ABSTRACT

MOTHER-SON INTERACTION AND THE COPING BEHAVIOR OF YOUNG BOYS

By Thomas S. Rowland

The present research examined the relationship between mother-son interaction and the coping behavior of boys. Three questions were of concern. What child variables are involved in the boy's ability to cope with frustration? Is the boy's manner of coping with frustration related to his mother's attitudes and behavior toward him? And what is the nature of the relationship between mother's behavior and son's manner of coping?

Ss were 32 preadolescent boys and their mothers, who were divided into two groups on the basis of teachers' ratings of the boys' classroom behavior. Lows were boys rated low in self-control, self-sufficiency, and achievement motivation, while highs had received high ratings on these three variables. A high degree of pair-wise matching was achieved on other presumedly relevant factors. Mothers

filled out an abbreviated version of the Stanford Parent Questionnaire, and they participated in two interaction situations with their sons. In the first session (frustration session) the boy was intentionally frustrated by offering him a prize for completion of a puzzle which was too difficult for him, while the second session (verbal session) required the boy's mother to teach him three proverbs. Observing the frustration session through a one-way mirror, two judges rated the boy's reactions to frustration and his mother's responses to them. Both sessions were tape-recorded, and the verbal interaction was coded using the interpersonal rating scheme and system of categories developed by Freedman, Leary, Ossorio, and Coffey. Interjudge agreement was very high for both rating methods.

Analysis of the "reactions to frustration" data revealed that low boys demonstrated aggressive and regressive reactions to a significantly greater extent and constructive reactions to a significantly lesser extent than high boys. The two groups did not differ with regard to withdrawal and intropunitive reactions. Likewise, the two

groups of mothers differed significantly in their responses, with mothers of lows giving more negative responses and fewer nondirective and positive responses than high mothers. Consideration of son-mother sequences indicated that low and high mothers showed different patterns of reinforcement for the same son behaviors, with the differences suggesting that low mothers tend to give negative and high mothers positive reinforcement for their sons' efforts of mastery.

Similar findings were reflected in a comparison of the groups with regard to their verbal interpersonal behavior. Low boys demonstrated significantly more behavior that was poorly controlled, passive-aggressive, and negatively dependent, while high boys showed significantly more positively assertive behavior. These differences were complementary to those for the two groups of mothers. Low mothers showed significantly more dominant and protective behavior and a trend toward greater rejection, while high mothers demonstrated significantly more autonomy granting behaviors that were both positive and negative in nature. Interaction sequences were analysed separately for son-mother and mother-son interaction. When son sender

behavior was statistically "equated" for the two groups, low and high mothers evidenced different patterns of response to the same stimulations. Similarly, low and high boys responded differently to the same mother sender behavior, suggesting that the differences in interaction for the two groups were a function of the boys as well as their mothers. In their responses to each other, low mother-son pairs tended to maintain a pattern of negative interaction and unconstructive activity. Both mother and son acted in ways which would serve to perpetuate a complementary "dependent son--controlling mother" relationship, which stands in contrast to the more symmetrical, mutually assertive relationship of high mother-son pairs.

Comparison of the two groups of mothers on the Stanford Parent Questionnaire (SPQ) revealed that low mothers scored significantly higher on rejection, inconsistency, punitiveness and physical punishment, demands for aggression, democracy, and demands for conformity than did high mothers. Integration of the SPQ and behavioral interaction findings led to the interpretation that the love relationship for low mother-son pairs is not a secure

one, that consequently mother and son must be continually involved with each other. The low mother's ambivalent feelings are manifest in her inconsistent and dominant, protective behavior toward her son, while the low boy's anxious dependency results in a passive-aggressive and negatively dependent stance toward his mother. While the results lend support to the notions that boys' poorly controlled behavior is related to an aggressive parental model and that dependency in boys is related to maternal inconsistency and dominance, it was concluded that an interaction of parent effects and child effects can best account for the "dependent son--controlling mother" relationship observed in low mother-son pairs. Several methodological issues were discussed in the light of the present study, and a new approach was suggested for family interaction research.

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Committee Chairman

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To Polly With Gratitude

To Heather With Hope

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CHAPTER I

INTRODUCTION

Statement of the Problem

Impetus for the present research was provided by an exploratory study of mother-son interaction (Rowland, 1966) which compared the behavior of mothers of poorly adjusted (PA) boys with that of mothers of well-adjusted (WA) boys under conditions that were frustrating to the boy. Boys were offered a desirable toy as a reward for solving a puzzle which, because of its difficulty, was unlikely to be solved within the allotted time. There were three major findings of this exploratory study. First of all, frustrating the boy proved to be a profitable technique for eliciting interaction between mother and son. Secondly, two independent techniques for assessing maternal attitudes and behavior, the observational method and the self-report, questionnaire method yielded data that were both consistent and supplementary. And finally, three dimensions of maternal attitudes emerged as bearing

a significant relationship to the boy's adjustment, these being Warmth-Hostility, encouragement of Independence-Dependency, and Self-esteem.

The exploratory research raised several questions that will be considered in the present study. What child variables are involved in the boy's ability to cope with frustration? In the exploratory study the investigator's frustration of the boy served as a technique for "pulling" spontaneous behavior from the mother. The boy's response to frustration was not studied in its own right. Although the boys in the pilot research differed with regard to a global assessment of "school adjustment," evidence as to their standing on less global behavioral variables was lacking. Since the research is embedded within the framework of parent-child relations, the second question is obvious. Is the boy's manner of coping with frustration related to his mother's attitudes and behavior toward him? These two questions do not present any special problems for research design, but a third and most crucial question does. If mother's behavior toward her son is related to the ways in which he deals with frustration, what is the nature of that relationship? This question asks for a

closer look at what "goes on" between mother and son in their interaction, whether there exist between them consistent patterns of interaction which set up and maintain the boy's coping behaviors. The answer to this question may be obtained by a sequential analysis of mother-son interaction.

Parent-Child Research Methodology

How has existing research dealt with the subject of mother-son interaction? The classic approach has been to interrogate mother, either by means of a questionnaire or an interview. This approach offers the advantages of being able to gather data on a large number of variables and on both present and past behavior, and in the case of the questionnaire, often permits greater economy and precision of measurement than do behavioral rating schemes. However, interrogation of the mother suffers several disadvantages (Yarrow, 1963), the most serious of which would seem to be that mother supplies the information about her child's behavior as well as her own. Such a confounding of variables does not occur in observational studies of mother-son interaction, but this method also has its

difficulties. Smith (1958) talks about the problem of insufficient and unreliable sampling of mother and child behavior, and Vidich (1956) deplores the mechanical and "forced" nature of husband-wife interaction elicited under laboratory conditions. It is the conclusion of this writer that self-report and observational techniques must be employed as supplements to each other, if the difficulties inherent in both are to be overcome.

Most of the studies which have attempted to observe mother-child interaction in the laboratory have focused primarily on methodological issues. The first of these studies was done by Merrill Bishop (1946). She observed mothers and their preschool children interacting in a playroom setting, and she recorded the mothers' behavior by making a behavioral rating every 5 seconds. Mothers who were told that their children's play was of inferior quality showed an increased amount of interference with and direction of that play. This manipulation of instructions in order to elicit the particular maternal behavior of interest has also been accomplished by frustrating the child (Rowland, 1966) and by flunking the child on a test (Hilton, 1967).

In a subsequent study Merrill Bishop (1951) increased the scope of the observational approach by looking at the child's behavior as well as the mother's. For this purpose she developed a very elaborate system of behavioral categories. The category totals for mother behavior and for child behavior were correlated with each other, with the finding that certain types of behavior tended to coexist in mother and child. It was observed, for example, that aggressive behavior by the child was positively associated with negative behavior on the part of the mother. Moustakas, Sigel, and Schalock (1956) have further elaborated the Merrill Bishop system of categories, and they have used the system with a high degree of reliability to code mother-child interaction in the home, and therapist-child and mother-child interaction in the playroom.

Neither Merrill Bishop nor Moustakas et al. have examined the association of mother and child behavior as they occur in same time sequence. One reason why such contingencies have not been explored may be due to the practice of coding interaction at 5 second intervals. Interval scoring breaks up the interaction into artificial

units and may disrupt the uncovering of what follows what in that interaction. Another reason why the Moustakas et al. system of categories is unsuitable for examining contingencies of response in mother-child interaction is that it affords too many possible mother-child or child-mother interactions to look at, the exact number being 14,596 dyadic sequences.

Other researchers have developed more economical coding systems, using a small number of categories to capture that portion of the total interaction which bears on a specific problem. Ruebush, Byrum, and Farnham (1963), in a study of problem solving in low and high defensive preadolescent boys, coded only that maternal behavior which was "helping" or "evaluative." Bing's (1963) study of the effects of maternal attitudes and behavior on preadolescent children's cognitive development focused only on mothers' helping behavior. Both studies failed to consider the child's participation in the interaction. Hilton's (1967) research on maternal behavior and ordinal position of the child also explored a limited range of behavior and did take into account the behavior of the child toward his mother. Yet, as has been the case with

the other observational studies of mother-son interaction, this research did not examine sequential contingencies or patterns of interaction.

Turning now to studies which have relied on interrogation of the mother as the primary source of data on the mother-son relationship, one finds conflicting results. These studies cannot provide reliable data on the actual interaction between mother and son, but they can determine what maternal attitudes and behaviors are related to behaviors of the boy. Schaefer and Bayley's (1963) longitudinal research, which used both observational and self-report measures of maternal behavior, intercorrelated the mother and child behavior of 54 Ss from infancy through adolescence. A very high degree of consistency over time was found in maternal behavior and in boys' behavior, but this was not true of girls' behavior. The correlations between observational data on mothers' behavior when their children were infants and interview data collected when their children had reached adolescence were quite high for the love-hostility dimension ($r = .68$) and only moderate for the autonomy-control dimension ($r = .26$). Two of the behavioral variables for boys showed extremely high

consistency from early childhood through adolescence. These are facility, which includes responses to a task that facilitate performance, and attentiveness, which also includes persistence. Taken together these two variables are very similar to the index of constructive coping behavior used in the present study.

With regard to the relationship of mother behavior to child behavior, the highest correlations were between mother and son behavior when the boy was 9 to 12 years old. Mothers' ignoring, punitiveness, and irritability showed high negative correlations and mothers' affection, equalitarianism, and positive evaluation of son showed high positive correlations with boys' social behavior (friendly, cooperative) and with boys' attentiveness and facility. Mothers' standing on the autonomy-control dimension was unrelated to boys' task-oriented behavior, but mothers' autonomy was negatively associated and mothers' achievement demand and emotional involvement were positively associated with boys' social behavior.

Medinnus (1961) used the Fels Parent Behavior Rating Scales and the Parent Attitude Research Instrument (PARI) to compare mothers of poorly adjusted and well-adjusted first graders. His finding that mothers of

well-adjusted children are more encouraging of dependency than mothers of poorly adjusted children is not consistent with the results of this author's research on mothers of 7 to 9 year old boys (Rowland, 1966). These latter results showed mothers of poorly adjusted boys to be either very encouraging of dependency or very encouraging of independence, while mothers of well-adjusted boys demonstrated behavior and attitudes falling between these extremes of the dependency-independence encouraging dimension. Use of a different sample of Ss as well as use of a different behavioral rating scheme and attitude questionnaire (Stanford Parent Questionnaire) may be responsible for the discrepant findings.

Several studies which have used other parent attitude questionnaires have found little relationship between mothers' attitudes and teachers' ratings of boys' behavior. Leton (1958) employed Shoben's Parent Attitude Survey (PAS) and the Minnesota Parent Attitude Inventory (MPAI), Gildea (1961) used the PAS, and Friedman (1964) relied on Hereford's model for parent attitude measurement, and none of these instruments adequately differentiated mothers of well-adjusted and poorly adjusted boys. Brody's (1963)

use of the PARI and the Maryland Parent Attitude Survey (MPAS) to assess the relationship of maternal attitudes to mother-child interaction yielded similarly disappointing results.

This review of some of the parent-child research in relation to the specific area of mother-son interaction sets the stage for a few evaluative comments. First of all, there is disagreement among studies regarding whether or not mothers' behavior and attitudes are related to boys' behavior. Those studies which point to such a relationship have employed behavioral ratings and interviews of mothers, the SPQ being the only questionnaire to yield such results. Secondly, observational studies of mother-son interaction are still in the exploratory stage, with this body of research supplying few substantive findings regarding the relationship between mothers and their school-age boys. Thirdly, the results of parent-child research have almost always been interpreted within a "parent effect" framework. The child has been considered a passive recipient of parent behavior which molds him into one form or another. Although researchers have been careful to substitute "associated with" in place of "caused,"

the usual design of parent-child research implies this orientation of one-way effect from parent to child.

For the sake of argument Bell (1968) presents the case for "child effect" by reinterpreting some of the existing research and by pointing to some maternal behaviors of animals which appear to be a function of the stimulating and selective effect of the young. He theorizes that parents have hierarchies of actions, and that different children induce responses from different portions of the hierarchy by reinforcing or failing to reinforce different parental behaviors. Parents demonstrate two kinds of control. Upper limit control behavior (UCL) serves to reduce or redirect children's behavior which is too intense, while lower limit control behavior (LLC) stimulates children's behavior which is too low in intensity. The ULC parent is well-known in parent-child research as "punitive" and "restrictive" while his LLC counterpart is often referred to as "demanding."

A final point relevant to much parent-child research is that the mother-son relationship has been studied in isolation from other intra-family relationships. Murrell and Stachowiak (1965) regard this practice

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as undesirable because the child must not only cope with individuals (mother-son, father-son interaction), but he must also cope with a two-person group (mother and father) who have formed a system for meeting their needs prior to his birth. Although this argument does not invalidate the mother-son approach, one should be aware that such an approach does not give a complete picture.

Interpersonal Framework

Further amplification of the interactional point of view referred to in the Bell (1968) and Murrell and Stachowiak (1965) studies may be found in the works of both therapists and researchers who operate within the framework of interpersonal thery. From Haley (1963) comes the notion that both participants in a relationship exercise "maneuvers" on the other in order to gain control of the relationship. Although it is easy to perceive a domineering parent as very much in control of a child, perhaps less obvious but no less real is the relationship in which a child uses his helplessness to control a parent. The parent's dominance is forthright, the child's

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helplessness much more subtle, but both are attempts to control the parent-child relationship. Kell and Mueller (1966) invoke the concept of "eliciting behaviors" to describe the client's attempts to set up certain patterns of interaction with the counselor. On the basis of his past relationships with significant others, the client has learned to deal with people by expecting and thus eliciting certain behaviors from them. Martin (1967) calls these elicitors "cues" and points to the expected response as "reinforcement" of the pattern of interaction. In his work with families he tries to point out highly repetitive interaction sequences which are "set off" in more or less automatic fashion. Freedman, Leary, Ossorio, and Coffey (1951) view interaction in a similar way. Using as a cornerstone the concept of interpersonal mechanism, which describes behavior in terms of its interpersonal function, these authors have designed a two-dimensional (love-hostility, dominance-submission), circumplex arrangement of behavioral categories. This system would seem to be the most successful attempt thus far to capture behavioral interaction.

The circumplex rating scheme has been used by Raush, Dittman, and Taylor (1959) to investigate the

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behavior of hyperaggressive preadolescent boys. They observed the boys for brief periods in various naturalistic settings and coded the dictated observations into the four quadrants of the circumplex. In their interaction with peers, those boys who acted in a hostile-submissive manner were responded to in a hostile-dominant way and visa versa. Hostile-submissive behavior tended also to evoke friendly-dominant behavior, while hostile-dominant acts often resulted in friendly-submissive responses.

The same procedure was employed to compare hyperaggressive boys to well-adjusted controls with respect to their behavior toward adults (Raush, Farbman, and Llewellyn, 1960). The hyperaggressive boys were observed on two occasions separated by 18 months, with one same-age control group being observed before and another after this time span. The hyperaggressive boys showed significantly more hostile-dominant and hostile-submissive behavior toward adults than did the controls, while the controls exceeded the hyperaggressive boys with regard to friendly-submissive behavior. Friendly-dominant behavior, which occurred very infrequently, failed to differentiate the groups. After 18 months these differences were much less marked, due to

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the decreases which hyperaggressive boys demonstrated in both kinds of hostile acts and their corresponding increase in friendly-submissive acts. Both groups showed an increase in friendly-dominant behavior, which is in keeping with their greater proximity to adulthood. Adults "responded" in complementary fashion by decreasing their friendly-dominant behavior and increasing their friendly-submissive behavior. At all times hostility begot hostility, but the adults tended to "send" less hostile behavior than they "received."

Raush (1965) has attempted to examine the sequential aspects of the data generated by his research with hyperaggressive boys by utilizing multivariate information analysis. He found that the most significant determinant of the friendly vs hostile behaviors of these boys toward their peers was the antecedent act or interpersonal stimulus to which they were responding. To a lesser but significant extent these behaviors were a function of group membership and situational factors. However, the boys' friendly or hostile responses to adult behavior were determined less by the specific antecedent acts of the adult than by group and situational variables. Although Raush

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has worked only with gross behavioral variables, his pioneer effort illustrates a very important point. One must do more than describe interaction in order to determine why Ss behave in that interaction as they do. Statistically holding variables constant or partialing out their effects so that the effects of one variable may be studied by themselves is an important addition to the methodology of research on interaction.

MacKenzie (1968) also used the circumplex rating scheme of Freedman et al. in her comparison of the interaction of normal and clinic families. Although she examined three-person interaction (mother-father-son) as well as parent-child interaction (mother-son, father-son), only the data relevant to mother-son interaction will be discussed here. The clinic boys ranged in age from 7 to 11 years, and they had been referred to a psychological clinic because of aggressive, poorly-controlled behavior and underachievement in school. With one exception, comparison of the boys' groups regarding their behavior toward mothers yielded the same pattern of results that Raush et al. (1960) found with his maladjusted and normal groups. MacKenzie's aggressive clinic boys demonstrated

a significantly greater amount of hostile-dominant and hostile-submissive behavior than did the normal controls, while the normal controls exceeded the clinic boys on both types of friendly behavior. The friendly-dominant quadrant differentiated these two groups but failed to differentiate the groups of Raush et al. However, the results of both studies indicated that boys' behavior is not very often scored in the friendly-dominant quadrant, possibly because judges used an adult frame of reference which prevented them from viewing children as showing dominant behavior in relation to adults. This problem suggests a need for separate definitions of the categories for adults and children in cases where the object of the research is to compare same-age groups with each other rather than comparing adults with children.

As was the case with their sons, mothers of clinic boys showed significantly more hostile-dominant behavior and significantly less friendly behavior of both types than did mothers of normal sons. The two groups of mothers did not differ with regard to hostile-submissive behavior. An analysis of the different types of interaction in the two groups revealed the following broad patterns. Normal

sons exhibited primarily friendly-submissive behaviors, to which their mothers responded with behaviors that were friendly-dominant. The clinic sons often behaved in a hostile-submissive manner, and their mothers reciprocated with both hostile-dominant and friendly-dominant behaviors. This "pattern" also existed in reverse, whereby clinic mothers behaved in a dominant way and their sons reacted with hostile-submission. Thus, this analysis of interaction suggests the existence of a circular and seemingly self-perpetuating pattern of behavior between the clinic sons and their mothers. There did not appear to be any such "locked in" patterns of interaction for the normal mother-son pairs.

Boys' Coping Behavior

Frustration may be conceived as an increase in tension when the satisfaction of a need is blocked (Rosenzweig, 1944). Applied to the preadolescent boy in a problem-solving situation, two things must be present for frustration to occur. The boy must be motivated toward some goal connected with the task, successful completion of the problem and its accompanying rewards, and he

must perceive a more or less insurmountable obstacle to lie in his path. Several factors may cause the same set of circumstances to precipitate differing degrees of frustration in different boys, factors such as differing perceptions as to the insurmountability of the obstacle and the value of the reward, different aspiration levels, and different feelings about success and failure. However, any boy who is both motivated and blocked experiences frustration to some extent.

Frustration, then, is an intrapsychic phenomenon which must be inferred from the child's behavior. Barker, Dembo, and Lewin (1941) observed regression in the play of preschool children after they had been denied use of some new and exciting toys. Yarrow (1948) found that frustrated preschoolers react with increased aggression in doll play sessions. The relatively uninhibited, nonstereotyped nature of the resultant aggression caused the author to conclude that frustration also results in a disorganization of the child so that he can less effectively control his impulses. Preadolescent boys showed a variety of reactions to frustration, ranging from tension releasing behaviors that were poorly controlled (aggressive, regressive) to

those that were rigidly controlled (withdrawing, intropunitive). Present also were constructive means of releasing tension such as laughing or talking about the obstacle, and continuing efforts to solve the problem (Rowland, 1966).

It is felt that the boy who reacts aggressively in a frustrating situation is not necessarily experiencing greater frustration than the boy who reacts constructively. The two boys are presumedly coping with pretty much the same situation in different ways that are a function of differences in personality organization for the two. Frustration tolerance, the ability to cope with frustration so that constructive activity continues, would seem to be primarily a function of three variables. These three--appropriate impulse control, self-sufficiency, and achievement motivation--are conceived as different, though interdependent dimensions of the boy's personality.

Self Control

Block and Martin (1955) classify children into three classes of ego-control. Under-controllers tend to

be impulsive, distractible, and unable to delay gratification. They react to frustration with direct and unmodulated impulse expression. Over-controllers are constrained and allow themselves only very indirect impulse expression. And appropriate-controllers selectively bind and discharge tensions with respect to reality considerations. In a study of the play behavior of preschool children under conditions of frustration, under-controllers regressed in their play, while over-controllers maintained integrated, constructive play. However, the writer's observations of frustrated preadolescent boys (Rowland, 1966) suggest that the overly controlled boy may not cope with frustration any more adequately than the boy who lacks sufficient controls. While he inhibits direct and obviously regressive and aggressive expressions, the overly controlled boy seems to develop "emotional blocks," isolation tendencies, and to direct his anger inward. The net result appears to be a halt in constructive activity.

What maternal behaviors and attitudes are related to the self-control dimension of boys' behavior? Becker (1964) brings the results of many studies together in his comparison of two major types of parental discipline.

Disciplinary techniques which utilize the love relationship with the child are highly correlated with internalized reactions to transgression and with nonaggressive and cooperative social relations. Praise and reasoning seem to be the most effective of these techniques. Becker theorizes that reasoning is effective in three ways. First of all it provides a model of restraint. Secondly, it provides the child with an understanding of what he did wrong, enabling anxiety about misbehavior to become connected to the proper cues. Thirdly, reasons can be used by the child to build up his own internal means for evaluating his behavior. Power-assertive disciplinary techniques, on the other hand, are highly correlated with externalized reactions to transgression and with behavior that is aggressive and noncooperative.

Hoffman and Saltzstein (1967) further differentiated techniques utilizing the love relationship. Induction is the practice whereby the parent points out the painful consequences of the child's transgression for the parent and others (e.g., indicate his disappointment in the child). Love withdrawal is a direct but nonphysical expression of anger or disapproval toward the child

(e.g., ignore, isolate). Utilizing several different moral indices on a very large sample of normal 7th grade boys and girls the following results were obtained. Mothers' discipline was highly related to boys' moral development but fathers' was not. Mothers who used induction had boys who were high on all of the moral indices, and mothers who used power assertion had boys who stood low on the indices. Mothers' love-withdrawal showed little relationship to the moral indices. The authors conclude that power assertion is ineffective because it makes the child intensely angry, it frustrates his need for autonomy, and it gives him no available means of reparation. The findings of Goldstein, Judd, Rodnick, Alkire, and Gould (1967) also point up the ineffectiveness of power assertion. Parents of two groups of externalizers, antisocial, aggressive adolescents and passive-negative adolescents, made many direct and implied demands on them and very rarely asked them for opinions.

Many studies have demonstrated a relationship between power assertion by parents and aggression in children. In a study of eight-year olds which employed peer ratings of aggression, Lefkowitz, Walder, and Eron (1963)

found parents' physical punishment to be highly related to children's aggressiveness. This relationship was most marked in the case of mothers; and both mothers' physical punishment and children's aggressiveness were significantly and negatively associated with children's confessing behavior. These findings are consistent with those of McCord, McCord, and Howard (1961) on lower-class, nondelinquent boys. Mothers' physical punishment, rejection, and inconsistent discipline were significantly related to boys' aggression.

A comprehensive study by Becker, Peterson, Hellmer, Shoemaker, and Quay (1959) explored the factor structure of parental behavior and its relationship to school children's personality problems. The strongest relationship existed between a "general family maladjustment" factor and children's aggression in school. The specific factor loadings suggest the following explanation. In the parent-child relationship, mother is dictatorial and thwarting of the child, and father does not enforce regulations. Because of these personality differences and due to marital disharmony the total impact of both parents on the child is one of inconsistent and ineffective discipline plus a poor

model for controlling his impulses. The net "effect" is aggressive and poorly controlled behavior in the child. This interpretation is entirely consistent with that of McCord et al. (1961); and the finding of Sears, Maccoby, and Levin (1957) that preschoolers who were highest in aggression had mothers who were both punitive and permissive may also be relevant, in the sense that both parents may accomplish the same end. Employing a similar research design with five-year olds and their parents, Becker, Peterson, Luria, Shoemaker, and Hellmer (1962) found much the same results. The findings were most marked for the mother-son relationship, with maternal hostility, use of physical punishment, and overprotection all significantly related to children's aggression.

Self-Sufficiency

Self-sufficiency would seem to involve three elements: coping with problems or tasks with relatively little help; absence of a continual need for affection and reassurance; and a tendency toward mastery for its intrinsic rewards (Heathers, 1955). The overly dependent child is not likely to develop the ability to cope

adequately with frustration, largely because he is exposed to few situations which require coping. Unlike the more self-sufficient boy, he does not develop an adequate system of self-reassurance to support him when things are not going well. At the other extreme is the boy who is too independent, who does not seek help or emotional support when it is appropriate to do so. Since he learns not to ask for help, he carries the entire burden of coping by himself.

Much of the research which has explored the relationship between maternal behavior and attitudes and children's dependency has focused on the early years of the child's life. In a study of mothers of overdependent six-year olds, Stendler (1954) examined both their techniques of infant rearing and their present behavior toward the children. There were no differences between mothers of overdependent children and mothers of normal controls with respect to permissiveness-strictness in their handling of infant weaning and toilet training, nor was there a difference between the two groups of children regarding early frustration in these situations. Less than a third of the mothers of overdependent children were overprotective. The majority of the overdependent children needed mother's

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presence but not her help. They had all experienced several stressful events (e.g., illness, loss of parent) during the period from 9 months to 3 years. Their mothers were disturbed at the children's dependency and attempted to force independence. However, they were also inconsistent, sometimes giving in to the child's demands and sometimes not. The author concludes that there is a critical period in the child's life (9 months to 3 years) during which an abnormal amount of stress may cause the child to turn more and more to his mother and develop a habit of overdependency.

The research of Sears et al. (1957) likewise provides evidence against the psychoanalytical theory that frustrations connected with early weaning and toilet training are the basis of overdependency in the child. A very important finding was that mothers who both punished and rewarded the child's dependency had overdependent children. The authors offered the following interpretation. Dependency is sometimes the child's way of expressing fear that he has lost his mother's affection. Mother's reaction to this expression with both punishment and reward serves only to increase the child's uncertainty and produce

conflict in him regarding future expressions. Although he anticipates reward, he also is fearful lest he be punished. Thus, he inhibits much of his dependent behavior. But when it is finally expressed, it is likely to be overdetermined and intense, and because it is so intense mother is likely to reject the child's overture and thereby perpetuate the conflict.

Hilton (1967) studied first-born, later-born, and only children (4-year olds) and their mothers in a structured interaction situation. The child was given a puzzle to work, and mother-child interaction was observed across two different sessions which differed with respect to mother's instructions. During the first session the mother was told that her child was doing well, and during the second one she was informed that he was failing the "test." Several indices of dependent behavior significantly differentiated the groups of children, with first-born and only children running to mother's side contrary to instructions, asking for direct help, and asking for reassurance to a greater degree than later-born children. Mothers of first-borns were rated as significantly more involved and more interfering than mothers of later-born children, while

mothers of both first-born and only children were more likely to initiate work on the puzzle, to make suggestions, and to disregard instructions and give direct help. While they did not show inconsistency toward the child within either of the sessions, mothers of first-borns did show a decrease in affection and verbal support in going from success to failure conditions.

How do mother's interference and inconsistency relate to child dependency? Hilton suggests that interference and inconsistency prevent the child from developing reference points for internal evaluation. If mother reacts in an inconsistent manner, there are no stable guidelines to enable the child to internalize correct standards or ways of proceeding. Prediction on the basis of past experience is thwarted, and the child must ask anew for reassurance that he is proceeding correctly. The child whose mother is constantly interfering, setting his goals for him, and praising him only when he pleases her, fails to develop a perspective for praising himself.

In a study of social deviance in preadolescent boys, Winder and Rau (1962) found parental attitudes toward child-rearing to be significantly related to boys' dependency.

The Peer Nomination Inventory (PNI) provided data on boys' behavior, while the Stanford Parent Questionnaire (SPQ) was used to assess parental attitudes. Dependency in boys was related to maternal attitudes indicative of rejection and sex anxiety. Maternal restrictiveness, deprivation of privileges, punitivenss and physical punishment were associated with dependency and aggression in boys. The total measure of deviancy in boys was related to ambivalence (high rejection and high demonstrated affection) and low self-esteem in the mother. Rau, Mlodnosky, and Anastasiow (1964) found very similar results with second grade boys. Using ratings of boys' behavior from teachers, parents, and peers, and the SPQ for measurement of mothers' attitudes, they found boys' self-sufficiency to be associated with maternal attitudes reflecting high acceptance of the boy, high self-esteem, and high rewarding of independence.

Achievement Motivation

Somewhat less circumscribed and clear-cut is the third dimension of boys' behavior, achievement motivation. The boy who is high in achievement motivation is concerned about his performance and tries to do his best. A related

variable is "avoidance of failure," which can be defined as a reluctance to try things for fear of being unsuccessful at them. All new situations arouse both approach and avoidance tendencies, mixed feelings about the probability of success or failure. The observable outcome of such a conflict, an index of the strength of achievement motivation, would seem to be the boy's task persistence (Feather, 1962). Under conditions of frustration, a boy will persist if his achievement motivation is high, and he will give up if it is insufficient. Achievement motivation and self-sufficiency in the boy undoubtedly are closely related.

Studies concerned with the acquisition of achievement motivation give conflicting results. While Sontag and Kagan (1963) found that the period from 6 to 10 years is the crucial time in the child's life for development of n achievement, the results of Winterbottom's research (1958) suggest that the preschool years may be even more important. Since the same parental practices may have different "effects" at different ages of the child, the results of studies using children of different ages are not strictly comparable.

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Winterbottom used a story-telling measure of n achievement with eight-year old boys and questioned their mothers about past and present child-rearing practices. Results indicated that mothers of high n achievers made significantly more early (through age 7) demands on their child for independence and mastery than did mothers of low n achievers, while the latter group made more of these demands when the boy was older (8 to 10). These age differences held for maternal restriction, too, with mothers of high n achievers showing more restriction of the boy prior to 8 years and mothers of low n achievers demonstrating more after the boy had reached 8 years. However, mothers of high n achievers made more demands for independence and mastery than restrictions at the early ages, and mothers of low n achievers did not. Mothers of high n achievers were also more likely to give a positive evaluation of their son's abilities. The author concluded that a necessary antecedent condition to adequately learning achievement motives is early training in independent mastery.

The findings of Crandall, Preston, and Rabson (1960) with respect to preschool boys and girls are not in agreement with those of Winterbottom. They observed that

maternal reactions to both children's help-seeking and support-seeking behaviors were not predictive of children's achievement efforts. However, it should be pointed out that the sample of children included girls as well as boys, and that only dependency behaviors were studied. Mothers' acceptance-rejection was not related to children's achievement efforts, but direct positive rewards for achievement behaviors did bear a significant relationship to achievement motivation.

A study by Rosen and d'Andrade (1959) provides evidence that is consistent with the findings of Crandall et al. They observed preadolescent boys and their parents interacting in a situation where the boy was required to solve a problem and his parents had some of the information crucial to solution of the problem. Independence training turned out to be less important than achievement training as a factor in the development of n achievement. Parents of boys who were high n achievers tended to have higher aspirations for him, have higher regard for his competence, set up standards of excellence where there were none, and tended to react to a good performance with warmth and approval and to a bad one with disapproval.

Mothers were more involved in their sons' achievement efforts than were fathers, and they tended to dominate the boys to a large degree. The authors concluded that fathers carry the responsibility for independence training, while mothers have a greater influence on boys' achievement efforts.

These findings of Rosen and d'Andrade regarding the mothers of high n achievers are very puzzling. It would be easier to view mothers of low n achievers as dominating, intruding, and discouraging of self-reliance. By interfering with her son's independent efforts at problem solving, such a mother might prevent him from obtaining rewards and gaining confidence in achievement situations. The present study may yield some data on this point.

The final study to be reviewed is one which considers all three of the child behavior variables presumed to relate to coping behavior. Watson (1957) studied a large number of normal children from homes that were clearly permissive or clearly strict. Several measures were used to examine the child's personality: teachers' ratings; free play; Rorschach; TAT; and a performance test.

The performance test was one which gradually became too difficult, thus permitting observation of the child's reaction to frustration. Children from permissive homes were significantly more independent and cooperative than were strictly reared youngsters, while the latter showed significantly more hostility than the former. Under conditions of stress, children of permissive parents demonstrated a moderate degree of persistence compared to the unusually high or unusually low persistence of strictly reared children. Although there were no group differences with respect to emotional responses to frustration, children of strict parents showed a significantly greater deterioration in the intellectual quality of their responses.

Hypotheses

The review of research on the mother-son relationship makes it possible to reconsider the three broad questions with which the present study is concerned and to formulate some relevant hypotheses. These hypotheses apply to two groups of young boys (7 to 9 years) and their mothers. The lows are boys who have been rated low in

self-control, self-sufficiency, and achievement motivation, while the highs are boys who have received high ratings on these three variables.

The first question asked was what child variables are involved in the boy's ability to cope with frustration. The two groups of boys in the present study have been chosen on the basis of their standing on the variables of self-control, self-sufficiency, and achievement motivation, and their coping behavior is expected to differ in the following ways.

I. Boys' reactions to frustration: Low group boys will show more aggressive and regressive reactions to frustration than will high group boys, while high group boys will show more constructive reactions to frustration than will low group boys. The two groups will not differ regarding withdrawal and intropunitive reactions to frustration.

II. Boys' behavior with respect to mother: Low group boys will demonstrate more negatively assertive and poorly controlled behavior

(disaffiliation-dominance) and more passive-aggressive and negatively dependent behavior (disaffiliation-submissiveness) than will high group boys, while high group boys will demonstrate more positively assertive and friendly behavior (affiliation-dominance) and more cooperative behavior than will low group boys.

The second question which this research asks is whether or not the boy's manner of coping with frustration is related to his mother's behavior and attitudes toward him. The research which has been reviewed prompts expectation of the following relationships.

III. Mothers' responses to sons' frustration: Mothers of low group boys will give more negative responses and more restrictive help to their son's frustration than will mothers of high group boys, while mothers of high group boys will give more positive responses and more nondirective responses to their son's frustration than will mothers of low group boys.

IV. Mothers' behavior with respect to son: Mothers of low group boys will show more rejecting behavior (disaffiliation-control, and complaint-suspicion) and more dominant and protective behavior (affiliation-control) than will mothers of high group boys, while mothers of high group boys will show more accepting and democratic behavior (affiliation-autonomy) than will mothers of low group boys.

V. Mothers' evaluation of sons' ability: Mothers of high group boys will show a higher evaluation of their son's ability (they will predict greater success for their son on the puzzle, and they will choose more difficult proverbs for him to learn) than will mothers of low group boys.

VI. Mothers' attitudes toward child-rearing: Mothers of low group boys will demonstrate attitudes toward their sons that are more indicative of high rejection, high demonstrated affection, high sex-anxiety, low self-esteem,

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high inconsistency, high punitiveness and physical punishment, high parental aggression, and high demands for aggression than are the attitudes of mothers of high group boys. Mothers of high group boys will demonstrate attitudes toward their sons that are more indicative of acceptance (low rejection), high self-esteem, good marital relationship (high positive father-mother relationship), high democracy, and high use of reasoning and contingent rewards than are the attitudes of mothers of low group boys.

The third question of concern in the present study asks about the way in which the separate behaviors of mother and son are related. Are there consistent patterns of mother-son interaction which serve to maintain the boys' coping behaviors? This is an exploratory question which will be investigated by examining for the two groups separately the sequential contingencies of mother-son behavior.

CHAPTER II

METHOD

Subjects

Subjects were 32 boys between the ages of 7 years and 9 years and the mothers of these boys. The boys were selected from two Lansing, Michigan, elementary schools which provided a sample of boys and mothers that was representative of the predominantly middle- and lower middle-class population of that community. All second and third grade teachers of Wainwright and Pleasant View schools rated all of the boys in their classrooms on three dimensions of boys' behavior: self-control; self-sufficiency; and achievement motivation. In addition, the teachers made a global estimate of each boy's intelligence, using I.Q. and achievement test scores to supplement their impressions. The teachers had been acquainted with the boys approximately five months prior to making the ratings. A forced-choice technique previously used by Rau, Mlodnosky, and Anastasiow (1964) was employed, whereby the teachers

were instructed to place their boys on a four-point scale (low; medium-low; medium-high; high) for each of the rated variables so that the distribution of their ratings would approximate a hypothetical distribution with fewer ratings in the extreme categories than in the medium categories. The teachers were also instructed to rate each variable independently of the others. Instructions to the teachers and definitions of the variables may be found in Appendix A-1.

Self-control, self-sufficiency, and achievement motivation are defined as global variables. Such an approach is clearly supported by the finding of Rau et al. (1964) that global variables like "impulse control" are more reliable and also apparently more valid than those derived from breaking down the global variables. The teachers in the present study found it relatively easy to make judgments based on such variables.

Only one out of seventeen teachers deviated markedly from the instructions, and her ratings were discarded. All of the teachers found it difficult to separate out from the larger group of boys those who are "overly controlled" and "overly self-sufficient." However, it is unlikely that any

of these boys found their way into the high and low adjustment groups used in the study. Definitions for "appropriately controlled" and "appropriately self-sufficient" explicitly eliminated them from the high adjustment group, and ratings of "under-controlled" and "dependent" were necessary for inclusion in the low adjustment group. Most teachers likewise had difficulty in distributing their ratings as instructed, so that there was a disproportionate number of boys in the high category for all four variables.

The relationships of the rated variables to each other and to two indices of socioeconomic status are depicted by Table 1. The Wainwright sample upon which these data are based consisted of 118 boys, and it was from this sample that the majority (78%) of the final sample of 32 boys was chosen. The very high intercorrelations among the three behavioral variables suggest that with regard to teachers' perceptions of classroom behavior self-control, self-sufficiency, and achievement-motivation represent aspects of an adjustment syndrome. This finding is consistent with that of Rau et al. (1964) who described a general syndrome of maturity or adjustment in second grade boys

TABLE 1. Wainwright Sample: Intercorrelations among Teachers' Ratings of Boys' Classroom Behavior and Two Independent Judgments of Socio-Economic Status (SES). (n=118)

Ratings	SC	SS	AM	SES	
				Father's Occupation	Father's Education
Intelligence	.176	.538****	.411****	.068	.128
Self-control		.560****	.638****	.137	.079
Self-sufficiency			.750****	.181	.124
Achievement motivation				.164	.138

Note.--Pearson product-moment correlations. All tests are two tailed.
****p < .0005

which included impulse control, self-sufficiency, and mastery. Although the teachers were directed to make independent ratings of the four variables, the participation of "halo effects" in this apparently high degree of interrelationship cannot be ruled out. The fact that ratings of intelligence were significantly and positively related to ratings of self-sufficiency and achievement motivation made it difficult to find high and low adjustment pairs of boys that were matched with respect to intelligence. A most interesting finding is that none of the

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rated variables was significantly related to SES, which is probably due in part to the fairly homogeneous middle- and lower middle-class sample.

On the basis of the teachers' ratings, two groups of boys were selected from the larger sample. The lows were boys who had received below average (1 or 2) ratings on self-control, self-sufficiency, and achievement motivation, and the highs were boys who had received above average (3 or 4) ratings on the same variables. Each boy in one group was matched with a boy from the other group on the following variables: age; grade; intelligence; birth order; number of siblings; mother's education; father's education; and father's occupation. The Hollingshead and Redlich (1964) occupational index of social class was used to classify father's occupation into: professional (1); business or managerial (2); administrative, technical, or clerical (3); skilled or semi-skilled manual worker (4); unskilled manual worker (5).

A letter[1] was then sent to the parents of each boy asking that mother and son participate in a "study of boys

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[1]For the full text of the letter sent to the boys' parents, see Appendix A-2.

in a problem solving situation." Enclosed with the letter was a questionnaire for the mother to fill out,which both stimulated and tested her motivation to participate. The percentage of those contacted who agreed to participate was 64% for the lows and 62% for the highs. The final sample consisted of 16 matched pairs.

Since the final sample of boys was selected "pair-wise" according to the qualification of the members as suitable matches for each other, it cannot be considered representative of the total population of middle- and lower middle-class pairs of low and high boys. However, following Holt (1965) it is felt that two things can be done in lieu of a representative sample. One of these is to replicate the study with a different sample (this research is a replication of Rowland's 1966 study), and the other is to describe the sample as completely as possible. To this second end relevant group characteristics for lows, highs, and the larger Wainwright sample are presented in Table 2. Detailed information for the 16 pairs of Ss and an indication of the high degree of pair-wise matching may be obtained by consulting Appendix A-3.

TABLE 2. Comparison of High and Low Groups and the Wainwright Sample on Relevant Group Characteristics.

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Group		Teachers' Ratings				Sociological Data								
		In-tell.	SC	SS	AM	Boy's Age	F's Occup.	F's Educ.	M's Educ.	M's Age	Sibs	Birth Order O	Birth Order M	Birth Order Y
High	$\bar{X}$	3.18	3.81	3.75	3.75	8.56	3.18	12.50	12.00	32.86	2.56	4	10	2
	S	.66	.41	.45	.45	.63	.66	2.06	.73	4.36	.63			
Low	$\bar{X}$	2.87	1.56	1.62	1.50	8.46	3.43	12.25	11.81	32.86	2.19	4	9	3
	S	.35	.52	.50	.52	.73	.73	2.84	1.55	4.39	1.11			
Wain-wright	$\bar{X}$	2.65	2.54	2.62	2.61		3.31	12.75	11.90					
	S	.96	1.02	1.00	1.01		.80	2.47	1.38					

Note.--Data are not available regarding the Wainwright sample for the empty cells.

Comparison of the lows and highs with regard to the matching variables utilized two-tailed tests of the difference between the means of matched groups (Hays, 1963). There was only one significant difference, with the highs showing a trend toward higher ratings on intelligence than the lows ($p < .10$). It can be seen from Table 2 that both highs and lows have higher mean ratings on intelligence than does the larger Wainwright sample. Appendix A-3 indicates that most of the pair-wise differences in intelligence occurred when the low member received a rating of "3," the high member a rating of "4." When this difference is considered in light of the fact that teachers made many more "4" ratings than would be expected for an "average" sample of boys, it would seem to be of little consequence.

To what extent do the boys represent two extreme groups with respect to the independent variables? The highs are probably not as "extreme" as their ratings imply because teachers made a disproportionate number of "4" ratings. Likewise, the lows do not qualify for such labels as "clinic" or "deviant." None had been referred for psychological help. Their mothers defined both the boys and themselves as "normal," something which became apparent

in informal interviews with the mothers. Past experience with a group of boys with poor school adjustment (Rowland, 1966) had suggested that mothers of such boys volunteer for "psychological" experiments in order to get psychological help. The mothers of lows in the present sample seemed only to want verification that they and their sons were "normal" and the school to recognize that they were "interested" parents. The quite frequently occurring remark of high mothers, "Johnny is doing fine, but we are having trouble with his brother," is evidence that high mothers also do not perceive themselves as an extreme group.

Procedure

Interaction Session

Mother-son interaction was observed in two structured situations. The first or frustration session lasted from 30 to 45 minutes, and the second or verbal session took 15 minutes and immediately followed the first. Both sessions were conducted in a room equipped with a ceiling

microphone and a one-way observational window. Mother and son sat opposite each other at a table which was situated at right angles to the observation window. The table contained only an ashtray. Other chairs situated about the room and carpeting on the floor gave the room a somewhat home-like atmosphere. There was a clock on the wall which faced the boy and a low table covered with toys and books located directly beneath the observation window. The ceiling microphone was placed just slightly higher than the seated boy's head. Although this procedure resulted in the boy's awareness that he was being listened to, it was necessary in order to hear him adequately. In no case was the boy aware that he was being observed. Both sessions were tape recorded from the microphone amplifier in the observation room.

Frustration session: The procedures for this session were aimed at inducing frustration in the boy while leaving the situation relatively unstructured for the mother. It was hoped that in what manner and to what degree she responded to his frustration would only minimally be a function of the instructions.

When the mother-son pair arrived for their appointment, the investigator met them in the clinic waiting room. The mother was given some written instructions which she was to read while the investigator took her son to the room and started him on his task. Her instructions were as follows:

> This is a study of boys with regard to how they deal with a problem-solving situation and why they behave in the situation as they do. You and your son will be participating in two problem-solving situations, designed to be similar to situations that might occur in your own home. During the first session your son will be given a chance to win a prize by solving a puzzle in 30 minutes. Since there is only one correct solution to the puzzle, the time taken to solve it is considered to reflect his ability at solving such puzzles. I will not be present during this session. If your son seems to need information, help, etc., then you may give it to him. Feel free to act as you would in your own home under similar circumstances. There is no right or wrong way for parents and children to act in such situations. I am only interested in observing and recording how people do behave and in finding out how well your son can solve problems. As with the questionnaire which you filled out, any records of these sessions are kept with your code number and not your name.
>
> Before going to the room in which your son is located, please estimate how well you think your son can do on the jigsaw puzzle, and write the estimate down on the blank sheet of paper. Select one of the following alternatives only: high score; somewhat above average score; somewhat below average score; low score.

The investigator introduced the child into the room and asked him to sit at the table. The boy was then shown a box containing several new toys (models, toy guns, toy automobiles, army toys, etc.) and was instructed as follows:

> I want to see how good you are at solving a puzzle. First, choose one of these toys for yourself. Now, let's put the toy right here (on the table in front of the boy). You can have this (toy) if you can solve a puzzle for me. But you'll have to work fast in order to win the (toy). See this puzzle? It works like this (investigator completes the puzzle in three easy moves). If you put it together right, you get a picture like this one. It's Superman. You put the puzzle together so that it's just like the picture. Here is the one which you will do, and it's all scrambled up. It has to be just like the picture of Yogi Bear. I am going to leave for 30 minutes, but your mother will be here with you. If you have any questions to ask, you'll have to ask them to her. If you hurry real fast and finish the puzzle before I get back, you can keep the prize.

The investigator brought the boy's mother to the room and then left the two of them alone while the boy worked the puzzle. The puzzle was the Sliding Squares Puzzle Game. It is a miniature jigsaw puzzle, the solution of which involves the manipulation of sliding mosaic squares within a nondetachable frame, in such a way that the correct picture is produced. Although the puzzle appears to be very easy to solve, it is, in fact, very

difficult. The average adult would take at least 30 minutes to complete it. Even more frustrating for the boy is the fact that the course of solving the puzzle generally comes to within one step of a correct solution, a point at which the final step entails an entire reworking of the puzzle to achieve the solution. In most cases it took longer than 30 minutes to solve the puzzle, so the investigator delayed his return another 15 minutes. If after 45 minutes the boy still had not finished, the investigator returned anyway, told the boy he had done well considering the difficulty of the puzzle, and awarded him the prize.

Verbal session: The purpose of the procedures for this second session was to stimulate verbal interaction (a large proportion of the rated behavior in the frustration session was nonverbal) under circumstances of minimal stress to the boy. It was realized that the behavior observed in this session might reflect carry-over effects from the previously frustrating situation as well as effects elicited by the verbal session itself. Because it was not of interest to determine how mother-son pairs interacted in a verbal problem-solving session per se, no attempt was made to counter-balance the order of the two sessions for the Ss.

The verbal session followed the frustration session for all Ss. The investigator again gave some written instructions to the mother which read as follows:

> During this second 30-minute session, which will begin as soon as I return, you are asked to teach the meanings of 3 proverbs to your son. You may do this in any manner which you wish. It is only asked that you try to complete all 3 proverbs and that they be taught by you and learned by your son to your satisfaction.
>
> Please choose any 3 proverbs from the list and write down your choices on the blank sheet of paper. The numbers preceding the proverbs indicate the comparative difficulty involved in teaching and/or learning them. For example, those proverbs preceded by a #1 are relatively easy, while those preceded by a #4 are relatively difficult. Using these numbers as a guide, try to select those proverbs which your son, with instruction from you, will be able to master.
>
> Since you may have questions regarding the research etc., let's discuss them after this second session. Whether or not your son is included in the discussion afterward is a decision which I would prefer to be reached during this second session.

The list of proverbs and their "level of difficulty" may be found in Appendix B-2. The more or less hypothetical numerical values were attached to the proverbs in order to determine if the two groups of mothers would differ regarding the supposed difficulty of the proverbs which they chose. It was presumed that the more difficult were the proverbs selected, the higher mother's aspirations

for or confidence in her son or herself. Mother and son were also alone for this second session, which was terminated by the investigator after 15 minutes.

Rating Techniques

Two undergraduate psychology majors used two different rating schemes to code the mother-son interaction. They were not aware of the research design or the group identity of the Ss. Although it is still possible that some of the Ss gave behavioral clues from which the raters could have inferred some kind of "good vs. bad" identity, this probably did not happen for two reasons. The raters were not aware of the design; and the Ss, themselves, were not aware that they had a group identity.

Reactions to frustration: Both raters observed the frustration session and independently coded the boy's reactions to frustration as they occurred. Only those verbal or nonverbal behaviors of the boy were rated which fell into one of the five categories defined below.

--Son Categories--

A - Aggression--Includes aggressive acts directed toward other objects or people. Examples are: hitting the table; throwing or banging the puzzle;

hostile remarks to mother, or about the investigator or task.

R - Regression--Includes behaviors more appropriate to a younger age level, that is, to a preschool age child. Examples are: sucking his thumb; sitting on mother's lap; crying or whining; making faces, etc., in the mirror; stroking self; silliness; playing with prize, toys, or microphone, etc.

In some cases A and R will overlap, such as when a boy's remarks are both silly and hostile. Rate one or the other depending upon which seems to predominate.

W - Withdrawal--Includes behaviors which clearly remove the boy from his work on the puzzle, but which are not aggressive or regressive in nature. Essentially, "flight" is the only impulse indulged. Examples are: sitting back away from the puzzle or pushing his chair back without doing anything else right away; trying to leave the room; spending some time looking around the room; stopping work on the puzzle and humming to himself or asking questions irrelevant to the task. These behaviors differ from the others in that the unconstructive activity is not manifested in an impulsive, poorly controlled, or infantile manner.

I - Intropunitiveness--Includes behaviors which reflect anger expressed toward the self. Examples are: reddening of the face without following activity; silent crying; stuttering; self-criticism or degradation; self-defeating behavior such as deliberately messing up the puzzle.

C - Constructive reactions--Includes behaviors which seem to enable the boy to overcome blocks and continue his efforts toward solution of the puzzle. Examples are: Boy says, "This is a hard puzzle," and renews his efforts; he verbalizes his determination; he reasons himself through a difficult spot; he boasts, reassures himself; when he reaches

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an impasse, he laughs at the situation or at the incomplete state of the puzzle; he glances at the prize and then renews his efforts.

The raters also independently coded the mother's response, whether it was verbal or nonverbal, to each behavior of the boy which they had coded under reactions to frustration. These responses of the mother were coded into one of the five categories defined below.

--Mother Categories--

1 - Ignoring--Mother ignores son's remarks or discomfort. Turning away, failing to look up, or "tuning out" son are examples.

2 - Negative response--Mother restricts, dominates, is critical of, or is otherwise hostile toward son. Examples: "Stop your crying"; M takes the puzzle from son and works on it; "Look what you have done now."

3 - Help--Mother works on the puzzle, instructs son on what to do (direct but nonrestrictive help), makes suggestions, or gives task relevant information.

4 - Nondirective response--Mother responds in a passive, positive way. She acknowledges or accepts son's remakrs, frustrations, etc., but she does not attempt to direct him or to rush to his rescue.

5 - Positive response--Mother responds in a loving, nurturant way. She reassures, encourages, praises, or is affectionate.

Because the help category for mother's behavior was defined to include all kinds of helping behavior, a separate rating was made by a third observer of mother's restrictive help. This rating was a global estimate of the extent to which mother actually worked on the puzzle and was made on a four-point scale ranging from "no such help" (4) to "she did it for him" (1). Reliabilities for reaction to frustration categories for son and mother are presented in Table 3. It should be pointed out that the correlations between the two independent ratings are with respect to the proportion of S's total rated behavior falling in each category, not the frequency counts of such behavior. Since rated proportions in a closed system of categories are being correlated, the reliabilities for individual categories are not entirely independent of each other. If reliabilities are high for four categories, the reliability must also be high for the fifth category. Aside from this consideration, the reliabilities are certainly sufficiently high to warrant confidence in the objectivity of the present rating scheme.

TABLE 3. Reliabilities for Two Independent Raters on Son and Mother Categories for Reactions to Frustration. (n=20)[a]

Son Category	Total[b]	r	Mother Category	Total	r
Aggression (A)	94	.966	Ignoring (1)	326	.944
Regression (R)	73	.798	Negative response (2)	193	.948
Intropunitiveness (I)	125	.979	Help (3)	392	.922
Withdrawal (W)	242	.946	Nondirective response (4)	332	.970
Constructive reaction (C)	852	.984	Positive response (5)	143	.806
Low control (A+R)	167	.945	Total negative response (1+2)	519	.976
High control (I+W)	367	.979	Total positive response (4+5)	475	.956

Note.--Reliabilities are Pearson product-moment correlations. Frequency ratings for each category were converted to proportions of S's total ratings. Correlations are between "rated" proportions across 20 Ss.

[a]Twenty out of thirty-two Ss were observed by both raters. One rater only observed Ss 4-6, 9-12, 23, 25, 28, 31, 32.

[b]Number of ratings made by both raters across 20 Ss.

Mother-son interaction: The tape recorded verbal behavior of both the frustration and verbal sessions was rated using the continuous scoring technique and the system of behavioral categories developed by Freedman, Leary, Ossorio, and Coffey (1951). The circumplex rating scheme is sufficiently comprehensive and flexible to permit coding of all behavior occurring in mother-son interaction into a relatively small number of meaningful categories. Behavior is rated from the perspective of interpersonal mechanism, "the interpersonal function of a unit of social behavior." Therefore, coding of a behavior depends neither on its form of expression nor its medium of expression. Although the authors rate the intensity of each act as well as the mechanism involved, the circumplex seems to have a built-in intensity gradation which makes separate ratings of intensity unnecessary. The authors also recommend that the coder empathize with the person being acted upon and ask himself what that behavior means to him. The two raters in the present study found it very difficult to maintain this empathic set while continuously shifting back and forth from mother to son, and because of this difficulty they rated largely from the perspective of observers. Since the mechanics of scoring may differ widely among

studies using the same rating scheme, precise delineation of scoring procedure is highly important. One may consult the paper by Mueller and Dilling (1968) for considerations of scoring as they apply to the circumplex rating scheme.

In the present study, the basic unit of verbal interaction is the meaningful speech, comprising one or more words which serve an interpersonal function and which are uninterrupted by the other person. The speech may serve more than one function (e.g., to dominate and to punish), in which case only the predominant function or affect will be scored. A speech may also include more than one statement, separated by brief silences, with the additional statement(s) either representing a change in function or affect, or a continuation of the affect reflected in the original statement. This speech comprising a sequence of statements is still scored for the predominant affect only. A statement(s) followed by several seconds of silence and then another statement by the original speaker presents a special case. If in the rater's opinion, the original statement(s) embodies the expectation of a response from the recipient, the recipient's silence is scored as an "implicit speech," with the rater necessarily having to infer the function of

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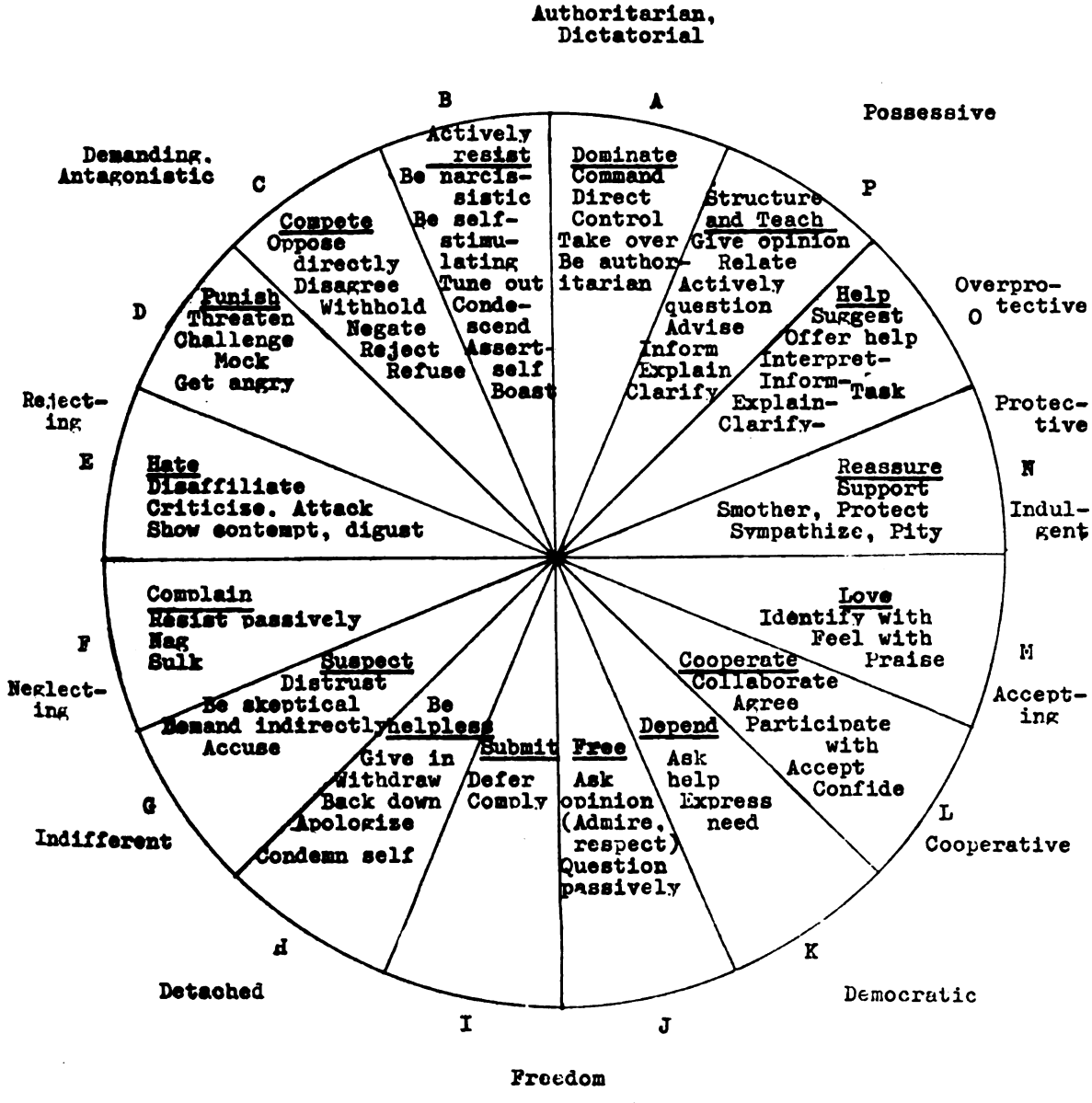
the silence (e.g., resistance, withdrawal). Since this implicit speech has intervened, the original speaker's next statement(s) represents a new speech. If the rater feels the original statement(s) does not embody an expectation of a response from the recipient, the silence is not scored, and the following statement(s) by the original speaker is considered a part of the original speech.

It was felt that the interpersonal mechanisms should be defined separately for mother and son, since they have somewhat different meanings and are best illustrated with different examples in the two cases. These definitions are contained in Appendix B-2. In order to facilitate coding, the categories were also arranged on a circumplex diagram and defined in terms of appropriate verbs. The diagram for mother behavior is presented in Figure 1 and the diagram for son behavior in Figure 2.

All of the recorded behavior was rated independently by both coders. The rating sheet which they used may be found in Appendix B-3. The tape of the <u>frustration</u> session was always rated before the <u>verbal</u> session tape, and these ratings occurred on an average of one week after the raters had coded "live" the <u>reactions to frustration</u>. In the cases

Figure 1.--Maternal Behavior



Note.— Descriptive adjectives outside the circle adopted from Schaefer's Circumplex model for Maternal Behavior (1961).

Emoti
Rebell

Defiant,
Hostile

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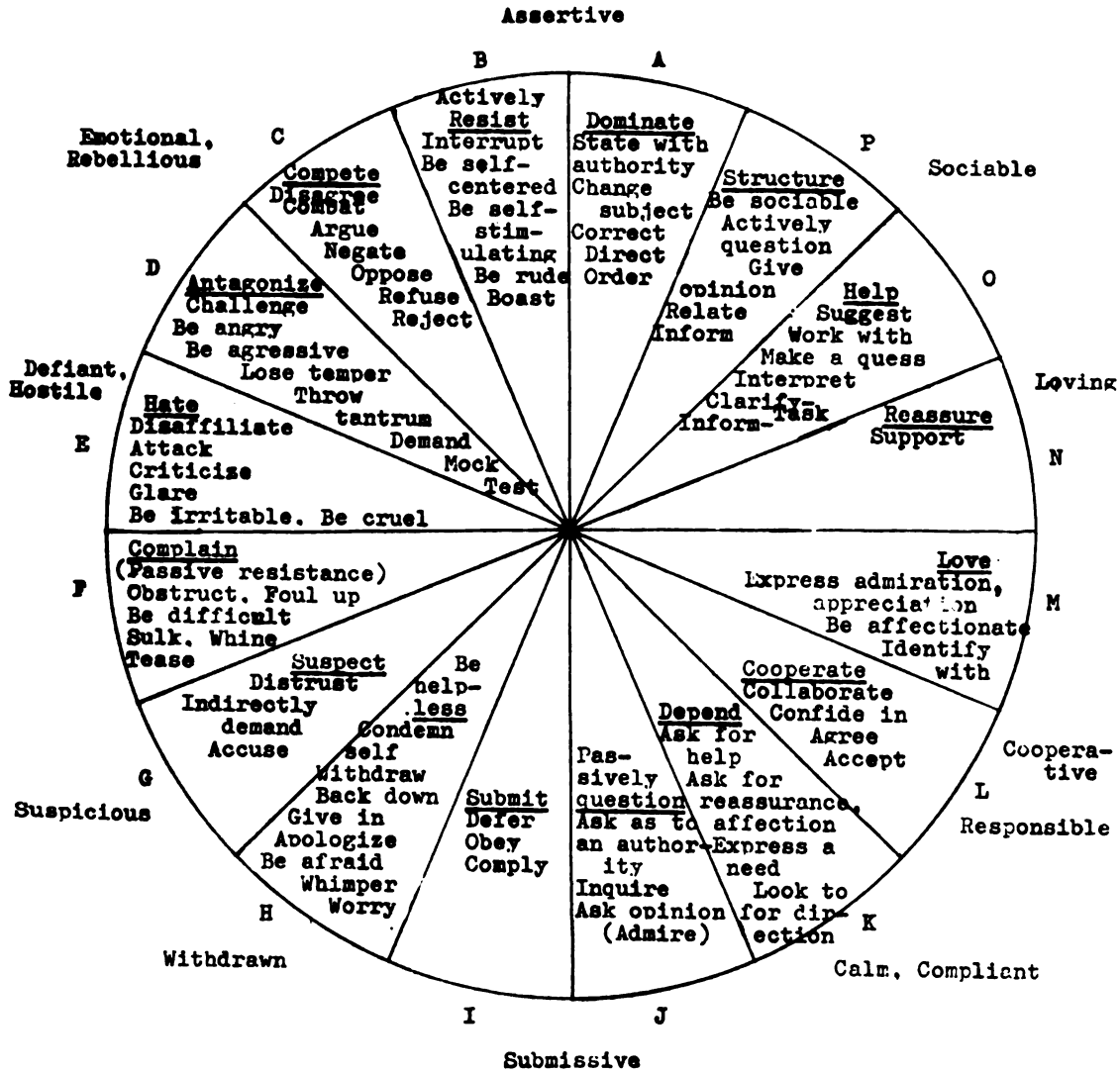
P

Suspicious

Figure 2.--Child Behavior



Note.--Descriptive adjectives outside of the circle adopted from Becker's Circumplex Model for Boys' Behavior (1962).

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where only one rater observed the actual interaction, his notes concerning nonverbal behavior were made available to the absent rater. Tapes were rated in the same order in which they were recorded, an order which was based on the Ss' preference for appointment times. Tapes were identified only by Ss' code number. Although the raters worked together so that they would always be rating the same unit (typescripts are costly and often confusing), communication between them was limited to clarifying hard-to-hear verbalizations and which unit they were on. Prior to rating the test tapes, the coders had to demonstrate complete agreement on a pilot tape as to how the interaction was to be broken down into units.

Because the sequential contingencies of mother and son behavior are of interest in the present study, per cent agreement reliability was calculated on the basis of unit by unit agreement between raters. One coder was arbitrarily designated as the base rater, and the other coder's rating was scored according to its degree of deviation from the base rater's. The possible scores were: total agreement (same category); octant agreement (other category in the

octant: A goes with P, O with N, etc.); one-step agreement (either of the immediately adjacent categories); and disagreement (category that is not immediately adjacent). Each rated unit was scored in this fashion, the frequency of each score was tallied for the session, and these frequencies were divided by the total number of rated units for the per cent agreement reliabilities. In tallying the octant agreement scores, cases of total agreement were naturally included, and cases of both were included in the count of one-step agreement scores.

Table 4 shows per cent agreement reliabilities for the three degrees of inter rater agreement. The reliabilities for the verbal sessions are slightly higher than those for the frustration sessions. Reliabilities for the total behavior of lows and highs are almost identical. Assessment of reliability was not done separately for mothers and sons. If the circumplex arrangement of categories is taken at face value (data are lacking on this point), the one-step reliabilities would seem to be the most appropriate ones for the present ratings. The obtained per cent agreement of 90% and above is regarded as sufficient evidence of the objectivity of the rating. The reliabilities for individual categories can be found in Table 5.

TABLE 4. Total Agreement (TA), Octant (Oct), and One-Step (1-S) Per Cent Agreement Reliabilities for Two Independent Raters.

Group	Frustration				Verbal				Total			
	N	TA	Oct	1-S	N	TA	Oct	1-S	N	TA	Oct	1-S
Lows	1089	76.49	82.18	90.90	1887	82.45	85.42	93.11	2976	80.27	84.24	92.30
Highs	951	78.33	83.37	91.16	1088	81.98	84.92	93.01	2041	80.30	83.63	92.16
Total	2040	77.35	82.74	91.02	2975	82.28	85.24	93.07	5017	80.28	83.99	92.24

TABLE 5. Total Agreement (TA), Octant (Oct), and One-Step (1-S) Per Cent Agreement Reliabilities for the Sixteen Circumplex Categories.

Category	N	TA	Oct	1-S
B - Active resistance	110	60.90	61.81	79.09
C - Competition	10	80.00	80.00	90.00
D - Punishment (Antagonism)	6	83.33	83.33	83.33
E - Hate	0	--	--	--
F - Complaint	84	78.57	78.57	79.76
G - Suspicion	7	71.42	71.42	85.71
H - Helplessness	538	89.77	90.14	91.26
I - Submission	32	65.62	68.75	68.75
J - Democracy (Admiration)	180	78.33	85.55	85.55
K - Dependency	108	41.66	75.00	78.70
L - Cooperation	325	89.84	90.46	94.76
M - Love	5	100.00	100.00	100.00
N - Reassurance	149	86.57	89.93	89.93
O - Help	1705	84.16	87.97	95.07
P - Structuring & Teaching	1518	77.14	80.76	92.02
A - Dominance	208	57.69	77.88	88.46

Stanford Parent Questionnaire

Mothers' attitudes toward child-rearing were assessed with an abbreviated version of the MSU Form of the Stanford Parent Questionnaire (SPQ). The SPQ was designed by Winder and Rau (1962) for the purpose of assessing parental attitudes believed to be associated with social adjustment in preadolescent boys. Sixteen of the scales, comprising a total of 208 items, were used in the present study (see Appendix C-1). The internal consistency and test-retest reliabilities for the 16 scales may be found in Appendix C-2.

The questionnaires were mailed to the mothers when their cooperation was initially sought, and the mothers returned the completed questionnaires when they arrived to participate in the study. The questionnaire was introduced to each mother as a series of statements made by other parents about their children. For each item, the mother was asked to indicate her own attitude toward the issue as it applied to her son, by checking Strongly agree, Agree, Disagree, or Strongly disagree. In a few cases, the mother had difficulty answering some of the items. When this

situation arose, the investigator clarified the statements for her and urged her to answer them. The "continuous scoring" method was used such that when agreement with a statement indicated presence of the characteristic denoted by the scale, Strongly agree was scored 3, Agree was scored 2, Disagree was scored 1, and Strongly disagree was scored 0. If disagreement with the statement indicated presence of the characteristic, the scoring was reversed. The sum of the scores on each of the individual items of the scale was the score for that scale.

CHAPTER III

RESULTS

Boys' Behavior

Two major hypotheses dealt with the question of how boys who are low in self-control, self-sufficiency, and achievement motivation differ in their behavior from boys who are high on these three variables. One of these hypotheses concerns only boys' reactions to frustration, while the other applies to all of the boys' verbal interpersonal behavior manifest in the frustration and verbal sessions.

Hypothesis I: Reactions to Frustration

This hypothesis predicted that low group boys would show more aggressive and regressive reactions to frustration than would high group boys, while high group boys would show more constructive reactions to frustration than would low group boys. The two groups were not expected

to differ regarding withdrawal and intropunitive reactions to frustration.

The boy's "score" for each of the five categories of reaction to frustration was derived by counting the number of times he had been rated in a particular category and dividing this count by the total number of ratings for him across all five categories. Using the differences between these proportions for matched pairs, the Wilcoxon Matched-pairs Signed-ranks Test (Siegel, 1956) was employed to compare the low and high groups. This test takes into account the magnitude as well as the direction of differences between pairs and does not require assumption that the sampled population is normally distributed. Results of the group comparisons are presented in Table 6.

All of the predictions contained in the first hypothesis were borne out. The low boys reacted to frustration with poorly controlled, aggressive and regressive behaviors significantly more often than did high boys ($p < .03$), while high boys demonstrated a significantly greater amount of constructive reactions ($p < .06$).[1] The

[1] A departure was made from the standard procedure of reporting as significant those results with a probability of less than .05. Differences with $p < .10$ are considered significant in this paper.

TABLE 6. Comparison of Low and High Boys on Their Reactions to Frustration.

Category	$\bar{X}_{Lo}$[a]	$\bar{X}_{Hi}$[a]	T[b]	N[c]	P[d]
Aggression (A)	.079	.021	67	12	.04
Regression (R)	.084	.032	76	13	.04
Intropunitiveness (I)	.103	.097	69	16	NS
Withdrawal (W)	.257	.201	94	16	NS
Constructive reaction (C)	.477	.649	105	16	.06
Low control (A+R)	.162	.053	79	13	.03
High control (I+W)	.360	.298	87	16	NS
Total reactions to frustration (A+R+W+I+C)[e]	67.10	62.20	62.5	15	NS
Puzzle solution time[f]	40.75	38.67	27	9	NS

[a] Mean proportion of total reactions to frustration.

[b] Sum of the positive ranks or those ranks for differences in favor of the group with the greater group mean (Wilcoxon Matched-pairs Signed-ranks Test).

[c] Pairs whose difference = 0 are dropped, thereby reducing n.

[d] P values are two-tailed.

[e] Number of ratings made by both raters. When only one rater observed, his total was doubled.

[f] Solution time is in minutes. If S took more than 45', his score was 45.

two groups of boys did not differ with regard to intropunitive and withdrawal reactions, nor did they differ with respect to the total number of rated reactions.

Although the low group demonstrated fewer reactions indicative of low control ($\bar{x}$ = .162) than reactions reflecting high control ($\bar{x}$ = .360), this result should be evaluated within the context of the total situation to which the boys were exposed. They were brought to a strange place, supposedly to be tested, and were spied on by a stranger. One would expect these boys to be something less than entirely free and spontaneous in their behavior. The finding that nearly 50% ($\bar{x}$ = .477) of the low boys' reactions were constructive in nature should not be viewed as indicating that these boys as well as the high boys characteristically react to frustration with constructive activity. The present study compares groups of boys, and any interpretations concerning what is or is not characteristic of either group would require wider sampling of situations. For all of the boys the amount of rated constructive behavior was partly an artifact of the rating method. Whenever a boy withdrew from active involvement with the puzzle, his eventual return automatically assured him of a "constructive" rating.

Since all boys at least occasionally reacted with withdrawal, the constructive activity scores are somewhat inflated.

Time taken to solve the puzzle was recorded mainly for the purpose of determining, in a general way, how difficult the puzzle was for the boys. Valid comparison of the times for the two groups is not possible because there were some cases in which mothers completed the puzzle for their sons. Most of these cases occurred in the low group. The average solution times for both groups were almost a full 10 minutes beyond the allotted time, suggesting that the "average" boy was indeed thwarted (frustrated) in his attempt to reach the goal.

Hypothesis II: Sons' Behavior toward Mother

This hypothesis specified that low group boys would demonstrate more negatively assertive and poorly controlled behavior (disaffiliation-dominance) and more passive-aggressive and negatively dependent behavior (disaffiliation-submissiveness) than would high group boys, while high group boys would demonstrate more positively

assertive behavior (affiliation-dominance) and more cooperative behavior than would low group boys.

Data relevant to this hypothesis were ratings of the tape-recorded, verbal behavior of the boys in both the frustration and verbal sessions. The rated frequencies for each of the 16 behavioral categories of the circumplex were converted to proportions of S's total rated behavior. In most cases the proportions for single categories were not sufficiently large for tests of group differences. However, none of the hypotheses dealt with single category comparisons. Single category proportions were combined for circumplex octants and combined again for the circumplex quadrants. Although raters were trained to differentiate adjacent categories and to code behavior in terms of individual categories rather than large divisions of the circumplex, reference to the category definitions (Appendix B-2) will indicate that larger sections of the circumplex are meaningful and appropriate.

Results of group comparisons for the major sections of the circumplex may be found in Table 7. Tests were conducted for the frustration and verbal sessions separately and for the two sessions combined. The prediction that low

TABLE 7. Comparison of Low Boys with High Boys on the Proportions of their Behavior in the Major Sections of the Circumplex.

Section	Session	$\bar{X}_{Lo}$	$\bar{X}_{Hi}$	T[a]	N[b]	P[c]
Disaffiliation (B-I)	T	.378	.211	109	15	.006
	F	.383	.154	82	13	.02
	V	.389	.239	105	15	.02
Submissiveness (F-M)	T	.511	.379	95	15	.06
	F	.490	.340	69.5	13	NS
	V	.517	.379	87	15	NS
Disaffiliation-Dominance (B-E)	T	.058	.025	69.5	12	.02
	F	.102	.021	59	11	.03
	V	.035	.027	18.5	8	NS
Disaffiliation-Submissiveness (F-I)	T	.320	.185	104	15	.02
	F	.281	.133	77.5	13	.03
	V	.353	.211	101	15	.03
Affiliation-Submissiveness (J-M)	T	.191	.194	67	15	NS
	F	.209	.207	40.5	13	NS
	V	.163	.167	72.5	15	NS
Affiliation-Dominance (N-A)	T	.441	.591	102.5	15	.02
	F	.417	.646	77	13	.04
	V	.443	.603	96.5	15	.05

Note.--Because of recording failures, the F session data for two Ss had to be thrown out, reducing the # of pairs to 13 for F session comparisons.

[a]Sum of the positive ranks (Wilcoxon Matched-pairs Signed-ranks Test).

[b]Pairs whose difference = 0 are dropped, thereby reducing n.

[c]P values are two-tailed.

boys would exhibit more negatively assertive and poorly controlled behavior (disaffiliation-dominance) was confirmed for the frustration session ($p < .03$), and for both sessions taken together ($p < .02$), but not for the verbal session alone. The remaining predictions concerning circumplex quadrants were confirmed for both frustration and verbal sessions. Low boys exhibited a significantly greater amount of passive-aggressive and negatively dependent behavior (disaffiliation-submissiveness; $p < .02$), while high boys showed significantly more positively assertive and friendly behavior (affiliation-dominance; $p < .02$). No predictions were made for the affiliative-submissive quadrant since it includes both positively dependent and cooperative behavior.

A further combination of quadrants into the two circumplex hemispheres revealed that low boys were significantly more disaffiliative ($p < .006$) and submissive ($p < .06$) in their total behavior for the two sessions than were high boys.

In examining the mean proportions for the two groups in the various quadrants and hemispheres, it should be kept in mind that the categories were defined separately for

mothers and for sons. It is undoubtedly because of this redefining of son categories that boys in the present study showed a relatively greater amount of affiliative-dominant behavior and a relatively lesser amount of affiliative-submissive behavior than did the preadolescent boys in the research of Rausch et al. (1960) and MacKenzie (1968).

Group comparisons for the circumplex octants are presented in Table 8. The number of significant differences and the levels of significance are lower for the octant comparisons than they were for the quadrant comparisons, probably because division of boys' behavior into eight parts makes for relatively small proportions. The prediction that low group boys would exhibit a greater amount of interpersonal behavior that was passive-aggressive (complaint-suspicion) and negatively dependent (helplessness-submission) was confirmed for the verbal session ($p < .10$), and for both sessions taken together ($p < .10$), but not for the frustration session. The expectation that high group boys would be more cooperative than low group boys was not borne out. The difference was in the right direction, but it was not significant. Although no prediction was made concerning positively dependent behavior (admiration-dependency), the

finding that low group boys did not show a significantly greater amount of this behavior should be considered in relation to the findings for helplessness-submission. Thus, the boys who were selected for their low self-sufficiency were significantly more dependent only with respect to dependent behaviors that were negative and indirect.

While the quadrant comparisons indicated a greater amount of affiliative-dominant behavior for high group boys regardless of the session, a different pattern of findings emerges from the octant comparisons. High group boys showed significantly more behavior indicative of help only for the frustration session ($p < .02$). Although they demonstrated more structuring-dominance than low group boys, this difference was significant only for the verbal session ($p < .03$) and for both sessions together ($p < .06$). Love and reassurance were not included with their respective octants due to their relatively infrequent occurrence. Only the high group boys displayed behaviors scored in these two categories.

The fact that group differences on some of the behavioral variables depended upon which of the two sessions was being considered suggests that some changes occurred in the behavior of the two groups from the frustration to

TABLE 8. Comparison of Low Boys with High Boys on the Proportion of their Behavior in the Circumplex Octants.

Octant	Session	$\bar{X}_{Lo}$	$\bar{X}_{Hi}$	T[a]	N[b]	P[c]
Complaint-Suspicion (F-G)	T	.055	.021	80	14	.10
	F	.054	.025	21.5	8	NS
	V	.051	.015	72.5	13	.07
Helplessness-Submission (H-I)	T	.265	.164	63	12	.07
	F	.227	.108	69.5	13	NS
	V	.306	.197	90	15	.10
Admiration-Dependency (J-K)	T	.109	.092	56	15	NS
	F	.138	.108	43.5	13	NS
	V	.073	.063	68.5	14	NS
Cooperation (L)[d]	T	.083	.101	75	15	NS
	F	.071	.095	63.5	13	NS
	V	.090	.105	71.5	15	NS
Help (O)[e]	T	.319	.405	74.5	14	NS
	F	.239	.428	70	12	.02
	V	.360	.423	79	15	NS
Teaching+Structuring-Dominance (P-A)	T	.114	.187	94.5	15	.06
	F	.176	.213	59.5	13	NS
	V	.087	.179	89	14	.03

Note.--The breakdown of dissaffiliation-dominance (B-E) into its octants is not presented because of its relatively infrequent occurrence.

[a]Sum of the positive ranks (Wilcoxon Matched-pairs Signed-ranks Test).

[b]Pairs whose difference = 0 are dropped, thereby reducing n.

[c]P values are two-tailed.

[d]Love (M) occurred only rarely.

[e]Reassurance (N) occurred only rarely.

the verbal session. Comparisons of the boys' behavior in the two sessions may be found in Appendix D-1. The behavior of the high group boys was highly consistent across the two sessions--there were no significant changes for this group in any of the behavioral octants. Significant changes did occur for the low group boys, however, the most important of which were the decrease in negatively assertive and poorly controlled behavior (disaffiliation-dominance: $p < .06$) and the increase in negatively dependent behavior (helplessness-submission: $p < .04$). These changes will receive consideration in a subsequent section, when they can be compared to changes in mothers' behavior. One should not interpret these results as indicating that high group boys are more consistent in their behavior or less influenced by situational factors than are low group boys. Although it is an interesting proposition, several situations would have to be sampled to permit a valid test.

Mothers' Behavior

There were three hypotheses concerned with maternal behavior. One dealt with mothers' responses to sons'

frustration, and it applied to only that behavior of the mothers which directly followed (as a "response") rated reactions to frustration of the sons. All of the mothers' tape-recorded (verbal) behavior for frustration and verbal sessions served as data for another hypothesis, which dealt with mothers' behavior toward their sons. The data for these two hypotheses were analyzed in the same way that sons' data were. Frequency counts were made for the various categories of behavior, these were converted to proportions of the total behavior, and groups were compared using Wilcoxon's Matched-pairs Signed-ranks Test. A final hypothesis for mothers' behavior concerned their evaluations of the sons' abilities. Data relevant to this hypothesis were derived from mothers' predictions of sons' success on the puzzle and mothers' choice of difficult or easy proverbs for their sons to learn.

Hypothesis III:
Responses to Sons' Frustration

It was predicted that mothers of low group boys would more often react to their son's frustration with negative responses and restrictive help than would mothers

of high group boys, while mothers of high group boys would more often react with positive responses and nondirective responses than would mothers of low group boys.

Results of the group comparisons for responses to frustration are presented in Table 9, and it is apparent that they are very much in agreement with hypothesis III. Mothers of low group boys showed significantly more negative responses ($p < .03$) and restrictive help ($p < .008$) than mothers of high group boys, and the latter exhibited significantly more nondirective responses ($p < .02$) and positive responses ($p < .09$) than the former. It should be noted that the restrictive help rating was made by a third observer (the investigator) and was a global rating on a four-point scale of the extent to which mothers directly worked on the puzzle. This additional rating was necessary because of the heterogeneous nature of the help category, which included both indirect and direct kinds of helping behavior. The findings indicate, then, that mothers of low group boys responded to their sons' frustrations in a negative and restrictive, intrusive manner much more often than did the mothers of high group boys. Mothers of highs, on the other hand, were much more inclined to

TABLE 9. Comparison of Mothers of Low Boys with Mothers of High Boys on their Responses to Sons' Frustration.

Category	$\bar{X}_{Lo}$[a]	$\bar{X}_{Hi}$[a]	T[b]	N[c]	P[d]
Ignoring (1)	.286	.257	70	15	NS
Negative response (2)	.210	.083	111	16	.03
Help (3)	.275	.219	88	16	NS
Nondirective response (4)	.150	.299	115	16	.02
Positive response (5)	.081	.142	91	15	.09
Total negative response (1+2)	.495	.340	112	16	.03
Total positive response (4+5)	.230	.441	123	16	.005
Restrictive help[e]	2.13	3.25	84	13	.008

[a]Mean proportion of mother's total responses.

[b]Sum of the positive ranks or those ranks for differences in favor of the group with the greater group mean (Wilcoxon Matched-pairs Signed-ranks Test).

[c]Pairs whose difference = 0 are dropped, thereby reducing n.

[d]P values are two-tailed.

[e]Rated independently by a third observer. Refers to a global rating on a 4 pt. scale (1 is high, 4 is low).

respond with positive, supportive behaviors or in a manner which was minimally interfering and restrictive.

Hypothesis IV:
Mothers' Behavior toward Sons

This hypothesis specified that mothers of low group boys would demonstrate more rejecting behavior (disaffiliation-control, and complaint-suspicion) and more dominant, protective behavior (affiliation-control) than would mothers of high group boys, while mothers of high group boys would demonstrate more accepting and democratic behavior (affiliation-autonomy) than would mothers of low group boys.

The results of comparisons of mothers' behavior for the major sections of the circumplex are indicated in Table 10. As predicted, mothers of lows significantly exceeded mothers of highs with regard to disaffiliation-control ($p < .02$) and affiliation-control ($p < .03$), and the mothers of highs demonstrated a greater amount of behavior indicative of affiliation-autonomy ($p < .006$). With the exception of the disaffiliation-control quadrant, these differences held for both frustration and verbal sessions. Since only 2% of the total behavior of low mothers was scored in the

TABLE 10. Comparison of Mothers of Lows with Mothers of Highs on the Proportions of Maternal Behavior in the Major Sections of the Circumplex.

Section	Session	$\bar{X}_{Lo}$	$\bar{X}_{Hi}$	T[a]	N[b]	P[c]
Disaffiliation (B-I)	T	.045	.054	59	13	NS
	F	.047	.067	48	11	NS
	V	.038	.043	23	10	NS
Autonomy (F-M)	T	.067	.167	83	13	.01
	F	.096	.217	68	12	.03
	V	.042	.133	103.5	15	.02
Disaffiliation-Control (B-E)	T	.019	.003	53	10	.02
	F[d]	--	--	--	--	--
	V[e]	.025	.004	--	--	--
Disaffiliation-Autonomy (F-I)	T	.025	.050	83.5	14	.06
	F	.041	.065	51.5	11	NS
	V	.013	.039	23	8	NS
Affiliation-Autonomy (J-M)	T	.041	.113	109.5	15	.006
	F	.061	.131	67.5	12	.03
	V	.029	.094	89.5	14	.03
Affiliation-Control (N-A)	T	.903	.812	89.5	14	.03
	F	.874	.779	76.5	13	.04
	V	.935	.855	101.5	15	.03

Note.--Because of recording failures, the F session data for two Ss had to be discarded, reducing the # of pairs to 13 for F session comparisons.

[a]Sum of the positive ranks (Wilcoxon Matched-pairs Signed-ranks Test).

[b]Pairs whose difference = 0 are dropped, thereby reducing n.

[c]P values are two-tailed.

[d]Occurred to infrequently for analysis.

[e]Occurred too infrequently for analysis; but out of 7 pairs in which it occurred, Lows > Highs in all.

disaffiliation-control quadrant, their demonstration of a larger amount of these behaviors, while representing a significant difference, should be regarded only as a trend. When all of the disaffiliative behaviors are considered together (disaffiliation), the two groups do not significantly differ. These behaviors represent only about 5% of mothers' behaviors toward their sons. Consideration of all the autonomy granting behaviors together (autonomy) indicated that mothers of highs showed significantly more of these behaviors than did mothers of lows for both of the experimental sessions.

The finding that high mothers significantly exceeded mothers of lows with regard to disaffiliation-autonomy ($p < .06$) was unexpected. When this quadrant was broken down into its octants, only one group difference emerged. Mothers of highs showed significantly more helplessness-submission ($p < .07$) for both sessions taken together. Mothers of lows demonstrated more behaviors scored as complaint-suspicion, but these behaviors did not occur frequently enough to permit statistical analysis. Thus, it is the passive more than the negative aspects of disaffiliation-autonomy which account for the high mothers' larger scores in this quadrant.

The greatest proportion of maternal behavior was scored in the affiliation-control quadrant. Although this distribution of mothers' behavior may indicate that mothers were very inhibited in the experimental sessions and were responding largely as mothers "should" (the test-like nature of the sessions might be expected to "pull" this type of maternal behavior), the possibility also exists that wider sampling of situations might yield much the same results. While MacKenzie's (1968) mothers showed less behavior indicative of affiliation-control than did the present sample of mothers, there is only one valid comparison between the subjects of the two studies. Her mothers of normal 7-11 year old boys were rated in the affiliation-control quadrant 62% of the time as compared to 78% for the high mothers in the frustration session of the present study. The fact that some of the boys in MacKenzie's sample were older than those used in the present study may account for some of this difference, since Raush et al. (1960) found that adults show a decrease in amount of affiliation-control as boys grow older. However, the magnitude of the difference would seem to suggest that the particular method of scoring interpersonal mechanisms has some influence on the findings of interaction

research. Studies are not strictly comparable unless they use identical methods.

The results of group comparisons for the individual categories of affiliation-control are presented in Table 11. None of the individual category differences were significant except with respect to dominance, with mothers of lows demonstrating greater dominance ($p < .07$) of their sons than mothers of highs. This finding suggests that it is the controlling rather than the affiliative aspects of affiliation-control which account for the low mothers' higher scores on this quadrant.

Several changes occurred in mothers' behavior from the frustration to the verbal session. The results of comparisons of mothers' behavior between the two sessions may be found in Appendix D-2. Both groups of mothers demonstrated a significant decrease in reassurance ($p < .004$) and a significant increase in structuring and teaching ($p < .002$), which is what one would expect from the nature of the two different situations. As was the case with the boys' groups, the other significant changes occurred exclusively in the lows' behavior. Mothers of lows showed a decrease in disaffiliation-autonomy ($p < .02$), affiliation-autonomy ($p < .03$), and all passive behaviors taken as a

TABLE 11. Comparison of Mothers of Lows with Mothers of Highs on the Proportions of Maternal Behavior in the Subcategories of Affiliation-Control.

Category	Session	$\bar{X}_{Lo}$	$\bar{X}_{Hi}$	T[a]	N[b]	p[c]
Reassurance (N)	T	.059	.080	83	15	NS
	F	.136	.165	41.5	12	NS
	V	.022	.021	17.5	8	NS
Help (O)	T	.311	.319	63.5	15	NS
	F	.381	.317	63	13	NS
	V	.273	.289	67.5	15	NS
Structuring & Teaching (P)	T	.456	.383	86	15	NS
	F	.286	.248	46	12	NS
	V	.561	.511	73.5	15	NS
Dominance (A)	T	.093	.050	82	14	.07
	F	.093	.059	40	11	NS
	V	.084	.041	86.5	14	.04

[a]Sum of the positive ranks (Wilcoxon Matched-pairs Signed-ranks Test).
[b]Pairs whose difference = 0 are dropped, thereby reducing n.
[c]P values are two-tailed.

whole (autonomy: $p < .003$), and these mothers demonstrated an increase in affiliation-control ($p < .02$). These changes correspond in complementary fashion to those demonstrated by low boys, who showed a decrease in dominant behavior and an increase in passive, negatively dependent behavior. More will be said about the relationship between mother and son behavior when the exploratory questions are discussed.

One additional question concerning the behavioral ratings for sons and mothers stems from the use of two systems of behavioral categories in the present study. To what extent do they yield a consistent picture of behavior? Some of the categories in one of these systems do not have parallels in the other system. However, several categories that did seem to parallel each other were examined to see if they were really related. It should be noted that the two systems were not applied to exactly the same behavior. "Reaction to frustration" categories were used to code the largely nonverbal behavior in the frustration session while "circumplex" categories dealt exclusively with verbal behavior. Low and high Ss were combined into one group, and the relationship between their rated behavior for the two systems was assessed for the frustration session by computing Spearman rank correlation coefficients (Edwards, 1961) between pairs of ratings. These correlations may be found in Table 12. With the exception of disaffiliation-submissiveness and the intropunitive and withdrawal reactions to frustration, the categories selected for their apparent relationship to each other are, in fact, significantly correlated.

TABLE 12. Spearman Rank Correlation Coefficients Between Circumplex and Reaction to Frustration Categories for the Frustration Session Ratings. (n = 28)

Mothers		
Circumplex Category	Reaction to Frustration	r_s
Affiliation-Autonomy (J-M)	Nondirective response (4)	.460**
Help (O)	Help (3)	.668**
Sons		
Disaffiliation-Dominance (B-E)	Aggression (A)	.714**
	Regression (R)	.578**
Disaffiliation-Submissiveness (F-I)	Intropunitiveness (I)	.380*
	Withdrawal (W)	.157
Affiliation-Dominance (N-A)	Constructive reaction (C)	.597**

Note.--Coefficients are corrected for ties. Tests are one-tailed.
*p < .05
**p < .01

Hypothesis V:
Mothers' Evaluation of Sons' Ability

It was predicted that mothers of high group boys would show a higher evaluation of their son's ability (they would predict greater success for their son on the puzzle,

and they would choose more difficult proverbs for him to learn) than would mothers of low group boys.

Mother's prediction of her boy's success in solving the puzzle turned out to be a non-discriminating measure. She was asked to choose among four alternatives: high score; somewhat above average score; somewhat below average score; low score. Nearly all mothers chose the second alternative, "somewhat above average score." The second measure of mother's evaluation of her son's ability was the difficulty of the proverbs she chose for him to learn. The level of difficulty (1-easy through 4-difficult) was totaled for the three proverbs she selected, and these scores for the two groups of mothers were compared by means of the Wilcoxon Matched-pairs Signed-ranks Test. There was no significant group difference on this measure. Hypothesis V is clearly not supported by the evidence.

Mothers' Attitudes

Hypothesis VI dealt with mothers' attitudes toward child-rearing. It predicted that mothers of low group boys would demonstrate attitudes toward their sons that were more

indicative of high rejection, high demonstrated affection, high sex anxiety, low self-esteem, high inconsistency, high punitiveness and physical punishment, high parental aggression, and high demands for aggression than were the attitudes of mothers of high group boys. High group mothers were expected to demonstrate attitudes more indicative of acceptance (low rejection), high self-esteem, good marital relationship (high positive father-mother relationship), high democracy, and high use of reasoning and contingent rewards.

The mothers' scores on the 16 scales of the Stanford Parent Questionnaire (SPQ) were compared for high and low groups by using two-tailed t tests of the differences between the means of matched groups (Hays, 1963). The results of the group comparisons are presented in Table 13.

There were 7 scales on which the low mothers were expected to obtain higher scores than the high mothers, and 5 of these scales significantly differentiated the groups in the predicted direction. Mothers of lows scored significantly higher on rejection ($p < .10$), affection demonstrated ($p < .10$), demands for aggression ($p < .10$), punitiveness and physical punishment ($p < .01$), and inconsistency ($p < .05$) than did mothers of highs. Of the scales on which higher scores were

TABLE 13. Comparison of Mothers of Lows with Mothers of Highs on Sixteen SPQ Scales. (n = 14)[a]

Scale	$\bar{X}_{Lo}$	$\bar{X}_{Hi}$	t
Affection demonstrated (Ad)	32.57	29.00	2.02*
Rejection (R)	23.21	17.36	2.00*
Self-esteem (E)	17.64	20.71	1.71
Rewarding independence (Ri)	28.71	27.43	.94
Achievement standards (As)	24.43	22.07	1.80*
Contingent reward (Cr)	15.36	14.00	1.74
Restrictiveness (T)	22.71	21.21	1.07
Sex anxiety (Sa)	21.07	19.57	1.15
Reasoning (Rg)	26.64	26.14	.34
Demands for aggression (Da)	41.71	35.29	1.97*
Parental aggression (PA)	17.14	17.00	.09
Democracy (Dem)	22.93	20.79	2.35**
Demands for conformity (DC)	22.79	18.92	2.70**
Punitiveness and physical punishment (PP)	17.07	12.57	3.95***
Positive father-mother relationship (FM)	48.64	51.14	.59
Inconsistency (In)	15.79	12.64	2.74**

Note.--t tests are for paired observations and are two-tailed.

[a]One mother in each group failed to return her Q, reducing the number of pairs by two.

*p < .10

**p < .05

***p < .01

expected for high mothers, only democracy ($p < .05$) significantly differentiated the groups, with the difference being in the direction opposite to prediction. Self-esteem, positive father-mother relationship, and sex-anxiety were all in the predicted direction but not significant. No predictions were made with regard to achievement standards and demands for conformity. However, these scales did differentiate the two groups of mothers, with mothers of lows demonstrating significantly higher scores on both.

In an attempt to clarify the meaning of these mixed findings the relationships among all 16 scales were explored by computing their intercorrelations for each group separately and for both groups combined. The intercorrelations for lows and highs combined may be found in Table 14. An inspection of the intercorrelations suggests that there are three relatively independent groups of scales. The scales within each group have high correlations with each other and relatively low correlations with scales outside the group.[1] One group is depicted in the upper left corner of

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[1]It was felt that the small and unrepresentative nature of the sample would not warrant a factor analysis or some other, more sophisticated exploration of the intercorrelations among the scales.

TABLE 14. Intercorrelations of 16 SPQ Scales. (n = 30)

Scale	Rejection	Self-esteem	Positive father-mother relationship	Inconsistency	Punitiveness and physical punishment	Sex anxiety	Parental aggression	Demands for aggression	Affection demonstrated	Contingent reward	Restrictiveness	Rewarding independence	Achievement standards	Reasoning	Democracy
Self-esteem	-.781****														
Positive father-mother relationship	-.560****	.491***													
Inconsistency	.577****	-.451**	-.504***												
Punitiveness and physical punishment	.486***	-.420*	-.201	.287											
Sex anxiety	.383*	-.427*	.160	-.075	.407*										
Parental aggression	.249	-.114	-.133	.241	-.118	-.342									
Demands for aggression	.407*	-.382*	-.182	.310	.523***	.274	.100								
Affection demonstrated	-.145	.088	.231	-.086	.339	.094	-.188	.337							
Contingent reward	.158	-.241	.004	.107	.269	.212	-.003	.461**	.694****						
Restrictiveness	.168	-.020	.298	-.027	.266	.205	-.086	.474**	.650****	.674****					
Rewarding independence	-.071	-.007	.467**	-.011	.084	.026	-.140	.389*	.541***	.542***	.715***				
Achievement standards	.036	-.022	.125	-.156	.106	.399*	-.011	.388*	.430*	.517***	.567****	.540***			
Reasoning	-.175	.152	.270	-.089	.123	.137	-.353	.238	.650****	.587***	.697****	.530***	.305		
Democracy	-.060	.054	.274	-.080	.108	.197	-.125	.266	.621****	.525***	.586****	.511***	.525***	.431*	
Demands for conformity	.202	-.180	.160	.037	.440*	.233	.050	.582****	.524***	.562****	.640***	.550***	.589****	.322	.473**

Note.--All tests are two-tailed
*p < .05
**p < .01
***p < .005
****p < .001

Table 14 and is comprised of high self-esteem, high positive father-mother relationship, low rejection, and low inconsistency. This group of scales is very similar to the parental adjustment factor of Winder and Rau (1962) and to the rejection factor of Rau et al. (1964). A second and very large group of scales is isolated in the lower right corner of Table 14. This group contains a mixture of scales which seem to reflect "parenting" from the perspective of technique and will be given the label, parental involvement. The high intercorrelations among these various "technique" scales suggest that the present middle- and lower middle-class sample of mothers does not differentiate strict from democratic parenting. High punitiveness and physical punishment, high demands for aggression, and high sex anxiety constitute a third group of scales which shows some moderate relationships to the other two. Parental anxiety about closeness may adequately describe this group of scales.

The results of the intercorrelations among SPQ scales for each of the groups separately suggests that both low and high mothers polarized the scales into good vs. bad parent. The fact that there were 51 significant ($p < .05$, two-tailed) correlations among the scales for the high group

probably indicates that these mothers belong to a highly homogeneous, narrow subculture in which there is high agreement regarding what constitutes a good parent. Considerably fewer significant correlations among SPQ scales were found for the low group. Perhaps these mothers are less consistently in agreement with respect to what attitudes are appropriate to the good parent.

The findings that mothers of low group boys demonstrated attitudes more indicative of parental maladjustment (high rejection and high inconsistency) and of parental anxiety about closeness (high punitiveness and physical punishment and high demands for aggression) are consistent with prediction. But how can their higher scores on parental involvement (high affection demonstrated, high democracy, high demands for conformity, and high achievement standards) be explained? The results of a previous study (Rowland, 1966) using several of the same SPQ scales may provide an answer to this question. The boys represented more extreme groups with respect to school adjustment than do the boys in the present study. If the mothers also represented groups that were more extreme (re: child-rearing attitudes), then one would expect the following ordering of the groups (from

low to high) on parental maladjustment (high rejection, low self-esteem): mothers of well-adjusted boys (WA); mothers of high group boys; mothers of low group boys; and mothers of poorly adjusted boys (PA). Reference to Table 15 indicates that such an ordering exists for the rejection scale and with one exception, for the self-esteem scale, too. For the other SPQ scales common to both studies one would expect much the same ordering of mean scores, with the PA and low mothers scoring together and the WA and high mothers scoring together. Examination of the scales which comprised the parental involvement group in the present study (Ad, Cr, T, Ri, & As) indicates that, with the exception of achievement standards, low mothers obtained the highest scores, PA mothers the lowest scores, and the scores of high and WA mothers fell between these two extremes.

If this group of scales does, in fact, reflect parental involvement, or probably more accurately, the degree to which mothers are attempting to create the impression that they are doing a good job of parenting, then this ordering of the mean scores of the groups may be explained as follows. Mothers of PA boys participated in the 1966 study for the purpose of obtaining help. Some referred themselves

TABLE 15. Ordering of Mean Scores on Eight SPQ Scales for Mothers of Poorly Adjusted (PA), Well-Adjusted (WA), Low (Lo), and High (Hi) Boys.

Scale	Order			
Rejection (R)	WA 15.4	Hi 17.4	Lo 23.2	PA 27.6
Self-esteem (E)	Lo 17.6	PA 17.7	Hi 20.7	WA 23.9
Sex anxiety (Sa)	WA 19.5	Hi 19.6	PA 20.3	Lo 21.1
Affection demonstrated (Ad)	PA 25.1	Hi 29.0	WA 29.6	Lo 32.6
Contingent reward (Cr)	PA 13.4	Hi 14.0	Lo 15.4	WA 15.5
Restrictiveness (T)	PA 20.8	Hi 21.2	WA 22.5	Lo 22.7
Rewarding independence (Ri)	PA 26.0	WA 27.1	Hi 27.4	Lo 28.7
Achievement standards (As)	Hi 22.1	WA 23.3	PA 23.5	Lo 24.4

Note.--PA and WA group boys (n = 9) were of approximately the same age range and were from the same two schools as are the Low and High group boys (n = 15) in the present sample.

to psychological clinics, most expressed concerns about their having done a poor job of rearing their sons. The mothers of low group boys in the present study gave no such indications

that they saw themselves as "bad" parents. On the contrary, these mothers impressed the investigator as having volunteered for the study in order to demonstrate to both the investigator and their son's teacher that they were "good" parents. Although this interpretation is highly speculative, it is suggested that low mothers scored higher than high mothers on the scales subsumed under parental involvement in the present study because they felt it necessary to create an impression of good parenting.

Mother-Son Interaction

In addition to the hypotheses concerning the separate behaviors of sons and mothers, an exploratory question was asked for which the present study provides relevant data. Are there consistent patterns of mother-son interaction which serve to maintain the boys' coping behaviors?

Reactions to Frustration

The boys' reactions to frustration and their mothers' responses to those reactions are one source of information

on interaction. Since the rating method specified that maternal behavior be coded only when it was a response to boys' behavior, these data apply solely to son-mother interaction. One would suspect on the basis of the results presented so far that there would be differences between the son-mother interactions of low and high mother-son pairs. Table 16 gives the proportions of son-mother interaction occurring in the various possible reaction to frustration dyads. These data are only descriptive in nature and do not permit statistical inferences to be made concerning the differences between groups.

The most frequently occurring interaction for the mother-son pairs in the group of "constructive copers" was constructive reaction-nondirective response. On the other hand, mother-son pairs in the group of boys who were "less constructive copers" demonstrated a relatively high frequency of two quite different son-mother interactions: constructive reaction-negative response and withdrawal-helpful response. The most frequently occurring interactions in the two groups suggest that mothers of highs and mothers of lows tended to follow different patterns of reinforcement of their sons' behavior. The nondirective response which occurred so

TABLE 16. Mean Proportions of Son-Mother Interaction Occurring in the Reaction to Frustration Dyads for Low and High Mother-Son Pairs.

Son Reaction	Group	Mother Response				
		Ignoring	Negative	Helpful	Nondirective	Positive
Aggression	Lo	.05	.01	.00	.01	.00
	Hi	.01	.00	.00	.01	.00
Regression	Lo	.05	.02	.01	.01	.01
	Hi	.01	.01	.00	.01	.00
Withdrawal	Lo	.05	.04	.13	.02	.01
	Hi	.03	.02	.08	.04	.02
Intropunitiveness	Lo	.04	.02	.02	.01	.01
	Hi	.03	.02	.00	.02	.03
Constructive reaction	Lo	.08	.14	.11	.10	.05
	Hi	.17	.04	.13	.22	.09

often in mothers of highs might be expected to help maintain constructive activity because of its implicit approval and noninterference. The negative response which low mothers demonstrated so frequently undoubtedly serves to discourage further constructive activity, while the helpful response to sons' withdrawal probably accomplishes the same end, by reinforcing helplessness.

Mothers' responses, however, are at least partly a function of the boys' behavior, and these two groups of boys did not provide their mothers with the same stimuli. In an attempt statistically to "equalize" sons' behavior for the two groups, each category was taken separately to represent the universe of boys' behavior. For example, sons' aggressive reactions were considered to represent all of their reactions, and the distribution of mothers' responses to aggression across the five maternal response categories were then comparable (equal to 100%) for both groups of mothers. However, since low boys showed more aggressive reactions than high boys, the distribution of responses to aggression for low mothers is probably more reliable than that for high mothers. Distribution of low and high mothers' responses to each of the sons' reactions to frustration are presented in Table 17.

Comparisons of the two groups of mothers suggest some apparent differences in the ways they responded to the various coping behaviors of the boys. When the sons reacted to frustration with aggression and regression, mothers of lows were more likely to ignore their sons' behavior than were mothers of highs. Mothers of highs, on the other hand, were more apt to be nondirective in their responses to such stimulations

TABLE 17. Distributions of the Mean Proportions of Mothers' Response in the Low and High Groups for Each of the Sons' Reactions to Frustration.

Son Reaction	Group	Mother Response				
		Ignoring	Negative	Helpful	Nondirective	Positive
Aggression	Lo	.677	.139	.046	.111	.024
	Hi	.496	.033	.033	.377	.058
Regression	Lo	.546	.178	.109	.086	.079
	Hi	.201	.215	.062	.363	.156
Withdrawal	Lo	.200	.148	.498	.096	.056
	Hi	.156	.107	.422	.206	.105
Intropunitiveness	Lo	.403	.146	.187	.144	.117
	Hi	.320	.188	.019	.228	.243
Constructive reaction	Lo	.176	.288	.236	.202	.096
	Hi	.260	.066	.203	.328	.139

Note.--The proportions across the five categories of maternal response have been set equal to unity for each of the categories of sons' reaction.

from their sons. While responses to withdrawal followed much the same pattern for the two groups of mothers, they responded to boys' intropunitiveness somewhat differently. Low mothers more frequently helped their sons, and high mothers more often responded in a positive and supportive manner. Probably the most important group differences were with regard to mothers'

responses to sons' constructive activity. As was inferred from the analysis of son-mother interactions, mothers of lows exhibited negative responses to a greater degree than mothers of highs, while the latter group showed a stronger tendency to react nondirectively to the same stimulations.

Interpersonal Behavior

The tape-recorded verbal behavior of the frustration and verbal sessions provides data for both son-mother and mother-son interaction. Unlike the reactions to frustration, this behavior is continuous. There are essentially two ways of looking at these data. Son may be regarded as the sender and mother as the respondent in their interchanges, or these roles may be reversed, with mother viewed as the sender and son as the respondent. These two perspectives lead to quite different descriptions of interaction, and both will be utilized in the present study.

Son-mother interaction: Since use of single categories or octants would spread the son-mother interaction too thinly over the very large number of possible dyadic interactions, only the quadrant divisions of the circumplex were used in

the description of interaction. The quadrants and the letter designations of the categories comprising them are: affiliation-dominance (NOPA); affiliation-submissiveness (JKLM); disaffiliation-submissiveness (FGHI); and disaffiliation-dominance (BCDE). Table 18 contains the mean proportions for each group of the various possible son-mother interactions.

Particularly relevant to the exploratory question are those interactions which occurred in the frustration session. Both groups demonstrated the symmetrical NOPA: NOPA interaction most frequently, with this sequence comprising 39% of the lows' and 43% of the highs' total interaction in the frustration session. Some of the less frequently occurring sequences reveal some apparent group differences. While NOPA:JKLM occurs fairly often (12%) in the high group, it is not very common (4%) in the low group. As will become apparent in a subsequent section, this interaction is very important because it served to perpetuate sons' positively assertive (NOPA) behavior. Although the two groups demonstrated JKLM:NOPA, the typical interaction for son-mother pairs, to approximately the same degree, two other complementary interactions were present more often in

TABLE 18. Mean Proportions of Son-Mother Interaction Occurring in the Various Circumplex Quadrant Dyads for Low and High Mother-Son Pairs.

Son	Mother	Lows			Highs		
		Total	F	V	Total	F	V
NOPA	NOPA	.42	.39	.45	.48	.43	.48
	JKLM	.03	.04	.02	.09	.12	.08
	FGHI	.01	.03	.01	.02	.04	.02
	BCDE	.01	.00	.01	.00	.00	.00
JKLM	NOPA	.17	.22	.14	.18	.17	.17
	JKLM	.01	.01	.01	.01	.02	.01
	FGHI	.01	.01	.00	.01	.02	.00
	BCDE	.00	.00	.00	.00	.00	.00
FGHI	NOPA	.27	.20	.31	.18	.12	.20
	JKLM	.01	.00	.01	.00	.01	.01
	FGHI	.01	.01	.00	.01	.01	.01
	BCDE	.01	.01	.01	.00	.00	.00
BCDE	NOPA	.04	.06	.03	.02	.02	.02
	JKLM	.00	.01	.00	.00	.00	.00
	FGHI	.00	.01	.00	.00	.00	.00
	BCDE	.00	.00	.00	.00	.00	.00

the low group. These were FGHI:NOPA (20% for lows, 12% for highs) and BCDE:NOPA (6% for lows, 2% for highs).

In order to determine if the two groups of mothers responded differently to the same sender behavior in sons, each quadrant of sons' sender behavior was taken separately to represent the universe of sons' behavior. The distribution of mothers' responses to these quadrants of sons' sender behavior may be found in Appendices E-1 (lows) and E-2 (highs). The distributions for the two groups of mothers were compared by using the high mothers' distribution as the basis for expected frequencies in the various maternal response categories. Then, the chi square test could be used to assess the extent to which the observed frequencies for low mothers differed from (were independent of) these expected frequencies. Since it is desirable to have expected frequencies of at least 5 in each category (Hays, 1963), related categories were combined into the smallest divisions that would adequately meet this condition. The following divisions of the circumplex for categories of mothers' responses were employed in the comparisons: disaffiliation (B-I); affiliation-autonomy (J-M); reassurance (N); help (O); teaching (P) and dominance (A). The distributions of

responses for the two groups of mothers were compared for each quadrant of sons' sender behavior separately. Table 19 gives the results.

TABLE 19. Comparison of the Response Distributions of Low and High Mothers for Quadrants of Sons' Sender Behavior

Son Category	X^2	P
BCDE	34.77	.002
FGHI	37.71	.002
JKLM	23.84	.002
NOPA	100.44	.001

Note.--P values are for 5 degrees of freedom and are two-tailed.

The distributions of mothers' responses to all of the quadrants of sons' sender behavior show significant differences between lows and highs. Appendices E-1 and E-2 indicate more specifically the ways in which the responses of the two groups of mothers differed. When sons demonstrated poorly controlled behavior (BCDE), low mothers were more apt to respond in a negative manner (15% for lows, 4% for highs) and less likely to teach or structure (29% for lows, 46% for highs) than were high mothers. In response

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to sons' passive-aggressive and negatively dependent behavior (FGHI), low mothers showed less affiliative-submissive behavior (2% for lows, 6% for highs), less reassurance (5% for lows, 11% for highs), and more dominance (9% for lows, 5% for highs) than did high mothers. The two groups of mothers were most alike in their handling of sons' affiliation-submissiveness (JKLM), the only quadrant of behavior which did not differentiate low and high boys. Low mothers tended to respond with greater dominance (7% for lows, 3% for highs) and with less affiliative-submissive behavior (4% for lows, 9% for highs) than did high mothers.

The greatest group difference occurred with respect to mothers' responses to affiliative-dominant (NOPA) stimulations of their sons. Low mothers demonstrated more dominance (10% for lows, 5% for highs) and teaching (44% for lows, 34% for highs, while high mothers responded with a greater amount of affiliative-submissive acts (17% for highs, 6% for lows). These differing patterns of reinforcement are of particular interest since boys' NOPA behavior includes many of the same behaviors included under constructive reactions to frustration. Whether or not these different responses of the two groups of mothers

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(low mothers' dominance and teaching, high mothers' affiliation-submissiveness) serve to discourage or maintain boys' constructive (NOPA) behavior can be determined only by examining how the boys respond to those maternal behaviors. Boys' responses to mothers' stimulations will be considered below. Although this analysis of mothers' responses has dealt only with broad classes of sons' sender behavior, data for individual son categories may be found in Appendix E-3, which presents the distribution of maternal responses for low and high mothers combined.

Mother-son interaction: The mean proportions for low and high groups of the various possible mother-son interactions are presented in Table 20. As was the case with son-mother interactions, the most frequently occurring sequence in the frustration session was NOPA:NOPA for both groups. This symmetrical interaction occurred somewhat more often in the high group (46%) than in the low group (39%). Three kinds of complementary mother-son sequences were present to a greater extent in the low group than they were in the high group, and all involved sender behavior of the mothers which was affiliative-controlling. The sequences were: NOPA:JKLM (22% for lows, 17% for highs); NOPA:FGHI

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TABLE 20. Mean Proportions of Mother-Son Interaction Occurring in the Various Circumplex Quadrant Dyads for Low and High Mother-Son Pairs.

Mother	Son	Lows			Highs		
		Total	F	V	Total	F	V
NOPA	NOPA	.42	.39	.44	.48	.46	.50
	JKLM	.15	.22	.15	.18	.17	.17
	FGHI	.29	.19	.32	.17	.12	.20
	BCDE	.04	.08	.03	.02	.02	.03
JKLM	NOPA	.02	.04	.02	.08	.14	.06
	JKLM	.01	.02	.00	.02	.02	.02
	FGHI	.01	.01	.01	.01	.01	.01
	BCDE	.00	.00	.00	.00	.00	.00
FGHI	NOPA	.01	.01	.01	.02	.04	.00
	JKLM	.01	.01	.00	.01	.01	.00
	FGHI	.01	.01	.00	.01	.01	.01
	BCDE	.00	.01	.00	.00	.00	.00
BCDE	NOPA	.01	.00	.01	.00	.00	.00
	JKLM	.00	.00	.00	.00	.00	.00
	FGHI	.01	.01	.01	.00	.00	.00
	BCDE	.01	.00	.00	.00	.00	.00

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(19% for lows, 12% for highs); and NOPA:BCDE (8% for lows, 2% for highs). One quite different complementary interaction was found more often in the high group. This sequence is JKLM:NOPA (14% for highs, 4% for lows), which involves a reversal of the standard adult-child roles.

In an attempt to determine whether or not low and high boys responded differently to the same stimulations from mothers, each quadrant of mothers' sender behavior was taken separately to represent the universe of her behavior. Because of the very large frequencies in the NOPA quadrant, it was possible to divide it into the NO and PA octants. The distributions of sons' responses to these categories of mothers' sender behavior are presented for the low group in Appendix E-4 and for the high group in Appendix E-5. Using the distribution of responses for high boys as the source of expected frequencies, the degree of independence between the distributions for high and low boys was assessed by means of the chi square test of significance. To insure sufficiently high frequencies in son response categories, the following circumplex divisions were used: disaffiliation (B-I); affiliation-submissiveness (J-M); help (O); and structuring & teaching-dominance (PA).

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Table 21 indicates the results of comparisons of the response distributions of the two groups of boys for each quadrant of mother sender behavior.

TABLE 21. Comparison of the Response Distributions of Low and High Boys for Quadrants of Mothers' Sender Behavior.

Mother Category[a]	X^2	P
FGHI	10.16	.05
JKLM	10.93	.05
NO	53.25	.002
PA	92.56	.001

Note.--P values are for 4 degrees of freedom and are two-tailed.

[a]BCDE occurred too infrequently to be included in the analysis.

The response distributions for low and high boys were significantly different for all of the classes of mother sender behavior. This finding along with the results of the comparisons for the two groups of mothers suggest that the differences in various types of interaction for low and high groups are a function of both mothers and sons. Low and high mothers respond differently to the "same" stimulations, and so also do low and high boys.

Appendices E-4 and E-5 give an indication of the specific ways in which the two groups of boys differ. When mothers demonstrated disaffiliation-autonomy (FGHI), low boys responded with more negative behaviors (46% for lows, 28% for highs) and fewer helping behaviors (16% for lows, 39% for highs) than did high boys. This finding is understandable if one remembers that breaking FGHI down into its octants revealed that high mothers showed relatively more helplessness-submission and relatively less complaint-suspicion than low mothers. Therefore, the FGHI stimulations were not the same for the two groups of boys. The low boys apparently were responding to negative stimulations with more of the same, while high boys were coming to the aid of their "helpless" mothers. The net effect was that high boys were manifesting much more constructive activity (help) than were low boys.

There is no reason to suspect that affiliation-autonomy (JKLM) stimulations differed for high and low mothers. However, the two groups of boys differed in their responses to JKLM, with low boys more frequently responding with negatively dependent behavior (HI; 11% for lows, 3% for highs) and less apt to respond with positively assertive behavior (NOPA; 62% for lows, 75% for highs) than were high

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boys. Thus, when the low boys were given a chance to get out of the dependent role, they were more likely to resist the change and less likely to take advantage of the opportunity than were high boys. Both groups of boys demonstrated much more NOPA behavior to JKLM stimultations than to any other sender behaviors of the mother. The fact that low group boys tended more often to remain in the dependent or helpless role was undoubtedly also a function of the behavior of low group mothers. As has been mentioned previously, these mothers responded to sons' NOPA behavior with more dominance and teaching and less JKLM behaviors than did high group mothers.

The most marked differences in the responses of low and high boys occurred to NO and PA stimulations of the mother. Mothers' reassurance and help were greeted with negative behavior (B-I) more often by low boys (31% for lows, 21% for highs) and with positively assertive behavior (NOPA) more often by high boys (57% for highs, 43% for lows). The same pattern of differences existed for responses to mothers' PA behaviors, with low boys demonstrating more negative responses (B-I; 38% for lows, 24% for highs) and fewer positively assertive responses (NOPA;

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48% for lows, 57% for highs) than high boys. It would appear that in their attempts to keep from being controlled and protected by their mothers, low group boys were more likely to demonstrate passive-negative behavior, while high group boys were more likely to attempt a symmetrical relationship. The fact that low mothers showed significantly more NOPA behavior than high mothers suggests that low boys were less successful in their attempts to keep from being dominated than were high boys. While the data presented in this section have dealt only with sons' responses to broad classes of mothers' stimulations, their responses to individual categories of mothers' sender behavior are presented for high and low groups together in Appendix E-6.

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CHAPTER IV

DISCUSSION

Before conclusions are drawn from the results of the present study, it would seem important to reemphasize certain aspects of the sample of Ss and the methodology that make this research different from other attempts to examine mother-son interaction. The mother-son pairs comprise a highly homogeneous middle- and lower middle-class sample. The only seriously unrepresentative aspect of the sample is undoubtedly the somewhat above average intelligence of the boys. With regard to the two groups of mothers and sons, a high degree of pair-wise matching was achieved between low and high Ss on all presumedly relevant variables except boys' intelligence. The high group boys show a trend toward higher intelligence ratings. In other ways, too, the low and high groups of the present study are probably more alike than are the groups which most studies have compared. Both groups are made up of "normals," differing only with respect to teachers'

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ratings of the boys' classroom behavior. The low group boys had not been referred for psychological help. Some time was spent in talking to the mothers subsequent to the test sessions, and these discussions suggested that mothers of lows as well as mothers of highs viewed their sons as essentially "normal." While some of the low group mothers had received bad reports on their son's behavior at school, they generally dismissed these with, "Boys will be boys," or "Johnny doesn't like his teacher." Likewise, mothers of low group boys apparently did not regard themselves as failures at child-rearing nor did they feel that they needed psychological help in handling their sons. When the investigator discussed with the mothers his observations of mother-son behavior, low group mothers tended to deny or rationalize the negative aspects of this feedback. Their behavior during these discussions as well as their apparent distortion of feedback from their sons' teachers may indicate suspiciousness regarding outside authorities, a negative attitude about taking help from others, and/or a need to defend themselves against what they may perceive as accusations of "poor parenting."

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The aspect of methodology which must be considered in comparing the results of the research with those of similarly designed studies is the particular way in which the circumplex rating scheme was employed. First of all, the categories or interpersonal mechanisms were defined differently for sons and mothers in an attempt to break up the set of viewing most child behavior as reflecting JKLM (affiliation-submissiveness) and most adult behavior as indicative of NOPA (affiliation-dominance). This procedure was successful in reducing the amount of rated JKLM behavior for boys to a level lower than that reported by other studies (Raush, et al., 1960; MacKenzie, 1968), but it also resulted in the stereotypical rating of a great preponderance of maternal behavior in the NOPA quadrant. While rater instructions contained specific reference to avoiding the JKLM stereotype for boys, no such reference was made to the NOPA stereotype for mothers. Thus, the raters seemed to have used a separate, child frame reference to code boys' behavior, but to have coded mothers' behavior by implicitly using an adult-child perspective. A better distribution of ratings around the circumplex can probably be best accomplished by instructing

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judges to compare mothers with each other and boys with each other, particularly with regard to ratings on the dominance-submission axis.

A second point concerning rating procedure is the departure, in the present study, from the rating instructions of Freedman, et al. (1951). These authors recommend that interpersonal mechanisms be rated from the perspective of the one who is being acted upon. Raters in the present study found it difficult to maintain this empathic set while shifting back and forth from mother to son. Moreover, the raters were undergraduate psychology majors who were relatively unsophisticated in their knowledge about psychological processes. They were more apt to take behavior at face value and less likely to be inferential in their judgments than would be the case for the more experienced clinician using the circumplex system. The net effect of these differences seems to have been a sacrifice of psychological "depth" in the ratings for very high inter-rater reliabilities. The unit by unit per cent agreement reliabilities obtained in the present study are the highest thus far reported.

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A third procedure which differs among studies employing the circumplex rating scheme is the manner in which the behavior unit is defined. In the present study, the uninterrupted speech served as the basic unit. If behavior or affect changed within the unit, the unit was still scored only for the predominant behavior or affect. Mueller and Dilling (1968) point out the disadvantages of such a global evaluation of the unit. When one does not rate in sequence different behaviors occurring within a unit, two kinds of information are lost: data about the specific behavioral response to the immediately preceding stimulus; and data concerning the manner in which the respondent reorganizes internally in response to previous stimulation. Loss of these two kinds of data should be weighed against the greater amount of work involved in coding and analyzing intra-unit sequences.

Reactions to Frustration

The rated verbal and nonverbal behavior of sons and mothers in the frustration session was examined with respect to its bearing on two major questions. The first asked what

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child variables are involved in the boy's ability to cope with frustration. The two groups of boys in the present study were chosen on the basis of their different standing on the variables of self-control, self-sufficiency, and achievement motivation. While low and high group boys were apparently frustrated to the same extent by the task (low and high groups did not differ regarding number of rated reactions to frustration, and the majority of boys in both groups surpassed the time limit for work on the puzzle), the two groups reacted to frustration in significantly different ways. Low group boys reacted more often with aggression and regression than did high group boys, while constructive reactions occurred more frequently in the high group than in the low group. The two groups of boys did not differ with regard to withdrawal and intropunitive reactions. One may conclude[1] from these findings that young boys who are high in self-control, self-sufficiency, and achievement motivation are more likely to demonstrate constructive coping behaviors and less likely to react to frustration with poorly controlled,

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[1]Conclusions should be generalized only to the middle- and lower middle-class population of 7-9 year old boys sampled in the present study.

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unconstructive behaviors than are boys who are low on these variables.

Although there were no objective data to indicate the specific relationships of self-control, self-sufficiency, and achievement motivation to coping behavior, the investigator's observations of the boys enable some speculation as to what these relationships might be. A high degree of self-control would seem to be effective because it keeps the boy in the situation. When boys reacted with poorly controlled behavior, this behavior had a tendency to "snowball." Their attention shifted from one distracting stimulus to another, and their work on the puzzle became increasingly erratic. Some of these boys could not delay gratification. After a few moments of work on the puzzle, they would start playing with the prize. Occasionally a boy claimed the prize while at the same time denying any further need for work on the puzzle.

It is felt that the effectiveness of high self-sufficiency lies in its enabling the boy to look to himself for evaluation of his progress and for directions on how to proceed. This point was clearly illustrated by many of the high boys as they virtually carried on a conversation with themselves. They would ask questions and then answer

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them, give directions to themselves, and evaluate their own progress, as if there were no one else in the room. At the other extreme were some of the low boys who continually turned to their mothers for help. There were a few mothers who obliged their dependent sons by completing the puzzle for them. One such mother took the puzzle from her son after he had made a feeble attempt to move some of the pieces, and as she completed the puzzle she remarked again and again on how well they were doing. Although she attempted to deceive the investigator by instructing her son to take credit for the finished puzzle, she obviously could not successfully deceive her son into believing that he was capable of coping with situations on his own.

The role of high achievement motivation in coping behavior is apparently to enable the boy to persist at something when the likelihood of success is in doubt. The high n achiever seems to be motivated by intrinsic as well as external, material rewards. Whether he wins the prize or not he wants to be able to say that he solved the puzzle or that he did his best. While some of the low group boys gave up on the puzzle, all of the high group boys continued

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their effort until the investigator ended the session. In a few of the cases where the boys were awarded the prize for their efforts, they put the prize aside and continued to work on the puzzle.

The second major question concerning reactions to frustration dealt with mothers' behavior. Do mothers of constructive copers respond differently from mothers of less constructive copers to their sons' reactions to frustration? The two groups of mothers did respond differently, with low mothers showing significantly more negative responses and restrictive help and significantly fewer nondirective responses and positive responses than did high mothers. However, the two groups of mothers were not responding to the same child stimulations. The poorly controlled, unconstructive behavior of low boys may "pull" negative and restrictive, intrusive responses from their mothers, while the greater frequency of nondirective and positive responses of high mothers may be due to the greater amount of constructive activity demonstrated by their sons.

Taking each of the categories of sons' reactions separately to represent the universe of sons' behavior,

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it was found that the two groups of mothers responded differently to the same child stimulations. This was particularly true of their response to sons' constructive activity, with low mothers more likely to respond negatively and less likely to respond nondirectly than high mothers. Since there are no comparable data on mother-son interaction, it is not possible to determine what effects these responses of the mothers had on their sons' subsequent behavior. It may be conjectured, however, that the cumulative effect of high mothers' greater nondirectiveness is to facilitate further constructive activity in their sons. The greater degree of negative responses (restriction, criticism, etc.) in low mothers suggests that they are ambivalent about self-sufficient and assertive behaviors in their sons, and to the extent that their sons respond to the negative side of this ambivalence, they may be discouraged from further constructive activity.

Interpersonal Behavior

The circumplex ratings of the verbal behavior of mothers and sons in the frustration and verbal sessions

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were examined with respect to two major questions. Do high and low boys differ and do their mothers differ in their interpersonal behavior? And if differences exist between the separate behaviors of high and low son-mother pairs, are there also consistent patterns of interaction that differ for the two groups?

Comparison of the separate behaviors of low and high group boys revealed that low boys demonstrated significantly more poorly controlled and negatively assertive behavior (BCDE) and significantly more passive-aggressive (FG) and negatively dependent (HI) behavior than did high boys. High boys significantly exceeded their low group matches on positively assertive behavior (NOPA). There were no group differences with respect to positively dependent behavior (JK) or cooperation (L). These findings are very similar to those of MacKenzie (1968) with aggressive underachievers and normal controls. The only difference between the results of the two studies is that her normals showed more JKLM behavior than her clinic boys. Much of this difference is probably due to the fact that much of the JKLM behavior observed by MacKenzie would have been scored NOPA in the present study.

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The two groups of mothers also differed in their interpersonal behavior, with low mothers showing significantly more dominant and protective behavior (NOPA) and a trend toward greater rejection (BCDE) and mothers of highs demonstrating significantly more autonomy granting behaviors that were both positive (JKLM) and negative (HI). These findings for mothers are only partly in agreement with those of MacKenzie. While the differences between her groups of mothers were largely a function of the love-hostility axis of the circumplex, low and high mothers in the present study differed primarily on the dominant-submissive axis. MacKenzie's clinic mothers demonstated significantly more negative behavior (BCDE) and significantly less positive behavior (JKLM and NOPA) than did her normal mothers. Because her clinic mothers comprised a more extreme group (psychological clinic referrals) than low mothers, much of the dominant behavior scored as NOPA for low mothers would probably have been scored negatively as BCDE for her clinic mothers.

The findings with respect to the behavior of low and high mothers are similar to those of most studies which have used comparable groups of Ss. Becker, et al. (1959)

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found that mothers of aggressive school children were dictatorial and restrictive, Goldstein, et al. (1967) observed more power-assertive and less opinion-seeking behaviors in mothers of aggressive, externalizing adolescents than in mothers of internalizers, and Hilton (1967) observed that mothers of dependent preschoolers were significantly more involved and interfering than were mothers of more independent children. The observation of Rosen and d'Andrade (1959) that mothers of high n achievers were more dominating of their preadolescent sons than were mothers of low n achievers is inconsistent with the findings of the present study.

How are the behaviors of sons and mothers related? That a relationship exists is suggested by the correspondence of changes in mothers' behavior to changes in sons' behavior from frustration to verbal sessions. High boys and high mothers showed little change from one session to the other. The only significant changes were high mothers' decrease in reassurance and increase in teaching, both appropriately cued to the instructional differences which defined these two sessions. Low sons and mothers, on the other hand, exhibited shifts in their behavior that were

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complementary to each other. While low sons decreased their negatively assertive and poorly controlled behavior and increased their negatively dependent behavior, low mothers decreased both positive and negative autonomy-granting behavior and increased their dominant and protective behavior.

However, what is really crucial to determining relationships between the behaviors of mothers and sons is examination of their respective behaviors as they occur in sequences at the same point in time. As pointed out previously, interaction between mother and son can be examined from two perspectives. Son may be regarded as the sender and mother as the respondent, or the roles may be reversed for the participants. Since this research considered "child effects" as well as "mother effects" to be important, interaction was examined from both perspectives.

As one might expect from the differences between low and high sons' behaviors and between low and high mothers' behaviors, the two groups of mother-son pairs differed in their interactions. While the most common son-mother and mother-son interaction for both groups was

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the symmetrical NOPA:NOPA sequence, several less common complementary sequences were present in different degrees in low and high groups. The lows demonstrated the FGHI:NOPA son-mother sequence and the NOPA:JKLM and NOPA:FGHI mother-son sequences more often than high mother-son pairs. On the other hand, the NOPA:JKLM son-mother sequence and the JKLM:NOPA mother-son sequence occurred more frequently in the interactions of highs than in the interactions of lows. Those interactions which occurred more frequently in the low group than in the high group are ones that would serve to maintain a mother-son relationship in which the mother is dominant and protective (NOPA) and the son is dependent (FGHI or JKLM). Interactions that occurred more often in the high group than in the low group would help to foster a mother-son relationship in which the son is often positively assertive (self-sufficient) and the mother is willing to grant him autonomy (JKLM).

The more symmetrical mother-son relationship for highs was consistent across the frustration and the verbal sessions, while the more complementary relationship between low mothers and their sons was more marked in the verbal session than in the frustration session. In going from

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the first to the second session, low mothers increased their dominance and protective behavior and low sons increased their negatively dependent behavior. Since the order of presentation of frustration and verbal sessions was not counter-balanced, changes from the first to the second session may reflect a carry-over of the effects of frustration or they may reflect the Ss' reactions to the changed structure of the verbal session. With respect to the different structure of the verbal session, these changes can probably be accounted for by the fact that the verbal session presented low mothers with the opportunity to take over and to prove themselves as "good mothers." The low mothers did appear to be more "ego-involved" than the high mothers in their teaching of the proverbs, and several asked the investigator for feedback on how well they had done. However, the low boys were also presented with an opportunity, if their mothers were concerned about doing a good job. The increased passive-aggressive and negatively dependent behavior of these boys may have been intended to make things more difficult for their mothers. It is apparent that interpretations from the perspective of "parent effect" or from the perspective

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In an attempt to examine why low and high groups differed in their interactions, sons' sender behavior as well as mothers' sender behavior was "equalized" for highs and lows by regarding each category of sender behavior separately as the universe of sender behavior. This procedure made it possible to determine whether or not low and high groups responded differently to the "same" interpersonal stimulations. Results indicated that low and high mothers were significantly different in their responses to all major classes of son sender behavior, and low and high sons were significantly different in their responses to all major classes of mother sender behavior. These results suggest that differences in the behavior of high and low groups are a function of both mothers and sons. It is most likely that an interaction of mother and son effects may best account for the group differences observed in the present study.

A comparison of the specific patterns of response or reinforcement for lows and highs permits some speculation about how the mother-son relationship differs in the

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two groups. While both groups of mothers were most apt to respond with NOPA behaviors to all classes of sons' stimulations, the less frequent (and probably more important) responses of the mothers showed some interesting group differences. When sons showed negatively assertive and poorly controlled behavior, low mothers were more likely than high mothers to respond in a negative manner, and high mothers were more likely than low mothers to respond with structuring and teaching. The negative response of low mothers was likely to evoke a similar response in low boys approximately 50% of the time, thus maintaining the pattern of negative interaction and unconstructive activity. However, high boys very frequently responded to their mothers' structuring and teaching with positively assertive or constructive behavior (NOPA: 53%), which served to perpetuate a quite different pattern. Both low mothers and their sons were more likely to respond negatively to negative stimulations than were highs, while high mothers and their sons were more likely to respond to negative stimulations with positively assertive behaviors than were lows. These differing patterns suggest that mother-son conflict may persist in lows but tends to be resolved in highs. In the previous chapter it was

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reported that low mothers obtained higher scores than high mothers on a group of SPQ scales (sex-anxiety, punitiveness and physical punishment, and demands for aggression) which the investigator chose to call anxiety about closeness. It is hypothesized that the perpetuation of conflict and the frequent demonstration and encouragement of aggression constitute a way of coping with anxiety about closeness in low mother-son pairs. Consideration of this hypothesis is a task for future research.

Low and high mothers' responses to passive-aggressive and negatively dependent behaviors of their sons were fairly similar. While high mothers responded more often with affiliative-submissive behavior and reassurance, and low mothers more often with dominance, both groups of mothers demonstrated protective and dominant behaviors (NOPA) approximately 90% of the time. The FGHI:NOPA son-mother interaction occurred more frequently in lows (27%) than in highs (18%). Since low and high mothers responded similarly to FGHI behavior, it must be differences in boys' responses which account for the group difference in FGHI:NOPA. If one looks at sons' responses to mothers' NOPA behavior, it is apparent that low sons responded more frequently with FGHI than did high sons. MacKenzie's (1968) results also revealed a greater perpetuation of this FGHI:NOPA son-mother pattern in the poorly adjusted group.

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There are two plausible explanations to account for this phenomenon. Low boys may perceive their mothers' NOPA behavior as an attempt to control them, to take away their freedom, and so they resist or withdraw (FGHI). Low mothers, meanwhile, may interpret their sons' behavior as indicative of helplessness and therefore respond with more dominant and protective behavior (NOPA). A second explanation is suggested by the finding that low boys demonstrated significantly more negatively dependent behavior (HI) than high boys, while the groups did not differ with regard to positively dependent behavior. As hypothesized by Sears, et al. (1957), dependent (low) boys may be highly ambivalent about expressing dependence lest such expressions be punished by their mothers. Because of their uncertainty about how their mothers will react, low boys may express their dependency in an indirect but quite intense manner (FGHI). While the frequencies are small, low mothers did respond to their sons' FGHI behavior with more rejecting behavior (BCDE and FG) than did high mothers. The occasional rejections of the low boys' dependency expressions probably served to intensify their ambivalence. However, the majority of low mothers'

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responses to FGHI were dominant (62%) or protective (31%) in nature. Why would low sons react to these maternal behaviors with more FGHI? As the first explanation suggests, possibly low boys perceive these maternal behaviors as an attempt to control them, which is certainly consistent with the fact that the majority of low mothers' NOPA behaviors were dominant in nature. But it is just as likely that so long as low boys express their dependency in an indirect, intensely helpless way, they will not feel satisfied even when their mothers respond with help or reassurance. They have not directly asked for something, and therefore they are not likely to feel that they have really been given something. One factor is common to both of the explanations of the FGHI:NOPA sequence in low son-mother pairs, and that is the perception of both low sons and mothers that low sons are very helpless.

That low mothers responded to sons' positively assertive behaviors more often with dominant behavior (PA) and less frequently with autonomy-granting behavior (JKLM) than did high mothers implies that low mothers are either threatened by or have little confidence in their sons' attempts to be self-reliant. When sons were presumedly given a chance to assert themselves in response to JKLM

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stimulations from their mothers, low boys demonstrated more helpless behavior (HI) and less positively assertive behavior (NOPA) than did high boys. Here is the suggestion that low boys concur with their mothers' perception of them as helpless and unable to cope with situations adequately. The above mentioned finding that low boys reacted to mothers' attempts to dominate the situation (NOPA) with more passive-aggressive and helpless behavior (FGHI) and less positively assertive behavior (NOPA) than did high boys confirms the impression that the complementary "dependent son--controlling mother" relationship in lows is a function of both sons' and mothers' behavior.

Mothers' Attitudes

There were three groups of Stanford Parent Questionnaire scales which differentiated low and high mothers. Scales were grouped together on the basis of the intercorrelations among all 16 SPQ scales for low and high mothers combined. Each group contained scales which had high correlations with each other and relatively low correlations with scales outside the group. The first group

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of scales contained low rejection, high self-esteem, low inconsistency, and high positive father-mother relationship and was given the name, parental adjustment. Mothers of lows scored significantly higher on both the rejection and inconsistency scales than did high mothers. This finding is consistent with the results of several studies of parental attitudes and behavior. McCord, et al. (1961) observed mothers of aggressive boys to be more rejecting of their sons, to be more inconsistent in their discipline, and to have a poorer marital relationship than mothers of less aggressive boys. Becker, et al. (1961) found a significant relationship between a "general family maladjustment" factor (marital conflict and inconsistency between parents) and aggression in school children; Winder and Rau (1962) a relationship between parental rejection and boys' dependency, and Rau, et al. (1964) an association between low rejection-high self-esteem and boys' self-sufficiency.

A second group of scales that were highly related to each other was labeled, parental anxiety about closeness, and this group included punitiveness and physical punishment, demands for aggression, and sex anxiety. Low

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mothers scored significantly higher than high mothers on two of these scales, punitiveness and physical punishment and demands for aggression. This result is in agreement with studies which have found a relationship between power-assertive discipline and externalized controls in children (Becker, 1964; Hoffman and Saltzstein, 1967; and Goldstein et al., 1967) and studies which have related physical punishment specifically to children's aggression (Lefkowitz, et al., 1963; McCord, et al., 1961; and Becker, et al., 1962). The "aggressive model" interpretation seems to account most adequately for the present findings. When mothers of low boys use physical punishment on their sons, they provide a model for poorly controlled behavior. The greater demands of these mothers for their sons to react aggressively (fight for their rights) with their peers provides additional reinforcement for learning that one must be aggressive in order to cope with things and people in general. Physical punishment might also be expected to frustrate the boy and to instigate anger in him, as well as to threaten the love relationship between son and mother, leading to an anxious dependency in the boy. The significantly greater amount of passive-aggressive

and negatively dependent behavior (FGHI) demonstrated by low boys in the present study is consistent with these interpretations of the effects of mothers' physical punishment.

The third group of highly intercorrelated scales was considered to reflect parental involvement, and this group contained a heterogeneous mixture of scales dealing with parenting techniques. Of the scales in this group, low mothers scored significantly higher on democracy, demands for conformity, affection demonstrated, and achievement standards than did high mothers. Two of these scales which differentiated the groups provide results consistent with those of previous research. Winder and Rau (1962) found mothers' demonstrated affection to be positively related to social deviancy in preadolescent boys. Possibly the greater demonstration of affection operated as a reaction formation to mask underlying attitudes of rejection toward the boy. Low mothers' higher scores on achievement standards provide evidence that is in agreement with Winterbottom's (1958) findings regarding mothers of low and high n achievers. She determined that mothers of high n achievers make more demands on their

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children for achievement prior to eight years and fewer such demands on their children after eight years than do mothers of low n achievers. She concluded that it is early independence training and stressing of achievement that is crucial to the child's development of achievement motivation. This finding illustrates a point that is applicable to many areas of child-rearing, namely, that the point in the child's development at which mother invokes a particular practice may be as important as the practice, itself. Several of the low mothers in the present study acknowledged that their sons were too dependent, that they had waited too long to untie the apron strings, and that present measures to curb their sons' dependency were not very successful. However, these same mothers were observed to dominate their sons and to respond to dependent behavior by giving their sons what they wanted. It appears quite likely that low mothers waited until their sons were relatively old to stress achievement and to initiate independence training because they were and probably still are ambivalent about their sons' mastery behaviors.

If the scales which have been organized under parental involvement are considered together, some do not appear to belong with others. For example, low mothers' higher scores on democracy seem to be inconsistent with their higher scores on demands for conformity. The same sort of phenomenon was reported by Lefkowitz, et al. (1963), who found that mothers who indicated higher use of physical punsihment also tended to indicate greater use of other, more permissive techniques. The fact that a heterogeneous group of parenting techniques demonstrated high intercorrelations suggests that the present sample of both low and high mothers did not differentiate strict and permissive approaches to discipline. It is felt that the higher scores of low mothers on the parental involvement scales reflect a desire on the part of these mothers to create a "good parent" image. Their greater ego-involvement in the proverb teaching task and their demonstration of significantly more dominant and intrusive behavior than high mothers support the impression that these low mothers were concerned about their performance as mothers and needed to convince the investigator, the schools, and themselves that they were doing a good job of parenting.

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Integration of the results of observational and self-report measures suggests that several interdependent maternal variables are significant in their relationship to coping behavior in young boys. The mother of the boy who is high in self-control, self-sufficiency, and achievement motivation and who copes with frustration in a largely constructive manner is apparently accepting of her son and confident in her role as a mother. She is consistent in her handling of her son's behavior and is not likely to use physical punishment as a method of discipline. Probably because she and her son are confident of the love relationship between them, they do not need to be continually involved with each other. While the mother of the constructive coper can relax her control over him, grant him autonomy, and respond to him in a nondirective manner, her son can take advantage of these opportunities for self-reliance and mastery. He seems to regard independent achievement as within his power, as a desirable thing, and as nonthreatening to the mother-son relationship.

A much different picture is suggested for the mother-son relationship of unconstructive copers and their mothers. The mother of the boy who is low in self-control,

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self-sufficiency, and achievement motivation is rejecting of her son and seems to be unsure of herself as a parent. Her punitiveness and physical punishment of the boy may be a response to or an instigation to aggressive and poorly controlled behavior in him. Whatever its basis, physical punishment may jeopardize the love relationship between son and mother while at the same time providing an aggressive, poorly controlled model for the boy. Probably because she is ambivalent about independence and mastery in her son, the mother of the unconstructive coper is both inconsistent and dominating in her handling of the boy's behavior. Her inconsistency and dominance probably foster dependency in her son by preventing him from developing reference points for internal evaluation. When she reacts in an inconsistent manner, the boy has no stable guidelines by which he can internalize correct ways of proceeding, and he cannot act on the basis of past experience. He must continually ask his mother what to do next. Dominance of the boy's activity, setting his goals for him, taking over his attempts at mastering a situation serve to communicate to the son that he is helpless, that he is incapable of tackling situations independently, and that

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self-reliance is threatening to the mother-son relationship. Because he perceives himself as helpless, the unconstructive coper responds to his mother in a passive-aggressive and helpless manner, thus perpetuating the "dependent son--controlling mother" relationship.

Interpretations of the parent-child relationship in the case of constructive vs. unconstructive copers or in the case of any groups of children which differ in defined ways are bound to be speculative. Even in a situation which permits close observation and reliable coding of the unit-by-unit interaction of parent and child, we are still too far away from the action. The ideal situation for studying interpersonal processes is one in which the researcher has control over the cues or stimulation "sent" to the subject and can check the subjects' perception of these cues to determine whether they are "received" as intended. Do <u>low</u> mothers intend to help or to dominate when they respond with NOPA? How do <u>low</u> sons perceive their mothers' NOPA behavior? The answers to these questions must be inferred from the respondents' behavior. Grant and Kantor (1961) have called attention to the need of parent-child research to examine the child's perceptions

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of his parents' behavior and his idiosyncratic interpretations of it. Even though the present study investigates group differences in responses to the "same" stimulations, there is no certainty that what is coded as the same is really the same for different people. A BCDE stimulation coming from a low group boy may have a quite different impact on his mother than the "same" stimulation from a high group boy has on his mother. Past experience with BCDE stimulations undoubtedly differs for the two groups.

Another methodological difficulty of much parent child research is the exclusion of the father from the research picture. Study of the mother-child relationship in isolation from other intra-family relationships can yield no more than a limited knowledge about the processes by which child and parent influence each other. Becker, et al. (1961), for example, found that the separate personalities of mother and father as well as their marital differences had a combined impact on the child that was significantly related to his development of aggression. One would predict that the mothers and fathers of low boys in the present study would be less consistent with each other in their attitudes toward child-rearing than would the parents of high boys.

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An approach borrowed from Goldstein et al. would provide a means by which data that were missing from the present study could be obtained. Family interaction under conditions of stress could be recorded on audio or video tape. Then the tape could be played back to each member separately, and the investigator could question the member regarding what his communications were intended to mean and what other members' communications meant to him. One could also have members role play various behaviors or affects (e.g., anger) and have the member predict how other family members will respond to him. This role play behavior could then be played back to the other family members, their responses recorded, and these responses compared to both the sender's intended effect on the listener and the sender's predicted response from the listener. Fresh approaches and new methods are needed in parent-child research, and it is felt that the manipulation of interpersonal stimulations and the assessment of interpersonal responses is a step in the right direction.

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CHAPTER V

SUMMARY

The present research examined the relationship between mother-son interaction and the coping behavior of boys. Three questions were of concern. What child variables are involved in the boy's ability to cope with frustration? Is the boy's manner of coping with frustration related to his mother's attitudes and behavior toward him? And what is the nature of the relationship between mother's behavior and son's manner of coping?

Ss were 32 preadolescent boys and their mothers, who were divided into two groups on the basis of teachers' ratings of the boys' classroom behavior. Lows were boys rated low in self-control, self-sufficiency, and achievement motivation, while highs had received high ratings on these three variables. A high degree of pair-wise matching was achieved on other presumedly relevant factors. Mothers filled out an abbreviated version of the Stanford Parent Questionnaire, and they participated in two interaction

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situations with their sons. In the first session (frustration session) the boy was intentionally frustrated by offering him a prize for completion of a puzzle which was too difficult for him, while the second session (verbal session) required the boy's mother to teach him three proverbs. Observing the frustration session through a one-way mirror, two judges rated the boy's reactions to frustration and his mother's responses to them. Both sessions were tape-recorded, and the verbal interaction was coded using the interpersonal rating scheme and system of categories developed by Freedman, Leary, Ossorio, and Coffey. Interjudge agreement was very high for both rating methods.

Analysis of the "reactions to frustration" data revealed that low boys demonstrated aggressive and regressive reactions to a significantly greater extent and constructive reactions to a significantly lesser extent than high boys. The two groups did not differ with regard to withdrawal and intropunitive reactions. Likewise, the two groups of mothers differed significantly in their responses, with mothers of lows giving more negative responses and fewer nondirective and positive responses than high mothers.

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Consideration of son-mother sequences indicated that low and high mothers showed different patterns of reinforcement for the same son behaviors, with the differences suggesting that low mothers tend to give negative and high mothers positive reinforcement for their sons' efforts at mastery.

Similar findings were reflected in a comparison of the groups with regard to their verbal interpersonal behavior. Low boys demonstrated significantly more behavior that was poorly controlled, passive-aggressive, and negatively dependent, while high boys showed significantly more positively assertive behavior. These differences were complementary to those for the two groups of mothers. Low mothers showed significantly more dominant and protective behavior and a trend toward greater rejection, while high mothers demonstrated significantly more autonomy granting behaviors that were both positive and negative in nature. Interaction sequences were analysed separately for son-mother and mother-son interaction. When son sender behavior was statistically "equated" for the two groups, low and high mothers evidenced different patterns of response to the same stimulations. Similarly, low and high boys responded differently to the same mother sender

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behavior, suggesting that the differences in interaction for the two groups were a function of the boys as well as their mothers. In their responses to each other, low mother-son pairs tended to maintain a pattern of negative interaction and unconstructive activity. Both mother and son acted in ways which would serve to perpetuate a complementary "dependent son--controling mother" relationship, which stands in contrast to the more symmetrical, mutually assertive relationship of high mother-son pairs.

Comparison of the two groups of mothers on the Stanford Parent Questionnaire (SPQ) revealed that low mothers scored significantly higher on rejection, inconsistency, punitiveness and physical punishment, demands for aggression, democracy, and demands for conformity than did high mothers. Integration of the SPQ and behavioral interaction findings led to the interpretation that the love relationship for low mother-son pairs is not a secure one, that consequently mother and son must be continually involved with each other. The low mother's ambivalent feelings are manifest in her inconsistent and dominant, protective behavior toward her son, while the low boy's anxious dependency results in a passive-aggressive and

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negatively dependent stance toward his mother. While the results lend support to the notions that boys' poorly controlled behavior is related to an aggressive parental model and that dependency in boys is related to maternal inconsistency and dominance, it was concluded that an interaction of parent effects and child effects can best account for the "dependent son--controling mother" relationship observed in low mother-son pairs. Several methodological issues were discussed in the light of the present study, and a new approach was suggested for family interaction research.

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APPENDICES

APPENDIX A

Teachers:

RATING INSTRUCTIONS TO TEACHERS

Please rate all of the boys in your class on the three scales for which definitions and rating sheets are provided. These are: self-control; self-sufficiency; and achievement motivation. Those boys who are withdrawn or who are "over-controlled" (note the sections of the definition sheet which are marked by an asterisk) should be separated into a group by themselves as you do the ratings. The majority of your boys, however, should fall into one of the four boxes on each of the rating sheets. It is not expected that a boy will necessarily fall in the same square on all three scales. That is, a boy may be rated low on one scale, medium-high on another, etc. So that the ratings on each scale will be relatively independent of each other, please rate your boys on self-control, then proceed to self-sufficiency, etc. Although only the end groups are defined for each scale, the scales should be seen as more or less continuous dimensions ranging from "low" through "medium low" and "medium high" to "high." The definitions of the scales are:

1. Self-control

Poor self-control - This boy shows relatively little self-control. He has difficulty following rules, sitting still, and keeping his mind on his work. He may get out of his seat and move about the room, talk when he is supposed to be working, or bother others in the room. He may show angry outbursts, tantrums, or whining when he is displeased. Generally he appears to act on impulse, with little regard for the consequences of his acts.

Appropriate self-control - This boy shows a relatively large degree of self-control, but he is not so controlled or rigid but what he can be socially outgoing with his peers and show aggressive behavior appropriate to boys. He respects rules, pays attention, concentrates on his work, and does not bother others. He shows restraint in his behavior, seems to think before acting. However, he can still be spontaneous and act or express himself when it appears appropriate to do so.

*There may be boys in your classroom who are "over-controlled," that is, they have such rigid self-control that they are withdrawn, lack normal spontanaity, or do not act or express themselves when it is appropriate to do so. Please put these boys in a group separate from the others that can be rated on this scale.

2. Self-sufficiency - In rating on this scale it should be kept in mind that some boys, because the content of the work is more difficult for them, need more help than others. Consideration of each boy's relative ability for doing school work should help on these ratings. For example, a boy of relatively low ability who asks for a moderate amount of help should be rated higher on self-sufficiency than a boy of high ability who asks for the same amount of help.

Low self-sufficiency - This boy does not generally do things on his own. He seeks an unusual amoung of help from his teacher and/or peers, much more so than his abilities would suggest was necessary. Whenever things become difficult, he looks to others to tell him what to do or to do his work for him. He has difficulty starting things and carrying them through by himself. He may seek a lot of reassurance and affection from his teacher.

High self-sufficiency - This boy generally goes ahead on his own and does his work without seeking an unusual amount of help from his teacher and/or peers. He can fall back on himself when the going gets rough, and he tends to carry things through to their end. He does not seek a lot of reassurance or affection from others. But he can ask for help or information when it is appropriate to do so.

*There may be boys in the class who never ask for help even when it is appropriate to do so. They may be withdrawn, their rigid independence may lead them to function in an unadoptive manner. Please place these boys in a group separate from the others who can be rated on this scale.

3. Achievement motivation - These ratings should take into consideration the boy's relative ability for school work. A boy of lesser ability who aspires to the same heights as a more capable boy should be rated higher on achievement motivation.

Low achievement motivation - This boy shows little motivation to do well in his school work. He does not seem to be very concerned about his performance and does not put forth his best effort. He shows little persistence, giving up easily on a job when difficulties are encountered. His poor motivation does not, however, keep him from being active in class.

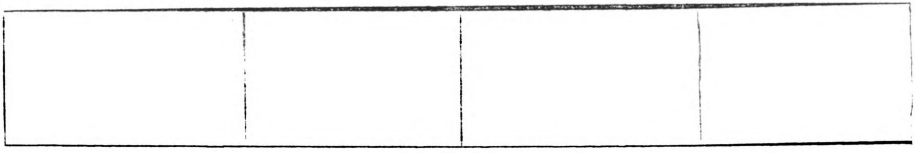
*There may be boys in the class who are so afraid of failing that they withdraw from competitive activities and from the class in general. Please rate these boys in a group separate from those who have poor motivation but who are not generally withdrawn.

High achievement motivation - This boy is highly motivated to do well in his school work. He often shows concern about his performance and tries to do his best. He is persistent, sticking to a job until it is completed, even though he encounters difficulties. He does not appear to be afraid of failing, entering actively into competitive situations.

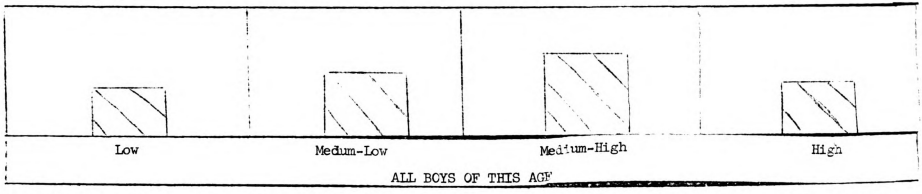
DISTRIBUTION OF RATINGS

Date_____
Grade_____
Teacher_____

Self-Control



BOYS OF YOUR CLASS



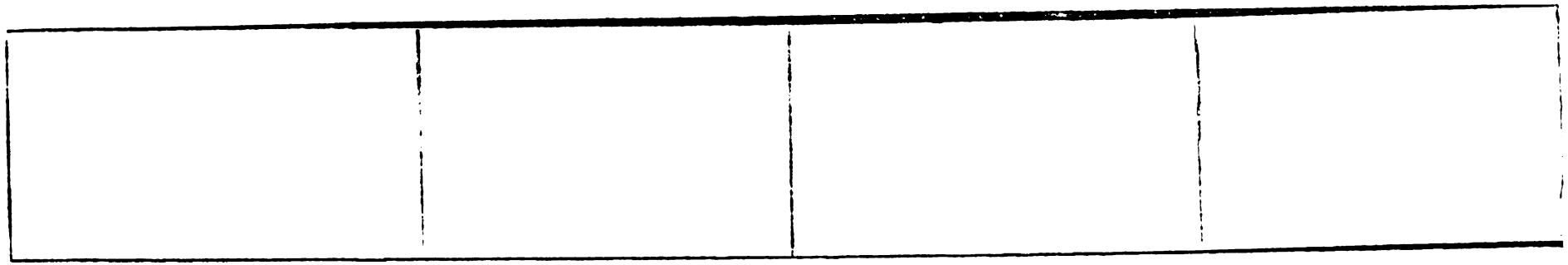
ALL BOYS OF THIS AGE

Your particular class may be different from this; it may be up or down on this scale. Think of your lowest boy and your highest boy; these will be the ends of your class scale. Put them on your scale, then place the rest of the children also in the 4 groups which are roughly the size of the "all children" scale. For a class of 28, this would be approximately 6 children in the High group, 8 in the Medium High and Medium Low, 6 in Low; however, your class may have slightly different numbers in these groups.

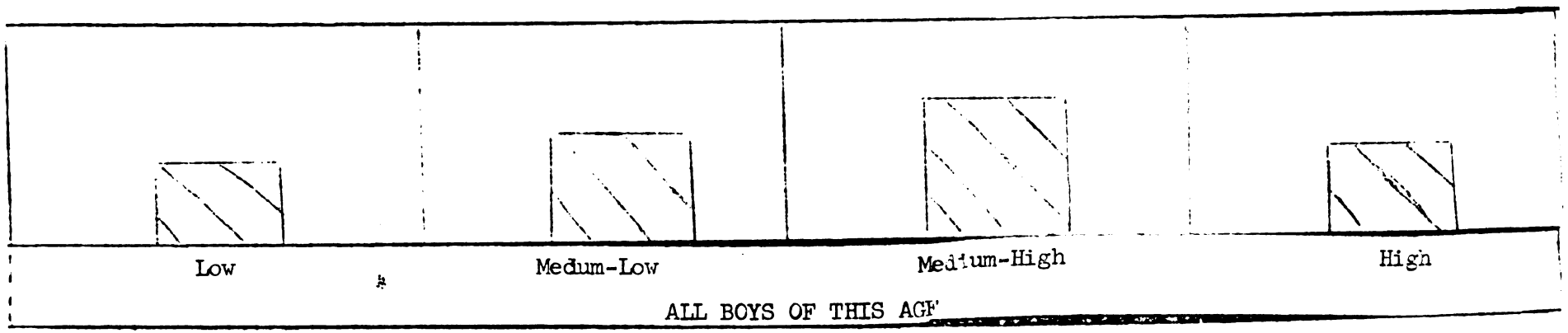
DISTRIBUTION OF RATINGS

Date_____
Grade_____
Teacher_____

Self-Sufficiency



BOYS OF YOUR CLASS



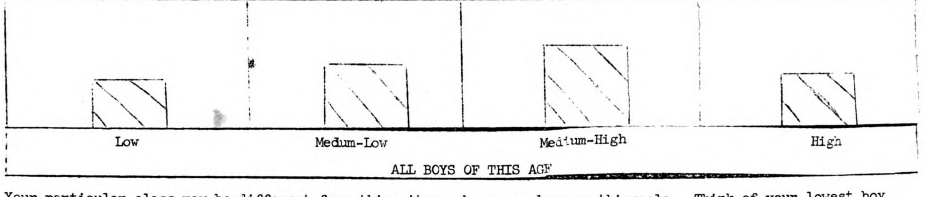
Your particular class may be different from this; it may be up or down on this scale. Think of your lowest boy and your highest boy; these will be the ends of your class scale. Put them on your scale, then place the rest of the children also in the 4 groups which are roughly the size of the "all children" scale. For a class of 28, this would be approximately 6 children in the High group, 8 in the Medium High and Medium Low, 6 in Low; however, your class may have slightly different numbers in these groups.

DISTRIBUTION OF RATINGS

Date_____
Grade_____
Teacher_____

Achievement Motivation

BOYS OF YOUR CLASS

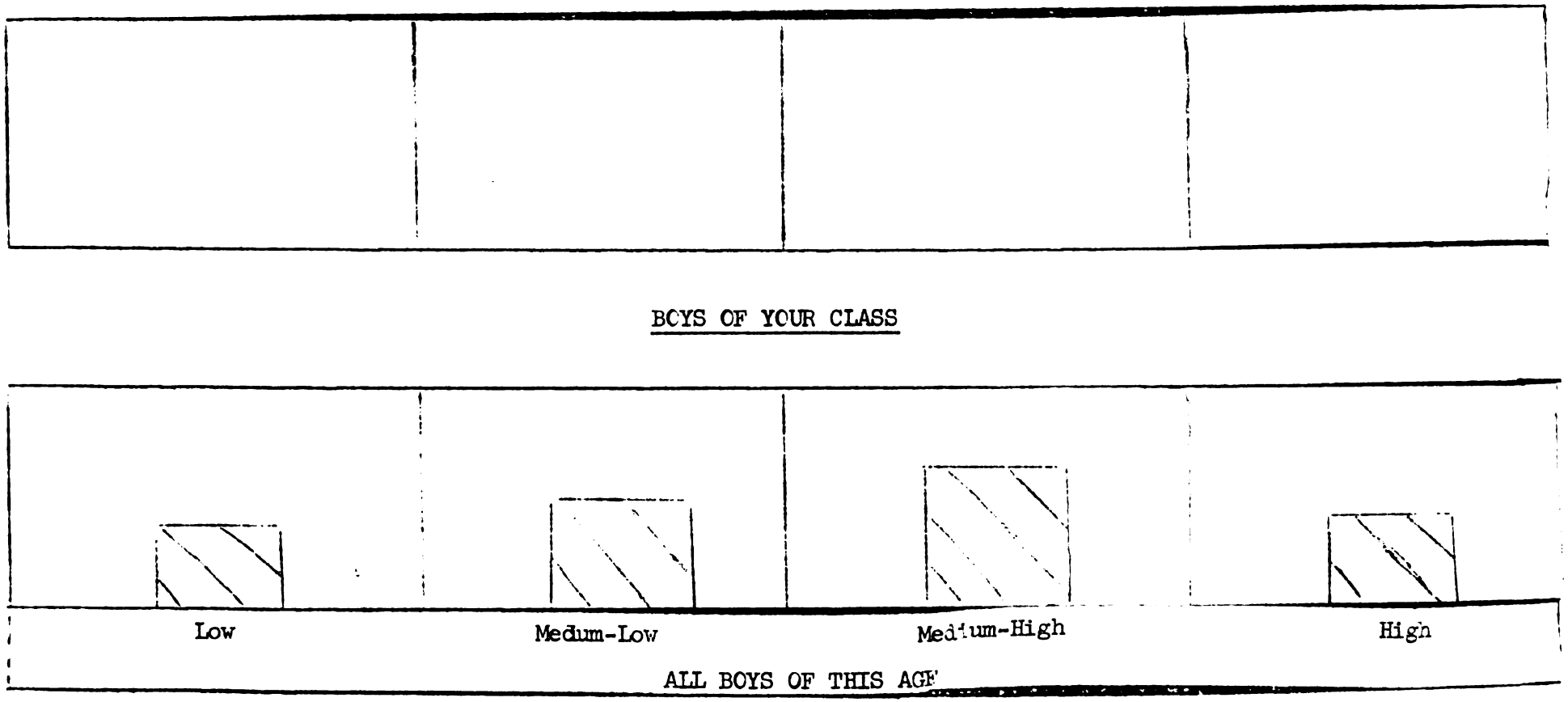


Your particular class may be different from this; it may be up or down on this scale. Think of your lowest boy and your highest boy; these will be the ends of your class scale. Put them on your scale, then place the rest of the children also in the 4 groups which are roughly the size of the "all children" scale. For a class of 28, this would be approximately 6 children in the High group, 8 in the Medium High and Medium Low, 6 in Low; however, your class may have slightly different numbers in these groups.

DISTRIBUTION OF RATINGS

Date_____
Grade_____
Teacher_____

Intelligence



Your particular class may be different from this; it may be up or down on this scale. Think of your lowest boy and your highest boy; these will be the ends of your class scale. Put them on your scale, then place the rest of the children also in the 4 groups which are roughly the size of the "all children" scale. For a class of 28, this would be approximately 6 children in the High group, 8 in the Medium High and Medium Low, 6 in Low; however, your class may have slightly different numbers in these groups.

APPENDIX A-2

LETTER TO PARENTS

MICHIGAN STATE UNIVERSITY EAST LANSING · MICHIGAN 48823

DEPARTMENT OF PSYCHOLOGY · OLDS HALL

Dear Mr. and Mrs.

I am doing a study of boys in a problem solving situation. The purpose of the study is to gain knowledge which will be helpful to those who work with children. The Department of Psychology, Michigan State University, is sponsoring the study, which also has the cooperation of the Lansing Public Schools.

was one of the schools asked to participate because it was believed to be representative of Lansing elementary schools. The teachers at rated all boys of your son's age on several aspects of class room behavior. From those ratings a large group of boys was selected which would appear to be quite representative of boys in general. Voluntary participation of these boys and their mothers is being requested.

I am asking that and Mrs. participate in the study. Besides contributing to our knowledge about children, I think that your participation will be an interesting experience for you. Participation will involve and Mrs. coming to M.S.U. for approximately an hour and a half, at a time convenient to you. will be asked to solve a puzzle and to learn the meanings of some statements, and Mrs. will be present while he works on the solution. Immediately after the session, I will attempt to answer any questions which you have regarding the research, the class room ratings of your son, my own observations, child rearing and child behavior, etc.

If you are willing to participate in the study, would you please fill out the enclosed questionnaire. I will be contacting you by phone within a short while to find out if you are interested, and if so, to set up an appointment. Your role in helping us to learn new ways of assiting children will be appreciated.

Sincerely,

Tom Rowland

APPENDIX A-3

HIGH-LOW PAIRS AND THEIR MATCHINGS ON RELEVANT CHARACTERISTICS

	Subject #	In-tell.	S C	S S	A M	Age	F's Occup.	M's Educ.	M's Age	Sibs	Birth Order	Sex Bal.[a]	Fam. Status[b]	F's Educ.	Class-room[c]	School[c]
1	065 (H)	3	4	4	3	8.9	3	12	43	2	Y	M	1	12	-	+
	040 (L)	3	1	1	1	8.9	4	12	34	2	Y	M	1	12	-	+
2	051 (H)	3	4	3	4	9.0	3	14	28	3	M	M	1	12	-	+
	070 (L)	3	1	1	2	9.2	3	15	33	2	O	M	1	15	-	+
3	009 (H)	3	4	4	4	8.0	4	12	33	4	O	M	1	12	-	+
	090 (L)	3	2	2	1	7.4	3	12	26	2	O	M	1	14	-	+
4	022 (H)	2	4	4	4	9.0	3	12	29	2	M	M	1	12	+	+
	012 (L)	3	1	2	2	8.5	4	12	29	2	M	M	1	11	+	+
5	064 (H)	3	4	4	3	8.9	3	12	--	3	M	F	1	11	-	-
	238 (L)	3	1	2	1	9.3	4	11	--	0	O	M	1	8	-	-
6	263 (H)	3	3	3	3	9.4	2	12	33	2	O	M	1	17	-	-
	069 (L)	3	2	1	2	9.0	2	13	30	3	M	M	1	17	-	-
7	086 (H)	4	4	4	4	7.9	3	12	41	3	M	M	1	12	+	+
	090 (L)	3	1	1	1	7.9	3	13	41	1	Y	M	1	14	+	+
8	063 (H)	2	3	3	4	9.6	4	12	32	2	M	MF	1	12	-	+
	076 (L)	2	1	1	1	9.9	4	12	31	3	M	F	1	8	-	+
9	054 (H)	3	4	3	3	8.9	3	12	28	2	O	F	SF	12	-	+
	058 (L)	3	1	1	1	8.9	3	12	41	1	Y	M	1	14	-	+
10	227 (H)	4	4	4	4	8.0	3	12	35	2	M	F	1	16	+	+
	223 (L)	3	2	2	2	7.4	3	12	28	4	M	M	1	13	+	+
11	221 (H)	4	4	4	4	7.9	4	10	31	3	M	M	1	11	-	-
	084 (L)	3	2	2	2	8.0	4	9	31	3	M	MF	1	9	-	-
12	014 (H)	3	4	4	4	8.9	2	12	33	3	M	F	1	16	-	+
	074 (L)	3	2	2	2	8.4	2	12	35	2	M	M	1	16	-	+
13	031 (H)	4	4	4	4	7.8	3	12	34	3	M	M	SF	13	+	+
	023 (L)	3	2	2	1	7.9	4	12	31	3	M	M	1	12	+	+
14	205 (H)	4	3	4	4	7.4	4	12	28	2	O	M	1	10	-	-
	028 (L)	3	2	2	2	8.0	4	12	38	2	M	M	1	12	-	-
15	115 (H)	3	4	4	4	8.3	4	12	32	2	Y	M	1	10	-	+
	095 (L)	3	2	2	1	7.8	4	12	32	4	M	M	1	13	-	+
16	018 (H)	3	4	4	4	9.1	3	12	33	3	M	MF	1	12	-	-
	257 (L)	2	2	2	2	8.9	4	8	33	1	O	MF	1	8	-	-

Note: Race was not one of the matching variables. All Ss are Caucasian except #'s 063, 115, & 095.

[a] Sex Balance refers to the preponderance of males (M), females (F), or neither (MF) among the siblings.

[b] The number 1 indicates that boy's natural parents are alive and residing in the home; SF stands for step-father

[c] Plus (+) means that both boys are from the same classroom (school), minus (-) that they are not.

APPENDIX B

APPENDIX B-1

PROVERBS

Level of difficulty	
1	When the cat's away, the mice will play.
4	He travels swiftest who travels alone.
3	The proof of the pudding is in the eating.
1	Don't cry over spilt milk.
4	New brooms sweep clean.
1	The burnt child dreads the fire.
3	Don't count your chickens until they're hatched.
2	A rolling stone gathers no moss.
3	To fiddle while Rome burns.
4	He who laughs last, laughs best.
2	It never rains but it pours.
2	Don't cross your bridges till you come to them.

APPENDIX B-2

CIRCUMPLEX CATEGORIES FOR MOTHER AND SON BEHAVIOR

I. Mother behavior

B - Active resistance--Includes behaviors that are not only dominant but that are also distancing regarding C. Active resistance without clear rejection of C's overtures. Self-stimulating communication "with" C. M behaves toward C in a way which suggests that her needs rather than his are of issue.

Ex: M advises C in a boastful manner; M's behavior is condescending, though not clearly critical or mocking; "Yes it is a difficult puzzle, but I know you can do just fine"; M tunes out C's request or comment and responds in an irrelevant manner.

C - Competition--Includes behaviors that are primarily competitive, combative, or expressly oppositional in nature. Disagreement with or rejection of C's expressions, refusing or withholding regarding C's requests are good examples. Anger may be present, but it is expressed through opposition. When a command carries with it affect which is largely negative or hostile, it belongs here. If the affect of the command suggests "threat," it is scored as punishment.

Ex: "No, you do it by yourself"; "I don't think that's true at all"; C moves a piece of the puzzle and M makes a point of negating the move.

D - Punishment--Includes behaviors that are primarily punishing, mocking, threatening, or

challenging. Anger is less disguised or controlled than in competition, and it may be expressed openly as in loss of temper. But anger or rejection is not as "total," not as intense as the "get away from me, I hate you" type of rejection embodied in hate.

Ex: "You'd better stop that"; "What did you say!" M administers a spanking; M says with irritation, "What do you want"; "Is that any way to behave?"

E - Hate--Includes behaviors which seem to say to C that he is an unwanted or undesirable person. Intensely hostile affect, disaffiliative behavior, contempt, criticism. Punishment is more immediate, reactive, forceful, while hate reflects a permanent attitude, a more "personal" message.

Ex: "That's no way to do it (stupid)"; "Your're acting like a (disgusting) little child"; "Why don't you stop pestering me!" "Can't you behave like a mature boy." "You had it there for a minute, and now you've gone and fouled it up."

F - Complaint--Includes behaviors which are more typical of a child, best described as passive and negative in nature. Differs from hate in its element of helplessness. Agent sees self as not powerful enough to effect changes through activity or direction. Attempt to control as a child does--through passive resistance, complaining, nagging, and sulking.

Ex: "Why don't you (please) stop that noise?" "I told you that wouldn't work"; C requests help and M indicates, "I don't know how to do puzzles"; "If you're not going to listen, then do it your way"; "These proverbs sure are stupid" (complaining about the task, but nevertheless saying something to C); On the basis of her previous behavior, some scorable silences may be inferred to represent passive resistance.

G - Suspicion--Includes expressions of suspicion, distrust, skepticism, as well as accusations and demands made from a passive, child-like position. This disbelief and distrust differ from "challenges" (punishment) in that they are indirect and passive. Differs from complaint by being less negative and more fearful. The martyr response is appropriate here.

Ex: M raises her eyebrows in response to something C says; "I guess you can do fine without me" (she's hurt); "What do you mean?" (she's looking for a hidden meaning); "What are you doing, are you trying to be smart?" (tone is suspicious and not strongly challenging); "I don't know what you mean" (she is resisting but is also threatened).

Counter Ex: "What!" (D); "I don't believe that." (C).

H - Helplessness--Includes behavior indicative of feelings of helplessness, tendency to withdraw, backing down from a previous stand, giving in, apologizing, degrading oneself, and passive detachment. These are more fearful and less resistive than suspicion.

Ex: "I'm no good at puzzles" (affect appears more helpless than resistive); "I just can't seem to help you"; "Let's go on to the next proverb and come back to this one later" (flight outweighs dominance or suggestion); M tries a few pieces to the puzzle, C complains, and M returns to her chair; C puts up a fuss, and M doesn't respond.

I - Submission--Includes behaviors that are submissive, deferrent, and reminiscent of a child obeying his parents. Differ from helplessness in that this does not represent withdrawal from a previously held position and the affect is "neutral."

Ex: C hands puzzle to M with, "Here, you try it" and M takes the puzzle without comment; C says, "This piece goes here," and M says, "Uh huh" (she is not detached, and she seems more deferrent than cooperative).

J - Democracy--Includes behaviors that seem calculated to enable or to get C to become active in a relatively dominant way. Admiration and respect for the other may be a requisite. All are encompassed by the rubric, "passive questioning." In asking for an opinion, etc., M is relinquishing the typically dominant adult role (re: a child) and is allowing C to take that role temporarily. When M questions but does not "intend" to give up the dominant role, scoring is P (structuring and teaching) or A (dominance). Whether M appears dominant or not naturally depends on what C does.

Ex: "What do you think is the best way to proceed?" "I wonder what this phrase means?" C is relating an account about school, and M asks relevant, "interested" questions.

Counter Ex: M tries to pull answers out of C (he is passive); M asks questions that have demand quality (A), which convey cooperation (L) or a willingness to help (O), or so that she can make a point (P).

K - Dependency--Like democracy, it includes behaviors calculated to get C to take the dominant role, to take charge of the situation. However, specific questions or requests for an opinion are not the medium of expression. Encouraging the other to take over or expressing a need for help in a vague manner are relevant.

Ex: "Here, you do it." (M is asking C to take over); "Will you help me with this?" "Am I getting across to you?" (asks for reassurance); M obviously wants C to talk because she is uncomfortable.

L - Cooperation--Includes cooperating, collaborating, and agreeing with the other, or more rarely, confiding in the other. If a question is asked from a dominant position such as P, and the other responds appropriately and without assuming the dominant role, the response is regarded as cooperation. Participant observation, if scorable, belongs here.

Ex: C says, "Let's do this," and M replies, "Ok"; C is relating a story and M "lubricates" his commentary by repeating his points etc. (such behavior would be help if it went beyond cooperation by reflecting feelings, helping C express himself, or summarizing what C said); M nods her head as C moves a piece of the puzzle.

M - Love--Includes behaviors reflecting love and feeling with the other person. Differs from reassurance and from cooperation in that the positive feeling is more intense and the agent seems to identify with the other. Praise and sometimes affection are relevant.

Ex: "I think you're OK even if you don't finish that old puzzle"; M puts her arm around son, squeezes him, smiles etc.; "Boy, that was a hard one, wasn't it!"

N - Reassurance--Includes reassurance, support, sympathy and pity. Differs from love and from cooperation because of its smothering, protective quality. These behaviors lack the quality of identification present in love, but they do involve a more active, giving approach than is embodied in cooperation. The affective tone is very important in making such judgments.

Ex: "That's too bad"; "Don't worry, you have plenty of time"; "That's right"; "You don't have to do it if you don't want to."

O - Help--Includes offering help, direct help whether task oriented or not, suggestions, and

task-relevant information, clarifications, or interpretations. Differ from structuring and teaching in that they are less dominant, less intellectual, and more for the benefit of the other than for the benefit of the agent.

Ex: "Maybe this piece goes there;" M moves a piece of the puzzle; M points to a piece of the puzzle and says, "That one goes over there" (she's offering, not dominating); "Would you like some help?" M supplies a word which C is struggling for.

P - Structuring and Teaching--Includes informing, instructing, giving opinions, advising, and asking questions, all performed from the dominant position and serving the function of structuring or teaching. Intellectualization belongs here, as do the relating of events which occurred outside of the session, idle chatter, conversation irrelevant to the task. Giving information, clarifying, and explaining belong here as long as they are not directly related to the task.

Ex: "Here's the first proverb_____;" "I think this is the hardest one;" "Are you ready?" "I talked to your teacher etc." "What did you do in school today?"

A - Dominance--Includes behaviors indicative of taking over, being in command, telling the other what and what not to do. Direct, active control of the other's behavior. Information, etc., is offered in an authoritarian manner. Agent acts as if the other cannot function for himself. Changing the subject or "riding over" the other's offerings are good examples.

Ex: "The puzzle has to be done one piece at a time"; "We'll do this proverb 1st, and then we'll go on to the others"; M takes puzzle from C and begins to work on it; oblivious to C's attempts to proceed in his own way, M says, "Now! What's the next phrase mean?"

II. Son behavior

The rating categories are similarly defined for both mother and son. The largest differential concerns the active-passive dimension, with it being more difficult to place the son's behavior in the dominant categories. It will be necessary to attempt to do away with assumptions such as "children are generally seen and not heard" and take a relative viewpoint that some behaviors are dominant for a child, although they may be less forceful than the same behaviors in the adult. Where the categories seem to differ for the child, corrections have been made.

B - Active resistance--C's behavior reflects active resistance, boastfulness, rudeness, self-assertion in a negative sense.
Ex: C boasts; C interrupts or rides over M's statement and either makes his point prevail (without combat) or makes her point his own; "I'm going to do it by myself."

C - Competition--More likely to occur between son and father. If C's contrary attitude is expressed actively, it is scored here.
Ex: "No, I don't want to do that"; "That's not right."

D - Punishment (Antagonism)--C's behavior is antagonistic, angry, challenging, threatening. Negativism is very active, and less well controlled than in competition. Impulses are expressed directly in a challenging, mocking manner.

Ex: "Are you crazy?" C loses temper, strikes M etc.; M tells C to stop doing something and he continues; "wise" comments belong here.

E - Hate--No different, except it's likely to be rare.

Ex: C glares at M.

F - Complaint--Defined exactly as for the mother.

Ex: "I don't want to do this" (affect is complaining); teasing in a complaining tone; M asks C a question to which he undoubtedly knows the answer, and he responds, "I don't know."

G - Suspicion--Defined exactly as for the mother. It is likely to arise in examples such as: "I don't think this puzzle can be solved;" "I think he can hear us;" "You're supposed to watch me aren't you?" The comments may refer to the investigator, but it is apparent that C perceives M as an ally with or sharing secret knowledge with him.

H - Helplessness--Definition same as for mother. Many of these behaviors may be asking for help in an indirect fashion.

Ex: "I can't do it"; whimpering (not sulking); "I'm no good;" C gives up.

I - Submission--C complies, does as he is told. Affect is noticeably absent.

Ex: M takes over, works on puzzle, and C makes no response. M makes a point and C nods his head.

J - Democracy (Admiration)--Defined exactly as for mother. It is more typically child to parent type of questioning.

K - Dependency--Directly or indirectly (vaguely) C asks for help, but not in a helpless manner.
Ex: "Do you know what Yogi should look like?" "I wonder what I should do;" "Is this right?"

L - Cooperation--Is more active than submissive, and affect is more obvious. C not only accepts instructions but acts on them. "Confiding in" is more appropriate here. Any demonstrable behavior which indicates that C accepts the help given by M. Appropriately answering a question.
Ex: M says, "May I see the puzzle?" and C yields it to her; C responds to a suggestion with, "Sure," "OK," "That's a good idea."

M - Love--Same as for M, except admiration is more likely than praise. Affect is all important in scoring.
Ex: "Wow, you're good at this;" "Gee, thanks;" M smiles or laughs and C does the same.

N - Reassurance--Likely to be rare. However, if M expresses a need and C responds appropriately, it is relevant. That is, M may act discouraged, helpless, suspicious, and C may respond with reassurance.

O - Help--Especially relevant when C and M are working together on the task.
Ex: C takes some information from M and then comes up with an interpretation; "This seems to be Yogi's hat;" C guesses at a proverb; M is confused about the puzzle, and C helps to clarify.

P - Structuring and Teaching--C takes a dominant position, perhaps playing the role of teacher, or structuring the situation by directing the train of conversation (asking questions).

Ex: C tells a story about what happened in Cub Scouts; "I think this is a harder one;" "Now, where do you think this should go?" "Do you know what time it is?" "Do you know what Jim said to me?"

A - Dominance--When it occurs, it is likely to be less forceful and less authoritarian.

Ex: C corrects M; C changes the subject; C interrupts M and says what she was going to say; "Let me see it."

APPENDIX B-3 RATING SHEET FOR INTERPERSONAL MECHANISMS

Mother-Son Interaction

Code No._____ Session F V Judge_____ Page No._____

Unit No.	Agent	Mechanism	Reaction to frustration
	M S		
	M S		
	M S		
	M S		
	M S		
	M S		
	M S		
	M S		
	M S		
	M S		
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APPENDIX C

M.S.U. PARENT QUESTIONNAIRE

INSTRUCTIONS: Please give the following information.

Your full name (print): _____

List your children, beginning with the oldest:

	Names	Ages
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____

School you completed (For example: 8th grade, Graduated from high school, Graduated from college, Completed 1 1/2 years of college, 11th grade and 1 year of mechanics school in the army or navy, Graduated from medical school, etc.):

_____

Marital status (For example: Married, Separated, Divorced, Divorced for the second time, Widow, Widow and now married for the second time, etc.):

_____

_____

Age: _____

NOTICE: As soon as you return this questionnaire, this page will be removed and kept in a separate locked file. Your answers will not be identified with your name. So, you can be very frank on this questionnaire and your answers will be kept completely confidential. Your code number is given below.

CODE NUMBER: _____

When you have given the information requested on this page, go on to the next page. You will find more instructions there.

PARENT QUESTIONNAIRE

(Mother's Form, T.R.)

The following statements have been made by parents about themselves, their children, and their families. Please read each statement and decide how it applies to you.

Look at the next page of this questionnaire for a minute and you will see that there are four columns on the right hand side of the page. On the left side of the page there are statements. You should put one check mark next to each statement. You may put the check mark under SA or A or D or SD. SA means you agree strongly with the statement. A means you agree with the statement more than you disagree with it. D means you disagree with the statement more than you agree with it. SD means that you strongly disagree with the statement.

If you agree strongly with the statement or feel sure that it applies to you, put a check mark in the column marked SA. SA means Strongly Agree.

If you are sure that a statement does not apply to you or you strongly disagree with the statement, put a check mark in the column marked SD. SD means Strongly Disagree.

Use the A (Agree) or D (Disagree) columns for statements you are less sure about or feel less strongly about.

Please mark every statement, even though some may not seem to describe you or your family. For example, there might be a statement about brothers and sisters and you may have only one child. Give the answer according to what you believe you would think or feel or do if the statement did apply, or the situation did come up.

If you have more than one child, please mark the statements as they apply to your son _____.

This questionnaire is for mothers; so if you are a man please ask for a different questionnaire.

Work as quickly as you can. You do not need to think about each statement too carefully -- just give your impression about it. In other words, answer every one, but do not think too long about any one. Start with number 1 and do each one in order. Give your impression of each statement quickly and go on to the next one.

CODE NUMBER: _____

	SA	A	D	SD	
1. We've pointed out to him that there are people who seem friendly but are not and that it's always wise to approach any person you don't know with some reserve.	3	2	1	0	Rg
2. The most effective punishment seems to be when we really take him in tow and either give him a spanking or a long talking to. Taking away some privilege doesn't work nearly as well.	3	2	1	0	PP
3. He knows when he's been spanked -- it's not just a tap on the wrist.	3	2	1	0	PP
4. I always try to give the reasons why he should or should not do certain things.	3	2	1	0	Rg
5. We look for as many opportunities, legitimate opportunities, to praise him as we can find.	3	2	1	0	Cr
6. I turn off the TV in the middle on one of his programs or I tell him to leave the dinner table because he's been misbehaving.	3	2	1	0	T
7. He thinks he knows everything, but he doesn't. He'll stand there and argue that white is black, even when you try to explain things to him.	3	2	1	0	R
8. He's a kid who's hard to please; he's just contrary.	3	2	1	0	R
9. We've told them definitely never to even go to the door unless they were dressed.	3	2	1	0	Sa
10. He got cut off on Cub Scouts and television for a month there when his school-work went down.	3	2	1	0	Dc
11. I usually say to him, "If you're going to act like that, son, go on to your room until you've finished pouting and sulking, and then come on out and join us."	3	2	1	0	Cr
12. We try to explain why we ask him to do something.	3	2	1	0	Rg

M-2

		SA	A	D	SD	
13.	We either play whatever game he wants to play or read if he wants me to read something to him.	3	2	1	0	Ad
14.	We praise him whenever he behaves well.	3	2	1	0	Cr
15.	If he leaves home he is definitely required to let us know where he is and we set a time for him to be back.	3	2	1	0	+
16.	When he was younger, we always used to pick him up the second he fell.	0	1	2	3	Ri
17.	Sometimes I think that the big trouble with a lot of children is nobody reasons with them as to why they shouldn't do things or why they should.	3	2	1	0	Rg
18.	I would say that _____ and I aren't as happy with each other as we might be.	3	2	1	0	R
19.	_____ maybe thinks I get too upset over things that he might want to do.	0	1	2	3	E
20.	I'm sure that _____ tells me whenever there is anything bothering him.	3	2	1	0	Ad
21.	Let's say he does something I didn't want him to do. I tell him I still love him but I have to punish him.	3	2	1	0	Rg
22.	Frankly, I'm just away from him too much of the time, and this is not good.	0	1	2	3	E
23.	Sex is something we don't talk about at all in front of the children.	3	2	1	0	Sa
24.	He knows that I'm going to paddle his fanny if he does something wrong.	3	2	1	0	PP
25.	The first two years of _____'s life are sort of a blur -- I don't remember very much about them.	3	2	1	0	R

		SA	A	D	SD	
26.	Usually when I'm around and he wants attention I'm not so busy but what I can at least answer him. I may not be able to do what he wants but I feel I at least owe him an answer.	3	2	1	0	Dem
27.	From the very beginning we started teaching him to always be dressed.	3	2	1	0	Sa
28.	He's not as aggressive as he might be at times.	3	2	1	0	Da
29.	I'd like my son to be smarter than me.	0	1	2	3	E
30.	We show our affection for each other -- we're not reserved about it at all.	3	2	1	0	Ad
31.	I've told him, "If you think you're right and the other fellow's trying to run over you, son, you slug him. Or if something happens to be yours and somebody tries to take it away from you, you fight for it."	3	2	1	0	Da
32.	I tell him he has to fight his own battles and not come tattling to me.	3	2	1	0	Da
33.	He's past the age of spanking.	0	1	2	3	PP
34.	If there has been a quarrel I tell him if he can't fight his own battles he will have to stay in his own house.	3	2	1	0	Da
35.	I wish I knew how close _____ feels to me.	3	2	1	0	R
36.	I think I get talked into things.	0	1	2	3	E
37.	It hurts me when he talks back to me.	0	1	2	3	E
38.	I really enjoy reading to _____ before he goes to bed.	3	2	1	0	Ad
39.	I don't believe that you should teach a child to fight.	0	1	2	3	Da

[redacted]

		SA	A	D	SD	
40.	Sometimes he seems to do things just to annoy me and I find this hard to understand.	3	2	1	0	R
41.	I would only step in to stop a fight if he started using a stick or some other object to hit another child.	3	2	1	0	Da
42.	He did mention some dirty joke he heard from the children. I told him not to play with those children and not to listen to those things.	3	2	1	0	Sa
43.	We've always tried to explain to him why you shouldn't do this or why you should do that.	3	2	1	0	Rg
44.	Once or twice I took him in, pulled down his pajamas and beat him with my hand,	3	2	1	0	PP
45.	He knows that we love him.	3	2	1	0	Ad
46.	I feel quite close to him because he'll generally come to me and put his arms around me and things like that.	3	2	1	0	Ad
47.	I'd say that in past years I have showed my affection too much. Now I try not to overdo it.	3	2	1	0	R
48.	Sometimes I think I understand _____ pretty well but then there are some things he does that I don't understand at all.	3	2	1	0	R
49.	I have never had any arguments with our neighbors.	0	1	2	3	PA
50.	We have discouraged him from kissing his brother on the mouth.	3	2	1	0	Sa
51.	I think I've always hugged and kissed him and if he climbed up in my lap, I'd hold him for a while.	3	2	1	0	Ad
52.	Every once in a while I take the occasion to tell him I'm proud of him improvement.	3	2	1	0	Cr

		SA	A	D	SD	
53.	A lot of times I take him to a picture show or something on weekends.	3	2	1	0	Ad
54.	I'd like him to stick up for his own rights.	3	2	1	0	Da
55.	We praise him when we think he would appreciate it and bubble over it -- not just for school work or if his room is kept or his shoes are shined.	3	2	1	0	Ad
56.	They're not allowed to roughhouse or jump on the furniture, but we fight it all the time and the moment my back's turned they do it.	3	2	1	0	In
57.	For his own self-protection, he should know how to handle himself.	3	2	1	0	Da
58.	I'm sort of inept at playing with babies.	3	2	1	0	R
59.	Parents should make lots of things available for kids to try out and let the kids try lots of things.	3	2	1	0	Ri
60.	I think _____ has to stand up for himself.	3	2	1	0	Da
61.	He has likes and dislikes and we consider them in making the rules.	3	2	1	0	Dem
62.	It's good for him to have lots of ways of keeping busy on his own.	3	2	1	0	Ri
63,	A child should obey right away.	3	2	1	0	Dc
64.	When he was small, we got a kick out of seeing him running around naked and enjoying himself.	0	1	2	3	Sa
65.	I try to treat people the way I'd want to be treated.	3	2	1	0	Dem
66.	We've been trying to develop suitable chores for each child so that they all contribute a little bit.	3	2	1	0	As

		SA	A	D	SD	
67.	I spend probably a half hour a day or more on an average school day helping him work his homework.	3	2	1	0	AS
68.	A lot of times he'll say he can't do something, it's too hard for him and start asking questions about it. Well, we try to help him come up with the answers and then show him that it isn't very difficult and that he can work these things.	3	2	1	0	Ri
69.	We did explain to him that that was his privates and not to be played with.	3	2	1	0	Sa
70.	I suppose I should give more consideration to his safety when he's out playing but I don't.	0	1	2	3	E
71.	I'm firm enough that he knows that I mean it when I tell him I don't want him to do something.	3	2	1	0	Dc
72.	Soon as I found out he was picking up cuss words, I would correct them. I would say that this is a word not to use.	3	2	1	0	Dc
73.	I feel he's too inclined to hold things within himself -- it's good to be able to show anger.	3	2	1	0	Da
74.	I would say we are pretty good at carrying through, but he gets away with things sometimes.	3	2	1	0	In
75.	We have a very companionable marriage -- We like the same things pretty well.	3	2	1	0	Fm
76.	He's got to learn that he has to close the door when he goes to the bathroom.	3	2	1	0	Sa
77.	I think that a boy his age ought to be able to mow the lawn and perform similar chores.	3	2	1	0	AS
78.	If he gets angry at me, I just let him express it as much as he wants to and I explain my position and that's it.	3	2	1	0	Dem

M-7

		SA	A	D	SD	
79.	I want him to do something and I am not ready to go into the reasons why I expect him to do it.	3	2	1	0	Dc
80.	Sometimes I'm so puzzled by what he does, you know, that I don't do anything too concrete until I think on it a little.	3	2	1	0	In
81.	I think we cooperate on big decisions.	3	2	1	0	Fm
82.	I tell him that if he gets pushed around, he should just turn around and push back.	3	2	1	0	Da
83.	I want him to grow up to be happy. I'd rather not hold him to what I want.	3	2	1	0	Dem
84.	I try to kiss him and he'll back away from me.	3	2	1	0	R
85.	To my way of thinking, he seems to want an extraordinary amount of attention.	3	2	1	0	R
86.	I'll say that some of the pretty violent scenes I've had with him were absolutely uncalled for on my part.	0	1	2	3	E
87.	I'm not as tolerant as I should be, I feel.	0	1	2	3	E
88.	He hasn't been very difficult to bring up.	0	1	2	3	R
89.	I think he likes attention and, believe me, it's lavished on him.	3	2	1	0	Ad
90.	I don't get irritated very easily. I learned to control my temper years ago.	0	1	2	3	PA
91.	I hope he'll be better able to go out and sway people than I can. I hope he'll have more chance than I have.	0	1	2	3	E
92.	He constantly tests the rules to see how empty they may be.	3	2	1	0	In

		SA	A	D	SD	
93.	Most of all I want him to do something he really loves doing, and not to study something or go into something for other reasons than that he really likes it.	3	2	1	0	Dem
94.	_____ wasn't very affectionate when he was younger.	3	2	1	0	R
95.	If he plays with his genitals, we just say, "Don't do that. You might hurt yourself," and drop the subject.	3	2	1	0	Sa
96.	If I've punished him and he goes to his bedroom and cries, I've insisted he stay there if he's going to cry.	3	2	1	0	R
97.	We should tell him once and then make darn sure that he does it, instead of repeating ourselves.	3	2	1	0	Dc
98.	He seems kind of young to try to explain things to him like the consequences of some things he might do.	0	1	2	3	Rg
99.	I think the thing that works best in trying to get him to behave the way I want him to is to talk to him; I always talk things over with him.	3	2	1	0	Rg
100.	I fear I don't help him as much as I should.	0	1	2	3	E
101.	I think he should stand up for himself.	3	2	1	0	Da
102.	I'm an independent person -- I know how to make my way in the world.	3	2	1	0	Ri
103.	Whenever he goes out to play, we want him to watch himself and be very careful.	3	2	1	0	T
104.	If somebody feels they could pick on you and you're not going to do anything about it, they'll pick on you that much more.	3	2	1	0	Da
105.	I told him if anybody starts a fight with him, he should put them in their place.	3	2	1	0	Da
106.	I'd like to see him go ahead and get an extensive formal education.	3	2	1	0	As

[redacted]

		SA	A	D	SD	
107.	Even if I'm hostile in my mind toward someone, I won't show it.	0	1	2	3	PA
108.	I'd like him to have a little more drive, spirit, initiative.	3	2	1	0	As
109.	When he's done something especially nice I always let him know how much I appreciate it.	3	2	1	0	Cr
110.	If I see he's hitting his brother hard, trying to hurt then I paddle his bottom.	3	2	1	0	PP
111.	Sometimes I'm at my wits end trying to figure out what to do with that boy.	0	1	2	3	E
112.	We've tried to show him that we plan ahead on things like meals and if there are particular things he wants he must ask ahead of time. And so a couple of times when he has asked ahead, we've tried if possible to do it at that time.	3	2	1	0	Ri
113.	I certainly don't want _____ to have the feeling that he had as little to do with what went on in the family as I did when I was growing up.	3	2	1	0	Dem
114.	He's not allowed to cross a busy street without some older person walking with him.	3	2	1	0	T
115.	I've pointed out to him that we each have a job to do. His father's job is to go to work and bring home the money, his mother's job is to keep up the house and his job is to keep his room up.	3	2	1	0	As
116.	There are some times when it's just not convenient to let him do things and I don't let him, but I like to let him try.	3	2	1	0	Ri
117.	I know that it's only healthy for a boy to fight.	3	2	1	0	Da
118.	I feel that probably I have been a little bit lacking in that knack of getting down to his level on a lot of things.	3	2	1	0	R

		SA	A	D	SD	
119.	I think it's very important for a child to learn to do things for himself within the limits of his capabilities. We try to make it possible for him to do as many things as he can.	3	2	1	0	Ri
120.	We always tell him, "Look, when you get to be old enough to earn your own living, then you can do what you wish. Just now you take your orders from your mom and dad."	3	2	1	0	Dc
121.	I would like him to be sure of himself in strange situations.	3	2	1	0	Ri
122.	The thing that makes me maddest of all is to be treated unfairly or to be unjustly accused.	3	2	1	0	PA
123.	I feel our best time is when we just sit and talk.	3	2	1	0	Ad
124.	Quite often when we try to do something for him, he doesn't seem to appreciate it and we kind of feel he should.	3	2	1	0	R
125.	We're always after him to keep the noise down, to tone it down.	3	2	1	0	T
126.	If he and the other kid are the same size, I let them fight it out.	3	2	1	0	Da
127.	Usually if someone treats me unfairly, I just feel injured. I like to avoid unpleasantness if possible.	0	1	2	3	PA
128.	I'm pretty quick-tempered.	3	2	1	0	PA
129.	If you talk to your children ahead of time and you can anticipate what will happen you can often eliminate lots of problems when they come and tell you what they want to do.	3	2	1	0	Rg
130.	When _____ and I have disagreements we always kiss and make up -- we both feel better if we do this.	3	2	1	0	Ad
131.	When they lie, when it's a provable lie, I get very angry about it and I've occasionally gone so far as to take a belt to them about this.	3	2	1	0	PP

		SA	A	D	SD	
132.	I don't like it when he comes and asks me things while I'm eating, and I get annoyed.	3	2	1	0	R
133.	The kids get to hear words I have no business saying around the house because I get angry.	3	2	1	0	PA
134.	When I'm angry about something, I like to get it out in the open and get it over with.	3	2	1	0	PA
135.	I don't like to have scenes with people.	0	1	2	3	PA
136.	Any time I have ever whipped _____, I've always made it a point to set him down and tell him exactly why. And then I feel that afterwards we probably have been closer than we ever were.	3	2	1	0	PP
137.	If we see him playing with his genitals we try to distract him somehow.	3	2	1	0	Sa
138.	We think it's important that children learn how to work, learn how to do things, tackle things more than just play.	3	2	1	0	As
139.	He feels by crying, I suppose, he'll get what he wants. We tell him it won't do him much good to cry.	3	2	1	0	R
140.	I think he should have some little chores that he must do so that he learns that there are certain things in life that you have to do.	3	2	1	0	As
141.	I love my son intensely.	3	2	1	0	Ad
142.	We frequently have to call his attention to the fact that he should not interrupt our conversations and that he should be quiet.	3	2	1	0	T
143.	_____ has lied to me a couple of times and I have really whipped him. I don't think he ever will again.	3	2	1	0	PP
144.	I would like to see him more outspoken in school.	3	2	1	0	As

[redacted]

		SA	A	D	SD	
145.	I have never encouraged him to use his fists to defend himself.	0	1	2	3	Da
146.	I show my affection very openly no matter where we are.	3	2	1	0	Ad
147.	I would say that for everything that we have forbidden or scolded him about, he was perfectly aware of the reason.	3	2	1	0	Rg
148.	We found out that children don't know what you're talking about when you explain things to them. It's wasted talk so we don't do it.	0	1	2	3	Rg
149.	We keep close track of _____, -- we always know where he is.	3	2	1	0	T
150.	I think he should obey but I don't think you should expect a child to do it on a moment's notice. But then, speak to them once, then speak to them a couple or three times in succession, it should register on them.	0	1	2	3	Dc
151.	We might encourage him in new activities other than what he wants himself but if we knew he was resisting us, we certainly wouldn't continue to push him.	3	2	1	0	Dem
152.	Calm, reasoned chastisement is the most effective punishment.	0	1	2	3	PA
153.	We keep awful close track of our kids.	3	2	1	0	T
154.	I don't think he should start fights, but if someone else starts one I think he should finish it even if he has to come home with two black eyes.	3	2	1	0	Da
155.	I don't try to stop _____ from getting into fights; I try to figure out whether he's justified or not.	3	2	1	0	Da
156.	_____ has been left alone very little. There's always some member of the family in the house.	3	2	1	0	Ad

[redacted]

		SA	A	D	SD	
157.	He had one boy friend that was slightly coarse and we didn't particularly approve of him so we told _____ to try and steer clear of him.	3	2	1	0	T
158.	Sometimes you have to come out and lay down the law to him. Talk can only go so far.	3	2	1	0	Dc
159.	We told him that we didn't want him to play with his genitals because it would hurt him later on.	3	2	1	0	Sa
160.	We've trained our children to respect each others' privacy in the bathroom.	3	2	1	0	Sa
161.	He doesn't do too much that we can praise him for.	3	2	1	0	R
162.	If I take him out someplace, say, to a movie -- and he sits quietly during this particular movie, I'll say, "I'm glad you came along with me, we'll have to go again."	3	2	1	0	Cr
163.	I don't think _____ was born at the best time in our marriage.	0	1	2	3	Fm
164.	They'll mind us at the time, when we're right there but we don't correct them in such a way that they're afraid to do it next time.	3	2	1	0	In
165.	I think that children, within their own group of friends, have to work out their own differences.	3	2	1	0	Ri
166.	I hope _____ will have qualities of leadership and initiative.	3	2	1	0	As
167.	We've always warned him about talking to strangers. He knows he's not supposed to let a stranger come up and talk to him.	3	2	1	0	T
168.	I'm not as strict as I should be.	3	2	1	0	In
169.	We're trying to bring him up so that he's pretty much responsible to himself.	3	2	1	0	Ri

		SA	A	D	SD	
170.	I can't figure him out sometimes -- I don't know what makes him tick.	3	2	1	0	R
171.	Kids should respect authority and when they're told to do something, they should do it and not give you a big argument.	3	2	1	0	Dc
172.	I always try to tell him the reasons <u>each</u> time.	3	2	1	0	Rg
173.	He's supposed to report in just before he goes somewhere.	3	2	1	0	T
174.	I would like for him to go through college and I think he's capable of it, but if he chooses to do something for which he does not have to go to school, I'm certainly not going to put up a fuss about it.	3	2	1	0	Dem
175.	I think you should teach them to be as self-sufficient as possible. I think they need lots of love and care but they should be self-sufficient.	3	2	1	0	Ri
176.	Mostly I'd like him to grow up to be a person who likes to do what he's doing.	3	2	1	0	Dem
177.	I'm very easily swayed by him when he comes in to me and apologizes for something he did.	3	2	1	0	In
178.	I think it's a good idea for children to have regular jobs around the home because it gives them a sense of belonging and a sense of importance.	3	2	1	0	As
179.	I might give in on some things with the children because I am not at all happy in doing something that someone else doesn't really want to do.	3	2	1	0	In
180.	When I flip my lid, I flip, and I flip whether the children happen to be there or a group of people, and get it off my chest.	3	2	1	0	PA
181.	I would like him to be more aggressive in taking care of himself.	3	2	1	0	Da

[redacted]

		SA	A	D	SD	
182.	I'd like him to obey immediately because usually when I ask him to do something, it's something that I feel should be done immediately.	3	2	1	0	Dc
183.	I feel that it's important for a boy to learn to stand up for himself.	3	2	1	0	Da
184.	You know, you take your annoyances out on the children, unfortunately.	3	2	1	0	PA
185.	We've explained about how intercourse will bring about the birth of a child, where the baby is carried, and so forth.	0	1	2	3	Sa
186.	My husband doesn't discuss things -- talk things over -- as much as I would like.	0	1	2	3	FM
187.	As far as rules go, I just simply can't be firm enough to please my husband.	0	1	2	3	FM
188.	I think _____ feels closer to his father than to me' because his father is more lenient with him.	0	1	2	3	FM
189.	My husband is indifferent and doesn't show affection, and I sometimes think _____ may turn out to be like him.	0	1	2	3	FM
190.	My husband thinks I nag _____ too much because I do keep at him sometimes.	0	1	2	3	FM
191.	His father isn't strict with him at all. He tells _____ he knows he didn't mean it, he wouldn't do it again, so he isn't strict with him.	0	1	2	3	Fm
192.	If my husband had punished unwisely and _____ was in the right then I would tell _____ I thought he was in the right.	0	1	2	3	Fm
193.	He feels he has to have his own way, and that's like my husband, and I don't feel that's a very good trait.	0	1	2	3	Fm
194.	He's smart like his father; he's got a good head on his sholders.	3	2	1	0	Fm

[redacted]

		SA	A	D	SD	
195.	If my husband's disciplining him, I don't step in, and if I am, he doesn't step in.	0	1	2	3	In
196.	I wouldn't like him to pick up my husband's bad habits.	0	1	2	3	Fm
197.	Once he did come home with a dirty word and I knew someday it would come and yet I guess I did get kind of shaky about it.	0	1	2	3	E
198.	I think to some extent I don't want him to be quite as easy-going as my husband.	0	1	2	3	Fm
199.	My husband wants everything ship-shape and done right now and he is the biggest procrastinator you ever saw.	0	1	2	3	Fm
200.	I don't think I understand my husband very well; I don't understand what brings on his moods.	0	1	2	3	Fm
201.	His father has always been very good at playing games with him and keeping him amused and doing most anything for him.	3	2	1	0	Fm
202.	My husband ridicules him quite often.	0	1	2	3	Fm
203.	If my husband disciplines him, I never interfere with it, or if I discipline, He never interferes.	0	1	2	3	In
204.	I just can't think of anything where I should say he should not be like my husband, because I think he's fine.	3	2	1	0	Fm
205.	My husband has a real, genuine affection and he's a good father.	3	2	1	0	Fm
206.	My husband is too much on the defensive, too meek. He doesn't oppose things he doesn't like.	0	1	2	3	Fm
207.	My husband's a great one for making mountains out of molehills.	0	1	2	3	Fm
208.	I'd like him to be considerate and thoughtful -- sentimental, to a degree, more so than his father is in some respects.	0	1	2	3	Fm

APPENDIX C-2

16 SPQ SCALES AND THEIR RELIABILITIES

Scale	No. of items	Form A K-R r[a]	Form MSU K-R r[b]	Form MSU T-R r[c]
Contingent reward (Cr)	6	.57	.77	.46
Affection demonstrated (Ad)	15	.66	---	---
Rejection (R)	20	.66	.79	.63
Sex anxiety (Sa)	13	.72	.83	.74
Restrictiveness (T)	11	.57	.74	.49
Self-esteem (E)	12	.71	.73	.67
Rewarding independence (Ri)	12	.69	.70	.59
Achievement standards (As)	11	.74	.62	.55
Reasoning (Rg)	12	.71	.74	.50
Demands for aggression (Da)	21	.73	.86	---
Parental aggression (PA)	12	.65	.55	---
Democracy (Dem)	10	.58	.71	.24
Demands for conformity (DC)	11	.62	---	---
Positive father-mother relationship (FM)	23	.77	.91	---
Inconsistency (In)	10	.49	---	---
Punitiveness and physical punishment (PP)	9	.42	.68	---

[a]Kuder-Richardson internal consistency coefficients for the original expanded version (Form A) based on 118 M's of pre-adolescent boys (Winder and Rau, 1962).

[b]K-R r for MSU version (same items as used in the present study) based on 80 M's of 2nd grade boys (Rau, et al., 1964).

[c]Test-retest coefficients based on kindergarten and 2nd grade administrations to 74 M's (Rau, et al., 1964).

APPENDIX D

APPENDIX D-1

COMPARISON OF FRUSTRATION (F) AND VERBAL (V) SESSION RATINGS OF BOYS' BEHAVIOR

Category	Group	$\bar{X}_F$	$\bar{X}_V$	T[a]	n[b]	P[c]
Disaffiliation (B-I)	Hi	.154	.245	59	13	NS
	Lo	.377	.389	66	15	NS
Submissiveness (F-M)	Hi	.340	.379	39	12	NS
	Lo	.476	.517	73.5	15	NS
Disaffiliation-Dominance (B-E)	Hi	.021	.023	14.5	7	NS
	Lo	.107	.035	83.5	14	.06
Disaffiliation-Submissiveness (F-I)	Hi	.133	.222	56.5	13	NS
	Lo	.270	.353	78	14	NS
Affiliation-Submissiveness (J-M)	Hi	.207	.157	57	13	NS
	Lo	.206	.163	61.5	14	NS
Affiliation-Dominance (N-A)	Hi	.646	.603	48	13	NS
	Lo	.429	.443	65	15	NS
Helplessness-Submission (H-I)	Hi	.108	.207	61	13	NS
	Lo	.199	.306	87	14	.04
Admiration-Dependency (J-K)	Hi	.108	.053	66.5	13	NS
	Lo	.141	.073	77.5	14	NS
Cooperation (L)	Hi	.095	.104	50.5	13	NS
	Lo	.065	.090	57.5	12	NS
Help (O)	Hi	.433	.422	46	13	NS
	Lo	.262	.360	92	15	.08
Structuring & Teaching-Dominance (P-A)	Hi	.213	.181	53	12	NS
	Lo	.165	.087	97	15	.04
# of Different Behaviors	Hi	6.62	5.92	44	11	NS
	Lo	7.07	7.33	44.5	12	NS

[a]Sum of the positive ranks (Wilcoxon Matched-pairs Signed-ranks Test).

[b]Pairs whose difference = 0 are dropped, thereby reducing n.

[c]P values are two-tailed.

APPENDIX D-2

COMPARISON OF FRUSTRATION (F) AND VERBAL (V) SESSION RATINGS OF MOTHERS' BEHAVIOR

Category	Group	$\bar{X}_F$	$\bar{X}_V$	T[a]	n[b]	P[c]
Disaffiliation (B-I)	Hi	.067	.045	53	12	NS
	Lo	.061	.038	51	12	NS
Autonomy (F-M)	Hi	.217	.145	60	12	NS
	Lo	.119	.042	78	12	.003
Disaffiliation-Autonomy (F-I)	Hi	.065	.042	46	11	NS
	Lo	.047	.013	52	10	.02
Affiliation-Autonomy (J-M)	Hi	.131	.102	69.5	13	NS
	Lo	.071	.029	69	12	.03
Affiliation-Control (N-A)	Hi	.779	.844	67	13	NS
	Lo	.863	.935	80	13	.02
Reassurance (N)	Hi	.165	.011	66	11	.004
	Lo	.129	.022	118.5	15	.002
Help (O)	Hi	.317	.269	59	13	NS
	Lo	.399	.273	77.5	14	NS
Teaching and Structuring (P)	Hi	.248	.530	91	13	.002
	Lo	.266	.561	115.5	15	.002
Dominance (A)	Hi	.059	.036	43.5	11	NS
	Lo	.089	.084	36	11	NS
# of Different Behaviors	Hi	6.69	4.85	77	13	.03
	Lo	6.13	4.93	74	13	.06

[a]Sum of the positive ranks (Wilcoxon Matched-pairs Signed-ranks Test).

[b]Pairs whose difference = 0 are dropped, thereby reducing n.

[c]P values are two-tailed.

APPENDIX E

APPENDIX E-1

DISTRIBUTION OF LOW MOTHERS' RESPONSES ACROSS CIRCUMPLEX CATEGORIES FOR MAJOR CATEGORIES OF SONS' SENDER BEHAVIOR

Son Category	Mother Category															
	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	A
BCDE	.06				.09				.06				.79			
	.05	.01	.00	.00	.00	.01	.05	.03	.01	.00	.05	.00	.05	.30	.29	.15
FGHI	.03				.02				.02				.93			
	.03	.00	.00	.00	.00	.00	.02	.00	.00	.01	.01	.00	.05	.26	.53	.09
JKLM	.00				.03				.04				.93			
	.00	.00	.00	.00	.00	.00	.03	.00	.01	.00	.03	.00	.03	.40	.43	.07
NOPA	.01				.02				.06				.91			
	.01	.00	.00	.00	.00	.00	.02	.00	.01	.00	.05	.00	.08	.29	.44	.10

Note.--Proportions of mothers' responses are obtained by considering each son category as the universe of sons' sender behavior.

APPENDIX E-2

DISTRIBUTION OF HIGH MOTHERS' RESPONSES ACROSS CIRCUMPLEX CATEGORIES FOR MAJOR CATEGORIES OF SONS' SENDER BEHAVIOR

Son Category	Mother Category															
	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	A
BCDE		.04				.00				.07				.89		
	.00	.04	.00	.00	.00	.00	.00	.00	.07	.00	.00	.00	.04	.29	.46	.10
FGHI		.00				.04				.06				.90		
	.00	.00	.00	.00	.00	.01	.03	.00	.03	.02	.01	.00	.11	.25	.49	.05
JKLM		.00				.06				.09				.85		
	.00	.00	.00	.00	.00	.00	.06	.00	.03	.00	.05	.01	.06	.39	.37	.03
NOPA		.00				.04				.17				.79		
	.00	.00	.00	.00	.00	.00	.04	.00	.04	.01	.10	.02	.09	.31	.34	.05

Note.--Proportions of mothers' responses are obtained by considering each son category as the universe of sons' sender behavior.

APPENDIX E-3

DISTRIBUTION OF ALL MOTHERS' RESPONSES ACROSS CIRCUMPLEX QUADRANTS FOR INDIVIDUAL CATEGORIES OF SONS' SENDER BEHAVIOR

Son Category[a]	Mother Category						
	BCDE	FGHI	JKLM	NOPA			
				N	O	P	A
Active resistance (B)	.03	.06	.07	.05	.30	.35	.14
Competition (C)	.09	.09	.09	.09	.18	.28	.18
Antagonism (D)	.18	.09	.00	.00	.37	.27	.09
Complaint (F)	.07	.02	.00	.12	.19	.47	.13
Suspicion (G)	.00	.00	.17	.00	.04	.75	.04
Helplessness (H)	.02	.03	.02	.07	.27	.52	.07
Submission (I)	.00	.03	,06	.03	.31	.51	.06
Admiration (J)	.00	.05	.05	.05	.33	.45	.07
Dependency (K)	.00	.12	.14	.04	.47	.19	.04
Cooperation (L)	.00	.02	.06	.04	.43	.40	.05
Help (O)	.01	.02	.11	.09	.33	.35	.09
Structuring & Teaching (P)	.01	.04	.10	.07	.20	.53	.04
Dominance (A)	.02	.10	.14	.04	.23	.43	.04

Note: Proportions of mothers' responses are obtained by considering each son category as the universe of sons' sender behavior.

[a]Three son categories occurred too infrequently to permit reliable assessment of sender-respondent contingencies.

APPENDIX E-4

DISTRIBUTION OF LOW BOYS' RESPONSES ACROSS CIRCUMPLEX CATEGORIES FOR MAJOR CATEGORIES OF MOTHERS' SENDER BEHAVIOR

Mother Category	Son Category															
	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	A
BCDE	.23				.34				.07				.36			
	.08	.11	.04	.00	.15	.00	.15	.04	.00	.03	.04	.00	.00	.32	.04	.00
FGHI	.13				.33				.17				.37			
	.05	.00	.08	.00	.05	.02	.26	.00	.05	.10	.02	.00	.00	.16	.13	.08
JKLM	.02				.17				.19				.62			
	.02	.00	.00	.00	.05	.01	.11	.00	.11	.05	.03	.00	.00	.30	.29	.03
NO	.06				.25				.26				.43			
	.05	.01	.00	.00	.05	.00	.18	.02	.10	.04	.12	.00	.00	.33	.08	.02
PA	.05				.33				.14				.48			
	.04	.00	.01	.00	.05	.01	.25	.02	.06	.01	.07	.00	.00	.35	.12	.01

Note.--Proportions of boys' responses are obtained by considering each mother category as the universe of mothers' sender behavior.

APPENDIX E-5

DISTRIBUTION OF HIGH BOYS' RESPONSES ACROSS CIRCUMPLEX CATEGORIES FOR MAJOR CATEGORIES OF MOTHERS' SENDER BEHAVIOR

Mother Category	Son Category															
	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	A
FGHI	.00				.28				.15				.57			
	.00	.00	.00	.00	.02	.02	.22	.02	.13	.02	.00	.00	.02	.37	.16	.02
JKLM	.02				.07				.16				.75			
	.02	.00	.00	.00	.02	.02	.03	.00	.06	.02	.07	.01	.00	.47	.26	.02
NO	.03				.18				.22				.57			
	.03	.00	.00	.00	.02	.00	.14	.02	.05	.02	.15	.00	.00	.42	.11	.04
PA	.03				.21				.19				.57			
	.03	.00	.00	.00	.01	.02	.17	.01	.07	.01	.11	.00	.00	.36	.19	.02

Note.--Proportions of boys' responses are obtained by considering each mother category as the universe of mothers' sender behavior.

[a]BCDE category occurred too infrequently to permit reliable assessment of sender-respondent contingencies.

APPENDIX E-6

DISTRIBUTION OF ALL BOYS' RESPONSES ACROSS CIRCUMPLEX QUADRANTS FOR INDIVIDUAL CATEGORIES OF MOTHERS' SENDER BEHAVIOR

Mother Category	Son Category					
	BCDE	FGHI	JKLM	NOPA	B-I	F-M
Active resistance (B)	.14	.38	.12	.36	.52	.50
Helplessness (H)	.04	.29	.18	.49	.33	.47
Democracy (J)	.00	.08	.14	.78	.08	.22
Dependency (K)	.06	.25	.19	.50	.31	.44
Cooperation (L)	.02	.09	.19	.70	.11	.28
Love (M)	.00	.10	.10	.80	.10	.20
Reassurance (N)	.04	.28	.12	.56	.32	.40
Help (O)	.04	.20	.28	.48	.24	.48
Structuring & Teaching (P)	.03	.28	.16	.53	.31	.44
Dominance (A)	.07	.31	.12	.50	.38	.43

Note.--Proportions of boys' responses are obtained by considering each mother category as the universe of mothers' sender behavior.

[a]Six mother categories occurred too infrequently to permit reliable assessment of sender-respondent contingencies.