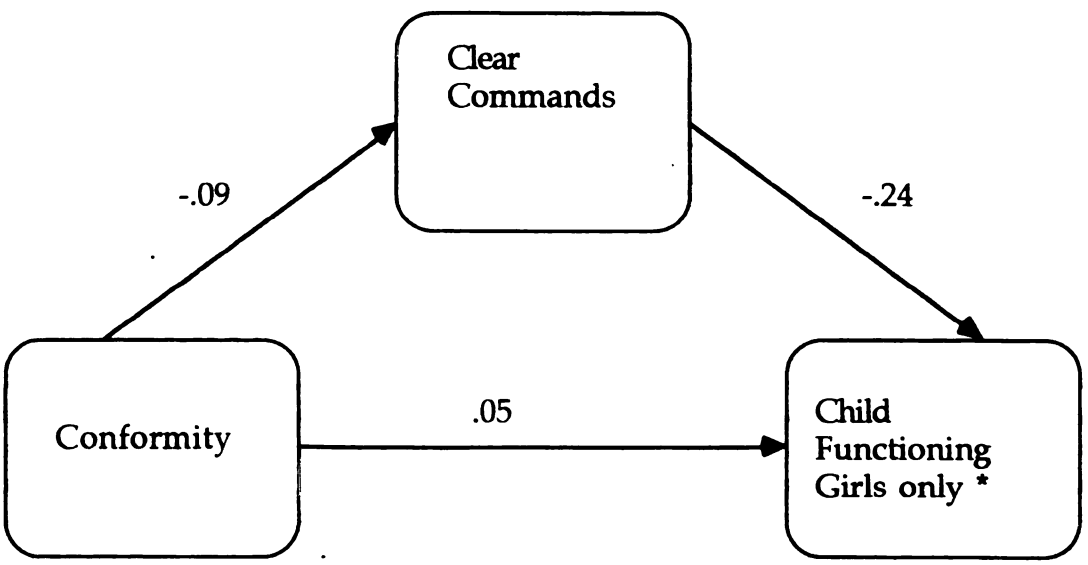


* Corrected for the child's age, family size, and EMI/TMI status.

Figure 13. Path analysis results for the fathers' conformity values and upper limit controls for boys and girls.



* Corrected for the child's age, family size, and EMI/TMI status.



* Corrected for the child's age, family size, and EMI/TMI status.

Figure 14. Path analysis results for the fathers' conformity values and clear commands for boys and girls.

Discussion

The present study examined the role of parental values in child-rearing practices and child outcomes for children with mental retardation. In particular, the study evaluated the relationships among parents' autonomy and conformity values, parents' interactional and disciplinary styles, and children's independent functioning.

The assumption that autonomy and conformity are stable parental values was supported by the significant correlations across time in value scores for both the mothers and the fathers. In addition, similar to research that has found no change in mothers' independence values over an 8-year period (e.g., McNally, Eisenberg, & Harris, 1991), this study found no significant changes in autonomy scores over time across the four age groups. These findings are consistent with past reports of considerable stability in mothers' reports of child-rearing practices and values (e.g., Robert, Block, & Block, 1984), and suggests that autonomy values represent underlying socialization goals. Alternatively, the conformity values of the mothers and the fathers decreased over time. This finding is inconsistent with the findings of McNally et al. (1991), who found that mothers do not report changes in control values or practices until adolescence, at which time they increase. However, the two studies are not directly comparable because the changes in conformity values found in this study were not related to the child's age specifically. Instead of reflecting a child-related developmental process, these findings may indicate a process of family development. That is, less emphasis may be placed on conformity issues
as both the parents and the children get older and the parents acquire more parenting experience.

The proposed links between parental values and parenting behaviors received only limited support. The most consistent finding concerned the relationship between parents' autonomy values and their use of upper limit controls. Specifically, the more the parents valued autonomy, the less likely they were to use control tactics such as issuing commands. This was especially true for the mothers of boys and the fathers of girls. Alternatively, higher autonomy values were positively associated with more frequent use of lower limit controls in only two instances. Thus, the results of this study suggest that valuing autonomy is associated with using fewer controlling parenting behaviors which may impede the development of autonomy, rather than employing parenting behaviors which facilitate autonomous functioning. Unlike autonomy values, parents' conformity values were not consistently related to parenting behaviors. That is, conformity values were not consistently associated with more frequent use of upper limit controls for either the mothers or the fathers. In addition, conformity values were associated with fewer lower limit controls for the mothers of girls only.

There are several issues, both methodological and theoretical, that may explain why consistent associations between values and behaviors were not found. First of all, with regard to methods, the behavioral variables used to represent lower limit controls were, with one exception, obtained from the family problem solving discussion. Due to the way in which the variables in this discussion were originally coded, they do not reflect the parents' behavior toward the mentally retarded child specifically. Instead, they represent the parents' behavior overall, regardless of the recipient of the behavior. Therefore, if the parents' behavior toward the mentally retarded child could have been separated from their behavior towards other family members, it is possible that the results would have found that parents who highly value

autonomy do make a greater effort to involve their mentally retarded child in the discussion than other parents.

Unlike the measures of lower limit controls, the majority of the behavioral variables measuring upper limit controls occurred in the unstructured family interaction and were directed specifically at the mentally retarded child. However, unlike the autonomy questionnaire, the questionnaire measure of conformity values was not specific to the mentally retarded child, but asked about general valuing for all children. This may account for the failure to find a consistent relationship between conformity values and parents' upper limit controls. That is, the conformity values measure would not be an accurate assessment of conformity values regarding the mentally retarded child if the parents have adjusted their conformity goals for that child.

Finally, the family problem solving discussion may not be the best test of the parents' propensity to promote independent functioning in their mentally retarded child. That is, the ability of mentally retarded children to engage in group problem-solving is usually impaired. Therefore, the family problem solving discussion is an excellent test of the outer limits of parents' commitment to promoting autonomy because parents must use direct instructions and explicit encouragement to enable the child to participate meaningfully. However, a family problem solving discussion is not a typical interaction situation for parents and their mentally retarded child. Perhaps a more common situation, which involved the opportunity, but not mandate, for teaching and play, would have better differentiated parents in their use of lower limit controls. Such a situation would have afforded the opportunity to examine other lower limit controls, as well, such as modeling, guidance,

and indirect commands which allow the child more freedom in deciding whether or not to comply (Brunk & Henggeler, 1984).

Although the behavioral variables were not consistently linked to attitudes/values in the expected ways, there was support for the usefulness of the distinction between upper and lower limit controls. The results showed that these behaviors were related to the child's age and family size in a logical manner. That is, consistent with research demonstrating fewer directives and behavior management attempts with older children, the parents evidenced fewer upper limit controls with older versus younger mentally retarded children. In addition, it is assumed that the use of lower limit controls in the problem solving discussion requires deliberate effort on the part of parents, since it would be easier to focus on the task of problem-solving and allow the mentally retarded child to be passive rather than to actively encourage participation. If so, then family size is likely to influence the parents' use of lower limit controls. Consistent with this assumption, the fathers used fewer lower limit controls as family size increased. Finally, upper and lower limit controls showed the predicted relationships with measures of child involvement. Specifically, lower limit controls were associated with increased child involvement. The more parents made the effort to stimulate and involve the children, the more frequently the child with mental retardation made appropriate contributions to the discussion. Alternately, the use of relatively more upper limit controls such as commands in the unstructured family interaction was associated with lower levels of child involvement.

Despite this support for the validity of the behaviors, the constructs upper and lower limit controls as defined in this study may need to be modified for families that include a mentally retarded child. For instance, not

all commands may function as upper limit controls when a mentally impaired child is involved. With typically developing children, commands serve as directives and are explicit attempts to control or manage the child's behavior (e.g., Kuczynski, 1984). However, with mentally retarded children, certain types of parent commands, which appear controlling, may actually serve to involve the child in the task at hand, and this may actually enhance autonomy. However, the measure of commands from the family problem solving discussion is a combination of several types of commands, including vague commands, negative commands, and direct commands. It is possible that direct commands, and even some vague and negative commands, were used in an instructive manner rather than a prohibitive manner. For example, Mahoney, Fors, and Wood (1990) coded four different types of commands used by mothers during play situations with their young children: action requests (e.g., push the truck), attention requests (e.g., watch this), test questions (e.g., say "car"), and information requests (e.g., show me what you want). Though these behaviors would have been coded upper limit controls, according to the conceptualization of lower limit controls used in this study all four types of commands should be considered lower limit controls. Clearly commands do not always comprise behavior management attempts and may be used as a means of stimulating or involving an inactive or withdrawn child. Therefore, future research in this area that involves families with children with mental retardation should consider the function of the behavior before coding it as an upper or lower limit control.

The need to be more controlling with mentally retarded children than typically developing children (e.g., Tannock, 1988; Davis, Stroud, & Green, 1988) may have consequences for parents' psychological well-being. As mentioned above, mentally retarded children require more explicit

instruction and guidance in accomplishing everyday activities. As a result of needing to behave in ways that violate values, parents with high autonomy values may experience more parenting stress than parents who do not highly values autonomy. Therefore, even when a parent's goal is to foster autonomy, it may be necessary to be more directive than one would be with a typically developing child in order to reach the same goal of autonomous functioning. Consistent with this idea, Floyd and Saitzyk (1992) found that higher SES parents, who relatively highly valued independent initiative in their children, reported more stress associated with controlling interactions with their mentally retarded child than lower SES parents, who did not highly value fostering independent initiative.

Similar to the findings regarding parents' values and parents' interaction behaviors, the results provide limited support for the hypothesis that parental values are related to specific disciplinary styles. In general, the parents' autonomy values were not related to their reports of using reasoning as a disciplinary style, and conformity values were not related to the parents' reports of using power assertion as a disciplinary style. A notable exception was the finding that the more the mothers' of boys with mental retardation valued conformity, the more often they reported using power assertion with the child. These findings suggest that the majority of the research in this area, which deals primarily with the disciplinary styles of mothers of boys, may not be generalizable to fathers and girls. That is the fact that values were not related to the fathers' discipline practices or to the discipline practices of parents of girls indicates that different variables may be important for understanding how fathers' discipline and how parents discipline girls.

The literature on reasoning as a disciplinary style reveals many dimensions of the construct. Providing rationales or explanations for

compliance, justifying discipline by explaining the rules or norms behind the interventions, and explaining the probable consequences for the child or others if the rules are not followed are all part of using reasoning as a disciplinary style (Trickett & Kuczynski, 1986; Kuczynski, 1983). However, the present study used only one question about discussing issues to operationalize this construct. It is possible that the parents' autonomy values would have shown the expected relationship with reasoning if a broader array of reasoning behaviors had been sampled.

Alternatively, it may be that valuing autonomy by a parent is associated with avoiding overtly controlling behaviors, rather than explicitly attempting to foster autonomy in the child through the use of reasoning. Parents' autonomy values were not associated with more frequent reasoning, but they were associated with fewer power assertive behaviors. This suggests that valuing autonomy may be associated with less disciplinary actions overall, rather than being associated with a particular style of discipline (i.e., reasoning). It may be that parents with relatively high autonomy values interpret situations differently than parents with low autonomy values, so that a parent who highly values autonomy may not consider discipline necessary in a situation in which another parent always intervenes. For example, if a young child breaks a dish while trying to get his/her own breakfast, a parent who highly values autonomy may not want to discourage the child from trying to behave independently and will not mind a broken dish, while a parent with low autonomy values may react to the broken dish and punish the child.

Unlike the relationship between parents' values and their behavior, parents' values and child outcomes were consistently related, at least for autonomy values. As hypothesized, the results suggest that the parents'

autonomy values are closely related to parents' reports of the child's level of functioning and that conformity values are unrelated to child functioning. Accordingly, parents who highly valued autonomy had children who scored higher on all of the parents' measures of independent functioning. This was true both at Time 1 and Time 2.

The positive association between the parents' autonomy values and their reports of the child's independent functioning may be due to the nature of the autonomy values questionnaire. That is, instead of merely assessing parenting values, the autonomy scale may be tapping how autonomous the child actually is, or at least how the parents see the child. If so, then the significant correlations with the measures of child functioning are not surprising. However, several considerations suggest that this is not the case. Firstly, these analyses controlled for the child's EMI/TMI status, in an attempt to account for variations in the children's independent functioning that were due to actual differences in developmental levels. Secondly, examination of the items on the autonomy values scale indicates that they are measuring parental attitudes rather than the child's abilities (e.g., I hate to see ____ try to do something and fail). Finally, if the autonomy values measure were only assessing the child's actual abilities, then the teachers' reports of child functioning should have been more consistently related to the parents' autonomy values.

It is interesting that the parents' values were more closely related to their reports of child functioning than the teacher reports. It may be that parents are more accurate judges of their child's abilities than teachers, as parents see their children in a wider variety of situations. Alternatively, it may be that parents are biased in their perceptions of their child's functioning in a way that is congruent with their values. That is, parents who highly

value autonomy may be relatively highly invested in their children and the parenting role. If so, the child's behavior may be seen as a reflection of the parents' own competence as caretakers (Dix & Grusec, 1985). Therefore, parents will be motivated to perceive their children's behavior in ways that mirror their values and protect their own self-esteem (Gretarsson & Gelfand, 1988; Dix & Grusec, 1985).

Parents' autonomy values were not only related to child outcomes contemporarily, but they also predicted the child's level of independent functioning longitudinally. At least for mothers, encouraging autonomy seems to promote greater increases in independent functioning for the child over time. Specifically, the mothers' autonomy values at Time 1 predicted changes in the child's level of independent functioning from Time 1 to Time 2. In addition, the parents' autonomy values at Time 1 made a unique contribution to the prediction of the child's functioning 18-24 months later, whereas parents' behaviors and conformity values did not add to the prediction of later child functioning.

These findings suggest that valuing autonomy and encouraging independence and self-sufficiency facilitates the development of independent living skills. Though this study cannot report the specific behaviors parents use to facilitate independent functioning in their children, since this facilitation was not seen in the interaction data, these results suggest that valuing autonomy for a child with mental retardation is not a futile endeavor. That is, parents who highly value autonomy may encourage independent functioning so that their children make gains in adaptive behavior which they might not have otherwise. On the other hand, if parents of mentally retarded children place a low value on autonomy and are less hopeful about their child's future or are overprotective, they may limit

the gains their child could make or at least delay the child's progress. Therefore, parents should be encouraged to engage in teaching functions and to guard against becoming overprotective so that the child may reach his or her fullest potential.

In predicting that values would have a direct impact on child outcomes after accounting for the association between parent behaviors and child outcomes, a link between parents' behavior and child outcomes was assumed. However, only the fathers' upper limit control behaviors supported this assumption. The mothers and the fathers' lower limit controls at Time 1 and the mothers' upper limit controls at Time 1 did not predict the child's level of functioning at Time 2. It may be that parents' values are associated with parenting practices that the interaction situations did not capture. Alternatively, perhaps the parents' values affect child functioning directly, beyond any association they both share with parenting behaviors (McGillicuddy-DeLisi, 1985). Therefore, though autonomy values were not related to most of the parenting behaviors measured in this study, these parental values still exerted an influence on the children. It may be that parent's autonomy values are reflected in the way in which the home environment is organized, providing activities and situations that serve to facilitate independent functioning. In addition, autonomy values may be imparted to the child in a cumulative manner, so that no one measurable behavior represents valuing autonomy, but that each individual behavior, in the context of all of the parents' other behaviors, indicates to the child what the parents value and reward and encourage (McGillicuddy-DeLisi, 1985).

Finally, the findings clearly indicate that autonomy values are a better predictor of child functioning than conformity values. The results of the regression analyses, as well as the partial correlations between values and

child functioning, all indicated that higher autonomy values are associated with higher child independent functioning, whereas conformity values are unrelated. Though previous research in this area has considered autonomy and conformity as opposite ends of a continuum (e.g., Segal, 1985; Kochanska, 1990), the results of this study suggest otherwise. That is, there was no correlation between the autonomy and conformity measures used in this study for either the mothers or the fathers, and conformity values were not related to child outcomes in either direction, suggesting that autonomy and conformity values are not mutually exclusive. Therefore, parents do not value autonomy to the exclusion of conformity values. On the contrary, parents can value autonomous functioning and promote independence in their child and at the same time maintain order and expect good behavior.

Gender. Finally, the results of this study suggest that the influence of parents' values and behaviors on child outcomes may operate differently for boys and girls. Building upon previous research suggesting that parents value autonomy more for boys and conformity more for girls (e.g., Block, 1983), the present study found that autonomy values had a more important impact on the behaviors of the mothers of boys and conformity values had a more important impact on the behavior of the mothers of girls. However, this distinction was not apparent for the fathers' data.

More significantly, the results further suggest that the relationship between the mothers' use of lower limit controls and the child's level of independent functioning also differs for boys and girls. That is, the mothers' use of lower limit controls at Time 1 was positively associated with independent functioning at Time 2 for boys and negatively associated with independent functioning at Time 2 for girls. This was true even after controlling for the child's level of functioning at Time 1. Therefore, it seems

that the mothers' use of high rates of lower limit controls promotes the development of higher functioning for boys, but their use of high rates of these behaviors may inhibit the development of adaptive functioning for girls. One possible explanation for these differences is suggested by the findings of Wolfensberger and Kurtz (1971), who report that parents of boys expect their child to have fewer limitations in adulthood than parents of girls. It may be that parents' values and expectations for independent functioning and their behaviors that promote independent functioning all work together to promote further increases in autonomous functioning for boys only, whereas for girls, it may be that parents hold countervailing values concerning autonomy and conformity and send them mixed messages.

Finally, in a review of the research on sex-linked socialization practices, Block (1983) reports that parents are more responsive and attentive to males, that boys receive more feedback from parents, both positive and negative, and that parents provide more stimulation and use more varied behaviors with boys. The findings of this study, that parents' values and behaviors predict independent functioning for boys, while child and family characteristics (i.e., the child's age, EMI/TMI status, and family size) predict independent functioning for girls, are consistent with these differences. That is, if parents interact more with boys, provide more feedback, and expect for independent behavior, then boys should be more open to the influence of parents' behaviors and values than girls.

In addition, the findings of Gretarsson and Gelfand (1988) suggests why girls' level of independent functioning was predicted by their personal characteristics rather than the parents' values and behaviors. That is, these investigators report that mothers are more likely to attribute girls' than boy's behavior (both positive and negative) to character or disposition rather than

to situational factors. If so, then parents may consider girls' level of independent functioning to be more stable and less open to change, and therefore may not believe that their values and behaviors will have as much influence. In fact, the finding that the covariates, which include EMI/TMI status, predict independent functioning for girls but not for boys is consistent with the possibility the girls are indeed more stable in their adjustment. Thus, parents may not be wrong. As a result, their interactions with girls may be more reactive or situationally determined, as opposed to being guided by specific values or goals. Certainly, the influence of the child's gender on the relationships among parents' cognitions, parents' behaviors, and child outcomes should be considered more closely in future research.

Conclusions. The findings of this study provide only partial support for theories which posit a central role for parental cognitions in the socialization process. Contrary to expectations, values were not consistently related to parenting practices. Luster, Rhoades, and Hass (1988) suggest that the relationship between parental values and behaviors may be mediated by child-rearing beliefs, which are beliefs about the most effective means of achieving the valued outcome. Therefore, though two parents may value autonomy equally, they may hold vastly different ideas regarding the best way to promote autonomous functioning in their child and will behave very differently. Thus, future research needs to assess child-rearing beliefs as well as values.

Though no consistent relationship was found between values and behaviors, this study did find that parents' values had a direct effect on child outcomes, as autonomy values were consistently associated with independent functioning scores and autonomy values at Time 1 predicted the child's level of independent functioning 18-24 months later. This evidence supports the

idea that parents' values are important influences in child development. Therefore, even though it is difficult to measure relevant parenting attitudes and even more difficult to demonstrate their role in the socialization process (e.g., Holden & Edwards, 1989), the findings of this study suggest that attempts to document the effects of parents' cognitions should be encouraged further.

There are several limitations of the present study which need to be considered and should be explored in future research. As discussed earlier, the family problem solving discussion may not have been the most fruitful situation for assessing value - behavior links, as it is not representative of the majority of parent-child exchanges and may not capture parents' everyday styles of interacting with their mentally retarded child. In addition, the behavior variables coded in the family problem solving discussion were frequency counts of the number of times the behavior was coded during the discussion, rather than a count of the number of times the behavior was directed specifically at the mentally retarded child. Furthermore, the way in which the upper and lower limit behaviors were defined and coded may need to be modified. Specifically, directives, which includes the majority of the behaviors coded as "commands" in this study, may in fact be instances of lower limit controls, as directives are a means of eliciting participation and teaching new behaviors and skills to mentally retarded children. Finally, given that parents need to adjust their expectations to meet the abilities of their mentally retarded child, measures of values need to assess parents' cognitions towards their specific child, rather than assessing values in general, as the conformity measure did.

Future research should also consider other cognitive variables when studying attitude - behavior connections. For instance, the way in which parents' attribute and categorize child behaviors on a moment-by-moment

basis may mediate the relationship between values and behaviors (Bacon & Ashmore, 1986). Similarly, parents' beliefs and expectations about how children develop, about how their child's mental impairment affects their future possibilities, and about how children learn may also mediate the relationship between values and behavior. Finally, most research does not differentiate among values, attitudes, beliefs, and expectations, and instead groups all cognitive variables together (Holden & Edwards, 1989). It is possible that each type of cognition needs to be addressed separately if consistent relationships are to be found between parents' cognitions and behaviors. For instance, in studying autonomy, research could consider the parents' autonomy values, their beliefs about how to facilitate autonomy, and their expectations about their specific child's potential to achieve autonomy, their level of parenting stress, and their beliefs and expectations about their own ability to accomplish their parenting goals.

Future research would also benefit from assessing child influences on parents' behavior in a sequential manner. In this study, situational constraints on the parents' behavior and the impact of child influences on parent behavior may have been underestimated by treating upper and lower limit controls as characteristics of the parents alone, rather than characteristics of the parent-child relationship. That is, Bell (1971; 1979) conceptualized the process of upper and lower limit controls as reactions to both parent's or children's behavior, with parents and children continually monitoring the others' behavior and adjusting their own behavior accordingly. However, in this study, the majority of behavior variables were overall frequency counts, rather than reactions to child behavior. Therefore, stronger value - behavior links may be found if future research compares the probability of parents responding to a child behavior with an upper limit control to the probability

of a parent responding to the same child behavior with a lower limit control reaction.

Finally, it would be interesting to study the relationships among parents' autonomy and conformity values, parents' use of upper and lower limit controls, and child outcomes in families of typically developing children. It is possible that the relationship between values and behaviors is more straightforward in families with typically developing children, as these families do not experience the same confusion over appropriate expectations and limits on the child's learning potential. Thus, values may exert a stronger and more direct influence on parenting practices. For the same reasons, upper and lower limit controls, as defined in this study, may be more appropriate for families with typically developing children.

APPENDICES

APPENDIX A

Appendix A

Family Problem Areas

Code # _____ Date: _____ Initials: _____

Below are some common problem areas experienced between family members. Please rate how important each of these is right now in your family.

	How Important a Problem				
	Minor				Major
1. Chores & responsibilities around home	1	2	3	4	5
2. Curfew (coming home late)	1	2	3	4	5
3. Grades, school problems, homework	1	2	3	4	5
4. Alcohol, drugs, smoking	1	2	3	4	5
5. Outside activities	1	2	3	4	5
6. Friends	1	2	3	4	5
7. Family rules, discipline	1	2	3	4	5
8. Money	1	2	3	4	5
9. Sex	1	2	3	4	5
10. Cooperation among children	1	2	3	4	5
11. Hygiene & dress	1	2	3	4	5
12. Privileges	1	2	3	4	5

Please write in any other problem areas that you think are important in your family.

13.	_____	1	2	3	4	5
14.	_____	1	2	3	4	5

APPENDIX B

Appendix B

Family Problem Solving Codes

I. PROBLEM SOLVING
- 10. Clarification Request (CR)
- 11. Opinion Probe (OP)
- 12. Plan Suggestion (PS)
- 13. Solution/Compromise (SOL)
- 14. Summarize/Paraphrase (SP)

II. NEUTRAL
- 20. Problem Talk (PT)
- 21. Inappropriate Response (IR)

III. DEFENSIVE/WITHDRAWN
- 30. Deny Responsibility (DR)
- 31. No Response/Ignore (IG)
- 32. Self-Stimulation (SS)
- 33. Turn Off/Negativism (TO)

IV. QUESTION
- 40. Question (QU)
- 41. Leading Question (LQ)

V. SUPPORTIVE/FACILITATIVE
- 50. Accept Responsibility (AR)
- 51. Agree (AG)
- 52. Assent/Echo (AS)
- 53. Approval/Acceptance (AA)
- 54. Compliance (COM)
- 55. Empathy (EM)
- 56. Smile/Laugh (SL)

VI. & VII. AVERSIVE
- 60. Attack Question (AQ)
- 61. Cry/Whine (CW)
- 62. Disagree (DG)
- 63. Disapprove/Criticize (DC)
- 64. Disruptive (DP)
- 65. Mindreading (MR)
- 66. Noncompliance (NONC)
- 67. Physical Aggression (PA)
- 68. Putdown (PU)
- 69. Sarcasm (SR)
- 70. Tease/Taunt (TT)
- 71. Testing/Challenging (TC)
- 72. Threat (TH)

VIII. COMMAND
- 80. Command Beta (CB)
- 81. Command Negative (CN)
- 82. Direct Command (CM)
- 83. Physical Direction (PD)
- 84. Request Attention (RA)

APPENDIX C

Appendix C

Autonomy Scale

1. I think in the future _____ will take up more and more of my time.
2. It is hard to think of enough things to keep _____ busy.
3. I hate to see _____ try to do something and fail.
4. Others do for _____ what he/she could do for himself/herself.
5. It is easier for me to do something for _____ than to let him/her do it himself/herself and make a mess.
6. Time drags for _____, especially free time.
7. I tend to do things for _____ that he/she can do himself/herself.
8. I worry about what will be done with _____ when he/she gets older.
9. I am very careful about asking _____ to do things which might be too hard for him/her.
10. As the time passes I think it will take more and more to care for _____.
11. I would rather help _____ do something than have him/her fail and feel badly.

APPENDIX D

Appendix D

Conformity Scale

Instructions: Using the scale described below circle the letter(s) that indicate to you how much you agree with each of the following statements

SD=STRONGLY DISAGREE D=DISAGREE A=AGREE SA=STRONGLY AGREE

1. I try to give my children direction but mostly I let them grow by themselves. SD D A SA

2. I am overly protective of my children; it is better to be safe than sorry. SD D A SA

3. I am a very strict parent. SD D A SA

4. I see to it that my children are only exposed to things that I want them exposed to. SD D A SA

5. I have learned to accept that I cannot shelter my children from everything I do not like. SD D A SA

6. I try not to box my children in with too many rules. SD D A SA

7. I have to be on guard with my children all the time to keep them from getting into trouble. SD D A SA

8. I work hard at shaping my children's lives rather than just letting them grow up as they would. SD D A SA

9. When my children show their will, I make sure they know who is boss. SD D A SA

10. When I tell my children to do something, they will do it, no "ifs", "ands", or "buts". SD D A SA

11. I have learned to accept that sometimes my kids will not do what I want no matter how hard I try. SD D A SA

APPENDIX E

Appendix E

Discipline Practices and Conflict Management

Code #_____ Sex: M F Initials: _____ Regarding (child): _____

Every child requires disciplining from time to time, and different parents have tried different methods to manage the behavior of their children. Below is a list of things you might have done in settling conflicts and disciplining your child. Please report how many times you did each action DURING THE PAST MONTH, then rate how effective the action generally was in controlling the child's behavior.

	Number of times in past month	How effective was the action? Not at all Effective				Completely Effective
1. Discussed the issue calmly.	_____	1	2	3	4	5
2. Brought in someone else (other family member, friend) to help settle things	_____	1	2	3	4	5
3. Made a contract promising a reward for good behavior.	_____	1	2	3	4	5
4. Actually gave a reward for good behavior.	_____	1	2	3	4	5
5. Rewarded the child when he/she stopped misbehaving.	_____	1	2	3	4	5
6. Praised or complimented your child for good behavior.	_____	1	2	3	4	5
7. Threatened to punish misbehavior by spanking.	_____	1	2	3	4	5

8. Actually punished misbehavior by spanking.	_____	1	2	3	4	5
9. Spanked with a switch or belt.	_____	1	2	3	4	5
10. Punished misbehavior by "grounding" (restricting outside activities)	_____	1	2	3	4	5
11. Punished misbehavior by taking away privileges.	_____	1	2	3	4	5
12. Sharply scolded or criticized your child for misbehavior.	_____	1	2	3	4	5
13. Sent your child to his/her room or other isolated place (for "time out")	_____	1	2	3	4	5
14. Discontinued a punishment when your child finally began to mind.	_____	1	2	3	4	5

APPENDIX F

Appendix F
Adaptive Behavior Scale, Parent Version

PART ONE

I. INDEPENDENT FUNCTIONING

A. Eating

[1] Use of Table Utensils (Circle only ONE)

Uses knife and fork correctly and neatly	6
Uses table knife for cutting or spreading	5
Feeds self with spoon and fork - neatly	4
Feeds self with spoon and fork - considerable spilling	3
Feeds self with spoon - neatly	2
Feeds self with spoon - considerable spilling	1
Feeds self with fingers or must be fed	0

[2] Eating in Public (Circle only ONE)

Orders complete meals in restaurants	3
Orders simple meals like hamburgers or hot dogs	2
Orders soft drinks at soda fountain or canteen	1
Does not order at public eating places	0

[3] Drinking (Circle only ONE)

Drinks without spilling, holding glass in one hand	3
Drinks from cup or glass unassisted - neatly	2
Drinks from cup or glass unassisted considerable spilling	1
Does not drink from cup or glass unassisted	0

[4] Table Manners (Check ALL statements which apply)

Swallows food without chewing	___
Chews food with mouth open	___
Drops food on table or floor	___
Uses napkin incorrectly or not at all	___
Talks with mouth full	___
Takes food off others' plates	___
Eats too fast or too slow	___
Plays in food with fingers	___
None of the above	___
Does not apply, e.g., because he or she is bedfast, and/or has liquid food only (If checked, enter "0" in the circle to the right.)	___

8-number checked =

A. Eating → ADD 1-4

B. Toilet Use

[5] Toilet Training (Circle only ONE)

Never has toilet accidents	4
Never has toilet accidents during the day	3
Occasionally has toilet accidents during the day	2
Frequently has toilet accidents during the day	1
Is not toilet trained at all	0

[6] Self-Care at Toilet
(Check ALL statements which apply)

Lowers pants at the toilet without help	___
Sits on toilet seat without help	___
Uses toilet tissue appropriately	___
Flushes toilet after use	___
Puts on clothes without help	___
Washes hands without help	___
None of the above	___

B. Toilet Use → ADD 5-6

C. Cleanliness

[7] Washing Hands and Face
(Check ALL statements which apply)

Washes hands with soap	___
Washes face with soap	___
Washes hands and face with water	___
Dries hands and face	___
None of the above	___

[8] Bathing (Circle only ONE)

Prepares and completes bathing unaided	6
Washes and dries self completely without prompting or helping	5
Washes and dries self reasonably well with prompting	4
Washes and dries self with help	3
Attempts to soap and wash self	2
Cooperates when being washed and dried by others	1
Makes no attempt to wash or dry self	0

[9] Personal Hygiene
(Check ALL statements which apply)

Has strong underarm odor	___
Does not change underwear regularly by self	___
Skin is often dirty if not assisted	___
Does not keep nails clean by self	___
None of the above	___
Does not apply, e.g., because he or she is completely dependent on others (If checked, enter "0" in the circle to the right.)	___

4-number checked =

[10] Tooth Brushing (Circle only ONE)

Applies toothpaste and brushes teeth with up and down motion	5
Applies toothpaste and brushes teeth	4
Brushes teeth without help, but cannot apply toothpaste	3
Brushes teeth with supervision	2
Cooperates in having teeth brushed	1
Makes no attempt to brush teeth	0

[11] **Menstruation** (Circle only ONE)
(For males, Circle "no menstruation")

No menstruation	5
Cares for self completely for menstruation without assistance or reminder	5
Cares for self reasonably well during menstruation	4
Helps in changing pads during menstruation	3
Indicates pad needs changing during menstruation	2
Indicates that menstruation had begun	1
Will not care for self or seek help during menstruation	0

C. Cleanliness → ADD 7-11

D. Appearance

[12] **Posture** (Check ALL statements which apply)

- Mouth hangs open ___
- Head hangs down ___
- Stomach sticks out because of posture ___
- Shoulders slumped forward and back bent ___
- Walks with toes out or toes in ___
- Walks with feet far apart ___
- Shuffles, drags, or stamps feet when walking ___
- Walks on tiptoes ___
- **None of the above** ___
- Does not apply, e g , because he or she is bedfast or non-ambulatory (If checked, enter "0" in the circle to the right) ___

8-number checked =

[13] **Clothing** (Check ALL statements which apply)

- Clothes do not fit properly if not assisted ___
- Wears torn or unpressed clothing if not prompted ___
- Rewears dirty or soiled clothing if not prompted ___
- Wears clashing color combinations if not prompted ___
- Does not know the difference between work shoes and dress shoes ___
- Does not choose different clothing for formal and informal occasions ___
- Does not wear special clothing for different weather conditions (raincoat, overshoes, etc) ___
- **None of the above** ___
- Does not apply, e g , because he or she is completely dependent on others (If checked, enter "0" in the circle to the right) ___

7-number checked =

D. Appearance → ADD 12-13

E. Care of Clothing

[14] **Care of Clothing**
(Check ALL statements which apply)

- Wipes and polishes shoes when needed ___
- Puts clothes in drawer or chest neatly ___
- Sends clothes to laundry without being reminded ___
- Hangs up clothes without being reminded ___
- **None of the above** ___

E. Care of Clothing → ENTER 14

F. Dressing and Undressing

[15] **Dressing** (Circle only ONE)

Completely dresses self	5
Completely dresses self with verbal prompting only	4
Dresses self by pulling or putting on all clothes with verbal prompting and by fastening (zipping, buttoning, snapping) them with help	3
Dresses self with help in pulling or putting on most clothes and fastening them	2
Cooperates when dressed by extending arms or legs	1
Must be dressed completely	0

[16] **Undressing at Appropriate Times**
(Circle only ONE)

Completely undresses self	5
Completely undresses self with verbal prompting only	4
Undresses self by unfastening (unzipping, unbuttoning, unsnapping) clothes with help and pulling or taking them off with verbal prompting	3
Undresses self with help in unfastening and pulling or taking off most clothes	2
Cooperates when undressed by extending arms or legs	1
Must be completely undressed	0

[17] **Shoes** (Check ALL statements with apply)

- Puts on shoes correctly without assistance ___
- Ties shoe laces without assistance ___
- Unties shoe laces without assistance ___
- Removes shoes without assistance ___
- **None of the above** ___

F. Dressing and Undressing → ADD 15-17

G. Travel

[18] **Sense of Direction** (Circle only ONE)

Goes a few blocks from hospital or school ground, or several blocks from home without getting lost	3
Goes around hospital ground or a few blocks from home without getting lost	2
Goes around cottage, ward, or home alone	1
Gets lost whenever leaving own living area	0

[19] **Public Transportation**
(Check ALL statements which apply)

Rides on train, long-distance bus or plane independently —
Rides in taxi independently —
Rides subway or city bus for unfamiliar journeys independently —
Rides subway or city bus for familiar journeys independently —
None of the above —

C. Travel → ADD 18-19

H. Other Independent Functioning

[20] **Telephone** (Check ALL statements which apply)

Uses telephone directory —
Uses pay telephone —
Makes telephone calls from private telephone —
Answers telephone appropriately —
Takes telephone messages —
None of the above —

[21] **Miscellaneous Independent Functioning**
(Check ALL statements which apply)

Prepares own bed at night —
Goes to bed unassisted, e.g., getting in bed, covering with blanket, etc —
Has ordinary control of appetite, eats moderately —
Knows postage rates, buys stamps from Post Office —
Looks after personal health, e.g., changes wet clothing —
Deals with simple injuries, e.g., cuts, burns —
Knows how and where to obtain a doctor's or dentist's help —
Knows about welfare facilities in the community —
None of the above —

H. Other Independent Functioning → ADD 20-21

I. INDEPENDENT FUNCTIONING → ADD TRIANGLES A-H

II. PHYSICAL DEVELOPMENT

A. Sensory Development
(Observable functioning ability)

[22] **Vision** (With glasses, if used)
(Circle only ONE)

No difficulty in seeing 3
Some difficulty in seeing 2
Great difficulty in seeing 1
No vision at all 0

[23] **Hearing** (With hearing aid, if used)
(Circle only ONE)

No difficulty in hearing 3
Some difficulty in hearing 2
Great difficulty in hearing 1
No hearing at all 0

A. Sensory Development → ADD 22-23

B. Motor Development

[24] **Body Balance** (Circle only ONE)

Stands on "tiptoe" for ten seconds if asked 5
Stands on one foot for two seconds if asked 4
Stands without support 3
Stands with support 2
Sits without support 1
Can do none of the above 0

[25] **Walking and Running**
(Check ALL statements which apply)

Walks alone —
Walks up and down stairs alone —
Walks down stairs by alternating feet —
Runs without falling often —
Hops, skips or jumps —
None of the above —

[26] **Control of Hands**
(Check ALL statements which apply)

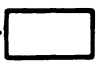
Catches a ball —
Throws a ball overhand —
Lifts cup or glass —
Grasps with thumb and finger —
None of the above —

[27] **Limb Function**
(Check ALL statements which apply)

Has effective use of right arm ___
Has effective use of left arm ___
Has effective use of right leg ___
Has effective use of left leg ___
None of the above ___

B. Motor Development → ADD 24-27

II. PHYSICAL DEVELOPMENT → ADD TRIANGLES A-B



[31] **Purchasing** (Circle only ONE)

Buys all own clothing 5
Buys own clothing accessories 4
Makes minor purchases without help (candy, soft drinks, etc.) 3
Does shopping with slight supervision 2
Does shopping with close supervision 1
Does no shopping 0

B. Shopping Skills → ADD 30-31

III. ECONOMIC ACTIVITY → ADD TRIANGLES A-B

III. ECONOMIC ACTIVITY

A. Money Handling and Budgeting

[28] **Money Handling** (Circle only ONE)

Uses banking facilities independently 4
Makes change correctly but does not use banking facilities 3
Adds coins of various denominations, up to one dollar 2
Uses money, but does not make change correctly 1
Does not use money 0

[29] **Budgeting**
(Check ALL statements which apply)

Saves money or tokens for a particular purpose ___
Budgets fares, meals, etc. ___
Spends money with some planning ___
Controls own major expenditures ___
None of the above ___

A. Money Handling and Budgeting → ADD 28-29

B. Shopping Skills

[30] **Errands** (Circle only ONE)

Goes to several shops and specifies different items 4
Goes to one shop and specifies one item 3
Goes on errands for simple purchasing without a note 2
Goes on errands for simple purchasing with a note 1
Cannot be sent on errands 0

IV. LANGUAGE DEVELOPMENT

A. Expression

[32] **Writing** (Circle only ONE)

Writes sensible and understandable letters 5
Writes short notes and memos 4
Writes or prints forty words 3
Writes or prints ten words 2
Writes or prints own name 1
Cannot write or print any words 0

[33] **Preverbal Expression**
(Check ALL statements which apply)

Nods head or smiles to express happiness ___
Indicates hunger ___
Indicates wants by pointing or vocal noises ___
Chuckles or laughs when happy ___
Expresses pleasure or anger by vocal noises ___
Is able to say at least a few words (Enter "6" if checked, regardless of other items.) ___
None of the above ___

[34] **Articulation** (Check ALL statements which apply--if no speech, check "None" and enter "0" in the circle)

4-number checked =

Speech is low, weak, whispered or difficult to hear ___
Speech is slowed, deliberate, or labored ___
Speech is hurried, accelerated, or pushed ___
Speaks with blocking, halting, or other irregular interruptions ___
None of the above ___

[35] **Sentences** (Circle only ONE)

Sometimes uses complex sentences containing "because," "but," etc	3
Asks questions using words such as "why," "how," "what," etc	2
Speaks in simple sentences	1
Speaks in primitive phrases only, or is non-verbal	0

[36] **Word Usage** (Circle only ONE)

Talks about action when describing pictures	4
Names people or objects when describing pictures	3
Names familiar objects	2
Asks for things by their appropriate names	1
Is non-verbal or nearly non-verbal	0

A Expression → ADD 32-36

B. Comprehension

[37] **Reading** (Circle only ONE)

Reads books suitable for children nine years or older	5
Reads books suitable for children seven years old	4
Reads simple stories or comics	3
Reads various signs, e g , "NO PARKING," "ONE WAY," "MEN," WOMEN," etc	2
Recognizes ten or more words by sight	1
Recognizes fewer than ten words or none at all	0

[38] **Complex Instructions**
(Check ALL statements which apply)

Understands instructions containing prepositions, e g , "on," "in," "behind," "under," etc	___
Understands instructions referring to the order in which things must be done, e g , "first do- then do-"	___
Understands instructions requiring a decision "If –, do this, but if not, do –"	___
None of the above ___	

B. Comprehension → ADD 37-38

C. Social Language Development

[39] **Conversation**
(Check ALL statements which apply)

Uses phrases such as "please," and "thank you"	___
Is sociable and talks during meals	___
Talks to others about sports, family, group activities, etc	___
None of the above ___	

[40] **Miscellaneous Language Development**
(Check ALL statements which apply)

Can be reasoned with	___
Obviously responds when talked to	___
Talks sensibly	___
Reads books, newspapers, magazines for enjoyment	___
Repeats a story with little or no difficulty	___
Fills in the main items on application form reasonably well	___
None of the above ___	

C. Social Language Development → ADD 39-40

IV. LANGUAGE DEVELOPMENT → ADD TRIANGLES A-C

V. NUMBERS AND TIME

[41] **Numbers** (Circle only ONE)

Does simple addition and subtraction	5
Counts ten or more objects	4
Mechanically counts to ten	3
Counts two objects by saying "one two"	2
Discriminates between "one" and "many" or "a lot"	1
Has no understanding of numbers	0

[42] **Time** (Check ALL statements which apply)

Tells time by clock or watch correctly to the minute ___
Understands time intervals, e.g., between "3:30" and "4:30" ___
Understands time equivalents, e.g., "9:15" is the same as "quarter past nine" ___
Associates time on clock with various actions and events ___
None of the above ___

[43] **Time Concept**
(Check ALL statements which apply)

Names the days of the week ___
Refers correctly to "morning" and "afternoon" ___
Understands difference between day-week, minute-hour, month-year, etc. ___
None of the above ___

V. NUMBERS AND TIME → ADD 41-43

VI. DOMESTIC ACTIVITY

A. Cleaning

[44] **Room Cleaning** (Circle only ONE)

Cleans room well, e.g., sweeping, dusting and tidying 2
Cleans room but not thoroughly 1
Does not clean room at all 0

[45] **Laundry** (Check ALL statements which apply)

Washes clothing ___
Dries clothing ___
Folds clothing ___
Irons clothing when appropriate ___
None of the above ___

A. Cleaning → ADD 44-45

B. Kitchen

[46] **Table Setting** (Circle only ONE)

Places all eating utensils, as well as napkins, salt, pepper, sugar, etc., in positions learned 3
Places plates, glasses, and utensils in positions learned 2
Places silver, plates, cups, etc., on the table 1
Does not set table at all 0

[47] **Food Preparation** (Circle only ONE)

Prepares an adequate complete meal (may use canned or frozen food) 3
Mixes and cooks simple food, e.g., fries eggs, makes pancakes, cooks TV dinners, etc 2
Prepares simple foods requiring no mixing or cooking, e.g., sandwiches, cold cereal, etc 1
Does not prepare food at all 0

[48] **Table Clearing** (Circle only ONE)

Clears table of breakable dishes and glassware 2
Clears table of unbreakable dishes and silverware 1
Does not clear table at all 0

B. Kitchen → ADD 46-48

C. Other Domestic Activities

[49] **General Domestic Activity**
(Check ALL statements which apply)

Washes dishes well ___
Makes bed neatly ___
Helps with household chores when asked ___
Does household tasks routinely ___
None of the above ___

C. Other Domestic Activities → ENTER 49

VI. DOMESTIC ACTIVITY → ADD TRIANGLES A-C

VII. VOCATIONAL ACTIVITY

[50] **Job Complexity** (Circle only ONE)

Performs a job requiring use of tools or machinery, e.g., shop work, sewing, etc 2
Performs simple work, e.g., simple gardening, mopping floors, emptying trash, etc. 1
Performs no work at all 0

[51] **Job Performance**
(Check ALL statements which apply)
(If "0" is circled in item 50, check "None of the above" and enter "0" in the circle)

4-number checked =

Endangers others because of carelessness ___
Does not take care of tools ___
Is a very slow worker ___
Does sloppy, inaccurate work ___
None of the above ___

[52] **Work Habits**
(Check ALL statements which apply)
(If "0" is circled in item 50, check "None of the above" and enter "0" in the circle.)

5-number checked =

Is late from work without good reason ___
Is often absent from work ___
Does not complete jobs without constant encouragement ___
Leaves work station without permission ___
Crumbles or gripes about work ___
None of the above ___

VII VOCATIONAL ACTIVITY → ADD 50-52

VIII. SELF-DIRECTION

A. Initiative

[53] **Initiative** (Circle only ONE)

Initiates most of own activities, e.g., tasks, games, etc 3
Asks if there is something to do, or explores surroundings, e.g., home, yard, etc 2
Will engage in activities only if assigned or directed 1
Will not engage in assigned activities, e.g., putting away toys, etc 0

[54] **Passivity**
(Check ALL statements which apply)

6-number checked =

Has to be made to do things ___
Has no ambition ___
Seems to have no interest in things ___
Finishes task last because of wasted time ___
Is unnecessarily dependent on others for help ___
Movement is slow and sluggish ___
None of the above ___
Does not apply, e.g., because he or she is totally dependent on others (If checked, enter "0" in the circle to the right) ___

A Initiative → ADD 53-54

B. Perseverance

[55] **Attention** (Circle only ONE)

Will pay attention to purposeful activities for more than fifteen minutes, e.g., playing games, reading, cleaning up 4
Will pay attention to purposeful activities for at least fifteen minutes 3
Will pay attention to purposeful activities for at least ten minutes 2
Will pay attention to purposeful activities for at least five minutes 1
Will not pay attention to purposeful activities for as long as five minutes 0

[56] **Persistence**
(Check ALL statements which apply)

4-number checked =

Becomes easily discouraged ___
Fails to carry out tasks ___
Jumps from one activity to another ___
Needs constant encouragement to complete task ___
None of the above ___
Does not apply, e.g., because he or she is totally incapable of any organized activities (If checked, enter "0" in the circle to the right) ___

B. Perseverance → ADD 55-56

C. Leisure Time

[57] **Leisure Time Activity**
(Check ALL statements which apply)

Organizes leisure time on a fairly complex level, e.g., plays billiards, fishes, etc ___
Has hobby, e.g., painting, embroidery, collecting stamps or coins ___
Organizes leisure time adequately on a simple level, e.g., watching television, listening to phonograph, radio, etc ___
None of the above ___

C. Leisure Time → ENTER 57

VIII. SELF-DIRECTION → ADD TRIANGLES A-C

IX. RESPONSIBILITY

[58] **Personal Belongings** (Circle only ONE)

Very dependable--always takes care of personal belongings 3
Usually dependable--usually takes care of personal belongings 2
Unreliable--seldom takes care of personal belongings 1
Not responsible at all--does not take care of personal belongings 0

[59] General Responsibility (Circle only ONE)

Very conscientious and assumes much responsibility--makes a special effort; the assigned activities are always performed	3
Usually dependable--makes an effort to carry out responsibility, one can be reasonably certain that the assigned activity will be performed	2
Unreliable--makes little effort to carry out responsibility; one is uncertain that the assigned activity will be performed	1
Not given responsibility, is unable to carry out responsibility at all	0

IX. RESPONSIBILITY → ADD 58-59 [ ]

X. SOCIALIZATION

[60] Cooperation (Circle only ONE)

Offers assistance to others	2
Is willing to help if asked	1
Never helps others	0

[61] Consideration for Others
(Check ALL statements which apply)

- ___ Shows interest in the affairs of others
- ___ Takes care of others' belongings
- ___ Directs or manages the affairs of others when needed
- ___ Shows consideration for others' feelings
- ___ **None of the above**

[62] Awareness of Others
(Check ALL statements which apply)

- ___ Recognizes own family
- ___ Recognizes people other than family
- ___ Has information about others, e.g., job, address, relation to self
- ___ Knows the names of people close to him, e.g., classmates, neighbors
- ___ Knows the names of people not regularly encountered
- ___ **None of the above**

[63] Interaction With Others (Circle only ONE)

Interacts with others in group games or activity	3
Interacts with others for at least a short period of time, e.g., showing or offering toys, clothing or objects	2
Interacts with others imitatively with little interaction	1
Does not respond to others in a socially acceptable manner	0

[64] Participation in Group Activities
(Circle only ONE)

Initiates group activities (leader and organizer)	3
Participates in group activities spontaneously and eagerly (active participant)	2
Participates in group activities if encouraged to do so (passive participant)	1
Does not participate in group activities	0

[65] Selfishness
(Check ALL statements which apply)

4-number checked = [ ]

- ___ Refuses to take turns
- ___ Does not share with others
- ___ Gets mad if he does not get his way
- ___ Interrupts aide or teacher who is helping another person
- ___ **None of the above**
- ___ Does not apply, e.g., because he or she has no social interaction or is profoundly withdrawn (If checked, enter "0" in the circle to the right)

[66] Social Maturity
(Check ALL statements which apply)

5-number checked = [ ]

- ___ Is too familiar with strangers
- ___ Is afraid of strangers
- ___ Does anything to make friends
- ___ Likes to hold hands with everyone
- ___ Is at someone's elbow constantly
- ___ **None of the above**
- ___ Does not apply, e.g., because he or she has no social interaction or is profoundly withdrawn (If checked, enter "0" in the circle to the right)

X. SOCIALIZATION → ADD 60-66 [ ]

APPENDIX G

Appendix G
Adaptive Behavior Scale, Teacher Version
PART ONE

I. INDEPENDENT FUNCTIONING

A. Eating

[1] **Use of Table Utensils** (Circle only ONE)

Uses knife and fork correctly and neatly	6
Uses table knife for cutting or spreading	5
Feeds self with spoon and fork - neatly	4
Feeds self with spoon and fork - considerable spilling	3
Feeds self with spoon - neatly	2
Feeds self with spoon - considerable spilling	1
Feeds self with fingers or must be fed	0

[2] **Eating in Public** (Circle only ONE)

Orders complete meals in restaurants	3
Orders simple meals like hamburgers or hot dogs	2
Orders soft drinks at soda fountain or canteen	1
Does not order at public eating places	0

[3] **Drinking** (Circle only ONE)

Drinks without spilling, holding glass in one hand	3
Drinks from cup or glass unassisted - neatly	2
Drinks from cup or glass unassisted considerable spilling	1
Does not drink from cup or glass unassisted	0

[4] **Table Manners** (Check ALL statements which apply)

Swallows food without chewing	___
Chews food with mouth open	___
Drops food on table or floor	___
Uses napkin incorrectly or not at all	___
Talks with mouth full	___
Takes food off others' plates	___
Eats too fast or too slow	___
Plays in food with fingers	___
None of the above	___
Does not apply, e.g., because he or she is bedfast, and/or has liquid food only (If checked, enter "0" in the circle to the right)	___

8-number checked =

A. Eating → ADD 1-4

B. Toilet Use

[5] **Toilet Training** (Circle only ONE)

Never has toilet accidents	4
Never has toilet accidents during the day	3
Occasionally has toilet accidents during the day	2
Frequently has toilet accidents during the day	1
Is not toilet trained at all	0

(6) NOT APPLICABLE TO SCHOOLS

B. Toilet Use → Enter 5

C. Cleanliness

[7] **Washing Hands and Face**
(Check ALL statements which apply)

Washes hands with soap	___
Washes face with soap	___
Washes hands and face with water	___
Dries hands and face	___
None of the above	___

[8] **Bathing** (Circle only ONE)

Prepares and completes bathing unaided	6
Washes and dries self completely without prompting or helping	5
Washes and dries self reasonably well with prompting	4
Washes and dries self with help	3
Attempts to soap and wash self	2
Cooperates when being washed and dried by others	1
Makes no attempt to wash or dry self	0

[9] **Personal Hygiene**
(Check ALL statements which apply)

Has strong underarm odor	___
Does not change underwear regularly by self	___
Skin is often dirty if not assisted	___
Does not keep nails clean by self	___
None of the above	___
Does not apply, e.g., because he or she is completely dependent on others (If checked, enter "0" in the circle to the right)	___

4-number checked =

(10) NOT APPLICABLE TO SCHOOLS

(11) NOT APPLICABLE TO SCHOOLS

C Cleanliness → ADD 7-9

D. Appearance

[12] **Posture** (Check ALL statements which apply)

Mouth hangs open ___
Head hangs down ___
Stomach sticks out because of posture ___
Shoulders slumped forward and back bent ___
Walks with toes out or toes in ___
Walks with feet far apart ___
Shuffles, drags, or stamps feet when walking ___
Walks on tiptoes ___
None of the above ___
Does not apply, e g because he or she is bedfast or non-ambulatory (If checked, enter 0 in the circle to the right) ___

8-number checked =

[13] **Clothing** (Check ALL statements which apply)

Clothes do not fit properly if not assisted ___
Wears torn or unpressed clothing if not prompted ___
Rewears dirty or soiled clothing if not prompted ___
Wears clashing color combinations if not prompted ___
Does not know the difference between work shoes and dress shoes ___
Does not choose different clothing for formal and informal occasions ___
Does not wear special clothing for different weather conditions (raincoat, overshoes, etc) ___
None of the above ___
Does not apply, e g because he or she is completely dependent on others (If checked, enter 0 in the circle to the right) ___

7-number checked =

D. Appearance → ADD 12-13

E. Care of Clothing

[14] **Care of Clothing**
(Check ALL statements which apply)

Wipes and polishes shoes when needed ___
Puts clothes away neatly ___
Not applicable to schools ___
Hangs up clothes without being reminded ___
None of the above ___

E Care of Clothing → ENTER 14

F. Dressing and Undressing

[15] **Dressing** (Circle only ONE)

Completely dresses self (raincoat, overshoes, etc.)	5
Completely dresses self with verbal prompting only	4
Dresses self by pulling or putting on all clothes with verbal prompting and by fastening (zipping, buttoning, snapping) them with help	3
Dresses self with help in pulling or putting on most clothes and fastening them	2
Cooperates when dressed by extending arms or legs	1
Must be dressed completely	0

(16) NOT APPLICABLE TO SCHOOLS

[17] **Shoes** (Check ALL statements with apply)

Puts on shoes correctly without assistance ___
Ties shoe laces without assistance ___
Unties shoe laces without assistance ___
Removes shoes without assistance ___
None of the above ___

F. Dressing and Undressing → ADD 15,17

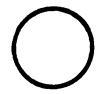
G. Travel

[18] **Sense of Direction** (Circle only ONE)

Goes a few blocks from school ground without getting lost	3
Goes around school ground without getting lost	2
Goes around school room alone	1
Gets lost whenever he leaves his own room	0

[19] **Public Transportation**
(Check ALL statements which apply)

Rides on train, long-distance bus or plane independently ___
Rides in taxi independently ___
Rides subway or city bus for unfamiliar journeys independently ___
Rides subway or city bus for familiar journeys independently ___
None of the above ___



C Travel → ADD 18-19

H. Other Independent Functioning

[20] **Telephone** (Check ALL statements which apply)

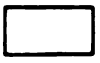
Uses telephone directory ___
Uses pay telephone ___
Makes telephone calls from private telephone ___
Answers telephone appropriately ___
Takes telephone messages ___
None of the above ___

[21] **Miscellaneous Independent Functioning**
(Check ALL statements which apply)

Not applicable to schools
Not applicable to schools
Has ordinary control of appetite, eats moderately ___
Knows postage rates, buys stamps from Post Office ___
Looks after personal health e g , changes wet clothing ___
Deals with simple injuries, e g , cuts, burns ___
Knows how and where to obtain a doctor's or dentist s help ___
Knows about welfare facilities in the community ___
None of the above ___

H. Other Independent Functioning → ADD 20-21

I. INDEPENDENT FUNCTIONING → ADD TRIANGLES A-H



II. PHYSICAL DEVELOPMENT

A. Sensory Development
(Observable functioning ability)

[22] **Vision** (With glasses, if used)
(Circle only ONE)

No difficulty in seeing 3
Some difficulty in seeing 2
Great difficulty in seeing 1
No vision at all 0

[23] **Hearing** (With hearing aid, if used)
(Circle only ONE)

No difficulty in hearing 3
Some difficulty in hearing 2
Great difficulty in hearing 1
No hearing at all 0

A Sensory Development → ADD 22-23

B. Motor Development

[24] **Body Balance** (Circle only ONE)

Stands on "tiptoe" for ten seconds if asked 5
Stands on one foot for two seconds if asked 4
Stands without support 3
Stands with support 2
Sits without support 1
Can do none of the above 0

[25] **Walking and Running**
(Check ALL statements which apply)

Walks alone ___
Walks up and down stairs alone ___
Walks down stairs by alternating feet ___
Runs without falling often ___
Hops, skips or jumps ___
None of the above ___

[26] **Control of Hands**
(Check ALL statements which apply)

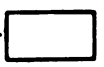
Catches a ball ___
Throws a ball overhand ___
Lifts cup or glass ___
Grasps with thumb and finger ___
None of the above ___

[27] **Limb Function**
(Check ALL statements which apply)

Has effective use of right arm ___
Has effective use of left arm ___
Has effective use of right leg ___
Has effective use of left leg ___
None of the above ___

B. Motor Development → **ADD 24-27**

II. PHYSICAL DEVELOPMENT → **ADD TRIANGLES A-B**

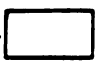


[31] **Purchasing** (Circle only ONE)

Buys all own clothing 5
Buys own clothing accessories 4
Makes minor purchases without help (candy, soft drinks, etc.) 3
Does shopping with slight supervision 2
Does shopping with close supervision 1
Does no shopping 0

B. Shopping Skills → **ADD 30-31**

III. ECONOMIC ACTIVITY → **ADD TRIANGLES A-B**



III. ECONOMIC ACTIVITY

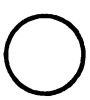
A. Money Handling and Budgeting

[28] **Money Handling** (Circle only ONE)

Uses banking facilities independently 4
Makes change correctly but does not use banking facilities 3
Adds coins of various denominations, up to one dollar 2
Uses money, but does not make change correctly 1
Does not use money 0

[29] **Budgeting**
(Check ALL statements which apply)

Saves money or tokens for a particular purpose ___
Budgets fares, meals, etc ___
Spends money with some planning ___
Controls own major expenditures ___
None of the above ___

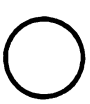


A. Money Handling and Budgeting → **ADD 28-29**

B. Shopping Skills

[30] **Errands** (Circle only ONE)

Goes to several shops and specifies different items 4
Goes to one shop and specifies one item 3
Goes on errands for simple purchasing without a note 2
Goes on errands for simple purchasing with a note 1
Cannot be sent on errands 0



IV. LANGUAGE DEVELOPMENT

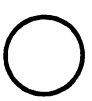
A. Expression

[32] **Writing** (Circle only ONE)

Writes sensible and understandable letters 5
Writes short notes and memos 4
Writes or prints forty words 3
Writes or prints ten words 2
Writes or prints own name 1
Cannot write or print any words 0

[33] **Verbal Expression**
(Check ALL statements which apply)

Nods head or smiles to express happiness ___
Indicates hunger ___
Indicates wants by pointing or vocal noises ___
Chuckles or laughs when happy ___
Expresses pleasure or anger by vocal noises ___
Is able to talk (Enter "6" if checked, regardless of other items) ___
None of the above ___



[34] **Articulation** (Check ALL statements which apply--if no speech, check "None" and enter "0" in the circle)

Speech is low, weak, whispered or difficult to hear ___
Speech is slowed, deliberate, or labored ___
Speech is hurried, accelerated, or pushed ___
Speaks with blocking, halting, or other irregular interruptions ___
None of the above ___

4-number checked =

[35] **Sentences** (Circle only ONE)

Sometimes uses complex sentences containing "because," "but," etc	3
Asks questions using words such as "why," "how," "what," etc	2
Speaks in simple sentences	1
Speaks in primitive phrases only, or is non-verbal	0

[36] **Word Usage** (Circle only ONE)

Talks about action when describing pictures	4
Names people or objects when describing pictures	3
Names familiar objects	2
Asks for things by their appropriate names	1
Is non-verbal or nearly non-verbal	0

A. Expression → ADD 32-36

B. Comprehension

[37] **Reading** (Circle only ONE)

Reads books suitable for children nine years or older	5
Reads books suitable for children seven years old	4
Reads simple stories or comics	3
Reads various signs, e.g., "NO PARKING," "ONE WAY," "MEN," WOMEN," etc	2
Recognizes ten or more words by sight	1
Recognizes fewer than ten words or none at all	0

[38] **Complex Instructions**
(Check ALL statements which apply)

Understands instructions containing prepositions, e.g., "on," "in," "behind," "under," etc	___
Understands instructions referring to the order in which things must be done, e.g., "first do- then do-"	___
Understands instructions requiring a decision "If – , do this, but if not, do –"	___

None of the above ___

B. Comprehension → ADD 37-38

C. Social Language Development

[39] **Conversation**
(Check ALL statements which apply)

Uses phrases such as "please," and "thank you"	___
Is sociable and talks during meals	___
Talks to others about sports, family, group activities, etc	___

None of the above ___

[40] **Miscellaneous Language Development**
(Check ALL statements which apply)

Can be reasoned with	___
Obviously responds when talked to	___
Talks sensibly	___
Reads books, newspapers, magazines for enjoyment	___
Repeats a story with little or no difficulty	___
Fills in the main items on application form reasonably well	___

None of the above ___

C. Social Language Development → ADD 39-40

IV. LANGUAGE DEVELOPMENT → ADD TRIANGLES A-C

V. NUMBERS AND TIME

[41] **Numbers** (Circle only ONE)

Does simple addition and subtraction	5
Counts ten or more objects	4
Mechanically counts to ten	3
Counts two objects by saying "one two"	2
Discriminates between "one" and "many" or "a lot"	1
Has no understanding of numbers	0

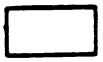
[42] Time (Check ALL statements which apply)

Tells time by clock or watch correctly to the minute —
Understands time intervals, e.g., between "3 30" and "4 30" —
Understands time equivalents, e.g., "9.15" is the same as "quarter past nine" —
Associates time on clock with various actions and events —
None of the above —

[43] Time Concept
(Check ALL statements which apply)

Names the days of the week —
Refers correctly to "morning" and "afternoon" —
Understands difference between day-week, minute-hour, month-year, etc —
None of the above —

V. NUMBERS AND TIME → ADD 41-43



VI. NOT APPLICABLE TO SCHOOLS

(44) NOT APPLICABLE TO SCHOOLS

(45) NOT APPLICABLE TO SCHOOLS

(46) NOT APPLICABLE TO SCHOOLS

(47) NOT APPLICABLE TO SCHOOLS

(48) NOT APPLICABLE TO SCHOOLS

(49) NOT APPLICABLE TO SCHOOLS

VII. VOCATIONAL ACTIVITY

[50] Job Complexity (Circle only ONE)

Can perform a job requiring use of tools or machinery, e.g., shop work, sewing, etc. 2
Can perform simple work, e.g., simple gardening, mopping floors, emptying trash, etc. 1
Can perform no work at all 0

[51] **Job Performance**
(Check ALL statements which apply)
(If "0" is circled in item 50, check "None of the above" and enter "0" in the circle)

4-number checked =

Endangers self or others because of carelessness ___
Does not take care of tools ___
Is a very slow worker ___
Does sloppy, inaccurate work ___
None of the above ___

[52] **Work Habits**
(Check ALL statements which apply)
(If "0" is circled in item 50, check "None of the above" and enter "0" in the circle.)

5-number checked =

Is late for work without good reason ___
Is often absent from work ___
Does not complete jobs without constant encouragement ___
Leaves work station without permission ___
Grumbles or gripes about work ___
None of the above ___

VII VOCATIONAL ACTIVITY → **ADD 50-52** ☐

VIII. SELF-DIRECTION

A. Initiative

[53] **Initiative** (Circle only ONE)

Initiates most of own activities, e.g., tasks, games, etc 3
Asks if there is something to do, or explores surroundings, e.g., home, yard, etc 2
Will engage in activities only if assigned or directed 1
Will not engage in assigned activities, e.g., putting away toys, etc 0

[54] **Passivity**
(Check ALL statements which apply)

6-number checked =

Has to be made to do things ___
Has no ambition ___
Seems to have no interest in things ___
Finishes task last because of wasted time ___
Is unnecessarily dependent on others for help ___
Movement is slow and sluggish ___
None of the above ___
Does not apply, e.g., because he or she is totally dependent on others (If checked, enter "0" in the circle to the right.) ___

A. Initiative → **ADD 53-54** △

B. Perseverance

[55] **Attention** (Circle only ONE)

Will pay attention to purposeful activities for more than fifteen minutes, e.g., playing games, reading, cleaning up 4
Will pay attention to purposeful activities for at least fifteen minutes 3
Will pay attention to purposeful activities for at least ten minutes 2
Will pay attention to purposeful activities for at least five minutes 1
Will not pay attention to purposeful activities for as long as five minutes 0

[56] **Persistence**
(Check ALL statements which apply)

4-number checked =

Becomes easily discouraged ___
Fails to carry out tasks ___
Jumps from one activity to another ___
Needs constant encouragement to complete task ___
None of the above ___
Does not apply, e.g., because he or she is totally incapable of any organized activities (If checked, enter "0" in the circle to the right.) ___

B. Perseverance → **ADD 55-56** △

C. Leisure Time

[57] **Leisure Time Activity**
(Check ALL statements which apply)

Organizes leisure time on a fairly complex level ___
Has hobby, e.g., painting, embroidery, collecting stamps or coins ___
Organizes leisure time adequately on a simple level ___
None of the above ___

C. Leisure Time → **ENTER 57** △

VIII. SELF-DIRECTION → **ADD TRIANGLES A-C** ☐

IX. RESPONSIBILITY

[58] **Personal Belongings** (Circle only ONE)

Very dependable--always takes care of personal belongings 3
Usually dependable--usually takes care of personal belongings 2
Unreliable--seldom takes care of personal belongings 1
Not responsible at all--does not take care of personal belongings 0

[59] General Responsibility (Circle only ONE)

Very conscientious and assumes much responsibility--makes a special effort, the assigned activities are always performed 3
Usually dependable--makes an effort to carry out responsibility, one can be reasonably certain that the assigned activity will be performed 2
Unreliable--makes little effort to carry out responsibility, one is uncertain that the assigned activity will be performed 1
Not given responsibility, is unable to carry out responsibility at all 0

IX. RESPONSIBILITY — ADD 58-59 → ☐

X. SOCIALIZATION

[60] Cooperation (Circle only ONE)

Offers assistance to others 2
Is willing to help if asked 1
Never helps others 0

[61] Consideration for Others
(Check ALL statements which apply)

Shows interest in the affairs of others ___
Takes care of others' belongings ___
Directs or manages the affairs of others when needed ___
Shows consideration for others' feelings ___
None of the above ___

[62] Awareness of Others
(Check ALL statements which apply)

Recognizes own family ___
Recognizes people other than family ___
Has information about others, e g , job, address, relation to self ___
Knows the names of people close to him, e g , classmates, neighbors ___
Knows the names of people not regularly encountered ___
None of the above ___

[63] Interaction With Others (Circle only ONE)

Interacts with others in group games or activity 3
Interacts with others for at least a short period of time, e g , showing or offering toys, clothing or objects 2
Interacts with others imitatively with little interaction 1
Does not respond to others in a socially acceptable manner 0

[64] Participation in Group Activities
(Circle only ONE)

Initiates group activities (leader and organizer) 3
Participates in group activities spontaneously and eagerly (active participant) 2
Participates in group activities if encouraged to do so (passive participant) 1
Does not participate in group activities 0

[65] Selfishness
(Check ALL statements which apply)

Refuses to take turns ___
Does not share with others ___
Gets mad if he does not get his way ___
Interrupts aide or teacher who is helping another person ___
None of the above ___
Does not apply, e g , because he or she has no social interaction or is profoundly withdrawn (If checked, enter "0" in the circle to the right) ___

4-number checked = ◯

[66] Social Maturity
(Check ALL statements which apply)

Is too familiar with strangers ___
Is afraid of strangers ___
Does anything to make friends ___
Likes to hold hands with everyone ___
Is at someone's elbow constantly ___
None of the above ___
Does not apply, e g , because he or she has no social interaction or is profoundly withdrawn (If checked, enter "0" in the circle to the right) ___

5-number checked = ◯

X. SOCIALIZATION — ADD 60-66 → ☐

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