

AN INVESTIGATION OF INTERPERSONAL UNDERSTANDING BETWEEN  
DISRUPTIVE AND NONDISRUPTIVE ADOLESCENTS  
AND THEIR PARENTS

By

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Abstract of Dissertation Presented to the Graduate Council of  
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By

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The purpose of this study was to determine whether there is a difference in the level of interpersonal understanding between disruptive and nondisruptive adolescents and their parents. A response predicting paradigm was employed wherein disruptive adolescents (N=20) and their parents (N=40) and nondisruptive adolescents (N=21) and their parents (N=42) completed the Myers-Briggs Type Indicator (MBTI) to describe themselves and also to predict each other's responses.

All students participating in the study were enrolled in either ninth, tenth, eleventh, or twelfth grade at the P. K. Yonge Laboratory School of the University of Florida. A disruptive student was operationally defined as a high school student who was removed from his or her learning environment two or more times during the 1974-75 school year by the teacher in charge of the learning environment for the purpose of disciplinary action.

A nondisruptive student was operationally defined as a high school student who was never removed from his or her learning environment during the 1974-75 school year for disciplinary action and whose behavior was rated by the school counselors as exemplary and highly facilitative for his or her own learning and the learning of others.

Two hypotheses were tested by comparing eight combinations of the predicted responses made by adolescents for their parents and the predicted responses made by parents for their children. Data were subjected to an analysis of variance followed by the Scheffé method where significant F's were found.

Hypothesis 1 was designed to test for differences in levels of interpersonal understanding as determined by the number of correct predictions made in the response predicting tasks. None of the eight comparisons of predicted responses were found to reach a significant level of difference. An analysis of overall main effects, however, did show that the nondisruptive adolescents and their parents as a group did have a significantly higher ( $p \leq .017$ ) level of interpersonal understanding than did the disruptive adolescents and their parents as a group.

Hypothesis 2 was designed to test for differences in the degree to which different subjects assume similarity between

themselves and another subject. High frequencies of assumed similarity were considered to indicate a lack of interpersonal understanding. None of the eight comparisons of assumptions of similarity were found to reach a significant level of difference.

Demographic data and data generated by the responses to the MBTI were also analyzed for significant differences between the families of disruptive children and the families of non-disruptive children.

The following conclusions were reached:

(1) The results of this study do not appear to support the use of measures of overall warranted assumptions for distinguishing between disruptive and nondisruptive adolescents and their parents.

(2) The results of this study do not support the use of measures of overall assumed similarity for distinguishing between disruptive and nondisruptive adolescents and their parents.

(3) Personality type dimensions as measured by the MBTI are potentially useful for explaining differences in interpersonal understanding between disruptive and nondisruptive adolescents and their parents.

(4) Demographic data suggest that the children participating in this study come from a predominantly middle class

population and may be somewhat atypical of a sample of children that would be drawn from a public high school.

(5) Further research on interpersonal understanding between disruptive and nondisruptive adolescents and their parents should make use of large samples and should include various combinations of variables known to be associated with disruptive behavior in the school.

## CHAPTER I

### INTRODUCTION

Disruptive behavior in the schools is certainly not a new problem, but educators are still searching for effective means of helping disruptive students and of reducing the educational losses caused by disruption in the classroom. Because of increasing difficulties with disruptive behavior in the Florida schools, a Governor's Task Force on Disrupted Youth was commissioned to investigate the problem. The findings of this Task Force verified the increase in the number of disruptive acts in the schools and also supported the conclusion that more students than ever before are involved in behavior that is detrimental to the educational process (Rollin, 1973).

Research studies have identified as many as 87 variables that are related to disruptive behavior in school children. Among these are age, sex, race, socioeconomic factors, academic achievement, IQ, family size, and the marital status and educational level of parents (Branch, 1974; Feldhusen, 1973; Hagstrom & Gardner, 1969; New York State Education Department, 1972; Rollin, 1973; Teitelbaum, 1970). Unfortunately, these are

variables that either cannot be changed (e.g., race, age, and sex) or that fall outside the jurisdiction of the school (e.g., parental divorce, family income, and social class).

School personnel have tried a variety of approaches for handling disruptive behavior. Among these have been suspension from school, corporal punishment, detention, operant conditioning techniques, and group or individual counseling. Research on these processes has been inconclusive and in many cases has shown these methods to have been virtually ineffective (Branch, 1974). Even though there are reports that behavior has been significantly changed in special classes designed for "social adjustment" (Becker, 1969; O'Leary & Becker, 1967; Pedrini & Pedrini, 1972; Walker et al., 1968), student behavior may become even more disruptive after the child returns to his regular classroom (Walker et al., 1972).

There is also increasing evidence (Carkhuff, 1971) that behavioral problems and even psychopathology result when there is a lack of facilitative conditions in a parent-child relationship. Thus, when low levels of empathic understanding, warmth, and genuineness exist between a parent and child, the personal growth of the child and/or parent is likely to be impeded, and nonproductive behavioral patterns may develop. On the other hand, it has been shown that when empathic understanding exists between psychologically adequate people, it allows them "to

communicate with depth and intensity of feeling"(Combs, 1959, p. 256).

If a relationship could be found between student disruption and the level of empathic understanding the disruptive students have with their parents, educators might be able to devise special programs for helping these parents and their children improve their interpersonal understanding and their communication within the family. If levels of empathic understanding within a family do affect disruptive behavior, then the improvement of family interactions might lead to a reduction of detrimental behavior in the schools.

#### Nature of the Study

The purpose of this study was to determine whether there is a difference in the level of interpersonal understanding between disruptive and nondisruptive adolescents and their parents. The purpose was implemented by focusing on the relationship between a child's behavior in school and the level of his empathic interactions with his parents.

The population involved included both male and female high school students and both of their natural parents. The family interactions of students who had engaged in disruptive behavior at school were contrasted with the family interactions of students who had never created disciplinary problems in the

classroom and whose behavior at school had been exemplary.

Levels of interpersonal understanding in each family were measured by the Interpersonal Perception Method, a projective technique which was designed by Dymond (1949; 1950). This method is explained in depth in Chapter III.

For the present study, various combinations of predictions made by each child, his mother, and his father on the Myers-Briggs Type Indicator were examined in terms of two major facets of interpersonal perception theory. One assumption is based on the degree to which a subject correctly predicts the responses of another subject, and the second assumption is based on the degree to which one subject incorrectly assumes that another subject's responses were similar to his own. Thus, the study was designed to answer two basic questions. First, is there a difference in the degree to which disruptive adolescents and their parents and nondisruptive adolescents and their parents are correctly able to predict each other? And secondly, is there a difference in the degree to which disruptive adolescents and their parents and nondisruptive adolescents and their parents assume that others are similar to themselves and thus show a lack of acceptance of true interpersonal differences?

The study also included an analysis of certain demographic variables that previous research has shown to be

associated with the problem of disruptive behavior in the schools. These included the ages, birth order, religious preference, and grades failed in school for both the students and the parents as well as the sex and grade level of the adolescents. Data on the parents included educational and income levels, previous marriages, number of children in the family, and the number of children living in the home.

#### Definition of Terms

A high school student was operationally defined as a student enrolled in the ninth, tenth, eleventh, or twelfth grades of the P. K. Yonge Laboratory School, Gainesville, Florida, during the 1974-75 school year.

A disruptive student was operationally defined as a high school student who was removed from his or her learning environment two or more times during the 1974-75 school year by the teacher in charge of the learning environment for the purpose of disciplinary action.

A nondisruptive student was operationally defined as a high school student who was never removed from his or her learning environment during the 1974-75 school year for disciplinary action and whose behavior was rated by the school counselors as exemplary and highly facilitative for his or her own learning and the learning of others.

Interpersonal understanding between subjects was operationally defined as the number of items on the Myers-Briggs Type Indicator for which one subject correctly predicted the self-report of another subject.

Assumption of similarity between subjects was operationally defined as the number of items on the Myers-Briggs Type Indicator for which one subject correctly or incorrectly predicted that the self-report of another subject was like his own self-report.

#### Significance of the Study

Studies dealing with the interaction effects of parents with their children have been numerous and have measured many different single variables and combinations of variables. Traditionally, such research has focused on preschool and elementary age children and their relationship with their mother. The role of the father in the home has been virtually ignored, and researchers have frequently depended solely on reports given by the mother. These reports, according to Yarrow (1963), often based on retrospective opinions have required responses by the mother that were biased by her own feelings, values, and practices, that included false but socially acceptable remarks, and that were based on modal ("what you usually do") rather than current or actual behaviors.

A review of the literature revealed no study that used the same combination of variables that were used in this research. For this study, the focus was on the older child of high school age, and data were collected on the mother and the father as well as the child. The inclusion of the father added an important dimension to this study--a dimension recommended as valuable by several researchers in the conclusions of their own fatherless studies (Longstreth & Rice, 1964; Medinnus & Curtis, 1963; Osofsky & Oldfield, 1971; Radke, 1946).

Another common trend in parent-child research has been to study some dimension either in terms of a child's perceptions of his parents or in terms of a parent's perceptions of the child. This study combined both approaches and measured the current perceptions of both the child and the parent.

In the review of the literature, no studies were found which related disruptive behavior to interpersonal understanding between high school students and their parents. Studies dealing with disruption have been concentrated on young children, on counseling techniques, on methods for behavior modification, or on extremely disruptive behaviors (e.g., rioting, picketing, or physical violence). This study deals with milder but perhaps more typical types of disruptive behavior that are encountered regularly in American high schools. It also attempts to relate disruptive behavior at

school to relationships the child experiences at home. Since a substantial part of the child's time is spent in the home, school personnel cannot afford to ignore the learning experiences and the developing of interpersonal skills that take place away from the school environment but that display themselves in behavior and interpersonal relationships at school.

Many recent studies have shown positive changes in parent-child relationships after communication training sessions for parents, counselor-parent interviews in the school, or home visits by school personnel (Duncan & Fitzgerald, 1969; Erickson, 1973; Ginsberg, 1971; Hanley, 1974; Larson, 1972; Lillibridge, 1972; Stearn, 1971; Toshiharu, 1972; Wunderlin, 1973). There is no evidence that these methods have been specifically used to improve the family relationships of disruptive students. However, if poor family communication or lack of interpersonal understanding can be established as variables that are common to students who engage in disruptive behavior, perhaps some of the already successful training methods in interpersonal skills can be more readily provided for this particular population.

#### Statement of Research Hypotheses

Hypothesis 1. There is no difference between the level of understanding which disruptive adolescents and their parents

have for each other and the level of understanding which non-disruptive adolescents and their parents have for each other.

Hypothesis 2. There is no difference between the number of assumptions of similarity which disruptive adolescents and their parents make for each other and the number of assumptions of similarity which nondisruptive adolescents and their parents make for each other.

Both of the hypotheses for this study are stated in the null form and will be tested by comparing the following eight pairs of predicted scores: (a) disruptive adolescents for mother with nondisruptive adolescents for mother, (b) disruptive adolescents for father with nondisruptive adolescents for father, (c) mothers of disruptive adolescents for child with mothers of nondisruptive adolescents for child, (d) fathers of disruptive adolescents for child with fathers of nondisruptive adolescents for child, (e) disruptive adolescents for mother with disruptive adolescents for father, (f) nondisruptive adolescents for mother with nondisruptive adolescents for father, (g) mothers of disruptive adolescents for child with fathers of disruptive adolescents for child, and (h) mothers of nondisruptive adolescents for child with fathers of nondisruptive adolescents for child.

The first hypothesis is designed to answer the following question: Is there a difference in the degree to which

disruptive adolescents and their parents and nondisruptive adolescents and their parents are able to show empathic understanding for each other?

The second hypothesis is designed to answer the following question: Is there a difference in the degree to which disruptive adolescents and their parents and nondisruptive adolescents and their parents focus on themselves and thus show a lack of acceptance of true interpersonal differences?

This chapter has included an introduction to the problem and a discussion of the nature and of the significance of the problem. Chapter II consists of a review of the literature related to the present area of investigation. The method and hypotheses are described in Chapter III; the results of the study are presented in Chapter IV; and the discussion, conclusions, and summary are contained in Chapter V.

## CHAPTER II

### REVIEW OF THE LITERATURE

The review of the literature will be presented in six major divisions. Since psychological research on parent-child relationships during the last four decades has strongly reflected the societal attitudes about child rearing that existed at that time, the first section will describe the evolutionary trends in the philosophy of parent-child interactions. The second section will present the theoretical implications of empathy and communication as elements in family interactions. These theories are directly related to empathic understanding which is the primary focus of this study, and they will be followed by a third division which will include research studies on empathy and/or communication between parents and their children.

As was mentioned in Chapter I, the review of the literature revealed no studies that employed the same combination of variables that were used in this study. There have been investigations, however, dealing with the effects of parent-child relationships or perceptions on personality adjustment,

behavior, discipline, birth order, and social class that do have implications for this study. This research will be described in the fourth section.

The final two presentations will be issues related to the methodology used in this study. First, the theory of psychological type on which the Myers-Briggs Type Indicator is based will be introduced, and secondly, methodological problems in the use of the Interpersonal Perception Method will be explained.

#### Societal Trends in Parent-Child Interactions

Society's view of parent-child relationships tends to reflect the philosophy of child rearing prevailing at any one time. This is important to consider in a review of the literature on parent-child research since studies typically have been designed to test the contemporary modes of family interaction. It is also important to note that the present study reflects the current emphasis on humanistic psychology and on the importance of empathy and communication in the parent-child relationship.

Diana Baumrind (1966), describing major trends in parental discipline in the United States, identified the ideal home of the 1940s and 1950s as one which provided unlimited acceptance of the child's needs. This trend was the result of the

popularity of the psychoanalytic approach to psychology and led to an era of prolonged breast feeding, self-demand schedules, and milder toilet training. This societal concern for lenient discipline was reflected in Spock's 1946 book, Common Sense Book of Baby and Child Care.

The late 1950s and early 1960s showed a reverse in disciplinary measures. Research had not supported the idea that restraints on the child produced harmful effects. Spock revised his book and his point of view in 1957. Baumrind (1966) quoted him as saying,

Since then (1946) a great change in attitude has occurred and nowadays there seems to be more chance of a conscientious parent's getting into trouble with permissiveness than strictness. (p. 888)

Literature for parents in this period claimed that it was necessary to reinstitute parental control and to make definite efforts to inculcate parental ideals and standards into the child.

This trend toward strictness seems to have been short-lived, however. In the last ten years, humanistic psychology has come to the fore and with it an emphasis on the understanding and acceptance of individual differences. Baumrind (1966) concluded that the effects of such strict adult authority as inhibiting, neurotogenic, and indefensibly unethical are undeniably supported by the work of such

humanistic psychologists as Abraham Maslow (1962), A. S. Neill (1960), and Carl Rogers (1961).

Adhering to the principles of humanistic psychology, Haim Ginott (1965; 1969) and Thomas Gordon (1970) have had a marked effect on parent-child relationships. Both of these men approach parents with the need for open and honest communication with their children. Their philosophies of child rearing are similar and are modeled after Carl Rogers' (1961) ideas of warmth, empathy, acceptance, and unconditional positive regard in therapy. From this point of view, the parent is to be a friend to the child, is to understand the personal meaning a situation has for the child, and is to resolve problems in such a way that the solutions are mutually agreeable to both the parent and the child. This viewpoint which is prevalent among contemporary child psychologists represents an extreme change from the previous trend in parent-child relationships whereby rules were arbitrarily selected and strictly enforced by the parent alone.

#### Theoretical Implications: Communication and Empathy

##### Communication

Bienvenu (1969) and Combs (1959) have defined communication as the process a person uses to exchange feelings and meanings in his attempts to better understand the perceptual

field of another. They have also agreed that communication is a primary element in family interactions and an essential tool for interpersonal problem solving. Combs (1959) further stressed that a family's ability to communicate in everyday interactions is probably the most profound of all influences on the healthy development of a child's definition of self.

Communication failure as Bienvenu (1969) indicated is probably the major problem confronted by contemporary parents and their children. Rogers (1961) took the position, however, that it is not a hopeless problem and "that breakdowns in communication can be avoided . . . by creating a situation in which each of the different parents come to understand the other from the other's point of view" (p. 336). This is essentially what Ginott (1965; 1969) and Gordon (1970) have attempted to accomplish by teaching parents the skills of nonevaluative listening and honest communication.

### Empathy

The ability to sense the feelings and personal meanings of another person and to experience these reactions in the attitude of "being in the other's shoes" is called empathic understanding (Rogers, 1961; 1971). This process not only involves understanding another person, but also it involves understanding the person from his own point of view in the absence of an evaluation or judgment of him.

Empathy is not considered a therapeutic technique but rather an interpersonal skill possessed in varying degrees by everyone (Katz, 1963). It is, however, an essential ingredient for producing change in a therapeutic relationship.

According to Rogers,

. . . if the therapist provides a relationship in which he is (a) genuine, internally consistent; (b) acceptant, prizing the client as a person of worth; (c) empathically understanding of the client's private world of feelings and attitudes, then certain changes occur in the client. Some of these changes are: the client becomes (a) more realistic in his self-perceptions; (b) more confident and self-directing; (c) more positively valued by himself; (d) less likely to repress elements of his experience; (e) more mature, socialized, and adaptive in his behavior; (f) less upset by stress and quicker to recover from it; (g) more like the healthy, integrated, well-functioning person in his personality structure. (1961, p. 375)

Considering the positive personal changes generated by therapy, it is important to note that Rogers also stated that the "therapeutic relationship is only a special instance of interpersonal relationships in general and that the same lawfulness governs all such relationships" (1961, p. 2). This is in agreement with Carkhuff's (1971) observation that counseling conditions have direct relevance for parent-child relationships and with Combs' (1959) statement that empathy "is an important factor in communication and in effective human relationships" (p. 236).

## Parent-Child Research: Empathy and Communication

### Empathy

Abraham (1966) investigated how objectively parents can view their children. In studying parents' perceptions of their children, he observed that parents assume that they have an accurate understanding of their children's attitudes, interests, thoughts, and abilities simply because they have lived with their children since they were infants. He concluded, however, that the ability to understand children is a skill which does not come automatically but is learned over time and in varying degrees by different parents.

Pursuing the idea of differences in the ability to demonstrate empathic understanding, Lindner (1972) designed a study very similar to the present study and also based on Dymond's (1949; 1950) Response Predicting Paradigm (RPP). His instrument for implementing the RPP was also the Myers-Briggs Type Indicator, but his subjects (N=42) were married couples. Unlike this study, he focused on the relationship between Jungian type dimensions (measured by the MBTI), marital happiness (measured by the Locke-Wallace Marital Adjustment Test), and interpersonal understanding and had each of his subjects complete the MBTI under three conditions --a self-report, a prediction of their mate's self-report,

and a prediction of how their mate predicted them. In terms of type dimensions, he found that introverts were better predictors of their mates' predictions of them. Significant results were also found between marital happiness and feelings of being understood and between marital happiness and intermediate values of personality similarity. There was also a significant tendency for extraverts to assume that others are similar to themselves. Thus, like Abraham (1966), Lindner concluded that different people do possess in differing degrees the ability to demonstrate empathic understanding for another person.

Bellante (1970) investigated the possibility of differences in empathic ability between lower and middle class adolescent girls ( $N=141$ ) and adolescent boys ( $N=152$ ). His results showed that the girls were more empathic than the boys ( $p \leq .01$ ) and that middle class (but not lower class) girls were more empathic ( $p \leq .01$ ) than boys of the same socioeconomic level. Without controlling for other variables, he found that the degree of empathy was related to the level of self-concept ( $p \leq .001$ ). On the other hand, he found no support for a relationship between empathy and the variables of educational performance, age, scholastic aptitude, birth order, or size of family.

Two studies (Bangs, 1969; Wakefield, 1966) in which the

parents predicted the responses of their adolescent child on a personality inventory revealed that mothers were more accurate or more empathic than were fathers. The hypotheses tested by Bangs (1969) and Wakefield (1966) were not substantiated, but Wakefield discovered that the mothers in his group used more projection (i.e., assuming similarity between themselves and their sons and daughters), that the fathers used more stereotyping, and that both parents were more accurate in their understanding of the child's problems with finances, living conditions, and employment than they were with social-psychological relationships. A third study by Collins et al. (1975) lends support to these conclusions. Their research was conducted on 327 adolescents ages 17-19 and both of their parents. Each adolescent completed the Mooney Problem Check List for himself, and each parent completed it as they thought their child would answer. Product-moment correlations revealed that same-sex parents had greater awareness of their child than did opposite sex parents and that the highest levels of empathic understanding were reached by mothers in describing their daughters. Both parents were ill-informed on their child's problems with courtship, sex, and marriage but were more aware of the child's (especially the daughter's) problems in the home.

Using scores from the Minnesota Multiphasic Personality

Inventory (MMPI), Irving (1965) divided his sample of 139 adolescents into two groups of adjusted and maladjusted and compared the groups on measures of parental empathy. He discovered that both of the parents of the well-adjusted adolescents were in fact more empathic and were perceived by their children as more empathic. Furthermore, there was a highly significant difference between the two types of adjustment for both the child's perception of the empathy of the mother and the actual empathy of the father.

Similar findings resulted from two studies of normal adolescents. Siskind (1972), studying 24 father-son pairs, found that fathers who made warm and empathic affectual responses to their sons had children with better task performance, better self-esteem, and more mature perceptions of their relationship with their father than did fathers with low levels of empathy. The sons receiving empathic understanding from their father also had significantly better relationships with their mother. Melton (1971) focused on parental expressiveness (i.e., sharing love and affection, understanding and accepting, consoling and comforting, etc.) as perceived by 261 high school juniors. He found that both the boys and the girls regardless of their social class saw their mothers as more expressive than their fathers. Upper and middle class girls and lower class boys rated fathers

higher on expressiveness than did the other adolescents in the study. Parents with only one child received the highest ratings, and mothers with part-time employment were rated higher than mothers who were unemployed or employed full time.

### Communication

In examining the interpersonal relationships of mothers, fathers, sons, and daughters, researchers have frequently reached the conclusion that girls have better communication with both of their parents than do boys and that communication between mothers and daughters is more effective than communication between fathers and daughters (Beaubien, 1970; Berdie et al., 1970; Crow, 1956; Larson, 1970). Data collected by Berdie et al. (1970) and Larson (1970) led them both to conclude that the better communication between mothers and daughters may be the result of a societal pattern in this country for mothers and daughters to spend more time together and to participate in more joint activities than do fathers and sons or fathers and daughters.

Even as high levels of empathy in parent-child relationships are associated with higher levels of personal adjustment and achievement, so are high levels of communication associated with positive factors. Berdie et al. (1970) administered four inventories to 309 adolescents and their parents and found

that adolescents (and especially girls) from the families with the highest levels of communication gave more positive responses about themselves. Likewise, high parent-child agreement on communication factors was related to high academic achievement among the boys.

Beaubien (1970) and Marshall and Miller (1971) studied affective reactions in terms of family communication styles. The sample for the latter study was very small (N=6 families), but the investigators attempted to compare families with normal sons with families with delinquent sons. They concluded that the communications between delinquent children and their parents showed a decided lack of understanding of connotative meanings that was not observed in the communications between normal children and their parents. Furthermore, the parents of delinquent sons engaged in unilateral rather than two-way conversations with their child and frequently misunderstood the child's statements about emotions. Beaubien (1970) administered the Adolescent-Parent Checklist to 82 males and females and both of their parents and scored them according to categories of adolescent communication action, parent reaction, adolescent satisfaction, and parent satisfaction. She concluded that there was a significant tendency for low adolescent communication when paired with low parent reaction to result in low adolescent satisfaction.

Other studies have examined social variables in relation to parent-adolescent communication factors. Using the Parent-Adolescent Communication Inventory (PACI), Love (1970) did a comprehensive study of 1,578 adolescents on 13 social variables. He found a significant relationship ( $p \leq .05$ ) between communication levels and a combination of education and occupation of the father, income source, socioeconomic status, and education of the mother even though the degree of association for each of the variables with the total score was quite low. No significance was found for the variables of age, grade placement, sex, race, birth order, religion, number of siblings, or maternal employment status. Love concluded, however, that all 13 of the variables viewed singly or in combination were poor predictors of the level of parent-adolescent communication.

Larson's (1970) study of 296 eleventh grade students in which the PACI was also used supported no differences in communication patterns between white and black families when the father's occupational status was controlled, but he did find a positive association between the father's occupational status and the child's willingness to disclose to him (but not to the mother). Beaubien (1970) found that the occupational class of the father affected only father-daughter communications with the daughters of fathers with high occupational status scoring

higher on communication than the daughters of fathers with low occupational status.

Parent-Child Research: Adjustment, Behavior  
Discipline, Birth Order, and Social Class

Personality Adjustment

Psychologists have studied the effects of parent-child relationships and the effects of the adolescent's perceptions of his parents on the emotional development and the personality adjustment of the child. In nearly all of the research of this nature, significant results have been found for some variable of family interaction.

Reuter (1969) examined the father-son relationship of late adolescent males and discovered that the availability of the father as well as a nurturing and nonrejecting attitude on the part of the father were directly related to the personality adjustment of the sons. Based on the California Psychological Inventory and an adjective check list, his data showed that the most mature boys and those with the most positive self-concepts had fathers who were highly available, positively involved, and highly or moderately nurturant. Murrell (1971), in dividing a group of younger, normal boys into low, medium, and high groups on the basis of the child's social acceptance and achievement effort scores, found that

the medium group showed the most stability in family interaction patterns. The families of this group were sufficiently organized to make fast family decisions and had family members who paid attention to each other, talked to each other, and shared and communicated their interests. The boys in the medium group were less "driven" as compared with the boys in the high group who overcompensated in order to achieve. The most important aspect of the study was the conclusion that families do consistently follow stable patterns of interaction.

Children identified as having personality problems have been shown to have parents who also have problems. In one study (Adams & Sarason, 1963), high school students and their parents were given four anxiety scales, and parents with high anxiety tended to have children with high anxiety. This was particularly true when the scores for the daughters were compared with scores for the mothers. The mean scores for children of both sexes were more highly correlated with the scores of the mothers, and mothers were found to be more anxious than fathers. Socioeconomic factors also correlated highly with anxiety scores with fathers holding professional positions being significantly less anxious than the other parents. Medinnus and Curtis (1963) also found support for a hypothesis that stated that there is a significant positive relationship between a mother's acceptance of herself and a

child's self-acceptance. Likewise, in a study of maladjusted and adjusted children, Peterson et al. (1959) concluded that the parents of problem children were themselves less well adjusted and sociable, experienced more disciplinary contention, and were more autocratic than were the parents of adjusted children. This study led to the conclusion that conduct problems were related to an autocratic attitude and lack of concern on the part of the father and to symptoms of maladjustment in the mother.

Children identified as having personality problems have also been shown to have different perceptions of their parents than do well-adjusted children. Rode (1971) concluded that alienated adolescents, regardless of sex, age, or intelligence, see parental behavior in a consistently different way than do less alienated adolescents. The youths with problems viewed their fathers as hostile and rejecting and viewed their mothers ambivalently as either possessive or rejecting. Kemp (1965) worked with three groups who were divided on the basis of their scores on the California Test of Personality and the Mooney Problem Check List into few problems, medium problems, and many problems. Adolescents with few and many problems felt that they were better adjusted than their parents, and the personal adjustment of the youths with few problems was in fact closer to their self-perceptions than to their parents' perceptions of them.

## Behavior

Bandura and Walters (1959) did a comprehensive study of family interrelationships associated with adolescent aggression that has become a classic in parent-child research. They identified a group of 52 aggressive boys ages 14-17 from intact homes and whose intelligence was average or above and compared them to a control group which was matched on as many variables as possible. Their data were derived from extensive parental interviews and psychological testing, and their findings were quite similar to other studies which have already been reviewed.

First, it was found that the fathers in the control group spent much more time in affectionate interaction with their sons than did the fathers of the aggressive boys. The latter showed less warmth and positive response to their children, and in turn their sons sought their help on few matters and had little emotional dependence on them. Nearly all of the families with aggressive children had consistent breaks in emotional ties between father and son, and the fathers demonstrated themselves to be hostile and aggressive models.

Patterns of rejection were also prevalent in the mother-son relationship of aggressive boys but to a lesser degree than with the fathers. Aggressive boys did show some dependence on their mothers but considerably less than did the

boys in the control group. Mothers in the control group encouraged their sons to seek help ( $p \leq .05$ ), used reasoning with their children ( $p \leq .001$ ), felt little hostility towards their sons ( $p \leq .01$ ), and were less likely ( $p \leq .05$ ) to punish their children for seeking help.

Bandura and Walters (1959) concluded that defective parent-child relationships often reflect the parents' inability to establish close relationships outside the home and their tendency to exhibit less warmth for and more hostility for their mate. These parental problems consequently result in conditions unfavorable for the child's identification with the parents and for his development of conscience.

Studies of children who are aggressive and who create discipline problems in the school have born out Bandura and Walters' (1959) conclusions. Aggressive-disruptive children were found to receive inappropriate paternal discipline and inadequate maternal supervision (Feldhusen et al., 1973) and to receive less love and control from their parents as well as to show less identification with their parents (Longstreth and Rice, 1964). Sybouts (1967) added the information that the frequency and the degree of severity of disruptive behavior in the schools increased as levels of home disruption were varied from intact families to families with stepparents to families that were broken by separation, divorce, or death.

The same family syndromes were identified in another study (Morrow & Wilson, 1961) which contrasted high-achieving high school boys with under-achieving boys. In this case, the parents of high-achievers as opposed to the parents of under-achievers engaged in more sharing of activities and ideas with their sons, were more affectionate and approving, and were less restrictive and severe.

### Discipline

Roe (1971) states that the majority of research on parent-child interactions relate in some way to two global, bi-polar dimensions. The first of these focuses on the style of parental discipline ranging from extreme authoritarianism to extreme permissiveness while the second one deals with parental attitudes and behavior on a continuum from highly accepting and loving to highly rejecting and nonaccepting.

Radke (1946) is quoted throughout the literature for her review of research on parent-child relationships. She begins with a classic study done in 1939 by Lewin, Lippitt, and White. In an attempt to show that the home atmosphere has a profound effect on the socialization of children, they had parents respond to their children under certain positive or negative conditions and were able to show within a matter of days drastic shifts in the children's behavior. In two clinical

studies also reviewed by Radke (1946), Knight in 1933 found that submissive children were more likely than aggressive children to come from harmonious homes, and Karlin in 1930 found that in case studies of neurotic children there was a predominance of marital discord, parental neuroticism, faulty discipline, and unwholesome parent-child relationships.

Quoting eight studies dealing with children who were highly jealous of their siblings or who were classified as delinquent, Radke (1946) shows common personality characteristics among the parents. These include greater over-solicitousness, neglect, inconsistent disciplinary measures, parental maladjustment, and the provision of fewer play and social opportunities for their children.

Watson (1957) did a major work comparing the personality differences of children with strict parents and children with permissive parents. He easily found a sample of strict parents but had much difficulty finding parents he considered to be genuinely permissive. He quoted a study by Whiting and Child who had studied 47 cultures and found only two as severe on the child as the American WASP family and none more severe than the American WASP family. Watson (1957) compared the children from these two groups on nine dimensions. On independence-dependence he found a marked tendency for children from permissive homes to be more independent in their behavior

outside the home. On the socialization-ego-centrism dimension, he again found the children of permissive parents to have the advantage. They were better socialized and more effective in their cooperation with others. In the area of persistence-discouragement, the permissively raised children seemed to make a better effort to solve problems and to continue their intellectual attacks on problems longer (though not persisting indefinitely against improbable odds). When studying creativity-conformity, Watson (1957) found that 33 percent of his sample of permissively raised children were creative as compared with 2 percent of the children raised with strict standards. There was also a statistically significant difference on friendliness-hostility. Children from the strict group were more hostile, and children from the permissive group showed more positive feelings toward others. Four dimensions were found to be non-significant: self-control versus emotional disintegration, energy versus passivity, security versus anxiety, and happiness versus sadness.

Jackson (1967) found that mothers suggest more coercive methods of discipline than do fathers and that mothers vacillated more between mild and severe methods of discipline than did the fathers. He suggests that mothers may dilute what they consider to be aggressive, nonfeminine behavior by combining severe and mild approaches to child rearing.

In punishment situations, according to Morgan and Gaier (1957), mothers tend to be more extrapunitive and children more intropunitive. The experimenters observed a tendency of people to overestimate the amount of ego-defense in the other person and found that frustrating obstacles are more important to the child than to the mother. They also concluded that children do not as often feel that a solution has been found for a problem as much as the mother does.

Baumrind (1966) goes beyond the traditional discipline dichotomy of strict versus permissive discipline to describe a third prototype, authoritative discipline. Authoritative discipline requires a verbal give and take between the parent and the child. The parent directs the child's activities in a rational manner and shares with the child the reasoning behind his policies. The parent recognizes the child's interests and solicits his objections but still uses firm control with the child when necessary. Baumrind (1973) followed up her ideas about permissive, authoritarian, and authoritative parents with two formal research projects. Each time she concluded that authoritative discipline produced in girls more purposive, dominant, and achievement-oriented behavior and produced in boys improvement on all of the indices of social responsibility used in the studies.

The Berkeley Growth Study (Bayley & Schaefer, 1960a)

provides interesting longitudinal data. The children in this study were normal, white children born in 1928 and 1929 who were observed and evaluated from birth to adulthood. Descriptions of maternal behavior were converted to objective scores, and the researchers looked for the maternal characteristics which stayed consistent over time and which seemed to be the most influential in the development of the child's personality. On the love-hostility dimension over a 10-year period, maternal behaviors had a correlation coefficient of .68 whereas maternal behaviors related to control-autonomy correlated at .26. There was a significant difference between education and type of discipline with the more educated mothers allowing their children more autonomy. In comparing the behavior of the child with that of the mother, it was found that girls were more consistent in their scores over time than were boys but that boys' behavior stayed more like their mother's behavior over time. Girls developed better when treated consistently, and boys developed better when they received love at an early age and autonomy at later ages.

#### Birth Order and Social Class

Two variables frequently analyzed in terms of parent-child interactions and that may have relevance for the two groups in this study are birth order and social class. Studies

on birth order have produced conflicting results but have demonstrated a few characteristics common to particular ordinal positions within the family. For instance, the first born child has often been shown to be highly oriented to intellectual achievement, to be more dependent on the parents, and to be more likely to affiliate with others (McClure, 1971; Sampson, 1965; Shrader & Leventhal, 1968). This cannot be accepted as an established fact, however, since data also exist to show that first borns are more self-directed, less parent-oriented, and less academically oriented (Barlelt, 1972). Nonetheless, first borns frequently reach higher levels of academic achievement, make better grades, and compose a greater percentage of college populations than do their younger siblings (McClure, 1971).

In spite of the conflict in data, there do seem to be definite socializing advantages for last born children because of the role models provided by older siblings and because of the additional experience of the parents in child rearing (Lasko, 1954; Sears, 1950). Nonetheless, many researchers conclude that birth order as a factor in parent-child relationships should be studied only as an interacting variable and not as a single independent variable (Bradley & Sanborn, 1969; Douvan & Adelson, 1966; McClure, 1971; Schacter, 1963).

Research over the past twenty-five years has shown middle

class parents to be more accepting and more equalitarian in their relationship to the child than lower class parents (Bayley & Schaefer, 1960b; Bronfenbrenner, 1958; Mass, 1951; Rosen, 1959). Two studies, one with a large sample of lower and middle class boys (Rosen, 1964) and one with a large sample of high school seniors (Osborn, 1971), showed that adolescents' perceptions of their parents differed according to the youth's social class in such a way that middle class parents were viewed by their children as more competent, more emotionally secure, and more interested in their child's performance. Rosen (1964) found the greatest differences between the lower and middle class child's parental perceptions on the variables of acceptance and support. Osborn (1971) concluded that the students in his study had attitudes and aspirations comparable to the educational achievements of their same-sex parents and that subsequently the students' perceptions of their parents affected their efforts to succeed academically.

#### Introduction to Psychological Type

The Myers-Briggs Type Indicator (MBTI) was developed to implement the Swiss psychologist Carl Jung's theory of personality type (1923). The theory is based on the idea that people differ from each other in a systematic and orderly manner in the ways they perceive and judge the world in which

they live. Perception in this sense is defined as the way people become aware or take in data about things, events, people, or ideas. Judgment, on the other hand, refers to the way people make decisions or come to conclusions about the things they perceive (Myers, 1962).

According to Jung (1923), psychological types come from inner predispositions which are evident even in babies and young children. It is important to note, however, that the term "type" represents a preference for a way of doing something and is not a rigid, self-inclusive or binding category or box into which people are sorted.

This means that a type describes how a person prefers to use his processes of perception and judgment. While he prefers in most activities to act 'true to type,' it is possible and often necessary to 'go against the grain.' (McCaulley & Natter, 1974, p. 96)

The impetus of the theory lies in the assumption that people who differ in their preferred processes for judgment and perception will also show differences in their behaviors, needs, interests, motivations, reactions, etc. Assuming this to be true, the MBTI purports to measure from a subject's self-report the direction of his preferences for perception and judgment. Research studies may then relate this data to practical situations (e.g., psychotherapy, vocational choice, interpersonal relationships, learning styles, etc.).

The MBTI consists of four separate indices which are each

composed of dichotomous dimensions. Each person is assumed to have a preference for one dimension from each of the four categories, and his type score reflects these four preferences. These preferences which combine into sixteen different psychological types are described in Figure 1.

E ← Does the person's interest flow mainly to the → I	
EXTRAVERSION outer world of actions, objects and persons	inner world of INTROVERSION concepts and ideas
S ← Does the person prefer to perceive → N	
SENSING the immediate, real solid facts of experience	the possibil- INTUITION ities, meanings and relationships of experience
T ← Does the person prefer to make judgments or decisions → F	
THINKING objectively and impersonally, analyzing facts and ordering them in terms of cause and effect	subjectively and FEELING personally, weighing values and the importance of choices for oneself and other people
J ← Does the person prefer to live → P	
JUDGING in a planned, orderly way, aiming to regulate and control events	in a flexible, PERCEIVING spontaneous way, aiming to understand and adapt to events

Figure 1. Four preferences are scored to arrive at a person's type. (Reprinted from McCaulley & Natter, 1974, p. 97)

### The EI Index

The extravert focuses his perception and judgment on people and things and tends to be oriented to the outer world. The introvert is primarily concerned with his inner world and focuses his perception and judgment on ideas and concepts.

### The SN Index

This index is designed to measure two modes of perceiving. The sensing type becomes aware or perceives directly through his five senses and tends to be present-oriented and interested in facts, details, and concrete experiences. The intuitive type perceives indirectly through his unconscious and is interested in possibilities, meanings, relationships, and abstract experiences.

### The TF Index

This index is designed to measure two modes of judging. Thinking types make their decisions objectively and tend to be logical, analytical, and matter-of-fact. Feeling types make their decisions based on their value systems and subjectively weigh the values of alternatives.

### The JP Index

Judging types rely on a judging process (T or F) in dealing with the outer world and prefer a systematic, planned,

and orderly way of living. Perceptive types rely on a perceptive process (S or N) for coping with the outer world and prefer a spontaneous and flexible way of living.

### Dominant and Auxiliary Processes

The perceptive (SN) and judging (TF) processes have the strongest influence on the personality and provide stability for the personality. For each person one of the two processes dominates and unifies his life while the auxiliary process supports and aids the dominant mode of functioning. The JP index identifies the process a person uses in dealing with the outer world. For the extravert this process is his favorite or dominant process, and for the introvert the process most often used in his outer behavior is his auxiliary process. Dominant processes for each type are identified in Figure 2.

	ST	SF	NF	NT
I--J	I <u>S</u> TJ	I <u>S</u> FJ	I <u>N</u> FJ	I <u>N</u> TJ
I--P	I <u>S</u> TP	I <u>S</u> FP	I <u>N</u> FP	I <u>N</u> TP
E--P	E <u>S</u> TP	E <u>S</u> FP	E <u>N</u> FP	E <u>N</u> TP
E--J	E <u>S</u> TJ	E <u>S</u> FJ	E <u>N</u> FJ	E <u>N</u> TJ

Figure 2. Type table: dominant processes. (Reprinted from Myers, 1970, p. 3.)

## Methodological Problems

### Interpersonal Perception Method

A procedure called the "response predicting paradigm" (Brown, 1965) or the "interpersonal perception method (IPM)" (Laing et al., 1966) has been used in studies of interpersonal perception to quantify variables such as social sensitivity, empathy, understanding of others, etc. The typical process involves the prediction by a judge (J) of how another person (O) will respond on a personality inventory. The degree to which J is correct in predicting O's actual responses is considered to be an indication of the accuracy of some interpersonal perception skill (e.g., empathy, understanding others, etc.).

Gage and Cronbach (1955) have done a comprehensive critique of methodological and conceptual problems pertaining to response predicting paradigms. Their foremost criticism of the studies in which this procedure was used was of the inadequacy of operational definitions and face validity. Many writers did not carefully specify the variables they purported to measure and erroneously generalized their findings to unrelated situations. Gage and Cronbach attempted to identify sources of error within the system by breaking it down into measurable components. These included elevation of scores,

social desirability of responses, degree of acquaintance of subjects, effects of real similarity, and effects of warranted and unwarranted assumed similarity.

Elevation component. Problems of elevation occur in studies where subjects must rate items which have a range of numerical values (e.g., -3 through 0 to +3). Answers may tend to reflect individual bias with some subjects tending to select high numbers and others low numbers. This problem will not apply to this study since the Type Indicator is a forced-choice inventory.

Social desirability. As is true of other psychological testing, the interpersonal perception method may use a questioning format which may tempt a subject to describe himself or another in a manner he considers socially desirable rather than realistically accurate. This should not be a problem for this study, however, since according to the manual for the Myers-Briggs Type Indicator (Myers, 1962), items for the instrument were selected so that they would appeal to the appropriate types or where this was not possible were differentially weighted to control for social desirability.

Acquaintance of subjects. Criticisms pertaining to the degree of acquaintance between subjects were directed primarily at studies which used groups of subjects who had had little previous contact with each other. Again this should not be a

source of error for this study since the subjects are adolescents and parents who live in the same home and who have regular contact with each other.

Similarity effects. Gage and Cronbach (1955) describe various implications related to real similarity and assumed similarity between subjects. Given the study where we have (a) Subject A's self-description, (b) Subject B's self-description, and (c) Subject A's prediction of Subject B, the responses to any item on the test will have the following three dimensions:

RS (real similarity):  $a = b$

AS (assumed similarity):  $a = c$

ACC (accuracy):  $b = c$

Only two of these three are independent relations. That is, when two of these relations are known, the third may be inferred. Thus, if AS and RS on an item are scored 1 (denoting agreement), ACC must be 1. Scores for the three relational variables are obtained by summing the values obtained on single items. Any score may be considered a resultant of the other two. (p. 415)

Gage and Cronbach (1955) also report that people who tend to assume that others are similar to themselves tend to do so to the same degree over all items. Other evidence (Lundy, 1956) supports the contention that a subject's AS score reflects his general attitude toward people. In this case, people who pay more attention to themselves than to others receive higher AS scores.

Accuracy has a simple definition, but it is difficult to determine whether a person makes an accurate prediction because he can in some way understand the similarity between himself and another or because he assumes the other is like himself. Gage and Cronbach (1955) suggest that the issue can be resolved by identifying more elemental components of similarity.

It is important to note that these elemental components will be the source of data for the statistical analyses for this study. Hypothesis 1 on levels of interpersonal understanding will be analyzed from data resulting from a summation of the two measures on warranted (i.e., correct) assumptions of both similarity and dissimilarity. Hypothesis 2 on assumptions of similarity will be analyzed from data resulting from a summation of scores on warranted assumed similarity and unwarranted (i.e., incorrect) assumed similarity. Gage and Cronbach (1955, p. 416) use the following schema to demonstrate the four possible components of each test item:

	$a \neq b$ Real Dissimilarity (RD)	$a = b$ Real Similarity (RS)
$a = c$ Assumed Similarity (AS)	Unwarranted Assumed Similarity (UAS) $a = c \neq b$	Warranted Assumed Similarity (WAS) $a = b = c$
$a \neq c$ Assumed Dissimilarity (AD)	Warranted Assumed Dissimilarity (WAD) $a \neq b = c$	Unwarranted Assumed Dissimilarity (UAD) $a = b \neq c$

$a$  = judge's self-description  
 $b$  = other's self-description  
 $c$  = judge's prediction

Lindner (1972) points out several practical implications related to scores high on assumed similarity. In dealing with subjects highly familiar with each other as in the case of parents and children, warranted assumed similarity may produce no dissonance in the relationship if the subjects are in fact similar. However, in real-life situations a subject making unwarranted assumptions about similarity may have to modify his perceptions when his interactions with another fail to support his false assumptions. On the other hand, investigators should be cautious in their conclusions about subjects demonstrating strong tendencies for assuming similarity. When pairs of subjects are high on real similarity, excessive assumptions of similarity by one or both subjects will indicate a high level of interpersonal understanding. On the other hand, subjects who are in fact very dissimilar but who make excessive assumptions of similarity will appear to be low on interpersonal understanding.

Gage and Cronbach (1955) have devised a correction formula for estimating whether a particular subject is assuming similarity or is in fact making accurate predictions. They indicate, however, that the problem of assumptions is important when the subjects have known each other only a short time and becomes much less of an issue when subjects are highly familiar with each other as in the case of parents and their

children. Nonetheless, Lindner (1972) concludes ". . . that answering empirical questions in this area requires extreme care in specification, collection, and analysis of data" (p. 22).

CHAPTER III  
DESIGN OF THE STUDY

This study employed an interpersonal perception method to investigate the relationship between the levels of understanding between disruptive adolescents and their mothers and fathers and the levels of understanding between nondisruptive adolescents and their mothers and fathers. A group of disruptive high school students and their parents were compared to a group of nondisruptive students and their parents on measures of real similarity, real dissimilarity, warranted and unwarranted assumptions of similarity, and warranted and unwarranted assumptions of dissimilarity. In addition, the factors of disruption and nondisruption were related to demographic data.

Subjects

Description and Selection

Two groupings of adolescents (N=41) and both of the natural parents (N=82) with whom these adolescents live were used in the study. One group was composed of disruptive

adolescents (N=20) with a mean age of 16.25 and their natural parents (N=40). The mothers in this group had a mean age of 43.05, and the fathers had a mean age of 46.4. The second group was composed of nondisruptive adolescents (N=21) with a mean age of 15.9 and their natural parents (N=42). Mothers of nondisruptive adolescents had a mean age of 45.0 as compared to their husbands' mean age of 46.9. All of the students participating in the study were enrolled at the P. K. Yonge Laboratory School of the University of Florida.

Subjects were limited to a high school population (i.e., those students completing grades 9, 10, 11, and 12 at the time of the study). The disruptive group was composed of 17 white students, 3 black students, 15 males, and 5 females. All of the nondisruptive group was white, and it was comprised of 12 males and 9 females. The distribution by grade for the disruptive group was as follows: ninth grade--4 males and 1 female; tenth grade--3 males and 1 female; eleventh grade--5 males and 1 female; and twelfth grade--3 males and 2 females. The nondisruptive group was distributed as follows: ninth grade--2 males and 2 females; tenth grade--4 males and 4 females; eleventh grade--3 males and 1 female; and twelfth grade--3 males and 2 females.

The ages of the adolescents ranged from 14 years to 19 years. This age group was selected to minimize the emotional

or behavioral problems associated with prepuberty and to control for behavioral and maturity differences between middle school and high school students. In addition, since the Type Indicator is standardized for seventh grade students (age 12), the use of an older sample (age 14+) made allowance for educational (i.e., reading) deficiencies assumed to exist among younger students (especially among disruptive students).

The sample was also restricted to families where both the natural mother and the natural father are living in the home. This provision allowed for a study of differences between parents and their natural children without the confounding social and emotional variables that would have resulted from the inclusion of stepparents or other adult figures in the home.

Since the P. K. Yonge Laboratory School is a research-oriented school, the total student body was selected to approximate, on variables of race and socioeconomic factors, the distribution of students in the local public school system. Subjects for the study were drawn from a total population of 360 high school students (90 students in each grade 9-12) at P. K. Yonge and were identified by the counselors in the Pupil Personnel Department of the school.

The counselors were instructed to identify disruptive and nondisruptive students who live with their natural parents.

Disruptive students were defined as those whose behavior interfered with their own learning and the learning of others, whereas nondisruptive students were defined as those whose behavior was highly facilitative for their own learning and the learning of others.

On a more objective basis, disruptive students had to have been removed from their learning environment two or more times during the 1974-75 school year for disciplinary action. Typical behaviors leading to removal from the classroom included physical or verbal aggressiveness towards others, making excessive noise in the classroom, leaving the assigned work area, coming to class intoxicated or high on drugs, refusing to participate in class activities, and encouraging disruptive acting out behaviors in others.

Nondisruptive students, on the other hand, had no history of disciplinary action requiring removal from the classroom. They were selected on the basis of the following behavioral criteria: exemplary behavior on a consistent basis, refraining from physical aggression toward others, positive or facilitative verbal interactions with others, maintaining appropriate noise levels, remaining in the assigned work area, having no history of coming to class intoxicated or high on drugs, cooperative participation in class activities, and encouraging productive behaviors in others.

## Instrumentation

### Family Inventory Form

The Family Inventory Form (see Appendix A) was a set of questions designed specifically for this study. The questions provided a standard format for acquiring demographic data on each of the families participating in the study. These data were supplemented for each subject with additional information requested on the Type Indicator answer sheets (i.e., date of birth, occupation, and sex).

### Myers-Briggs Type Indicator (Form F)

The Myers-Briggs Type Indicator, Form F, is a self-administered and untimed personality inventory. The forced-choice, self-report questionnaire consists of 166 items and purports to measure the four following dichotomous preferences which were described in Chapter II: extraversion-introversion (E-I), sensing-intuition (S-N), thinking-feeling (T-F), and judgment-perception (J-P). This inventory is standardized for use with persons age 12 to adult, and the data for reliability and validity are reported in the test manual (Myers, 1962) and by McCaulley and Natter (1974).

Each of the four bipolar indices of the MBTI are scored separately with the resulting "preference score" consisting of a letter identifying the direction of the preference (e.g.,

"E" indicates a preference for extraversion) and a number indicating the strength of the preference. When all four indices have been scored, the preference score may be simplified by reducing it to a "type formula." A type formula consists simply of the four letters designating the direction of preference on each index (e.g., "ENTJ").

### The Interpersonal Perception Method

For the purpose of this study (i.e., to measure understanding between a parent and a child), the first and third steps in Dymond's Response Predicting Paradigm (1949; 1950) were sufficient. For each pair of subjects (i.e., a child and his mother or a child and his father), both subjects described themselves and predicted how the other subject described himself.

The Myers-Briggs Type Indicator was the tool for this study for implementing the interpersonal perception method. Each child in the study answered the questions on the MBTI to describe himself, to predict how his mother described herself, and to predict how his father described himself. Each parent in the study answered the MBTI questions to describe himself or herself and to predict how the child described himself.

Dymond (1949) was the first investigator to devise a response predicting paradigm for measuring empathy. She slightly modified her original instrument (Dymond, 1950),

and it is this basic revised model that has been most often used in recent studies of empathy and other interpersonal variables. She operationally defines empathy in terms of the following four processes: (a) Subject A rates himself on a personality inventory; (b) Subject A on the basis of his own perceptions of Subject B rates Subject B on the same inventory; (c) Subject A predicts how Subject B will rate himself; and (d) Subject A predicts how Subject B will rate him (Subject A).

Reliability data for Dymond's instrument were split-half correlations yielding a reliability coefficient of +.82. Validity was determined by a judge's rating technique, an empathic index based on the Thematic Apperception Test, and subject reports on their introspective processes (Dymond, 1950). Lindgren and Robinson (1953) evaluated Dymond's paradigm through research of their own and further expanded the reliability and validity data.

Laing et al. (1966) devised the Interpersonal Perception Method (IPM). Their approach was similar to Dymond's method but deleted the second step in the Dymond procedure in which Subject A on the basis of his own perception of Subject B rated Subject B on the inventory. Thus, Dymond's operational definition of empathy becomes more comprehensive than Laing's. Whereas Laing defines empathy as a subject's ability to determine how another person views himself, Dymond includes Laing's

measure of empathy plus the additional possibility of contrasting Subject A's own view of Subject B with Subject A's prediction of how Subject B will describe himself. Both the Dymond and the Laing procedures, by contrasting a subject's (e.g., Subject A) view of himself with his prediction of how the other (e.g., Subject B) sees him (i.e., Subject A), allow for a measure of "feeling understood."

#### Procedures and Data Collection

After the subjects were identified by the counselors in the Pupil Personnel Department of the P. K. Yonge Laboratory School, an introductory letter (see Appendix B) was mailed to the parents of 28 disruptive students and to the parents of 34 nondisruptive students. The letter was followed by a personal contact with the parents in the form of a telephone call. The personal contact served the following purposes: (a) to encourage the families to participate in the study, (b) to answer questions pertaining to the study, (c) to schedule family members for the necessary testing sessions, (d) to invite family members to optional feedback sessions during which the examiner explained basic type theory and interpreted the MBTI scores, (e) to survey the reasons why some families refused to participate in the study, and (f) to assure the families that all of their scores and personal data would remain anonymous.

The investigator was able to contact 27 families in the disruptive group and 33 families in the nondisruptive group. Initially, 24 families in the disruptive group and 25 families in the nondisruptive group agreed to participate in the study. In the final analysis, 20 families with disruptive children and 21 families with nondisruptive children actually completed the required testing. This represented a dropout rate of 25.9 percent for the disruptive group and 36.4 percent for the nondisruptive group. Reasons for declining included illness in the family, absence of a family member due to a business trip or vacation, time commitments to other research projects, over-extension of the family in other activities, and in one case a prior family decision to withdraw from all research. In only three families was there a direct refusal to discuss the possibility of participating in the study. In two of these families the father (but not the mother and the child) refused to participate, and in one family the mother (but not the father and the child) was unwilling to be a subject for research.

Each family agreeing to participate in the study was contacted individually by one of three examiners. The examiners gave standard directions for each part of the testing and explained the use of the answer sheets, the Family Inventory Form, and the Informed Consent sheets (see Appendix C). The testing materials were then left with each family so that the

family members could complete the forms at a time convenient to them. When the families had completed all of the answer sheets, the materials were returned to the examiners.

### Testing of Adolescents

Each adolescent (disruptive and nondisruptive) was given a copy of the Myers-Briggs Type Indicator (MBTI) and three answer sheets separately labeled "child for self," "child for mother," and "child for father." Following the standard directions appearing on the back of the machine-scored answer sheets, subjects described themselves on the "child for self" answer sheet. On the "child for mother" sheet, each subject using a modified set of instructions (see Appendix D) described the way he believed his mother would answer the MBTI questions. A second set of modified instructions (see Appendix E) were followed for completing the "child for father" answer sheet. Under this condition, the child predicted the way his father would describe himself when he answered the Type Indicator questions. Thus, after reading each MBTI item, the adolescents recorded responses on three answer sheets according to three different sets of directions.

### Testing of Parents

Each parent in the study was given a copy of the Myers-Briggs Type Indicator and two answer sheets separately labeled

either "mother for self" and "mother for child" or "father for self" and "father for child." Following the standard directions on the back of the machine-scored answer sheets, the parents described themselves on the sheets labeled "mother for self" and "father for self." On the "mother for child" and "father for child" answer sheets, the parents followed a modified set of instructions (see Appendix F) for describing the way they believed their child would answer the MBTI questions. Thus, after reading each MBTI item, the parents recorded responses on two answer sheets according to two different sets of directions. The parents also worked together to complete the Family Inventory Form.

#### Provision for Poor Readers

The examiners were prepared to read the research materials aloud to any subject whose reading level was too low for reading alone. However, only two families were identified in which one parent had only an elementary education. One examiner read the test materials aloud for both of these parents and assisted them in the completion of their answer sheets.

#### Data Processing and Analysis

All answer sheets for the MBTI were machine scored, and all statistical analyses were done by computer using a Fortran

program written specifically for this study. Each of the hypotheses was subjected to analysis of variance followed by Scheffé's method where significant F's were found. The Scheffé tests employed a correction formula to control for increased probability of significant differences by chance resulting from multiple comparisons which required the use of the same mean scores in various combinations.

#### Operational Definitions for Measures of Understanding

The following operational definitions will be employed in the statistical analyses of the hypotheses for this study:

(1) Child's self-report (CSR) is composed of the individual responses each child in the study made on each of the 166 items of the Myers-Briggs Type Indicator when describing the way he naturally feels or acts.

(2) Mother's self-report (MSR) is composed of the individual responses each mother in the study made on each of the 166 items of the MBTI when describing how she naturally feels or acts.

(3) Father's self-report (FSR) is composed of the individual responses each father in the study made on each of the 166 items of the MBTI when describing how he naturally feels or acts.

(4) Child's prediction of mother (CPM) is composed of

the individual responses each child in the study made on each of the 166 items of the MBTI when predicting his mother's self-report (MSR).

(5) Child's prediction of father (CPF) is composed of the individual responses each child in the study made on each of the 166 items of the MBTI when predicting his father's self-report (FSR).

(6) Mother's prediction of child (MPC) is composed of the individual responses each mother in the study made on each of the 166 items of the MBTI when predicting her child's self-report (CSR).

(7) Father's prediction of child (FPC) is composed of the individual responses each father in the study made on each of the 166 items of the MBTI when predicting his child's self-report (CSR).

(8) Real similarity (RS) is the total number of MBTI items on which a child and one of his parents made the same response on their self-reports (i.e., CSR compared with MSR or CSR compared with FSR).

(9) Real dissimilarity (RD) is the total number of MBTI items on which a child and one of his parents made different responses on their self-reports (i.e., CSR compared with MSR or CSR compared with FSR).

The following four operational definitions involve a

comparison of one subject's self-report with his prediction of another subject's self-report. There are four possible comparisons of this nature: child's self-report (CSR) with child's prediction of mother (CPM); child's self-report (CSR) with child's prediction of father (CPF); mother's self-report (MSR) with mother's prediction of child (MPC); and father's self-report (FSR) with father's prediction of child (FPC).

(10) Warranted assumed similarity (WAS) is the total number of MBTI items for which Subject A correctly predicts that both he and Subject B made the same response on their individual self-reports.

(11) Warranted assumed dissimilarity (WAD) is the total number of MBTI items for which Subject A correctly predicts that both he and Subject B made different responses on their individual self-reports.

(12) Unwarranted assumed similarity (UAS) is the total number of MBTI items for which Subject A incorrectly predicts that both he and Subject B made the same responses on their individual self-reports.

(13) Unwarranted assumed dissimilarity (UAD) is the total number of MBTI items for which Subject A incorrectly predicts that both he and Subject B made different responses on their individual self-reports.

The final two operational definitions are developed from

all of the preceding definitions and will provide the basis for the statistical analysis of the hypotheses for this study.

(14) Overall warranted assumptions (OWA) is the sum of warranted assumed similarity (WAS) and warranted assumed dissimilarity (WAD).

(15) Overall assumed similarity (OAS) is the sum of warranted assumed similarity (WAS) and unwarranted assumed similarity (UAS).

#### Restatement of Hypotheses in Operational Form

Since having empathic understanding for another person requires the ability to recognize both similarities and differences between oneself and another person, it is assumed that a person who has a high level of understanding of another person will be able to make more overall warranted assumptions (OWA) of both similarity and dissimilarity about that person. The following null hypothesis was formulated to test for differences between the levels of interpersonal understanding which exist between disruptive and nondisruptive adolescents and their parents. It will be tested by comparing the following eight pairs of mean scores for overall warranted assumptions (OWA) which were determined by comparing one subject's prediction of another (e.g., CPM) with the other subject's self-report (e.g., MSR): (a) mean OWA score of disruptive adolescents

for mother with mean OWA score of nondisruptive adolescents for mother; (b) mean OWA score of disruptive adolescents for father with mean OWA score of nondisruptive adolescents for father; (c) mean OWA score of mothers of disruptive adolescents for child with mean OWA score of mothers of nondisruptive adolescents for child; (d) mean OWA score of fathers of disruptive adolescents with mean OWA score of fathers of nondisruptive adolescents for child; (e) mean OWA score of disruptive adolescents for mother with mean OWA score of disruptive adolescents for father; (f) mean OWA score of nondisruptive adolescents for mother with mean OWA score of nondisruptive adolescents for fathers; (g) mean OWA score of mothers of disruptive adolescents for child with mean OWA score of fathers of disruptive adolescents for child; and (h) mean OWA score of mothers of nondisruptive adolescents for child with mean OWA score of fathers of nondisruptive adolescents for child.

Hypothesis 1. There is no difference between the mean OWA scores of disruptive adolescents and their parents and the mean OWA scores of nondisruptive adolescents and their parents.

The following hypothesis also stated in the null form was formulated to test the assumption that persons with lower levels of empathic understanding of another person will make more

assumptions of similarity between themselves and the other person. Using the same eight combinations employed in Hypothesis 1, Hypothesis 2 will be tested by comparing mean scores for overall assumed similarity (OAS) which like the mean OWA scores were determined by contrasting one subject's prediction of another (e.g., CPM) with the other subject's self-report (e.g., MSR).

Hypothesis 2. There is no difference between the mean OAS scores of disruptive adolescents and their parents and the mean OAS scores of nondisruptive adolescents and their parents.

## CHAPTER IV

### RESULTS

Computer analysis of the data was conducted in terms of main effects and interaction of main effects. Main effects included the following four categories for both the disruptive adolescents and their parents and the nondisruptive adolescents and their parents: (a) child's prediction of mother (CPM), (b) child's prediction of father (CPF), (c) mother's prediction of child (MPC), and (d) father's prediction of child (FPC). Analysis of variance was followed by the Scheffé method where significant F's were found, and all categories were tested for homogeneity of variance.

#### Tests for Homogeneity of Variance

Each of the eight categories of main effects (four for subjects in the disruptive group and four for subjects in the nondisruptive group) were tested for homogeneity of variance on all of the following measures: (a) real similarity (RS), (b) real dissimilarity (RD), (c) warranted assumed similarity (WAS), (d) warranted assumed dissimilarity (WAD), (e) unwarranted

assumed similarity (UAS), (f) unwarranted assumed dissimilarity (UAD), (g) overall warranted assumptions (OWA), and (h) overall assumed similarity (OAS). No significant differences in variance were found, and all group means fell within the 95 percent confidence interval for expected means.

### Evaluation of Hypotheses

#### Hypothesis 1

Hypothesis 1 was designed to test for differences between the levels of interpersonal understanding (OWA) which exist between disruptive and nondisruptive adolescents and their parents and states that there is no difference between the mean OWA scores of disruptive adolescents and their parents and the mean OWA scores of nondisruptive adolescents and their parents. The eight pairs of interactions described in Chapter III were tested, and none of the comparisons revealed a significant difference. A summary of the analysis of variance is presented in Table 1, and the mean OWA scores, standard deviations, ranges, degrees of freedom, and the difference between means used in the Scheffé test for each comparison are reported in Table 2.

An overall analysis of variance for the combined main effects did show a significant difference ( $p \leq .017$ ) between the disruptive adolescents and their parents as a group and

Table 1  
 Summary of Analysis of Variance for Measures  
 of Overall Warranted Assumptions (OWA)

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance of F
Main Effects	1781.215	4	445.304	2.458	0.047
Disruptive vs. Nondisruptive	1039.099	1	1039.099	5.736	0.017
Predicted Scores	742.116	3	247.372	1.365	0.254
Two-way Interactions	300.990	3	100.330	0.554	0.999
Residual	<u>28261.496</u>	<u>156</u>	181.163		
Total	30343.701	163			

Table 2

## Scheffé Tests of Overall Warranted Assumptions: Hypothesis 1

Source of Comparison	OWA: Disruptive (N=20)				OWA: Nondisruptive (N=21)				Degrees of Freedom	Difference Between Means
	Disruptive	Mean	Standard Deviation	Range	Mean	Standard Deviation	Range	Difference Between Means		
CPM	CPM	96.9500	11.8522	73-124	99.2857	12.5505	80-124	39	2.3357	
CPF	CPF	91.8000	11.2091	70-123	100.0476	14.9983	81-148	39	8.2476	
MPC	MPC	100.3000	10.8488	86-119	102.6667	14.4996	80-141	39	2.3667	
FPC	FPC	92.9500	14.5512	55-117	100.1429	15.9572	65-139	39	7.1929	
CPM/CPF			see above					38	5.1500	
MPC/FPC			see above					38	7.3500	
CPM/CPF					see above			40	0.7619	
MPC/FPC					see above			40	2.5238	

df = 39;  $p \leq .05$ ; Scheffé interval = 16.0080df = 38;  $p \leq .05$ ; Scheffé interval = 16.2020df = 40;  $p \leq .05$ ; Scheffé interval = 15.8115

Note: CPM = Child's Prediction of Mother

CPF = Child's Prediction of Father

MPC = Mother's Prediction of Child

FPC = Father's Prediction of Child

the nondisruptive adolescents and their parents as a group on measures of OWA. The nondisruptive children and their parents were more accurate than the disruptive children and their parents in predicting each other's responses and as a group show higher levels of interpersonal understanding.

### Hypothesis 2

Hypothesis 2 was formulated to test the assumption that persons with lower levels of empathic understanding of another person will make more assumptions of similarity (OAS) between themselves and the other person and states that there is no difference between the mean OAS scores of disruptive adolescents and their parents and the mean OAS scores of nondisruptive adolescents and their parents. The same eight comparisons employed for Hypothesis 1 were tested for Hypothesis 2, and none of the comparisons revealed a significant difference. A summary of the analysis of variance is presented in Table 3, and the mean OAS scores, standard deviations, degrees of freedom, and the difference between means used in the Scheffé test for each comparison are reported in Table 4.

### Evaluation of Demographic Data

Means for all data collected on the Family Inventory Form (see Appendix A) and for the ages of all subjects and

Table 3  
 Summary of Analysis of Variance for Measures  
 of Overall Assumed Similarity (OAS)

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	Significance of F
Main Effects	3280.853	4	820.213	1.549	0.190
Disruptive vs. Nondisruptive	1670.298	1	1670.298	3.154	0.074
Predicted Scores	1610.555	3	536.852	1.014	0.389
Two-way Interactions	4009.619	3	1336.540	2.524	0.059
Residual	<u>82614.437</u>	<u>156</u>	529.580		
Total	89904.909	163			

Table 4

## Scheffé Tests of Overall Assumed Similarity: Hypothesis 2

Source of Comparison	OAS: Disruptive (N=20)			OAS: Nondisruptive (N=21)			Degrees of Freedom	Difference Between Means
	Mean	Standard Deviation	Range	Mean	Standard Deviation	Range		
CPM	95.2000	26.9417	69-160	89.4286	23.3101	37-132	39	5.7714
CPF	91.7000	29.2919	48-164	91.0476	24.0052	36-126	39	0.6524
MPC	83.5500	20.1925	56-127	101.7619	16.9821	60-127	39	18.2119
FPC	92.2500	21.3908	75-166	106.0000	19.9023	61-145	39	13.0500
CPM/CPF		see above					38	3.5000
MPC/FPC		see above					38	8.7000
CPM/CPF					see above		40	1.6190
MPC/FPC					see above		40	4.2381

df = 39;  $p \leq .05$ ; Scheffé interval = 27.3695df = 38;  $p \leq .05$ ; Scheffé interval = 27.7012df = 40;  $p \leq .05$ ; Scheffé interval = 27.0337

Note: CPM = Child's Prediction of Mother  
 CPF = Child's Prediction of Father  
 MPC = Mother's Prediction of Child  
 FPC = Father's Prediction of Child

the sex of all children which were recorded on the MBTI answer sheets were computed for disruptive adolescents and their parents and for nondisruptive adolescents and their parents. The means for each group on each demographic variable were tested for significant differences either by t-tests or by tests for significant differences in proportion. These figures are reported in Appendix G.

Three educational variables, one income variable, and two birth order variables reached significant levels of difference. A significantly higher proportion ( $p \leq .01$ ) of both the mothers and fathers of disruptive adolescents were found to have only a high school education or less. On the other hand, a significantly higher proportion ( $p \leq .02$ ) of the fathers of nondisruptive adolescents as compared to the fathers of disruptive adolescents had earned an undergraduate college degree.

Birth order variables for the children, mothers, and fathers were compared in three ways. The first analysis divided each group into only child, first child, middle child, or last child. The second analysis divided each group by the number of siblings, and the third analysis combined first, middle, or last birth position with the number of siblings. The group of nondisruptive adolescents included a significantly higher proportion ( $p \leq .05$ ) of children with three siblings. No significant differences were found in the first

two analyses of birth order variables for the fathers, but in the third analysis which combined birth position with number of siblings, it was found that the group of fathers of non-disruptive adolescents included a significantly higher proportion ( $p \leq .05$ ) of last children with one sibling.

One other variable, total family income over \$30,000, reached a probability level of .05. Nine families of nondisruptive children as compared to three families of disruptive children fell into this category.

#### Additional Findings: MBTI Data

All answer sheets for the Myers-Briggs Type Indicator were machine scored for type following standard scoring procedures to determine preference scores for both the self-reports and the predicted responses. Distributions of types for subgroups within the study were further analyzed by a computer program which uses the Chi Square statistic for determining significant differences in the proportion of subjects selecting each of the sixteen type categories and a standard series of combinations of the types. Three sets of comparisons were made by contrasting the disruptive and nondisruptive groups on the self-reports of the children, the self-reports of the mothers, and the self-reports of the fathers. Eight other comparisons were made by contrasting MBTI type distributions

for subjects from the disruptive group and for subjects from the nondisruptive group in the following four combinations: (a) CPM with MSR, (b) CPF with FSR, (c) MPC with CSR, and (d) FPC with CSR. The fourteen type tables generated by these comparisons are presented in Appendix H.

### Self-Reports

No significant differences were found by comparing the type distributions of the self-reports of disruptive and nondisruptive adolescents. However, there were substantial differences on the extraversion-introversion index. Seventy percent of the disruptive children chose introversion as compared to 47.62 percent of the nondisruptive children.

The self-reports of the mothers of disruptive children and the mothers of nondisruptive children differed significantly on several dimensions. Disruptive children had significantly more mothers who preferred thinking ( $p \leq .01$ ) and particularly the tough-minded thinking-judging types ( $p \leq .05$ ) and fewer who preferred feeling ( $p \leq .01$ ) and particularly intuition-feeling ( $p \leq .05$ ) and feeling-judging ( $p \leq .05$ ). All of the mothers of nondisruptive children preferred feeling ( $p \leq .01$ ) and particularly intuition-feeling ( $p \leq .05$ ) and feeling-judging ( $p \leq .05$ ). None preferred thinking ( $p \leq .01$ ) or were in the tough-minded thinking-judging type ( $p \leq .05$ ).

In addition to the difference between the two groups of mothers on the T-F index where 100 percent of the mothers of nondisruptive adolescents selected feeling as compared to 70 percent of the mothers of disruptive adolescents, smaller differences were evident on the S-N and the J-P indices with more of the mothers of disruptive adolescents preferring sensing (70 percent as compared to 52.38 percent) and with fewer preferring the "executive" judging attitude (55 percent as compared to 71.43 percent).

The two groups of fathers did not differ significantly on any measure related to their self-reports. Forty percent of the fathers of disruptive children as compared to 9.52 percent of the fathers of nondisruptive children fell into the preference type ISTJ. Like the mothers, more fathers of disruptive students as compared to the fathers of nondisruptive students preferred sensing (75 percent as compared to 57.14 percent) and thinking (70 percent as compared to 57.14 percent). Four out of five fathers in both groups reported a preference for the organized, systematic judging attitude.

#### Parental Predictions of Children

It is necessary to be cautious when comparing the predicted scores for a group with the group's self-reports since the predicted scores are not being analyzed individually for

each family. Therefore, comparisons of this nature can only reflect an overall tendency of a group to overestimate or underestimate in a particular direction.

It appears that there was an overall tendency for the parents to be more accurate in predicting their children's responses than the children were in predicting their parents' responses on the MBTI items. No significant differences were found when comparing the predictions of the mothers and fathers of disruptive adolescents and of the fathers of nondisruptive adolescents with their children's self-reports. There was, however, a tendency for the mothers of nondisruptive children to underestimate ( $p \leq .05$ ) the proportion of their children who were introverted types in the perceptive attitude (IP).

#### Children's Predictions of Parents

Surprisingly, disruptive adolescents appear to have been more accurate in predicting their parents' responses than were the nondisruptive adolescents. No significant differences were found when comparing the disruptive adolescents' predictions of their fathers with their fathers' self-reports. Disruptive adolescents, however, did have an overall tendency to see their mothers as more sensing-thinking ( $p \leq .05$ ), less intuitive-perceptive ( $p \leq .05$ ), and less feeling-perceptive ( $p \leq .05$ ) than the mothers reported themselves to be.

Nondisruptive adolescents seem to have a more accurate understanding of their fathers than of their mothers. They described their mothers as having significantly more sensing ( $p \leq .01$ ) and thinking types ( $p \leq .01$ ) than appeared in the mothers' self-reports and significantly more of the subgroups of the following types: sensing-thinking ( $p \leq .05$ ), sensing-judging ( $p \leq .05$ ), thinking-judging ( $p \leq .05$ ), and extraversion-sensing ( $p \leq .001$ ). In addition, the nondisruptive adolescents predicted more of the decisive extraverted-judging types ( $p \leq .05$ ) than occurred in their mothers' self-reports. When predicted types for the main eight MBTI dimensions approach significance (e.g., the extraversion and judging types predicted by nondisruptive adolescents for their mothers), a combination of these predicted dimensions will reach significant levels of difference (e.g., the EJ types predicted by nondisruptive adolescents for their mothers).

The nondisruptive adolescents predicted their fathers' types more accurately than their mothers' types. In the main preferences, they overestimated the number of thinking types ( $p \leq .05$ ); and in the subgroups of the types, they overestimated sensing-thinking ( $p \leq .01$ ) and sensing-perception ( $p \leq .05$ ).

There seems to be a common tendency for children and mothers to overestimate on the extraversion index. On extraversion the nondisruptive adolescents overestimated their

mothers by 28.57 percent and their fathers by 19.05 percent. On the same index, disruptive adolescents overestimated their mothers by 10.0 percent and their fathers by 20.0 percent. The mothers of disruptive adolescents predicted a proportion of extraversion 25 percent higher than their children's self-reports, and the mothers of nondisruptive adolescents overestimated the extraversion of their children by 14.29 percent. The same pattern was not evident in the fathers' predictions of the children. The proportion of extraversion predicted by the fathers of disruptive adolescents was the same as the proportion of their children's self-reports, and the proportion of extraversion predicted by the fathers of nondisruptive adolescents for their children was underestimated by 9.52 percent.

In the predicted types made by disruptive and nondisruptive children and their parents for the subgroup of extraversion-sensing (ES), only the fathers of nondisruptive children in predicting their children's self-reports did not overestimate. Mothers of disruptive students saw their children as 20 percent more ES, and the fathers of disruptive students saw their children as 10 percent more ES than their self-reports. The mothers of nondisruptive students overestimated their children's self-reports for ES by 9.52 percent, but the proportion of ES which the fathers of nondisruptive

students predicted for their children was the same as appeared in the children's self-reports. In predicting their fathers on ES, disruptive youths overestimated by 20 percent, and non-disruptive youths overestimated by 19.05 percent. The most extreme differences were in the predictions of ES made by the children for their mothers. Disruptive adolescents saw their mothers as 25 percent more ES than their self-reports, but nondisruptive adolescents overestimated their mothers' preference for ES by 52.38 percent ( $p \leq .001$ ).

## CHAPTER V

### DISCUSSION

#### Demographic Variables

Considering the previous research on disruptive behavior, it is surprising that so few of the demographic variables in this study reached significant levels of difference between the families of disruptive youths and the families of nondisruptive youths. The absence of such differences may possibly be attributed to the nature of the laboratory school from which the samples were drawn since a large number of the children from both the disruptive and nondisruptive groups have parents who are associated with the University of Florida or who hold other professional positions in the community. The small representation of black families (15 percent of the disruptive group) in the study also suggests that the sample drawn from the laboratory school may be somewhat atypical of a sample that would be drawn from a public high school.

Fifty-five percent of the fathers and 30 percent of the mothers of disruptive children do have at least one college degree. However, the parents of nondisruptive children have

substantially higher educational levels with all of the fathers and 66.7 percent of the mothers having one or more college degrees. Nonetheless, the finding in this study of a significantly greater proportion of parents of disruptive adolescents with only a high school education or less is not unusual. The fact that a family income of over \$30,000 reached a significant level in favor of the families of nondisruptive adolescents reflects the trend for this group of parents to be better educated. Combined measures for education and family income for all subjects indicate that the families participating in this study come from a predominantly middle class population.

If the adolescents being studied use their parents for behavioral models and if their attitudes reflect the interests and values of their parents, it would be possible to assume that nondisruptive students because of the educational achievements of their parents take education more seriously and value academic success more than disruptive students. If this is true, nondisruptive students would be more likely to adapt their behavior at school to standards considered exemplary or facilitative by school personnel. On the other hand, if the parents of disruptive students value education less than do the parents of nondisruptive students, their attitudes toward school may be different, and they may have fewer expectations of how their children should behave or perform in school. If

this is the case, the parents of disruptive adolescents may not respond as negatively when reports of their children's acting out behaviors come to their attention, or they may be more prone to consider the disruptive behaviors as a passing phase or even as cute.

In over one hundred comparisons of demographic data, it can be expected that several comparisons will be significantly different due to chance. Research on birth order has typically produced unstable results and offers no support for the birth factors found to be significant for nondisruptive children and their fathers. The fact that the nondisruptive children were more likely to have three siblings and that their fathers were more likely to be the younger of two children can probably be attributed to chance since the sample size was small and since the birth data were divided into several different categories for analysis. Certainly much significance should not be attached to this information without further extensive research.

#### Interpersonal Understanding

Even though none of the eight comparisons of measures of overall warranted assumptions (OWA) revealed a significant difference, all of the comparisons of the disruptive group with the nondisruptive group were in the expected direction

with nondisruptive adolescents and their parents being more accurate in the response predicting task than the disruptive adolescents and their parents. The overall analysis of variance of main effects which showed the nondisruptive children and their parents as a group to be significantly more accurate on measures of OWA than the disruptive children and their parents as a group suggests the existence of higher levels of interpersonal understanding within the families of nondisruptive students even though the specific comparisons of children, mothers, and fathers do not show any pairing of subjects to have higher interpersonal understanding than another. Further research on OWA seems to be necessary before either accepting or rejecting the OWA measures as a useful means of distinguishing between disruptive and nondisruptive adolescents and their parents. The use of a small sample size and the fact that the two groups were highly similar on demographic variables may have contributed to the present outcome. Therefore, studies correcting the research weaknesses inherent in this study may produce more practical and meaningful results.

Previous research requiring a response predicting task for mothers and fathers has consistently shown mothers to have a better understanding of their children. In this study, a comparison of MPC and FPC for the parents of nondisruptive children and for the parents of disruptive children also

showed the mothers (and especially the mothers of disruptive children) to have a slightly greater understanding of their children than did the fathers.

Differences for both the disruptive and nondisruptive adolescents between CPM and CPF were very small. Nondisruptive adolescents, however, were substantially more accurate than disruptive adolescents in predicting the responses of their fathers. It is possible to speculate that nondisruptive children as compared to disruptive children may have a more positive relationship with their fathers which may in turn lead to higher levels of interpersonal understanding between them. Further research in this area would be worthwhile especially if attention is paid to the quality and quantity of father-child interactions.

#### Assumptions of Similarity

The analyses for Hypothesis 2 revealed no significant differences in the eight comparisons of measures of overall assumed similarity (OAS). The OAS measure for distinguishing between disruptive and nondisruptive adolescents and their parents would seem to be of little value. The differences between the means for all variables except for MPC and FPC were quite small, and even the MPC and FPC measures were well within the 95 percent confidence interval for expected means.

Even though the disruptive children assumed more similarity between themselves and their parents than did the nondisruptive children, both of the parents of nondisruptive adolescents saw their children as more like themselves than did the parents of disruptive adolescents with the mothers assuming similarity to a higher degree than did the fathers. The two groups of mothers and of fathers did not differ significantly on the RS measure obtained by comparing their self-reports with the self-reports of their children. Therefore, the assumptions of similarity made by the parents of nondisruptive adolescents cannot be attributed to a high degree of real similarity between themselves and their children.

When warranted assumptions for both similarity and dissimilarity are combined and when unwarranted assumptions for both similarity and dissimilarity are combined, there is little difference between the mean scores for the two groups of mothers and between the mean scores for the two groups of fathers. Mothers and fathers of nondisruptive adolescents, however, made more warranted and unwarranted assumptions of similarity, and the mothers and fathers of disruptive adolescents made more warranted and more unwarranted assumptions of dissimilarity. Thus, even though the differences are small, there appears to be a slight tendency for the parents of non-disruptive youths incorrectly to see their children as being

like themselves and a tendency for the parents of disruptive youths to be more prone incorrectly to see their children as different from themselves.

Wakefield (1966) discovered a tendency among the mothers in his study to use more projection and for the fathers to use more stereotyping when predicting the responses of their teenage children. If projection is a factor in this study, there is little reason to believe that it would not appear among all mothers and not just among the mothers of nondisruptive adolescents. It would not be expected to appear as a significant factor in the predictions made by the fathers.

#### Additional Observations on MBTI Data

It is unusual for all of the mothers of nondisruptive adolescents to have described themselves on the MBTI as feeling (F) types. Even though 70 percent of the mothers of disruptive adolescents also selected F, 30 percent of that group did describe themselves as thinking (T) types. As a result, the mothers of disruptive children were significantly more T, whereas the mothers of nondisruptive children were significantly more F, NF, and FJ. The number of mothers of nondisruptive youths describing themselves as judging (J) types was 16.43 percent higher than the mothers in the other group but did not reach a significant level of difference.

Feeling types (F) tend to handle situations with personal warmth and to be interested in human relationships and in the human side of issues, whereas thinking types (T) tend to be skeptical, critical, interested in the objective truth, and prone to handle situations with impersonal analysis. Considering type theory, it is possible to speculate that the mothers of disruptive children may use their thinking skills to see their children and to relate to their children more objectively and impersonally. On the other hand, the mothers of nondisruptive adolescents, lacking a preference for T, may see their children and relate to their children on a highly subjective basis and with personal warmth and a sincere interest in their children's feelings, values, and interests. Their subjectivity may very well be a prime factor in their tendency to assume that their children are like themselves.

Katz (1963), in his discussion of empathy, mentioned a tendency for people who have positive feelings for each other (e.g., friends) to assume that their loved one has interests and feelings similar to their own. If the exemplary behavior that nondisruptive adolescents exhibit at school carries over to their behavior in the home, their parents may experience a parent-child relationship with little dissension and much mutual cooperation. Positive interactions with a child

coupled with a highly subjective and emotional mode of relating to the child, may contribute to the tendency of the mothers of nondisruptive children to view their children as similar to themselves.

The tendency of disruptive adolescents as a group, their mothers as a group, and their fathers as a group to be more accurate in predicting MBTI type preferences than the nondisruptive adolescents and their parents and the tendency of nondisruptive adolescents as a group to be more accurate in predicting the type preferences of their fathers as compared to predicting the preferences of their mothers may possibly be due to the behavioral characteristics associated with sensing, thinking, and perhaps judging.

In type theory, ST types are typically practical and matter-of-fact, are more interested in things than in human relationships, and analyze situations impersonally. Judging types (J) are prone to be systematic and orderly. When faulty type development occurs, STJ types tend to be rigid and authoritarian. Since the S, T, and J dimensions in various combinations are more frequent among disruptive adolescents and their parents, the parent-child interactions for these subjects may possibly be more objective and impersonal and subsequently more realistic. Also, since the mothers of nondisruptive adolescents prefer a more subjective

mode of relating to others, it is possible that the relationship a nondisruptive child has with his father is more objective and realistic than the relationship with his mother and perhaps allows him to have a more accurate understanding of his father.

The disruptive adolescents in predicting their mothers' responses and the nondisruptive adolescents in predicting their mothers' and fathers' responses overestimated the proportion of sensing-thinking types. Since parents are responsible for disciplining their children, for making decisions regarding their children's activities, and for setting limits on the behavior of their children, it is not surprising that children describe their parents in terms of type dimensions associated with logical thinking, pragmatism, attention to facts and details, critical evaluation, and skepticism.

Mothers in predicting their children's responses and children in predicting their mothers' and fathers' responses overestimated the proportion of extraversion. It became apparent in discussions with the adolescents and parents attending the feedback sessions offered by the investigator that the subjects were viewing the behavior of their introverted parents or their introverted children primarily in terms of behavior at home or in other highly familiar situations. In terms of type theory, it is customary for an

introvert to exhibit his extraverting skills when with people he knows well or when in situations where he feels comfortable. Since children and parents observe each other more often in familiar surroundings and less often in school or business situations or in activities outside of the home, it is probably not unusual for them to overestimate characteristics of extraversion in each other.

A final observation pertains to the distribution of the two groups of adolescents on the extraversion-introversion index. Only 4.76 percent more of the nondisruptive adolescents described themselves as extraverts than as introverts. Seventy percent of the disruptive adolescents, however, reported themselves to be introverts. This is an unexpected occurrence. Since introverts direct their processes of perceiving and judging to an inner world of concepts and ideas and since extraverts prefer to use their perception and judgment in an outer world of people, activities, and things, it is surprising that children engaging in disruptive behavior in school should be predominantly introverts. It would be worthwhile in future research to attempt to identify the motives that would lead an introverted child to acting out behaviors. It is possible at this time only to surmise that such behaviors may be a bid for attention, an effort to acquire friends, an attempt to feel an integral part of the group, or perhaps a protest against disliked elements within the school system.

### Suggestions for Further Research

A prime consideration for any future research on interpersonal understanding between children and their parents would be to increase significantly the size of the sample used in this study. The research on parent-child relationships suggests a need for cross-sex comparisons between mothers and daughters, mothers and sons, fathers, and daughters, and fathers and sons. A sample including a substantial number of girls and boys and of white and black families would provide a sufficient base for such comparisons.

It would also be valuable to pay more attention to the types of disruptive behavior exhibited by high school students. If acting out behaviors could be classified, significant differences might be found between the family relationships of students with less severe behavior and the family relationships of students with highly severe behavior. A comparison of the family interactions of students engaging in delinquent behavior (i.e., students under the jurisdiction of a juvenile court system) and the family interactions of nondisruptive students would possibly reveal more significant differences than were observed in this study, especially on demographic variables.

A worthwhile analysis could be done of the parent-child relationships of different children in the same family.

Parents may be found to react differently to different children, and one child may relate better than another child to a particular parent. Careful and extensive studies of birth order factors are needed, and a study of this type might very well provide some stable data.

A more detailed analysis of type data than was conducted in this study might identify personality characteristics which play important roles in the quality of a parent-child relationship. A study of interpersonal understanding between parents and children based on all the preferences of the Myers-Briggs Type Indicator may show higher levels of interpersonal understanding among some types as compared to others. This may be particularly valuable in studies of the parent-child relationship of different children in the same family. Such information could also be incorporated into a training program designed to teach communication skills to parents and teenagers.

Many variables have been shown to be associated with disruptive behavior. It would be highly useful to have the same families participate in a series of different studies on interpersonal understanding. Attention could be directed to such variables as self-concept, academic achievement, academic aptitude, perceptions of family harmony, parental educational achievements, stability of the parental marital relationship, interaction with siblings, and the quality and quantity of parent-child interactions.

Some studies have already shown improvement in parent-child relationships following communications training sessions for children and parents. It would be extremely practical to develop and to analyze training sessions for helping parents and adolescents improve or learn such skills as are found to be related to good interpersonal understanding.

### Summary and Conclusions

This study implemented an interpersonal perception method (Dymond, 1949; 1950) for the purpose of studying the levels of interpersonal understanding which exist between disruptive adolescents and their parents and nondisruptive adolescents and their parents. Disruptive children and their parents and nondisruptive children and their parents completed the Myers-Briggs Type Indicator to describe themselves and then completed it again to predict each other's responses.

Two hypotheses were tested by comparing various combinations of the predicted responses adolescents made for their parents and the predicted responses parents made for their children. Hypothesis 1 was designed to test for differences in levels of interpersonal understanding as determined by the number of correct predictions made in the response predicting tasks. None of the comparisons of these predictions revealed a significant difference in interpersonal understanding. An

overall analysis of variance of the main effects did show that the nondisruptive children and their parents as a group as compared to disruptive children and their parents as a group were significantly more accurate ( $p \leq .017$ ) on measures of interpersonal understanding.

Hypothesis 2 was designed to test the different tendencies of subjects to make assumptions of similarity between themselves and another subject. High frequencies of assumed similarity were considered to indicate a lack of interpersonal understanding. None of the comparisons of measures of overall assumed similarity revealed significant levels of difference.

Demographic data and data generated by the responses to the Myers-Briggs Type Indicator were also analyzed for significant differences between the families of disruptive children and the families of nondisruptive children.

### Conclusions

(1) Since no significant differences were found in the eight comparisons of measures of overall warranted assumptions (OWA), this study does not appear to support the conclusion that disruptive and nondisruptive adolescents and their parents have different levels of interpersonal understanding. However, the analysis of main effects did show the nondisruptive children and their parents as a group to have higher levels of interpersonal

understanding than the disruptive children and their parents as a group. This finding would suggest a need for further evaluation of interpersonal understanding between parents and teenagers and may mean that the lack of significant differences in this study in the specific comparisons of children, mothers, and fathers were due to the small sample size and to the fact that the families of nondisruptive adolescents and the families of disruptive adolescents were quite similar on demographic variables.

(2) Since no significant differences were found in the measures of overall assumed similarity (OAS), this study does not support the conclusion that disruptive and nondisruptive adolescents and their parents have different tendencies toward seeing others as like themselves. The lack of significant differences in these measures may be the result of research weaknesses inherent in this study. Nonetheless, whereas measures of overall warranted assumptions (OWA) did show trends in the expected direction, measures of overall assumed similarity (OAS) did not seem to provide much information of value.

(3) Since comparisons of the type distributions of the self-reports and of the predicted types of adolescents, mothers, and fathers revealed many significant differences on MBTI variables, it is possible to conclude that personality type

dimensions as measured by the Myers-Briggs Type Indicator are potentially useful for explaining differences in interpersonal understanding between disruptive and nondisruptive adolescents and their parents. Further research making use of large samples is needed in this area.

(4) Few significant differences were found between the families of disruptive adolescents and the families of nondisruptive adolescents on demographic variables. These data suggest that the children participating in this study come from a predominantly middle class population and may be somewhat atypical of a sample of children that would be drawn from a public high school.

(5) Further research on interpersonal understanding between disruptive and nondisruptive adolescents and their parents would be worthwhile. Efforts should be made to use large samples and to include various combinations of variables known to be associated with disruptive behavior in the school.

## APPENDICES

## APPENDIX A

## FAMILY INVENTORY FORM

Family Number: \_\_\_\_\_ Date: \_\_\_\_\_

1. Length of present marriage \_\_\_\_\_
2. Number of previous marriages for mother \_\_\_\_\_  
Number of previous marriages for father \_\_\_\_\_
3. Number of children by this marriage \_\_\_\_\_  
Number of children by mother in previous marriages \_\_\_\_\_  
Number of children by father in previous marriages \_\_\_\_\_
4. Number of children living in the home \_\_\_\_\_
5. Child's present grade in school \_\_\_\_\_  
Name of child's present school \_\_\_\_\_
6. Circle highest grade completed in school:
 

Mother:	1	2	3	4	5	6	7	8	1	2	3	4	1	2	3	4	Other	_____
									grade school	high school	college							
Father:	1	2	3	4	5	6	7	8	1	2	3	4	1	2	3	4	Other	_____
									grade school	high school	college							
Child:	1	2	3	4	5	6	7	8	1	2	3	4						
									grade school	high school								
7. Number of grades failed in school:
 

Mother	_____
Father	_____
Child	_____
8. Total family income:
 

Below \$5,000	_____
\$5,000 - \$9,999	_____
\$10,000 - \$14,999	_____
\$15,000 - \$19,999	_____
\$20,000 - \$24,999	_____
\$25,000 - \$29,999	_____
Above \$30,000	_____

9. Number of older natural brothers:  
Child \_\_\_\_\_  
Mother \_\_\_\_\_  
Father \_\_\_\_\_
10. Number of older natural sisters:  
Child \_\_\_\_\_  
Mother \_\_\_\_\_  
Father \_\_\_\_\_
11. Number of younger natural brothers:  
Child \_\_\_\_\_  
Mother \_\_\_\_\_  
Father \_\_\_\_\_
12. Number of younger natural sisters:  
Child \_\_\_\_\_  
Mother \_\_\_\_\_  
Father \_\_\_\_\_
13. Number of half-brothers and half-sisters:  
Child \_\_\_\_\_  
Mother \_\_\_\_\_  
Father \_\_\_\_\_
14. Religious preference:  
Child \_\_\_\_\_  
Mother \_\_\_\_\_  
Father \_\_\_\_\_
15. Race of family:  
Black \_\_\_\_\_  
White \_\_\_\_\_  
Other \_\_\_\_\_ (please state)

## APPENDIX B

## LETTER TO PARENTS

(P. K. Yonge Laboratory School Letterhead)

May 21, 1975

Dear Mr. and Mrs. \_\_\_\_\_:

This letter is to inform you that you will be contacted in the next few days by Ms. Cecilia Colbert, a graduate student at the University of Florida. Ms. Colbert is conducting her doctoral research on parent-adolescent relationships and wishes to enlist the help of both of you and your child \_\_\_\_\_ in her study.

This study which has the support of the P. K. Yonge administration and the College of Education of the University of Florida is an attempt to examine the perceptions parents and children have of each other. Your part in the study would require 1 to 2 hours of time which can be arranged at your convenience.

As participants in the study, you will be asked to take the Myers-Briggs Type Indicator and to complete a short biographical form. The Type Indicator is a personality inventory with no right or wrong answers. It identifies the ways different people prefer to make decisions, gather information, and focus their attention on the world. No preference is considered better than another, and the test looks for positive processes and not for problems. These scores and any information you provide will remain confidential. Your scores will, in fact, be identified by a number and not by your names.

After the tests have been scored, you will be invited to attend an optional feedback session. In this session your scores will be explained, and you will be given a chance to discuss information about personality type and its application to your relationship with your child.

You may contact Ms. Colbert at 373-1798 for further information or for a testing appointment. Otherwise, she will contact you soon.

It is believed that this study will make an important contribution to the field of education, and your assistance in making this contribution possible will be most appreciated.

Sincerely,

J. B. Hodges, Ph.D.  
Director

## APPENDIX C

Informed Consent

P. K. Yonge Laboratory School - University of Florida

Name of Parents \_\_\_\_\_

Address \_\_\_\_\_

Title of Project: An Analysis of Interpersonal Understanding  
Between Parents and Adolescents

Project Number: \_\_\_\_\_

Principle Investigator: Mrs. Cecilia B. Colbert

Purpose and Method: The purpose of this study is to examine the levels of interpersonal understanding that exist between adolescents and their mothers and between adolescents and their fathers. These levels will be determined statistically by having each adolescent in the study complete the Myers-Briggs Type Indicator under three conditions--to describe themselves, to predict their mother's responses, and to predict their father's responses. Each parent in the study will complete the Myers-Briggs Type Indicator under two conditions--to describe themselves and to predict their child's responses. Parents will also be asked to complete as many items as possible on a Family Data Form (responses to these items are voluntary).

We, the undersigned, do understand the purpose of the above investigation project. The study proposed has been explained to us by the investigator whose name is signed below, and we agree to participate in this study and to have our minor child whose name is \_\_\_\_\_ participate in this study. We understand that we may withdraw at any time.

\_\_\_\_\_  
Father's Signature\_\_\_\_\_  
Date\_\_\_\_\_  
Mother's Signature\_\_\_\_\_  
Date\_\_\_\_\_  
Child's Signature\_\_\_\_\_  
Date

I, the undersigned, have defined and explained this study to these volunteers.

---

Investigator's Signature

---

Date

---

Signature of Witness

---

Date

## APPENDIX D

## MODIFIED PROCEDURE FOR THE MYERS-BRIGGS TYPE INDICATOR (F)

Directions: Please continue to follow the directions for the Myers-Briggs Type Indicator which you used when you took the test to describe yourself. This time, however, please mark the answers which come the closest to the way your mother will say she usually feels or acts.

Look at the following example:

167. Would you rather see a movie  
(A) at home on TV (B) at a movie theater

If you believe your mother will answer that she would rather see a movie at home on TV, you should mark answer A on your answer sheet as follows:

167.        A          B    
                      

If you believe your mother will answer that she would rather see a movie at a movie theater, you should mark answer B on your answer sheet as follows:

167.        A           B    
                      

Answer as many of the questions as possible. If you simply cannot answer a particular question, do not mark both answers. Just skip the question and go on.

Do not talk to your mother about these questions. If you need help with the test, talk only to the examiner.

## APPENDIX E

## MODIFIED PROCEDURE FOR THE MYERS-BRIGGS TYPE INDICATOR (F)

Directions: Please continue to follow the directions for the Myers-Briggs Type Indicator which you used when you took the test to describe yourself. This time, however, please mark the answers which come the closest to the way your father will say he usually feels or acts.

Look at the following example:

167. Would you rather see a movie  
 (A) at home on TV (B) at a movie theater

If you believe your father will answer that he would rather see a movie at home on TV, you should mark answer A on your answer sheet as follows:

167.     A     B  
                

If you believe your father will answer that he would rather see a movie at a movie theater, you should mark answer B on your answer sheet as follows:

167.     A     B  
                

Answer as many of the questions as possible. If you simply cannot answer a particular question, do not mark both answers. Just skip the question and go on.

Do not talk to your father about these questions. If you need help with the test, talk only to the examiner.

## APPENDIX F

## MODIFIED PROCEDURE FOR THE MYERS-BRIGGS TYPE INDICATOR (F)

Directions: Please continue to follow the directions for the Myers-Briggs Type Indicator which you used when you took the test to describe yourself. This time, however, please mark the answers which come the closest to the way your child will say he/she usually feels or acts.

Look at the following example:

167. Would you rather see a movie  
 (A) at home on TV (B) at a movie theater

If you believe your child will answer that he/she would rather see a movie at home on TV, you should mark answer A on your answer sheet as follows:

167.      A      B  
                

If you believe your child will answer that he/she would rather see a movie at a movie theater, you should mark answer B on your answer sheet as follows:

167.      A      B  
                

Answer as many of the questions as possible. If you simply cannot answer a particular question, do not mark both answers. Just skip the question and go on.

Do not talk to your child about these questions. If you need help with the test, talk only to the examiner.

## APPENDIX G

## Evaluation of Demographic Data

Variable	Disruptive (N=20)		Nondisruptive (N=21)		t-test
	M	SD	M	SD	
Age					
Child	16.250	1.410	15.900	1.950	0.179
Mother	43.050	7.391	45.000	5.477	0.212
Father	46.400	8.255	46.900	5.371	0.051
Child's School Grade	10.050	1.224	11.000	1.175	0.560
Length of marriage	22.500	6.004	22.000	3.599	0.071
Number of children					
By present marriage	3.250	1.187	3.333	0.943	0.020
Living in the home	2.600	1.114	2.760	1.019	0.066
Mother's by previous marriage	0.050	0.218	0.000	0.000	0.229
Father's by previous marriage	0.150	0.477	0.000	0.000	0.314
Previous marriages					
Mother	0.050	0.218	0.000	0.000	0.229
Father	0.100	0.300	0.000	0.000	0.333
Grades failed in school					
Child	0.250	0.767	0.000	0.000	0.326
Mother	0.100	0.430	0.000	0.000	0.233
Father	0.050	0.218	0.000	0.000	0.229

\* p  $\leq$  .05, \*\* p  $\leq$  .02, \*\*\* p  $\leq$  .01

Variable	Disruptive (N=20)		Nondisruptive (N=21)		z-score
	N	%	N	%	
Sex of children					
Male	15	75.00	12	57.14	1.208
Female	5	25.00	9	42.86	1.208
Race of families					
White	17	85.00	21	100.00	1.613
Black	3	15.00	0	0.00	1.852
Education of mother					
High school or less	8	40.00	1	4.76	2.729***
College undergraduate	6	30.00	6	28.50	0.099
College degree	5	25.00	9	42.90	1.209
Graduate degree	1	5.00	5	23.80	1.709
Education of father					
High school or less	7	35.00	0	0.00	2.970***
College undergraduate	2	10.00	0	0.00	1.490
College degree	1	5.00	8	38.10	2.566**
Graduate degree	10	50.00	13	61.90	0.768
Total family income					
\$10,000 - \$14,999	3	15.00	0	0.00	1.852
\$15,000 - \$19,999	7	35.00	4	19.05	1.159
\$20,000 - \$24,999	2	10.00	4	19.05	0.311
\$25,000 - \$29,999	3	15.00	2	9.52	0.955
Over \$30,000	3	15.00	9	42.86	1.960*
No report	1	5.00	2	9.52	0.556

\*p ≤ .05, \*\*p ≤ .02, \*\*\*p ≤ .01

Variable	Disruptive (N=20)		Nondisruptive (N=21)		z-score
	N	%	N	%	
Religion of child					
Church participation	14	70.00	18	85.71	1.211
Protestant	14	70.00	14	66.66	
Catholic	0	0.00	3	14.29	
Jewish	0	0.00	1	4.76	
No participation	6	30.00	3	14.29	1.217
Religion of mother					
Church participation	17	85.00	19	90.48	0.539
Protestant	17	85.00	15	71.43	
Catholic	0	0.00	3	14.29	
Jewish	0	0.00	1	4.76	
No participation	3	15.00	2	9.52	0.539
Religion of father					
Church participation	16	80.00	17	80.95	0.081
Protestant	15	75.00	12	57.14	
Catholic	1	5.00	3	14.29	
Jewish	0	0.00	2	9.52	
No participation	4	20.00	4	19.05	0.081
Birth order of child					
Only child	1	5.00	0	0.00	1.042
First child	5	25.00	8	38.10	0.903
Middle child	7	35.00	9	42.90	0.513
Last child	7	35.00	4	19.00	1.159
Without siblings	1	5.00	0	0.00	1.042
With one sibling	3	15.00	5	23.80	0.710
With two siblings	10	50.00	6	28.50	1.408
With three siblings	2	10.00	8	38.10	2.097*
With four siblings	3	15.00	2	9.52	0.539
With five siblings	1	5.00	0	0.00	1.042

\*p ≤ .05, \*\*p ≤ .02, \*\*\*p ≤ .01

Variable	Disruptive (N=20)		Nondisruptive (N=21)		z-score
	N	%	N	%	
Birth order of child					
First with one sibling	1	5.00	2	9.52	0.556
First with two siblings	4	20.00	4	19.05	0.081
First with three siblings	0	0.00	2	9.52	1.418
Middle with two siblings	3	15.00	2	9.52	0.539
Middle with three siblings	2	10.00	5	23.80	1.169
Middle with four siblings	1	5.00	2	9.52	0.556
Middle with five siblings	1	5.00	0	0.00	1.042
Birth order of mother					
Only child	2	10.00	7	33.33	1.802
First child	5	25.00	4	19.05	0.467
Middle child	5	25.00	4	19.05	0.467
Last child	8	40.00	6	28.50	0.771
Without siblings	2	10.00	7	33.33	1.802
With one sibling	6	30.00	7	33.33	0.227
With two siblings	3	15.00	2	9.52	0.539
With three siblings	4	20.00	3	14.29	0.485
With four siblings	1	5.00	0	0.00	1.042
With five siblings	1	5.00	0	0.00	1.042
With six siblings	0	0.00	2	9.52	1.418
With nine siblings	3	15.00	0	0.00	1.850
First with one sibling	3	15.00	2	9.52	0.539
First with two siblings	1	5.00	0	0.00	1.042
First with three siblings	0	0.00	1	4.76	1.000
First with four siblings	1	5.00	0	0.00	1.042
First with six siblings	0	0.00	1	4.76	1.000

\*  $p \leq .05$ , \*\*  $p \leq .02$ , \*\*\*  $p \leq .01$

Variable	Disruptive (N=20)		Nondisruptive (N=21)		z-score
	N	%	N	%	
Birth order of mother					
Middle with two siblings	0	0.00	2	9.52	1.418
Middle with three siblings	3	15.00	1	4.76	1.100
Middle with four siblings	1	5.00	0	0.00	1.042
Middle with five siblings	0	0.00	1	4.76	1.000
Middle with six siblings	1	5.00	0	0.00	1.042
Middle with seven siblings	3	15.00	5	23.80	0.710
Middle with eight siblings	2	10.00	0	0.00	1.490
Middle with nine siblings	1	5.00	1	4.76	0.029
Middle with ten siblings	2	10.00	0	0.00	1.490
Birth order of father					
Only child	2	10.00	2	9.52	0.054
First child	7	35.00	3	14.29	1.542
Middle child	7	35.00	6	28.50	0.440
Last child	4	20.00	10	47.62	1.862
Without siblings	2	10.00	2	9.52	0.054
With one sibling	3	15.00	7	33.33	1.364
With two siblings	5	25.00	4	19.05	0.467
With three siblings	4	20.00	3	14.29	0.485
With four siblings	4	20.00	2	9.52	0.955
With five siblings	0	0.00	2	9.52	1.418
With six siblings	0	0.00	1	4.76	1.000
With seven siblings	1	5.00	0	0.00	1.042
With eight siblings	1	5.00	0	0.00	1.042

\* $p \leq .05$ , \*\* $p \leq .02$ , \*\*\* $p \leq .01$

Variable	Disruptive (N=20)		Nondisruptive (N=21)		z-score
	N	%	N	%	
Birth order of father					
First with one sibling	3	15.00	2	9.52	0.539
First with two siblings	2	10.00	1	4.76	0.639
First with three siblings	2	10.00	0	0.00	1.490
Middle with two siblings	0	0.00	1	4.76	1.000
Middle with three siblings	2	10.00	2	9.52	0.054
Middle with four siblings	3	15.00	2	9.52	0.539
Middle with five siblings	0	0.00	1	4.76	1.000
Middle with seven siblings	1	5.00	0	0.00	1.042
Middle with eight siblings	1	5.00	0	0.00	1.042
Last with one sibling	0	0.00	5	23.80	2.329*
Last with two siblings	3	15.00	2	9.52	0.539
Last with three siblings	0	0.00	1	4.76	1.000
Last with four siblings	1	5.00	0	0.00	1.042
Last with five siblings	0	0.00	1	4.76	1.000
Last with six siblings	0	0.00	1	4.76	1.000

\* $p \leq .05$ , \*\* $p \leq .02$ , \*\*\* $p \leq .01$

APPENDIX H

MBTI Type Tables for Self-Reports  
and Predicted Types

SOURCE OF DATA:  
 CECILIA COLBERT  
 DISSERTATION RESEARCH  
 UNIVERSITY OF FLORIDA  
 TABLE CREATED 7/24/75

GROUP  
 TABULATED:

SELF REPORT BY  
 DISRUPTIVE  
 ADOLESCENTS

MBTI TYPE TABLE  
 TYPOLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

LEGEND: X = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WHO FALL INTO THIS TYPE.  
 I = SELF SELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO % IN SAMPLE.

N = 20

SENSING TYPES		INTUITIVE TYPES		J U D G I N G	I N T R O V E R T S	N	X	I
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING					
I S T J	I S F J	I N F J	I N T J	P E R C E P T I V E S	E	6	30.00	0.72
N= 3	N= 2	N= 0	N= 0		I	14	70.00	1.20
X=15.00	X=10.00	X= 0.00	X= 0.00		S	10	50.00	0.98
I= 1.23	I= 1.37	I= 0.00	I= 0.00		N	10	50.00	1.03
I S T P	I S F P	I N F P	I N T P		T	6	30.00	0.95
N= 1	N= 2	N= 6	N= 0		F	14	70.00	1.02
X= 5.00	X=10.00	X=30.00	X= 0.00		J	7	35.00	0.96
I= 1.02	I= 0.82	I= 1.54	I= 0.00		P	13	65.00	1.03
E S T P	E S F P	E N F P	E N T P		IJ	5	25.00	1.14
N= 1	N= 0	N= 2	N= 1		IP	9	45.00	1.23
X= 5.00	X= 0.00	X=10.00	X= 5.00		EP	4	20.00	0.75
I= 1.02	I= 0.00	I= 0.51	I= 2.05		EJ	2	10.00	0.68
E S T J	E S F J	E N F J	E N T J		ST	5	25.00	0.85
N= 0	N= 1	N= 1	N= 0		SF	5	25.00	1.14
X= 0.00	X= 5.00	X= 5.00	X= 0.00		NF	9	45.00	0.97
I= 0.00	I= 2.05	I= 1.02	I= 0.00		NT	1	5.00	2.05
				SJ	6	30.00	1.03	
				SP	4	20.00	0.91	
				NP	9	45.00	1.09	
				NJ	1	5.00	0.68	
				TJ	3	15.00	0.77	
				TP	3	15.00	1.23	
				FP	10	50.00	0.98	
				FJ	4	20.00	1.17	
				IN	6	30.00	1.37	
				EN	4	20.00	0.75	
				IS	8	40.00	1.09	
				ES	2	10.00	0.68	

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 " IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E., CHI SQ. > 3.8;  
 # IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:  
 SELF REPORT BY ALL ADOLESCENTS  
 BASE TOTAL N = 41.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	I	S	N	T	F	J	P	IJ	IP	EP	EJ	ST	SF	NF	NT	SJ	SP	NP	NJ	TJ	TP	FP	FJ	IN	EN	IS	ES
*****	2.11	2.11	0.02	0.02	0.05	0.05	0.04	0.04	0.21	1.19	0.93	0.67	0.34	0.21	0.03	1.08	0.01	0.09	0.20	0.31	0.51	0.29	0.02	0.24	1.48	0.93	0.20	0.67

SOURCE OF DATA:  
 CECILIA COLBERT  
 DISSERTATION RESEARCH  
 UNIVERSITY OF FLORIDA  
 TABLE CREATED 7/24/75

GROUP  
 TABULATED:  
 SELF REPORT BY  
 NONDISRUPTIVE  
 ADOLESCENTS

N= 21

MBTI TYPE TABLE  
 TYPDLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

LEGEND: X = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WHO FALL INTO THIS TYPE.  
 I = SELFSELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO X IN SAMPLE.

SENSING TYPES		INTUITIVE TYPES		J U D G I N G	N	X	I
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING				
I S T J	I S F J	I N F J	I N T J	I N T R O V E R T S	E	11 52.38	1.26
N= 2	N= 1	N= 1	N= 0		I	10 47.62	0.81
X= 9.52	X= 4.76	X= 4.76	X= 0.00		S	11 52.38	1.02
I= 0.78	I= 0.65	I= 1.95	I= 0.00		N	10 47.62	0.98
I S T P	I S F P	I N F P	I N T P	P E R C E P T I V E S	T	7 33.33	1.05
N= 1	N= 3	N= 2	N= 0		F	14 66.07	0.98
X= 4.76	X=14.29	X= 9.52	X= 0.00		J	8 38.10	1.04
I= 0.98	I= 1.17	I= 0.49	I= 0.00		P	13 61.90	0.98
E S T P	E S F P	E N F P	E N T P	E X T R A V E R T S	IJ	4 19.05	0.87
N= 1	N= 0	N= 6	N= 0		IP	6 28.57	0.78
X= 4.76	X= 0.00	X=28.57	X= 0.00		EP	7 33.33	1.24
I= 0.98	I= 0.00	I= 1.46	I= 0.00		EJ	4 19.05	1.30
E S T J	E S F J	E N F J	E N T J	J U D G I N G	ST	7 33.33	1.14
N= 3	N= 0	N= 1	N= 0		SF	4 19.05	0.87
X=14.29	X= 0.00	X= 4.76	X= 0.00		NF	10 47.62	1.03
I= 1.95	I= 0.00	I= 0.98	I= 0.00		NT	0 0.00	0.00
				E X T R A V E R T S	SJ	6 28.57	0.98
					SP	5 23.81	1.08
					NP	8 38.10	0.92
					NJ	2 9.52	1.30
				J U D G I N G	TJ	5 23.81	1.22
					TP	2 9.52	0.78
					FP	11 52.38	1.02
					FJ	3 14.29	0.84
					IN	3 14.29	0.65
					EN	7 33.33	1.24
					IS	7 33.33	0.91
					ES	4 19.05	1.30

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 \* IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;  
 # IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIOS:  
 SELF REPORT BY ALL ADOLESCENTS  
 BASE TOTAL N = 41.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	I	S	N	T	F	J	P	IJ	IP	EP	EJ	ST	SF	NF	NT	TJ	TP	FP	FJ	IN	EN	IS	ES
*****	2.11	2.11	0.02	0.02	0.05	0.05	0.04	0.04	0.21	1.19	0.93	0.67	0.34	0.21	0.03	1.08	0.51	0.29	0.02	0.24	1.48	0.93	0.20	0.67

SOURCE OF DATA:  
 CECILIA COLBERT  
 DISSERTATION RESEARCH  
 UNIVERSITY OF FLORIDA  
 TABLE CREATED 7/24/75

GROUP  
 TABULATED:  
 SELF REPORT BY  
 MOTHERS OF  
 DISRUPTIVE  
 ADOLESCENTS

MBTI TYPE TABLE  
 TYPOLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

LEGEND: % = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WMC FALL INTO THIS TYPE.  
 I = SELF SELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO % IN SAMPLE.

N= 20

SENSING TYPES		INTUITIVE TYPES		J U D G I N G	N	%	I
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING				
I S T J	I S F J	I N F J	I N T J	I N T R O V E R T S	E	8 40.00	1.09
N= 2	N= 4	N= 0	N= 1		I	12 60.00	0.95
X=10.00	X=20.00	X= 0.00	X= 5.00		S	14 70.00	1.15
I= 2.05	I= 0.68	I= 0.00	I= 2.05		N	6 30.00	0.77
I S T P	I S F P	I N F P	I N T P	P E R C E P T I V E S	T	6 30.00	2.05#
N= 0	N= 5	N= 0	N= 0		F	14 70.00	0.82#
X= 0.00	X=25.00	X= 0.00	X= 0.00		J	11 55.00	0.87
I= 0.00	I= 1.46	I= 0.00	I= 0.00		P	9 45.00	1.23
E S T P	E S F P	E N F P	E N T P	E X T R A V E R T S	IJ	7 35.00	0.76
N= 0	N= 0	N= 2	N= 2		IP	5 25.00	1.46
X= 0.00	X= 0.00	X=10.00	X=10.00		EP	4 20.00	1.02
I= 0.00	I= 0.00	I= 0.68	I= 2.05		EJ	4 20.00	1.17
E S T J	E S F J	E N F J	E N T J	J U D G I N G	ST	3 15.00	2.05
N= 1	N= 2	N= 1	N= 0		SF	11 55.00	1.02
X= 5.00	X=10.00	X= 5.00	X= 0.00		NF	3 15.00	0.47#
I= 2.05	I= 1.37	I= 0.68	I= 0.00		NT	3 15.00	2.05
				E X T R A V E R T S	SJ	9 45.00	1.03
					SP	5 25.00	1.46
					NP	4 20.00	1.02
					NJ	2 10.00	0.51
				J U D G I N G	TJ	4 20.00	2.05#
					TP	2 10.00	2.05#
					FP	7 35.00	1.10
					FJ	7 35.00	0.65#
				E X T R A V E R T S	IN	1 5.00	0.41
					EN	5 25.00	0.93
				J U D G I N G	IS	11 55.00	1.07
					ES	3 15.00	1.54

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 # IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;  
 \* IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIOS:  
 SELF REPORT BY ALL MOTHERS  
 BASE TOTAL N = 41.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	I	S	T	F	J	P	IJ	IP	EP	EJ	ST	SF	NF	NT	TJ	TP	FP	FJ	IN	EN	ES	
*****	0.20	0.20	1.34	7.38	7.38	1.19	1.19	2.02	1.73	0.01	0.24	3.40	0.03	5.03	3.40	4.65	2.21	0.20	5.47	1.89	0.07	0.22	1.22

SOURCE OF DATA:  
 CECILIA COLBERT  
 DISSERTATION RESEARCH  
 UNIVERSITY OF FLORIDA  
 TABLE CREATED 7/24/75

GROUP  
 TABULATED:

SELF REPORT BY  
 MOTHERS OF  
 NONDISRUPTIVE  
 ADOLESCENTS

MDTI TYPE TABLE  
 TYPOLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

LEGEND: % = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WHO FALL INTO THIS TYPE.  
 I = SELFSELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO % IN SAMPLE.

N= 21

SENSING TYPES		INTUITIVE TYPES		J U D G I N G	I N T R O V E R T S	N	%	I	
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING						
I S T J	I S F J	I N F J	I N T J	J U D G I N G	I N T R O V E R T S	E	7	33.33	0.91
N= 0	N= 8	N= 4	N= 0			I	14	66.67	1.05
X= 0.00	X=38.10	X=19.05	X= 0.00			S	11	52.38	0.86
I= 0.00	I= 1.30	I= 1.95	I= 0.00			N	10	47.62	1.22
I S T P	I S F P	I N F P	I N T P	P R E C E P T I V E S	E X T R A V E R T S	T	0	0.00	0.00#
N= 0	N= 2	N= 0	N= 0			F	21	*****	1.17#
X= 0.00	X= 9.52	X= 0.00	X= 0.00			J	15	71.43	1.13
I= 0.00	I= 0.56	I= 0.00	I= 0.00			P	6	28.57	0.78
E S T P	E S F P	E N F P	E N T P	J U D G I N G	I N T R O V E R T S	IJ	12	57.14	1.23
N= 0	N= 0	N= 4	N= 0			IP	2	9.52	0.56
X= 0.00	X= 0.00	X=19.05	X= 0.00			EP	4	19.05	0.98
I= 0.00	I= 0.00	I= 1.30	I= 0.00			EJ	3	14.29	0.84
E S T J	E S F J	E N F J	E N T J	J U D G I N G	I N T R O V E R T S	ST	0	0.00	0.00
N= 0	N= 1	N= 2	N= 0			SF	11	52.38	0.98
X= 0.00	X= 4.75	X= 9.52	X= 0.00			NF	10	47.62	1.50#
I= 0.00	I= 0.65	I= 1.30	I= 0.00			NT	0	0.00	0.00
E S T P	E S F P	E N F P	E N T P	J U D G I N G	I N T R O V E R T S	SJ	9	42.86	0.98
N= 0	N= 0	N= 4	N= 0			SP	2	9.52	0.56
X= 0.00	X= 0.00	X=19.05	X= 0.00			NP	4	19.05	0.98
I= 0.00	I= 0.00	I= 1.30	I= 0.00			NJ	6	28.57	1.46
E S T J	E S F J	E N F J	E N T J	J U D G I N G	I N T R O V E R T S	TJ	0	0.00	0.00#
N= 0	N= 1	N= 2	N= 0			TP	0	0.00	0.00
X= 0.00	X= 4.75	X= 9.52	X= 0.00			FP	6	28.57	0.90
I= 0.00	I= 0.65	I= 1.30	I= 0.00			FJ	15	71.43	1.33#
E S T P	E S F P	E N F P	E N T P	J U D G I N G	I N T R O V E R T S	IN	4	19.05	1.56
N= 0	N= 1	N= 2	N= 0			EN	6	28.57	1.06
X= 0.00	X= 4.75	X= 9.52	X= 0.00			IS	10	47.62	0.93
I= 0.00	I= 0.65	I= 1.30	I= 0.00			ES	1	4.76	0.49

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 # IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E., CHI SQ. > 3.8;  
 \* IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:  
 SELF REPORT BY ALL MOTHERS  
 BASE TOTAL N = 41.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	I	S	N	T	F	J	P	IJ	IP	EP	EJ	ST	SF	NP	NJ	TJ	TP	FP	FJ	IN	EN	IS	ES		
*****	0.20	0.20	1.34	1.34	7.38	7.38	1.19	1.19	2.02	1.73	0.01	0.24	3.40	3.40	0.02	2.25	4.65	2.21	2.25	2.21	0.20	5.47	1.89	0.07	0.22	1.22



SOURCE OF DATA:  
 CECILIA COLBERT  
 DISSERTATION RESEARCH  
 UNIVERSITY OF FLORIDA  
 TABLE CREATED 7/24/75

GROUP  
 TABULATED:  
 SELF REPORT BY  
 FATHERS OF  
 NONDISRUPTIVE  
 ADOLESCENTS

MBTI TYPE TABLE  
 TYPOLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

LEGEND: % = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WHO FALL INTO THIS TYPE.  
 I = SELF-SELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO % IN SAMPLE.

N= 21

SENSING TYPES		INTUITIVE TYPES		J U D G I N G	N	%	I
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING				
I S T J	I S F J	I N F J	I N T J	I N T R O V E R T S	E	6 28.57	0.90
N= 2	N= 6	N= 1	N= 3		I	15 71.43	1.05
X= 9.52	X=28.57	X= 4.76	X=14.29		S	12 57.14	0.87
I= 0.39	I= 1.46	I= 1.95	I= 1.46		N	9 42.86	1.26
I S T P	I S F P	I N F P	I N T P	P E R C E P T I V E S	T	12 57.14	0.90
N= 0	N= 0	N= 1	N= 2		F	9 42.86	1.17
X= 0.00	X= 0.00	X= 4.76	X= 9.52		J	17 80.95	1.01
I= 0.00	I= 0.00	I= 1.95	I= 1.30		P	4 19.05	0.98
E S T P	E S F P	E N F P	E N T P	E X T R A V E R T S	IJ	12 57.14	1.02
N= 0	N= 0	N= 1	N= 0		IP	3 14.29	1.17
X= 0.00	X= 0.00	X= 4.76	X= 0.00		EP	1 4.76	0.65
I= 0.00	I= 0.00	I= 1.95	I= 0.00		EJ	5 23.81	0.98
E S T J	E S F J	E N F J	E N T J	J U D G I N G	ST	6 28.57	0.73
N= 4	N= 0	N= 0	N= 1		SF	6 28.57	1.06
X=19.05	X= 0.00	X= 0.00	X= 4.76		NF	3 14.29	1.46
I= 1.30	I= 0.00	I= 0.00	I= 0.98		NT	6 28.57	1.17
					SJ	12 57.14	0.94
					SP	0 0.00	0.00
					NP	4 19.05	1.30
					NJ	5 23.81	1.22
					TJ	10 47.62	0.89
					TP	2 9.52	0.98
					FP	2 9.52	0.98
					FJ	7 33.33	1.24
					IN	7 33.33	1.52
					EN	2 9.52	0.78
					IS	8 38.10	0.82
					ES	4 19.05	0.98

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 \* IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;  
 # IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIOS:  
 SELF REPORT BY ALL FATHERS  
 BASE TOTAL N = 41.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	I	S	N	T	F	J	P	IJ	IP	EP	EJ	ST	SF	NF	NT	SJ	SP	NP	NJ	TJ	TP	FP	FJ	IN	EN	IS	ES
*****	0.20	0.20	1.45	1.45	0.73	0.73	0.01	0.01	0.02	0.18	0.41	0.01	1.98	0.07	1.00	0.41	0.27	2.21	0.67	0.51	0.63	0.00	0.00	0.93	3.26	0.29	1.18	0.01





SOURCE OF DATA:  
 CECILIA COLBERT  
 DISSERTATION RESEARCH  
 UNIVERSITY OF FLORIDA  
 TABLE CREATED 7/24/75

GROUP  
 TAGULATED:  
 PREDICTIONS BY  
 NONDISRUPTIVE  
 ADOLESCENTS  
 FOR MOTHER

MBTI TYPE TABLE  
 TYPOLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

LEGEND: X = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WHO FALL INTO THIS TYPE.  
 I = SELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO % IN SAMPLE.

N = 21

SENSING TYPES		INTUITIVE TYPES		J U D G I N G	I N T R O V E R T S	N	X	I
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING					
I S T J	I S F J	I N F J	I N T J	P E R C E P T I V E S	E	13	61.90	1.30
N= 1	N= 6	N= 0	N= 1		I	8	38.10	0.73
X= 4.76	X=28.57	X= 0.00	X= 4.76		S	19	90.48	1.27#
I= 2.00	I= 0.86	I= 0.00	I= 2.00		N	2	9.52	0.33#
I S T P	I S F P	I N F P	I N T P		T	7	33.33	2.00#
N= 0	N= 0	N= 0	N= 0		F	14	66.67	0.80#
X= 0.00	X= 0.00	X= 0.00	X= 0.00		J	18	85.71	1.09
I= 0.00	I= 0.00	I= 0.00	I= 0.00		P	3	14.29	0.67
E S T P	E S F P	E N F P	E N T P		IJ	8	38.10	0.80
N= 1	N= 1	N= 0	N= 1		IP	0	0.00	0.00
X= 4.76	X= 4.76	X= 0.00	X= 4.76		EP	3	14.29	0.86
I= 2.00	I= 2.00	I= 0.00	I= 2.00		EJ	10	47.62	1.54*
E S T J	E S F J	E N F J	E N T J		ST	5	23.81	2.00**
N= 3	N= 7	N= 0	N= 0		SF	14	66.67	1.12
X=14.29	X=33.33	X= 0.00	X= 0.00		NF	0	0.00	0.00*
I= 2.00	I= 1.75	I= 0.00	I= 0.00		NT	2	9.52	2.00
				SJ	17	80.95	1.31**	
				SP	2	9.52	1.00	
				NP	1	4.76	0.40	
				NJ	1	4.76	0.29**	
				TJ	5	23.81	2.00**	
				TP	2	9.52	2.00	
				FP	1	4.76	0.29**	
				FJ	13	61.90	0.93	
				IN	1	4.76	0.40	
				EN	1	4.76	0.29**	
				IS	7	33.33	0.82	
				ES	12	57.14	1.85**	

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 \* IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;  
 # IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIOS:  
 SELF REPORT BY MOTHERS OF NONDISRUPTIVE ADOLESCENTS  
 BASE TOTAL N = 21.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	I	S	N	T	F	J	P	IJ	IP	EP	EJ	ST	SF	NF	NT	SJ	SP	NP	NJ	TJ	TP	FP	FJ	IN	EN	IS	ES
***** 0.43 *****	3.44	3.44	7.47	7.47	8.40	8.40	1.27	1.27	1.53	2.10	0.17	5.46	5.68	0.89	13.12	2.10	6.46	0.00	2.04	4.29	5.68	2.10	4.29	0.43	2.04	4.29	0.89	13.48



SOURCE OF DATA:  
 CECILIA COLBERT  
 DISSERTATION RESEARCH  
 UNIVERSITY OF FLORIDA  
 TABLE CREATED 7/24/75

GROUP  
 TABULATED:

MBTI TYPE TABLE  
 TYPOLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

PREDICTIONS FOR  
 DISRUPTIVE  
 ADOLESCENTS  
 BY MOTHER

LEGEND: % = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WHO FALL INTO THIS TYPE.  
 I = SELFSELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO % IN SAMPLE.

N= 20

SENSING TYPES WITH THINKING		SENSING TYPES WITH FEELING		INTUITIVE TYPES WITH FEELING		INTUITIVE TYPES WITH THINKING		N	%	I
ISTJ	ISFJ	INFJ	INTJ	ISTP	ISFP	INFP	INTP			
N= 1	N= 1	N= 1	N= 0	N= 1	N= 0	N= 4	N= 1			
X= 5.00	X= 5.00	X= 5.00	X= 0.00	X= 5.00	X= 0.00	X= 20.00	X= 5.00			
I= 0.50	I= 0.67	I= 2.00	I= 0.00	I= 1.00	I= 0.00	I= 0.80	I= 2.00			
ESTP	ESFP	ENFP	ENTP	ESTJ	ESFJ	ENFJ	ENTJ			
N= 1	N= 2	N= 3	N= 2	N= 1	N= 2	N= 0	N= 0			
X= 5.00	X= 10.00	X= 15.00	X= 10.00	X= 5.00	X= 10.00	X= 0.00	X= 0.00			
I= 1.00	I= 2.00	I= 1.20	I= 1.33	I= 2.00	I= 1.33	I= 0.00	I= 0.00			

JUDGING	INTROVERTS	PERCEPTIVES	EXTRAVERTS	JUDGING
E	I	EP	NP	TJ
I	S	EJ	NJ	TP
S	N	ST	NP	FP
N	T	SF	NJ	FJ
T	F	NF	NP	IN
F	P	NT	NJ	EN
P	J	SJ	NP	IS
J	P	SP	NJ	ES

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 \* IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;  
 # IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIOS:  
 SELF REPORT BY DISRUPTIVE ADOLESCENTS  
 BASE TOTAL N = 20.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	I	S	N	T	F	J	P	IJ	IP	EP	EJ	ST	SF	NF	NT	SJ	SP	NP	NJ	TJ	TP	FP	FJ	IN	EN	IS	ES
*****	2.56	2.56	0.10	0.10	0.11	0.11	0.11	0.11	0.62	0.96	1.90	0.23	0.14	0.00	0.10	1.11	0.13	0.00	0.10	0.00	0.23	0.63	0.10	0.00	0.00	0.14	0.14	0.00

SOURCE OF DATA:  
 CELILIA COLBERT  
 DISSERTATION RESEARCH  
 UNIVERSITY OF FLORIDA  
 TABLE CREATED 7/24/75

GROUP  
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PREDICTIONS FOR  
 DISRUPTIVE  
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 BY FATHER

MBTI TYPE TABLE  
 TYPOLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

LEGEND: % = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WHO FALL INTO THIS TYPE.  
 I = SELFSELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO % IN SAMPLE.

N = 20

SENSING TYPES		INTUITIVE TYPES		N	%	I	
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING				
I S T J	I S F J	I N F J	I N T J	J U D G I N G	E	6 30.00	1.00
N= 1	N= 2	N= 0	N= 0		I	14 70.00	1.00
%= 5.00	%=10.00	%= 0.00	%= 0.00		S	11 55.00	1.05
I= 0.50	I= 1.00	I= 0.00	I= 0.00		N	9 45.00	0.95
I S T P	I S F P	I N F P	I N T P	I N T R O V E R T S	T	7 35.00	1.08
N= 2	N= 2	N= 6	N= 1		F	13 65.00	0.96
%=10.00	%=10.00	%=30.00	%= 5.00		J	4 20.00	0.73
I= 1.33	I= 1.00	I= 1.00	I= 2.00		P	16 80.00	1.10
E S T P	E S F P	E N F P	E N T P	P E R C E P T I V E S	IJ	3 15.00	0.75
N= 2	N= 1	N= 2	N= 0		IP	11 55.00	1.10
%=10.00	%= 5.00	%=10.00	%= 0.00		EP	5 25.00	1.11
I= 1.33	I= 2.00	I= 1.00	I= 0.00		EJ	1 5.00	0.67
E S T J	E S F J	E N F J	E N T J	E X T R A V E R T S	ST	6 30.00	1.09
N= 1	N= 0	N= 0	N= 0		SF	5 25.00	1.00
%= 5.00	%= 0.00	%= 0.00	%= 0.00		NF	8 40.00	0.94
I= 2.00	I= 0.00	I= 0.00	I= 0.00		NT	1 5.00	1.00
				J U D G I N G	SJ	4 20.00	0.80
					SP	7 35.00	1.27
					NP	9 45.00	1.00
					NJ	0 0.00	0.00
				J U D G I N G	TJ	2 10.00	0.80
					TP	5 25.00	1.25
					FP	11 55.00	1.05
					FJ	2 10.00	0.67
				J U D G I N G	IN	7 35.00	1.08
					EN	2 10.00	0.67
				J U D G I N G	IS	7 35.00	0.93
					ES	4 20.00	1.33

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 \* IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;  
 # IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:  
 SELF REPORT BY DISRUPTIVE ADOLESCENTS  
 BASE TOTAL N = 20.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	IJ	SJ	IN
*****	0.00	0.62	0.53	0.11
*****	0.00	0.40	1.13	0.78
*****	0.10	0.14	0.00	0.11
*****	0.10	0.36	1.03	0.78
*****	0.11	0.13	0.23	
*****	0.11	0.00	0.63	
*****	1.13	0.10	0.10	
*****	1.13	0.00	0.78	

SOURCE OF DATA:  
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 DISSERTATION RESEARCH  
 UNIVERSITY OF FLORIDA  
 TABLE CREATED 7/24/75

GROUP  
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 NONDISRUPTIVE  
 ADOLESCENTS  
 BY MOTHER

MBTI TYPE TABLE  
 TYPOLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

LEGEND: X = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WHO FALL INTO THIS TYPE.  
 I = SELF SELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO % IN SAMPLE.

N= 21

SENSING TYPES		INTUITIVE TYPES		J U D G I N G	I N T R O V E R T S	P E R C E P T I V E S	E X T R A V E R T S	J U D G I N G	N	X	I	
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING									
I S T J	I S F J	I N F J	I N T J	J U D G I N G	I N T R O V E R T S	P E R C E P T I V E S	E X T R A V E R T S	J U D G I N G	E	14	66.67	1.12
N= 2	N= 2	N= 1	N= 1						I	7	33.33	0.82
X= 9.52	X= 9.52	X= 4.76	X= 4.76						S	10	47.62	0.95
I= 1.00	I= 1.33	I= 1.00	I= 2.00						N	11	52.38	1.05
I S T P	I S F P	I N F P	I N T P	J U D G I N G	I N T R O V E R T S	P E R C E P T I V E S	E X T R A V E R T S	J U D G I N G	T	9	42.86	1.13
N= 0	N= 0	N= 1	N= 0						F	12	57.14	0.92
X= 0.00	X= 0.00	X= 4.76	X= 0.00						J	14	66.67	1.27
I= 0.00	I= 0.00	I= 0.67	I= 0.00						P	7	33.33	0.70
E S T P	E S F P	E N F P	E N T P	J U D G I N G	I N T R O V E R T S	P E R C E P T I V E S	E X T R A V E R T S	J U D G I N G	IJ	6	28.57	1.20
N= 0	N= 1	N= 4	N= 1						IP	1	4.76	0.29*
X= 0.00	X= 4.76	X= 19.05	X= 4.76						EP	6	28.57	0.92
I= 0.00	I= 2.00	I= 0.80	I= 2.00						EJ	8	38.10	1.33
E S T J	E S F J	E N F J	E N T J	J U D G I N G	I N T R O V E R T S	P E R C E P T I V E S	E X T R A V E R T S	J U D G I N G	ST	6	28.57	0.92
N= 4	N= 1	N= 2	N= 1						SF	4	19.05	1.00
X= 19.05	X= 4.76	X= 9.52	X= 4.76						NF	8	38.10	0.89
I= 1.14	I= 2.00	I= 1.33	I= 2.00						NT	3	14.29	2.00
				J U D G I N G	I N T R O V E R T S	P E R C E P T I V E S	E X T R A V E R T S	J U D G I N G	SJ	9	42.86	1.20
									SP	1	4.76	0.33
									NP	6	28.57	0.86
									NJ	5	23.81	1.43
				J U D G I N G	I N T R O V E R T S	P E R C E P T I V E S	E X T R A V E R T S	J U D G I N G	TJ	8	38.10	1.23
									TP	1	4.76	0.67
									FP	6	28.57	0.71
									FJ	6	28.57	1.33
				J U D G I N G	I N T R O V E R T S	P E R C E P T I V E S	E X T R A V E R T S	J U D G I N G	IN	3	14.29	1.00
									EN	8	38.10	1.07
									IS	4	19.05	0.73
									ES	6	28.57	1.20

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 \* IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;  
 # IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:  
 SELF REPORT BY NONDISRUPTIVE ADOLESCENTS  
 BASE TOTAL N = 21.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	I	S	T	F	J	P	IJ	IP	EP	EJ	ST	SF	NF	NT	SJ	SP	NP	NJ	TJ	TP	FP	FJ	IN	EN	IS	ES
*****	0.89	0.89	0.10	0.10	0.40	0.40	3.44	0.53	4.29	0.11	1.87	0.11	0.00	0.39	3.23	0.93	3.11	0.43	1.54	1.00	0.36	2.47	1.27	0.00	0.10	1.11	0.53

SOURCE OF DATA:  
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 UNIVERSITY OF FLORIDA  
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MBTI TYPE TABLE  
 TYPOLOGY LABORATORY  
 UNIVERSITY OF FLORIDA

N= 21

LEGEND: % = PERCENT OF  
 TOTAL CHOOSING THIS GROUP  
 WHO FALL INTO THIS TYPE.  
 I = SELF-SELECTION INDEX;  
 RATIO OF PERCENT OF TYPE  
 IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING		SENSING TYPES WITH FEELING		INTUITIVE TYPES WITH FEELING		INTUITIVE TYPES WITH THINKING		N	%	I
ISTJ	ISFJ	INFJ	INTJ							
N= 3	N= 3	N= 1	N= 2							
X=14.29	X=14.29	X= 4.76	X= 9.52							
I= 1.20	I= 1.50	I= 1.00	I= 2.00							
ISTP		ISFP		INFP		INTP				
N= 1	N= 1	N= 1	N= 0							
X= 4.76	X= 4.76	X= 4.76	X= 0.00							
I= 1.00	I= 0.50	I= 0.67	I= 0.00							
ESTP		ESFP		ENFP		ENTP				
N= 1	N= 1	N= 3	N= 0							
X= 4.76	X= 4.76	X=14.29	X= 0.00							
I= 1.00	I= 2.00	I= 0.67	I= 0.00							
ESTJ		ESFJ		ENFJ		ENTJ				
N= 1	N= 1	N= 2	N= 0							
X= 4.76	X= 4.76	X= 9.52	X= 0.00							
I= 0.50	I= 2.00	I= 1.33	I= 0.00							

JUDGING	INTROVERTS	PERCEPTIVES	EXTRAVERTS	JUDGING
E	I	S	N	J
9 42.86	12 57.14	12 57.14	9 42.86	8 38.10
0.90	1.09	1.04	0.95	1.07
		13 61.90		0.96
		8 38.10		
		13 61.90		
		8 38.10		
		8 38.10		
		3 14.29		
		5 23.81		
		4 19.05		
		6 28.57		
		6 28.57		
		7 33.33		
		2 9.52		
		8 38.10		
		4 19.05		
		4 19.05		
		5 23.81		
		6 28.57		
		7 33.33		
		4 19.05		
		5 23.81		
		8 38.10		
		4 19.05		

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:  
 \* IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;  
 # IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;  
 \* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:  
 SELF REPORT BY NONDISRUPTIVE ADOLESCENTS  
 BASE TOTAL N = 21.

\*\*\*\*\* CALCULATED VALUES OF CHI SQ. \*\*\*\*\*

TYPETABLE ORDER	E	I	S	N	T	F	J	P	IJ	IP	EP	EJ	ST	SF	NF	NT	SJ	SP	NP	NJ	TJ	TP	FP	FJ	IN	EN	IS	ES
*****	0.38	0.38	0.10	0.10	0.10	0.10	2.38	2.38	2.79	1.27	0.47	0.00	0.11	0.53	0.89	2.10	0.43	0.14	1.87	1.54	0.12	0.00	2.47	2.10	0.17	0.47	0.10	0.00

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## BIOGRAPHICAL SKETCH

Cecilia Bierley Colbert was born in LaFayette, Alabama, on July 21, 1943. She moved away from Alabama at the age of seven, spent four years in Hagerstown, Maryland, and in 1954 moved to Columbia, South Carolina. She completed her public school education in Columbia schools and graduated in June, 1961, from Eau Claire High School.

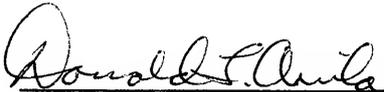
Her undergraduate college career included one year at Furman University, two summers at the University of North Dakota, one summer at the University of South Carolina, and two years at Stetson University. She received a B.A. degree with a major in psychology and a minor in sociology from Stetson University in June, 1964.

She has worked as a teacher and counselor at the Alyce D. McPherson School for Girls (correctional institution) in Ocala, Florida, as a research clerk for the Southern Regional Education Board in Atlanta, Georgia, and as a welfare case-worker in Mobile, Alabama. She was married from 1966 to 1971 during which time she lived for three years in Tokyo, Japan. Her son, Donald Scott Colbert, was born in Tokyo on October 2, 1968.

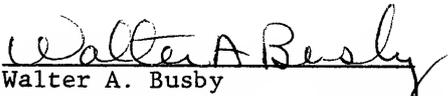
In January, 1972, she entered the University of Florida where she received a master's degree in rehabilitation counseling in March, 1973. Following graduation, she held a full-time faculty position at the Reading and Study Skills Center of the University of Florida. She became a graduate assistant at the same Reading and Study Skills Center in September, 1973, and has retained that position while working towards her Ph.D. in educational psychology.

Following graduation, she will assume a position as Assistant Professor in the Department of Human Resources of the University of Scranton in Scranton, Pennsylvania.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

  
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Donald L. Avila, Chairman  
Professor of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

  
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Walter A. Busby  
Associate Professor of Education

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Vynce A. Hines  
Professor of Education

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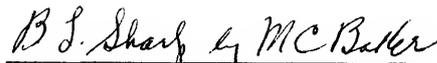
  
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Mary H. McCaulley  
Assistant Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

  
Chester E. Tillman  
Associate Professor of English

This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1975

  
Dean, College of Education

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Dean, Graduate School