

1-1-1983

Use Of The Myers-Briggs Type Indicator To Differentiate Between Conduct Disordered, Emotionally Disturbed, And Clinically Normal Adolescents

Aldyne Pearl Miley
University of Nevada, Las Vegas

Follow this and additional works at: <https://digitalscholarship.unlv.edu/rtds>

Repository Citation

Miley, Aldyne Pearl, "Use Of The Myers-Briggs Type Indicator To Differentiate Between Conduct Disordered, Emotionally Disturbed, And Clinically Normal Adolescents" (1983). *UNLV Retrospective Theses & Dissertations*. 2915.

<http://dx.doi.org/10.25669/0bw8-1s9h>

This Dissertation is protected by copyright and/or related rights. It has been brought to you by Digital Scholarship@UNLV with permission from the rights-holder(s). You are free to use this Dissertation in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself.

This Dissertation has been accepted for inclusion in UNLV Retrospective Theses & Dissertations by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.

INFORMATION TO USERS

This reproduction was made from a copy of a manuscript sent to us for publication and microfilming. While the most advanced technology has been used to photograph and reproduce this manuscript, the quality of the reproduction is heavily dependent upon the quality of the material submitted. Pages in any manuscript may have indistinct print. In all cases the best available copy has been filmed.

The following explanation of techniques is provided to help clarify notations which may appear on this reproduction.

1. Manuscripts may not always be complete. When it is not possible to obtain missing pages, a note appears to indicate this.
2. When copyrighted materials are removed from the manuscript, a note appears to indicate this.
3. Oversize materials (maps, drawings, and charts) are photographed by sectioning the original, beginning at the upper left hand corner and continuing from left to right in equal sections with small overlaps. Each oversize page is also filmed as one exposure and is available, for an additional charge, as a standard 35mm slide or in black and white paper format.*
4. Most photographs reproduce acceptably on positive microfilm or microfiche but lack clarity on xerographic copies made from the microfilm. For an additional charge, all photographs are available in black and white standard 35mm slide format.*

*For more information about black and white slides or enlarged paper reproductions, please contact the Dissertations Customer Services Department.

UMI University
Microfilms
International

8609816

Miley, Aldyne Pearl

**USE OF THE MYERS-BRIGGS TYPE INDICATOR TO DIFFERENTIATE
BETWEEN CONDUCT DISORDERED, EMOTIONALLY DISTURBED, AND
CLINICALLY NORMAL ADOLESCENTS**

University of Nevada, Las Vegas

Ed.D. 1984

**University
Microfilms
International** 300 N. Zeeb Road, Ann Arbor, MI 48106

PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy. Problems encountered with this document have been identified here with a check mark ✓.

1. Glossy photographs or pages _____
2. Colored illustrations, paper or print _____
3. Photographs with dark background _____
4. Illustrations are poor copy _____
5. Pages with black marks, not original copy _____
6. Print shows through as there is text on both sides of page _____
7. Indistinct, broken or small print on several pages ✓
8. Print exceeds margin requirements _____
9. Tightly bound copy with print lost in spine _____
10. Computer printout pages with indistinct print _____
11. Page(s) _____ lacking when material received, and not available from school or author.
12. Page(s) _____ seem to be missing in numbering only as text follows.
13. Two pages numbered _____. Text follows.
14. Curling and wrinkled pages ✓
15. Dissertation contains pages with print at a slant, filmed as received ✓
16. Other _____

University
Microfilms
International

USE OF THE MYERS-BRIGGS TYPE INDICATOR TO
DIFFERENTIATE BETWEEN CONDUCT DISORDERED,
EMOTIONALLY DISTURBED, AND CLINICALLY
NORMAL ADOLESCENTS

By

Aldyne Pearl Miley

A dissertation submitted in partial fulfillment
of the requirements for the degree of

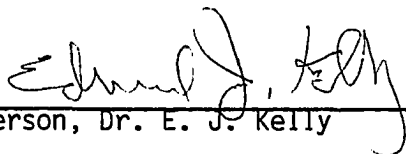
Doctor of Education

in

Special Education

Department of Special Education
University of Nevada, Las Vegas
May, 1984

The dissertation of Aldyne P. Miley for the degree of Doctor of Education in Special Education is approved.



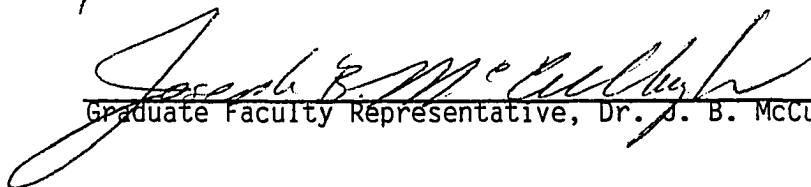
Chairperson, Dr. E. J. Kelly



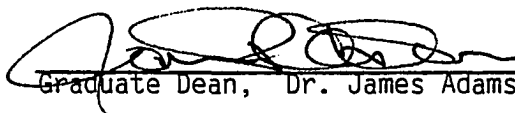
Examining Committee Member, Dr. Judith Dettre



Examining Committee Member, Dr. John C. VanVactor



Graduate Faculty Representative, Dr. J. B. McCullough



Graduate Dean, Dr. James Adams

University of Nevada
Las Vegas, Nevada
May, 1984

©1986

ALDYNE PEARL MILEY

All Rights Reserved

Abstract

This study investigated whether conduct disordered and emotionally disturbed students demonstrate different temperament dimensions, personality characteristics and temperaments from each other and students who are categorized as clinically normal. The Myers-Briggs Type Indicator was administered to 172 regular junior/senior high school students, 21 conduct disordered and 32 emotionally disturbed students. Results of comparisons between conduct disordered and emotionally disturbed and clinically normal students were inconclusive for several reasons: insufficient numbers of emotionally handicapped subjects; possible contamination within the categories of the conduct disordered and emotionally disturbed; and lack of correspondence between the two normative groups. At the same time, significant variation did occur between emotionally disturbed subjects and their normal peers in all areas investigated. On the basis of these results it was concluded that the MBTI may possess sufficient discriminative power to effect certain differentiations between emotionally disturbed and conduct disordered adolescents and the clinically normal.

Acknowledgments

I wish to take this opportunity to express my appreciation to my committee: Dr. E. J. Kelly, Dr. Judith Dettre, Dr. John VanVactor, and Dr. J. B. McCullough for their encouragement and guidance through this project; to my friends and colleagues for their help and support; and to my husband, Oscar, and my children, Julia, Leslie and Alan, for their consideration and patience.

Table of Contents

	Page
Abstract	iii
Acknowledgements	iv
List of Tables	vii
Chapter 1 - Statement of Problem	1
Problems with Definition.	1
Problems Relating to Characteristics.	6
Problems with Identification and Assessment	9
Problems with Programming for Emotionally Disturbed Adolescents.	14
Definitions/Assumptions	16
Structuring the Problem	17
Questions and Hypotheses Investigated	19
Summary/Overview of Study	24
Chapter 2 - Methodology.	25
Purpose of the Present Investigation.	25
Theory and Rationale of the Myers-Briggs Type Indicator	26
General Validation Research Germane to the Myers-Briggs Type Indicator	31
Specific Factor Validation Studies.	35
Literature Covering Utilization of the Myers-Briggs Type Indicator	38
Rationale for Selection of the Myers-Briggs Type Indicator.	41
Samples	42
Age and Sex	44
Analysis of Results	44
Chapter 3 - Results	47
Chi-Square Analyses of Temperament Dimensions	47
Comparison of the Local Sample Versus the Normative Sample	50
Temperament Dimensions Correlations	52
Chi-Square Analyses of Personality Characteristics.	54
Comparison of Local Sample Versus Expectancy Figures.	57
Chi-Square Analyses of Temperament.	57
Comparison of Local Sample Versus Expectancy Figures.	60

	Page
Resolution of Basic Research Questions. . . . .	.60
Resolution of Question One . . . . .	.61
Resolution of Question Two . . . . .	.62
Chapter 4 - Summary and Conclusions. . . . .	.66
Implications of the Study . . . . .	.68
Suggestions for Future Studies. . . . .	.70
References . . . . .	.73
Appendices	
Appendix 1 -- Parent Permission Letter. . . . .	.86
Appendix 2 -- Definitions Reviewed by Teachers, Consultants and Psychologists to Classify Students . . . . .	.88
Appendix 3 -- Individual Chi-Square Calculations. . . . .	.90

List of Tables

Table	Page
1 Summary of Chi-Square Analyses -- Conduct Disordered Versus All Categories	48
2 Summary of Chi-Square Analyses -- Emotionally Disturbed Versus All Categories	48
3 Summary of Chi-Square Analyses -- Local Sample Versus Normative Sample.	51
4 Summary of Phi Co-efficients and Related Chi-Squares Conduct Disordered Versus Emotionally Disturbed. . .	53
5 Summary of Phi Co-efficients and Related Chi-Squares Conduct Disordered Versus Local Sample	53
6 Summary of Phi Co-efficients and Related Chi-Squares Emotionally Disturbed Versus Local Student Sample. .	54
7 Summary of Chi-Square Analyses of Personality Characteristics -- Conduct Disordered Versus Other Samples.	55
8 Summary of Chi-Square Analyses of Personality Characteristics -- Emotionally Disturbed Versus Other Samples	55
9 Summary of Chi-Square Analyses of Temperament -- Conduct Disordered Versus Other Samples.	58
10 Summary of Chi-Square Analyses of Temperament -- Emotionally Disturbed Versus Other Samples	58
11 Frequency Data Relative to Temperament Dimensions . . .	91
12 Frequency Data Relative to Personality Characteristics.	92
13 Individual Chi-Squares for Personality Characteristics -- Conduct Disordered Versus Emotionally Disturbed.	93

Table		Page
14	Individual Chi-Squares for Personality Characteristics -- Conduct Disordered Versus Local Sample	94
15	Individual Chi-Squares for Personality Characteristics -- Emotionally Disturbed Versus Local Sample.	95
16	Frequency Data Relative to Temperament	96
17	Individual Chi-Squares for Temperament -- Conduct Disordered Versus Emotionally Disturbed.	97
18	Individual Chi-Squares for Temperament -- Conduct Disordered Versus Local Sample	98
19	Individual Chi-Squares for Temperament -- Emotionally Disturbed Versus Local Sample.	99

Statement of Problem

The increasing number of secondary level programs for emotionally handicapped adolescents prompted by the passage of Public Law 94-142 has focused attention on a number of interrelated problems stemming from the provision of a free, appropriate education for these students. Such problems are not new, rather they have become more pre-eminent due to the fact that increased numbers of students are now being served.

Problems with Definition

A major problem in providing appropriate programs for emotionally handicapped adolescents lies in the confusion surrounding the definition of the term "emotionally disturbed". The current federal definition, for example, characterizes emotional disturbance as:

A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree which adversely affects educational performance: (i) (a) an inability to learn which cannot be explained by intellectual, sensory or health factors; (b) an inability to build and maintain satisfactory relationships with peers and teachers; (c) inappropriate types of behavior or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depression; or (e) a tendency to develop physical symptoms or fears associated with personal or school problems.

(ii) The term includes children who are schizophrenic or autistic. The term does not include children who are socially maladjusted unless it is determined that they are seriously emotionally disturbed. (Education of Handicapped Children, Federal Register, Section 121a.5, 1977).

It is interesting to note that this definition, covering 2.1 of the United States school-age population, actually dates from the 1960 Bower criteria used to categorize 4.1 of California's population as "severely emotionally maladjusted" (Bower, 1960). Section i is an exact restatement of Bower's definition (excepting the word "seriously"), while Section ii, which excludes the socially maladjusted, represents a simple modification of the original Bower criteria.

In establishing state programs throughout the country to implement Public Law 94-142, about one-third of the states use the federal definition, or a close variation. The remaining states use very narrow or broad definitions (Grosnick and Huntz, 1979). Most state definitions include some combination of the following: causal factors, normal intelligence, achievement problems and the use of diagnostic criteria (Shultz, Hershoren, Manton and Henderson, 1971).

In addition to the federal definition and corollary state definitions, another commonly used definition for emotional disturbance is that formulated by the Joint Commission on Mental Health of Children (Long, 1981). It includes the following criteria:

1. impairment of age-relevant capacity to perceive the external environment realistically,
2. inadequate impulse control,
3. a lack of rewarding interpersonal relationships, and
4. a failure to achieve appropriate levels of learning.

Beyond these definitions, the literature reveals no other formal definition of the term "emotional disturbance." This fact has been consistently documented in the literature (Algozzine, Schmidt and Connors, 1978; Bandura, 1969; Rhodes and Paul, 1978; Kanner, 1962).

At the same time a number of authorities use the term "behaviorally disordered" describing emotionally disturbed children (Grosnick and Huntz, 1979; Whittenberger and Murray, 1983; R. L. Peterson, 1980; Algozzine, 1977; among others). Grosnick and Huntz (1979) among others, suggest that this term is preferred to the term "emotionally disturbed." This suggestion, however, overlooks the fact that the term "behaviorally disordered" is not applied consistently throughout the literature. While some writers use the terms emotional disturbance and behaviorally disordered interchangeably (Grosnick and Huntz, 1979; Whittenberger and Murray, 1983), others affect clear distinctions between the two terms (R. L. Peterson, 1980; Algozzine, 1977).

To summarize the definitional state of the art, the principal definition for emotional disturbance applicable to emotionally handicapped adolescents is found in the regulations

of Public Law 94-142. This definition, which is derived from Bower's criteria with certain modifications, has been sharply criticized for a number of reasons. Grosnick and Huntz (1979) point out that the "most consistently and intensely voiced concern across all states and populations -- is that of the term 'seriously emotionally disturbed' and its accompanying definition as delineated in the regulations of Public Law 94-142. It is an ongoing problem which continues to impede delivery of services." They note that the term "seriously" is not appropriate for the majority of schools, since behavior occurs on a continuum of least to most severe, with the word "seriously" making the label more stigmatizing.

Bower (1982) also takes strong exception to the present federal definition. He points out that emotional disturbance is the only category under the law which has the adjective "seriously" preceding its designation. He questions the advisability of waiting for students to become seriously disturbed before providing services.

The exclusion clause of socially maladjusted children from the federal definition has also been challenged by several writers. A. S. Kaufman (1980) points out that the exclusion of children who are socially maladjusted but not emotionally disturbed is somewhat nonsensical, especially when the

"seriously emotionally disturbed" include "children unable to build or maintain satisfactory relationships with peers and teachers." Grosnick and Huntz (1979) also criticize the social maladjustment exclusion clause, noting that the trend is to label students seriously emotionally disturbed and be less concerned about their distinctness from those labeled as socially maladjusted. They note that it is not uncommon to find adolescents who some professionals would label socially maladjusted receiving services for the seriously emotionally disturbed.

Ruskin (1981) criticizes the entire definition observing that an independent psychiatric evaluation which utilizes the federal definition with a typical lower-socioeconomic, inner-city child, would typically result in a diagnosis of serious emotional disturbance. In effect the federal definition could be so interpreted that it encompassed the majority of students in most large urban school districts.

Bower (1982) sums up criticisms of the federal definition with the following statement:

The definition is contrary in intent and content from the intent and content of the research from which it came. It combines a clinical, intrapsychic concept of emotional deviance with a school related behavioral one. It makes a zero-sum game of services to emotionally disturbed children by limiting such services to the seriously, nonsocially maladjusted children and youth.

It negates the school as the prime, potentially effective institution in reducing the problem and helping children in need at critical times.

It is evident that the federal definition, from which state guidelines were established, has serious limitations in providing the educational community with direction for substantiating the condition of emotional disturbance. The problem is compounded because there is no other acceptable definition of the term "emotional disturbance." As Kanner (1962), for example, notes:

It is impossible to find a definition of the term 'emotionally disturbed children' which somehow crept into the literature some thirty years ago and has since then been used widely sometimes as a generality with no termological boundaries whatever and sometimes with reference to certain psychotic and near-psychotic conditions.

A. S. Kaufman (1980) reinforces this point, stating that with no clear, unambiguous definition of emotional disturbance, disordered behavior is whatever we choose to make it -- a subjective entity contingent upon arbitrary socio-cultural norms.

Problems Relating to Characteristics

Problems with the definition of emotional disturbance are but one aspect of multiple problems which exist in relation to the provision of an appropriate public school education for emotionally handicapped adolescents. Another area of concern involves the characteristics of students placed in such programs.

Psychological/psychiatric classification systems define the characteristics of emotionally handicapped adolescents with multiple, well-defined categories. For example, the Diagnostic and Statistical Manual of Mental Disorders (1980) delineates "mental disorders usually first evident in adolescence" as oppositional disorders, anxiety disorders, eating disorders, conduct disorders, identity disorders and organic mental disorders. Other disorders which may have onset in adolescence are listed as schizophrenic disorders, psychotic disorders, somoform disorders, affective disorders and disorders of impulse control.

Educational classification systems do not classify emotionally handicapped students in relation to demonstrated characteristics, but simply identify them as "emotionally handicapped." However, investigation of the literature reveals that despite lack of differentiation in placement, certain distinct characteristic types have emerged among adolescents placed in programs for the emotionally handicapped (Himmelweit, 1952; Becker, D. R. Peterson, Hellmer, Shoemaker and Quay, 1959; D. R. Peterson, 1961). As Quay (1963) points out,

There are certain recurrent, observable symptoms of problem behavior in children and these tend to cluster into two major syndromes or symptom clusters; acting out or conduct problem students, or the withdrawn or personality problem students. The characteristics of conduct problem

children are aggressive, hostile and contentious behavior. Personality problem students are characterized by anxious, withdrawn, introvertive behavior.

Algozzine et al. (1978) similarly identify two distinct types which they describe as Type I and Type II students. Type I students are behavior disordered and Type II are emotionally disturbed with clinical symptoms. They observe that Type I students tend to be more heavily identified at the secondary level. Smith (1979) also identified two distinct types: (1) chronically disruptive students who are outwardly hostile and defiant, and (2) emotionally disturbed students who are highly anxious and internally disordered. This distinction of types is consistently cited throughout the literature (Murray and Whittenburger, 1983; Cambel, 1981; Hewitt and Jenkins, 1946; Morse, 1958; Quay, Morse and Cutler, 1966; Smith and Grimes, 1979; R. L. Peterson, 1980; Clarizio and McCoy, 1970).

To summarize the literature discussing the characteristics of emotionally handicapped adolescents, although psychological/psychiatric classification systems enumerate multiple characteristics of emotionally disturbed adolescents, educational classification systems categorize emotionally handicapped students under the generic label of "seriously emotionally disturbed." Studies of students placed in this category reveal two characteristic types: (1) students with conduct problems,

demonstrating aggressive, hostile, acting out behaviors; and (2) students with what are varyingly termed personality problems or emotional disturbance with clinical symptoms, demonstrating anxious, withdrawn, and/or bizarre behaviors. Although these characteristics may be labeled in varying ways, their description is unfailingly consistent throughout the literature.

Problems with Identification and Assessment

In the area of identification and assessment of emotionally handicapped adolescents, multiple problems also exist. One problem area relates to the use of interviews, clinical observations and judgments and behavior rating scales. These techniques, which are currently the most influential in the determination of emotionally handicapped eligibility (Goodkin, 1967), rely upon subjective reporting from various sources (i.e. teachers, clinicians and/or parents).

The previously noted absence of an acceptable definition of emotional disturbance may contaminate these types of assessment, especially since different perspectives of emotional disturbance have resulted in a variety of theoretical positions affecting assessments. Rhodes and Tracy (1972), for example, identify five main theoretical models (1) the psychodynamic model; (2) the biological model; (3) the sociological model; (4) the behavioral model; and (5) the ecological model.

Considering these sources of variation, it is not surprising that diagnostic research in this area has had mixed results. For example, a number of studies have produced evidence of similar factors in problem behavior ratings of children and adolescents. These factorial similarities are found consistently from study to study and also from rater to rater (Connors, 1969; A. S. Kaufman, Swan and Wood, 1979; Miller, 1972; D. R. Peterson, BEdker, Shoemaker, Luria and Hellmer, 1961; Pimm, Quay and Werry, 1967; Quay, 1966; Morse and Cutler, 1966; and others).

However, an equal number of studies do not support this observed consistency. Quay, Sprague, Shulman and Miller (1966) obtained poor correlations between parent and teacher ratings, as did Becker (1960) and D. R. Peterson (1961). Several studies have found that teachers' ratings consistently reflect more and a greater degree of perceived problems than parent ratings (Blair, 1970; Lederman and Blair, 1972; Morris and Arrant, 1978; Paraskevopoulos and McCarthy, 1970). Auger (1975) and Fremont, Klingsporn and Wilson (1976) reported significant differences among professionals involved in the assessment and identification of individual children. Edmunds (1976) found that psychologists and psychiatrists ratings did not correlate. Finally, A. S. Kaufman et al. (1978) found significant agreement

between ratings of teachers and parents of white students but significant disagreement between teachers and parents of black students.

In most school systems, identification of the emotionally handicapped relies heavily upon the input of school psychologists. They, in turn, support their recommendations with information gained from such assessment instruments as projective, personality and intelligence tests. All of these instruments experience certain difficulties in classifying emotionally handicapped students.

While projective and personality tests are a commonly used tool within clinical testing environments, their use in public school contexts is more limited (this may be explained in part by the influence behaviorists have exerted on the field of psychometry [Burnstein, 1972]). Such assessment instruments are also commonly criticized for their lack of precision (J. M. Kauffman, 1977). For example, the two projective tests most commonly used in the public schools for the diagnosis of emotional disturbance are the Bender Gestalt and the Draw-A-Person. The Bender Gestalt is highly respected as a non-verbal measure of gestalt functioning in the perceptual-motor sphere. The imposition of projective interpretation on this test occurred after its initial development, and this modification has been

strongly criticized. Rabin (1968) notes that specific predictions from projective techniques are disappointing since the clinician must make inferences from test data that were not intended to be used for this purpose. Kitay (1972) found the Bender Gestalt inadequate for differentiating patients in various diagnostic categories and suggested that "elaborate" projective use of this instrument be discouraged.

Draw-A-Person tests are sharply criticized for a number of reasons. Fundamental to the interpretation of such tests is the assumption that such drawings represent an unconscious projection of the subject's self-image. Further assumptions are made in relation to various details of the drawing. For example, such details as "talon fingers," "dark, piercing eyes," and a "flattened nose" are interpreted as signs of aggression. Harris (1972) observes that such assumptions have been utilized since the onset of projective drawings without adequate determination of their relative validity. In comprehensive surveys of the Draw-A-Person, Swenson (1968), Harris (1963) and Roback (1968) conclude that very little research support exists for the validity of a sign approach to personality characteristics. It is also noted that children's drawings vary so radically from drawing to drawing, that particular features in any one drawing are too unreliable

to be used predictively.

Research also suggests that there is only modest agreement among clinicians in interpreting drawings. Cassells, Johnson and Burns (1958), for example, found only a correlation of .33 to exist between experienced clinicians.

In view of the overwhelming amount of negative evidence, professionals have come to question why these tests continue to be such a popular choice among diagnosticians (Harris, 1963; Watson, 1967; and Murstein, 1965). As J. M. Kauffman (1977) notes

There are no tests that measure personality adjustment, anxiety, or other relevant psychological conditions precisely enough to provide a sound basis for a definition of emotional disturbance. The reliability and validity of psychometric tests is simple not adequate for the purposes of dividing the disturbed from the non-disturbed.

Intelligence tests are routinely administered by clinicians in the assessment of students referred for emotional problems. Considerable data exists on the analysis of scores on the Weschler Intelligence Scale for Children and the Weschler Intelligence Scale for Children-Revised. McLean (1964) found that reading disability and emotional disturbance assert similar influence on WISC scatter patterns. Hall and LaDriere (1969) examining error patterns on the WISC similarities subtest using brain damaged and emotionally handicapped students found no significant differences between the groups.

Wagonseller (1971) obtained significant differences between learning disabled and emotionally disturbed children on the verbal scale of the WISC, while VanVactor (1974) found that the WISC did not discriminate between children referred for achievement problems who are categorized as learning disabled and/or emotionally disturbed or clinically normal. Schooler, Beebe and Koepke (1979) compared learning disabled, educable mentally retarded, other handicapped and non-handicapped groups and concluded that the WISC-R was factorially similar for all groups.

In summary, the various instruments and techniques employed to identify the emotionally handicapped are not sufficiently precise to effect a clear distinction between disturbed, disordered and non-disordered behavior. Further, current assessment instruments fail to reveal why identified behaviors are disordered; i.e. they describe present rather than etiological functions. In commenting on such deficiency, Grosnick and Huntz (1979) note "there is a need to develop technology of a more objective and reliable nature."

Problems with Programming for Emotionally Disturbed Adolescents

As a direct result of the problems with definition, categorization and assessment techniques, corollary difficulties also affect public school programs for emotionally disturbed adolescents. Because there is no clear definition

of emotional disturbance and because available assessment instruments lack precision in discriminating the emotionally handicapped from either normal students or other handicapped students, the trend is to categorize emotionally disturbed students under the blanket label of "seriously emotionally disturbed" and place them in classrooms without differentiating the type of the emotional disturbance. Such lack of differentiation leads to a type of educational programming which is often at variance with the child's emotional needs (Quay, 1969; Smith, 1979; R. L. Peterson, 1980).

Programming considerations for conduct disordered students versus personality disordered students have been described by Quay (1969). Conduct disordered students learn conditional reactions very slowly and respond to programs incorporating the following techniques:

1. behavior management approaches,
2. repetitious practice in academic pursuits,
3. a system of definite rules, and
4. immediate rewards and punishments repeatedly administered.

Emotionally disturbed adolescents, whose anxieties interfere with their learning, require educational environments where academics are presented in an anxiety reduced atmosphere. Such students may not benefit from a behavior management approach as readily as the conduct disordered.

Smith and Grimes (1979) described the unique educational applications associated with each of these populations, as well as the effects each group may have on each other. Variables to be considered include:

1. the particular structure of the education program and a reflection of that structure through the individual goals of each student's program,
2. the type of intervention chosen in times of behavioral crisis,
3. the use of mental health professionals in program support,
4. the use of juvenile agencies in support of the program,
5. the consequences applied for misbehavior,
6. the exit criteria for reintegration, and
7. the role of peers in the overall program.

Smith and Grimes further point out that chronically disruptive, outwardly aggressive, hostile and defiant youth may have negative impact on the emotionally disturbed. Conversely, the severely emotionally disturbed, who are highly anxious and internally disoriented, may have negative effects on the conduct disordered. The prognosis for the conduct disordered is also considerably better than for the emotionally disturbed (Clarizio and McCoy, 1978). Finally, the combination of these variant student types within a single classroom multiplies the demands placed upon the teacher (Smith and Grimes, 1979).

Definitions/Assumptions

For the purposes of this study the following definitions will be employed:

1. Emotionally handicapped students are students who have been classified according to guidelines established by the State of Nevada, consistent with Federal Law 94-142.

2. Conduct disordered students are students placed in specialized emotionally handicapped classrooms because of such overt behavior problems as acting out, inability to conform to school rules and/or impulsive anti-social actions (Quay, 1969; Smith, 1979; Whittenberger and Murray, 1983; Kelly, Miley and Ventura, 1983).

3. Emotionally disturbed students are students placed in specialized emotionally handicapped classrooms because of internalized self-identity, self-concept, self-perceptual problems. They may have difficulty maintaining viable contact with reality, relate to others in bizarre ways and/or manifest other clinically observable psychotic or neurotic aspects (Quay, 1969; Smith, 1979; Kelly, et al., 1983).

4. Adolescents are those students found in junior and senior high schools encompassing grades 7 through 12.

Structuring the Problem

Adolescents placed in specialized classes for the emotionally handicapped fall into one of two distinct

characteristic types -- conduct disordered or emotionally disturbed. The conduct disordered demonstrate overt, acting out behaviors, while the emotionally disturbed evidence withdrawn, internalized self-concept problems.

Current practice in most public school systems combines these students in classrooms under the generic label of "seriously emotionally disturbed." The literature relating to such students suggests they require variant educational programming. Conduct disordered students, who learn conditional reactions very slowly, respond to programs incorporating behavior management techniques, repetitious practice in academic pursuits and a system of definite rules with immediate rewards and punishments repeatedly administered. Emotionally disturbed adolescents, on the other hand, whose anxieties interfere with their learning, require educational environments where academics are presented in an anxiety-reduced atmosphere. Further, they may not benefit from behavior management approaches as readily as the conduct disordered.

Currently there is no instrument which objectively discriminates conduct disordered from emotionally disturbed adolescents. There is a need to study existing evaluation instruments to determine if any are sufficiently sensitive

and precise to distinguish between these two characteristic types. This present study investigated one such instrument to determine whether it possessed sufficient discriminative power to effect such a distinction.

Questions and Hypotheses Investigated

The following questions were investigated in this study:

1. Do conduct disordered students in self-contained classes demonstrate different temperament dimensions, personality characteristics and temperaments than other students who are categorized as emotionally disturbed and normal?
2. Do emotionally disturbed students in self-contained classes demonstrate different temperament dimensions, personality characteristics and temperaments than other students who are categorized as conduct disordered and normal?

Hypotheses tested in this study include:

1. Conduct disordered students in self-contained classes do not demonstrate different temperament dimensions from emotionally disturbed students in self-contained classrooms in the following assessed areas:

- a. extraversion versus introversion
- b. sensing versus intuition
- c. thinking versus feeling
- d. judgment versus perception.

2. Conduct disordered students in self-contained classes do not demonstrate different temperament dimensions from the specific local student population in the following assessed areas:

- a. extraversion versus introversion
- b. sensing versus intuition
- c. thinking versus feeling
- d. judgment versus perception.

3. Conduct disordered students in self-contained classes do not demonstrate different temperament dimensions from an independent sample of junior/senior high school students in the State of Pennsylvania (McCaulley, 1978) in the following assessed areas:

- a. extraversion versus introversion
- b. sensing versus intuition
- c. thinking versus feeling
- d. judgment versus perception.

4. Emotionally disturbed students in self-contained classes do not demonstrate different temperament dimensions from the specific local student population in the following assessed areas:

- a. extraversion versus introversion
- b. sensing versus intuition
- c. thinking versus feeling
- d. judgment versus perception.

5. Emotionally disturbed students in self-contained classes do not demonstrate different temperament dimensions from an independent sample of junior/senior high school students in the State of Pennsylvania (McCaulley, 1978) in the following assessed areas:

- a. extraversion versus introversion
- b. sensing versus intuition
- c. thinking versus feeling
- d. judgment versus perception.

6. Conduct disordered students in self-contained classes do not demonstrate different personality characteristics from emotionally disturbed students in the following assessed areas:

- a. sensing-thinking
- b. sensing-feeling
- c. intuitive-feeling
- d. intuitive-thinking

7. Conduct disordered students in self-contained classes do not demonstrate different personality characteristics from the specific local student population in the following assessed areas:

- a. sensing-thinking
- b. sensing-feeling
- c. intuitive-feeling
- d. intuitive-thinking

8. Conduct disordered students in self-contained classes do not demonstrate different personality characteristics from expected figures of the general population (E. J. Kelly,

personal conference, November 15, 1983; Myers, 1963) in the following assessed areas:

- a. sensing-thinking
- b. sensing-feeling
- c. intuitive-feeling
- d. intuitive-thinking

9. Emotionally disturbed students in self-contained classes do not demonstrate different personality characteristics from the specific local student population in the following assessed areas:

- a. sensing-thinking
- b. sensing-feeling
- c. intuitive-feeling
- d. intuitive-thinking

10. Emotionally disturbed students in self-contained classes do not demonstrate different personality characteristics from expected figures of the general population (E. J. Kelly, November 15, 1983; Myers, 1963) in the following assessed areas:

- a. sensing-thinking
- b. sensing-feeling
- c. intuitive-feeling
- d. intuitive-thinking

11. Conduct disordered students in self-contained classes do not demonstrate different temperaments from emotionally disturbed students in the following assessed areas:

- a. sensing-perceiving
- b. sensing-judging
- c. intuitive-thinking
- d. intuitive-feeling

12. Conduct disordered students in self-contained classes do not demonstrate different temperaments from the specific local student population in the following assessed areas:

- a. sensing-perceiving
- b. sensing-judging
- c. intuitive-thinking
- d. intuitive-feeling.

13. Conduct disordered students in self-contained classes do not demonstrate different temperaments from expected figures of the student and general population (Keirsey and Bates, 1978) in the following assessed areas:

- a. sensing-perceiving
- b. sensing-judging
- c. intuitive-thinking
- d. intuitive-feeling.

14. Emotionally disturbed students in self-contained classes do not demonstrate different temperaments from the specific local student population in the following assessed areas:

- a. sensing-perceiving
- b. sensing-judging
- c. intuitive-thinking
- d. intuitive-feeling.

15. Emotionally disturbed students in self-contained classes do not demonstrate different temperaments from expected figures of the student and general population (Keirsey and Bates, 1978) in the following assessed areas:

- a. sensing-perceiving
- b. sensing-judging
- c. intuitive-thinking
- d. intuitive-feeling.

Summary/Overview of Study

1. Chapter 1, Statement of Problem -- this chapter presents a description of the problem areas relating to emotionally handicapped adolescents in regular school contexts incorporating the review of relevant literature, assumptions/ definitions pertinent to this study, questions investigated and hypotheses to be tested.

2. Chapter 2, Methodology -- this chapter contains an overview of the study, the purpose of the study, selection of the instrument, description of samples investigated, description of procedures for questionnaire administration and statistical treatment procedures.

3. Chapter 3, Results -- a description of the results obtained from applicable statistical treatments, tabular presentations of results and decisions relative to hypotheses are presented in this chapter.

4. Chapter 4, Conclusions -- this chapter presents conclusions reached as a result of this research and suggestions for future studies.

Methodology

Purpose of the Present Investigation

In Chapter 1 it was noted that students identified as severely emotionally disturbed generally fall into one of two distinct categories: (1) the conduct disordered -- characterized by overt, acting out behaviors, (2) the emotionally disturbed with clinical symptoms -- characterized by withdrawn, bizarre or other maladaptive behavior and internalized self-concept problems. These distinctly variant types require different educational learning environments -- a requirement which is not currently being met in the public schools.

A central problem affecting current placement practices is the lack of assessment instruments which are sufficiently precise to definitively separate the emotionally handicapped from other handicapped populations or the clinically normal. Students are classified "seriously emotionally disturbed" and placed in self-contained classes without adequate discrimination made concerning the specific nature of the emotional disorder or its implications in the provision of an appropriate learning environment.

There is, therefore, a need for an assessment instrument which effectively discriminates between conduct disordered and emotionally disturbed adolescents. In this present context, the Myers-Briggs Type Indicator (MBTI), a self-rating instrument which has been used extensively with non-handicapped public school students (Metts, 1979; McGinn, 1976; Novak, 1980; Johnson, 1980), seemed well suited for this purpose. Thus the present study investigated the use of this instrument to determine its ability to discriminate between emotionally disturbed and conduct disordered adolescents in public school settings, and to discriminate both groups from the general school population and selected expectancy figures.

Theory and Rationale of the Myers-Briggs Type Indicator

The MBTI was developed by Isabel Myers (1962) for the purpose of implementing Jung's theory of type (1923). Jung theorized that much apparently random variation in human behavior is actually quite orderly and consistent, being due to basic differences in the way people use perception (i.e., the process of becoming aware) and judgment (the process of coming to conclusions).

Jung identified two basic attitudes: extraversion and introversion. The extroverted attitude is characterized by

attention and attraction to objects and people in the environment, while the introverted attitude is characterized by a consolidation of energy within the individual. Jung further postulated four basic functions: sensation (S), intuition (N), thinking (T) and feeling (F). One of these two preferred functions is dominant, the other auxiliary. The dominant process is revealed through the person's preference for judging or perceiving.

A preference for judging indicates dominance in either the thinking or feeling dimension with a sensing or intuitive auxiliary. A preference for perceiving denotes dominance in the sensing or intuitive dimensions with thinking or feeling auxiliary. Thus four combinations occur:

1. ST -- sensing plus thinking
2. SF -- sensing plus feeling
3. NF -- intuition plus feeling
4. NT -- intuition plus thinking

Each of these four combinations produces a different kind of personality characterized by whatever interests, values, needs, habits of mind and surface traits result from each combination. Briefly, the following personalities result from each of the four possible combinations:

Sensing/thinking people rely on sensing for perception and thinking for purposes of judgment. They focus on facts which can be verified directly by the senses. They rely on impersonal analysis and tend to be practical and matter-of fact.

Sensing/feeling people similarly rely on their senses for purposes of perception, but prefer feeling for purposes of judgment. They are interested in facts gathered through the senses, but effect decisions mitigated by personal warmth since they trust feeling more than thinking. They are more interested in facts about people than in facts about things. They tend to be sociable and friendly.

Intuitive/feeling people also use feeling for purposes of judgment; however, they prefer intuition for purposes of perception. Interest is focused upon possibilities rather than facts, upon new projects and new ideas than on specific realities. They often have a talent for using language in social contexts.

Intuitive/thinking people use intuition for purposes of perception, but rely on thinking for judgment. They also tend to focus on possibilities, but approach them through impersonal, logical analysis. Choices tend to be theoretical, technical or executive in nature, with the human element subordinated. They tend to be intellectually ingenious and excel in problem solving.

The MBTI is designed to determine the following four bipolar interacting preferences:

1. extraversion (E), liking social situations and being with large groups of people versus introversion (I), liking individual and limited social interactions,

2. sensing (S), a liking for facts, experience and present realities versus intuition (N), preferring theories, implications and future possibilities,
3. thinking (T) versus feeling (F) choices and relationships, and
4. judging (J), a preference for orderly, scheduled, planned situations and events versus perceiving (P), preferring situations and events which are spontaneous, unplanned and/or unstructured.

Individual preference among each of these dimensions indicated through forced choices on the MBTI questionnaire, leads to classification into one of sixteen possible types; namely, ISTJ, ISFJ, INFJ, INTJ, ISTP, ISFP, INFP, INTP, ESTP, ESFP, ENFP, ENTP, ESTJ, ESFJ, ENFJ or ENTJ. The MBTI provides detailed, representative descriptions of the characteristics of each of these sixteen types.

The preceeding paragraphs describe the substance of the temperament dimensions and personality characteristics set forth in the MBTI Manual. There is also a more recent, popularized version of the MBTI by Keirsey and Bates (1978) which delineates four basic temperaments and provides another perspective for purposes of study. These four temperaments are:

1. sensing-perceivers (SP's)
2. sensing-judgers (SJ's)
3. intuitive-thinkers (NT's)
- d. intuitive-feelers (NF's)

The sensing-perceiving (SP) temperament is the basis for the ISTP, ESTP, ISFP and ESFP types. SP's are impulsive, impatient and action-oriented with a strong need for freedom. Their drive for activity for its own sake enhances their ability to achieve

virtuosity in various areas. They are process-oriented and do not require closure. Vocational choices include the performing arts, soldiering, construction, police work and other action-oriented endeavors.

The sensing/judging (SJ) temperament is the basis for ISFJ, ESFJ, ISTJ and ESTJ types. The SJ's are duty-oriented, pessimistic, tradition-bound and frequently members of organizations. They are noteworthy for their need to belong. Common vocational choices include teaching, the ministry, accounting, insurance and banking.

Intuitive/thinking (NT) temperaments are the basis of the INTP, ENTP, INTJ and ENTJ types. NT's are power motivated, value intelligence, are individualistic, detached, future-oriented and critical. They are driven to attain competence and frequently develop a large repertoire of skills. Career choices are in complicated, exacting fields such as mathematics, science, philosophy, architecture and engineering.

The intuitive/feeling (NF) temperament is the basis for INFJ, ENFJ, INFP and ENFP types. NF's seek self-actualization and personal meaning. They tend to romanticize both their own and others experiences and lives. Typical career choices include writing, teaching, counseling and special education.

General Validation Research Germane to the Myers-Briggs
Type Indicator

The MBTI is a self report inventory which has been used in over 400 studies. It yields two types of scores, classifying respondents on four dichotomous type categories and also producing eight numerical scores which can be transformed into four continuous scores. MBTI scores may therefore be regarded as either dichotomous or continuous data. Type-category information results in the classification of respondents into one of sixteen possible types: ISTJ, ISFJ, INFJ, INTJ, ISTP, ISFP, ESFP, INTP, ESTP, ESFP, ENFP, ENTP, ESTJ, ESFJ, ENFJ, or ENTJ. Continuous scores, which are obtained by calculating the difference between respondents two numerical scores which are then transformed into one continuous score, are all in odd numbers. They range from 33 to 161, with 100 serving as the division point which separates two opposing preferences. For example, a person with a continuous score of 141 on the extrovert/introvert continuum is regarded as strongly introverted.

Considerable research has been directed toward the investigation of the relative independence of the four dimensions of the MBTI, with intercorrelations .

computed between the various dimensions. In some studies only the dichotomous type categories have been investigated; in others, the continuous scores expressing each bipolar dimension have been used.

The relative independence of the dichotomous MBTI type categories was examined by Stricker and Ross (1963) and Ross (1964), while the relative independence of continuous MBTI scores was investigated by Madison, Wilder and Suddeford (1963), Myers (1962), Richek (1969), Schmidt and Fretz (1965), Stricker and Ross (1963), Stricker, Schiffmen and Ross (1965), and Webb (1964). Collectively, the studies indicate that the MBTI measures three dimensions of personality which are relatively independent of each other: extraversion/introversion, sensing/intuition and thinking/feeling. The instrument also measures a fourth dimension of personality, judgment/perception, which appears to be related to at least one of the other dimensions.

A number of researchers have also investigated the reliability of the MBTI, again with some studying scores as dichotomous type categories and others treating scores as continuous data. Stricker and Ross (1963), Webb (1964), Myers (1963), Nunnally (1967),

Hoffman (1974) have investigated internal consistency achieving estimated reliabilities for continuous scores ranging from .76 to .82 for extroversion/introversion, .75 to .87 for sensing/intuition, .69 to .86 for thinking/feeling and .80 to .84 for judging/perceiving. All of these estimates are higher than those obtained for dichotomous type categories which ranged from .55 to .65 for extroversion/introversion, .64 to .73 for sensing/intuition, .43 to .75 for thinking/feeling and .58 to .84 for judging/perceiving. While both overall ranges appear acceptable, those obtained for the dichotomous categories are lower most likely due to the limitations commonly found in such data.

The stability of type category scores has also been investigated with test-retest data reported by Levy, Murphy and Carlson (1972), Stalcup (1968), Stricker and Ross (1964) and Wright (1966). In each case the proportion of agreement between the original and retest type classifications ranged from 57% to 90% which was significantly higher than would be expected by chance.

Stability of continuous scores was studied by Levy, et al (1972) and Stricker and Ross (1964). Pearson product moment correlations were all significant at the .01 level and appear reasonable for a self-report inventory.

Validity of the MBTI is dependent upon how well it measures what it is purported to measure. Three types of validity have been examined: content validity, predictive validity and construct validity.

There is consistent evidence for the content validity. Stricker and Ross (1964) concluded the extrovert/introvert, sensing/intuition and thinking/feeling dimensions are consistent with Jung's theory. Bradbury (1964) utilizing Jungian analysts concluded there is substantial agreement (100% E/I, 68% S/N and 61% T/F) between subtypes and MBTI typing. Gray and Wheelwright (1946) compared the MBTI to the Gray-Wheelwright Questionnaire. All studies obtained significantly higher agreement than would be expected by chance.

Predictive validity was examined in four studies (Goldschmidt, 1967; Conary, 1966; Stricker and Ross, 1965; Auders, 1960). These studies suggest that the MBTI has moderate predictive validity in such areas as

choice of major and success in college, prediction of grade point average and dropout, and the likelihood of theological students to adjust to divinity school.

In the area of construct validity, several researchers have used factor analysis to investigate the relationship between constructs measured by the MBTI and constructs measured by other tests (Saunders, 1960; Madison, Wilder and Suddeford, 1963 and Ross, 1966). In all of the studies the four MBTI scales tended to have substantial loadings on different factors, lending support to the Myers and Briggs premise of a four-dimensional, interlocking structure of temperament. Findings indicate that MBTI scores "relate meaningfully to a large number of variables, including personality, ability, interest, value, aptitude and performance" (Mendelsohn, 1964). The MBTI appears to be a reasonably valid instrument which is potentially useful for a variety of purposes (Carlyn, 1977).

Specific Factor Validation Studies

Research suggests that extraverted types appear to like action and getting involved in new situations. They also tend to be directive, gregarious and impulsive, with underlying needs for dominance, exhibition and affiliation

(Myers, 1962; Ross, 1966; Webb, 1964; Stricker and Ross, 1964). Studies also indicate that introverted types would rather reflect before acting and enjoy working alone. They score high on self-sufficiency and are more solitary and less carefree than extraverts (Myers, 1962; Stricker and Ross, 1964; Ross, 1966). On aptitude tests, abstract reasoning, reading ability and esthetic values they usually score significantly higher than average (Myers, 1962; Stricker and Ross, 1963; Stricker, Schiffmen and Ross, 1965; Webb, 1964; Saunders, 1960).

In the sensing/intuitive division, several studies indicate that a preference for sensing leads to an interest in what is solid and real (McCaulley and Nätter, 1976), and to be attracted to practical vocations (Stricker and Ross, 1964). Intuitors, on the other hand, like to use their minds and have considerable tolerance for complexity (Myers, 1962; Madison, Wilder and Suddeford, 1963; Stricker and Ross, 1965), excel on tests of reading ability, concept mastery, arithmetic reasoning, and general knowledge (Myers, 1962; Stricker and Ross, 1964; Stricker, Schiffmen and Ross, 1965), and prefer professional vocations which allow them more autonomy (Stricker and Ross, 1964). Laney (1949) also found that intuitors have a high job

turnover rate when placed in mechanical and clerical jobs. These findings support the theory that intuitive types would rather consider the possibilities of a situation than the practical realities.

Thinking/feeling studies suggest that "thinkers" tend to be objective, analytical, and logical in making decisions. They are more likely than feeling types to have a positive attitude toward work and the development of good study habits (Myers, 1962; Ross, 1966; Stricker and Ross, 1964). They are generally attracted to vocations which require logical thinking (Stricker and Ross, 1964). Finally, Edwards Personal Preference Schedule scores indicate that thinkers have strong needs for order, autonomy, dominance, achievement, and endurance (Myers, 1962). Feeling types, in contrast, appear to be interested in human values and interpersonal relationships. They tend to be attracted to the helping professions (Stricker and Ross, 1964).

In the judging/perceiving area, judging types are generally characterized as responsible, industrious and steady workers. They get higher grades than perceptive types, and tend to be "overachievers" (Myers, 1962; Webb, 1964; McCaulley and Natter, 1976).

Perceptive types tend to be more spontaneous, flexible and open-minded. They usually score high on measures of impulsiveness and express a strong need for autonomy (Myers, 1962; Webb, 1964; Madison, Wilder and Suddeford, 1963; Stricker and Rosee, 1964). They tend to procrastinate, to place a higher value on play than work, and to be less competitive than judging types (Myers, 1962; Webb, 1964; Ross, 1965; McCaulley and Natter, 1978).

Literature Covering Utilization of the Myers-Briggs Type Indicator

Research has shown the Myers-Briggs Type Indicator to be useful in a variety of contexts (Burnstein, 1972). Its popularity as a psychometric instrument has been enduring. Since its introduction it has frequently been used as a research instrument to determine temperament orientation. Carskadon (1978), for example, used the MBTI to rate quality of participation in psychological classes to temperament types. Carskadon and Knudson (1978), utilized it to relate higher and lower conceptual systems to sensing and intuitive types. Robyak and Downey (1979) studied underachievers and nonunderachievers utilizing the MBTI. Lorentz and Coker (1977) studied the relationships between the sixteen temperament types and

teachers competencies. Ritchie (1975) looked at personality types of student nurses and registered nurses. In addition to its extensive use as a primary instrument in research studies, the MBTI has frequently been employed as a supportive test in conjunction with such instruments as the Small Business Indicator (Hoy and Hellrisgal, 1982), the Strong Vocational Interest Blank (Westcott, 1968), the Barrett-Lennard Relationship Inventory (Peters and Slaughter, 1973) and the Bem Sex Role Inventory (Tiberia, 1977). Prominent in the research utilizing the MBTI has been research investigating career orientations of various temperament types (Rowe, 1978; Goldschmidt, 1967; Rezler and Buckley, 1977; Brahn, Floyd, Chloe and Bunce, 1978). Finally, the MBTI has been refined and simplified for lay distribution by Keirsey and Bates (1978) into an instrument called the Keirsey Temperament Sorter.

A number of investigations have been conducted into areas germane to this study. Among these are studies of various adolescent populations. Metts (1979), for example, found significantly more sensing/thinking and thinking/perceiving combinations and fewer extrovert/intuitive combinations among learning disabled adolescents. The

learning disabled also had significantly lower preference scores across various dimensions. McGinn (1976) concluded the MBTI to be useful for use with gifted adolescents for research and counseling purposes; however, significant results were not found relating the MBTI to outstanding accomplishment. Novak (1980) demonstrated a statistically significant relationship between intelligence, sensing/intuitive and judging/perceiving scores (favoring intuition and perceiving) using eighth grade science students. Finally, Johnson (1980) used the MBTI to determine temperament change among developmentally disabled, male adolescents.

Of interest to this investigation also are the limited number of studies relating to alcohol and drug abuse utilizing the MBTI. O'Hara (1980) found significant differences between alcoholic and non-alcoholic groups as well as significance between recovered alcoholics and non-alcoholics. The predominant temperament profile for both alcoholics and recovered alcoholics was found to be ISF. The MBTI also revealed dramatic within profile shifts as alcoholics' recovery progressed. Dewinne (1976) found extroversion was significantly more frequent among

drug addicts ($p < .05$) than non-addicts.

Other studies germane to this investigation have been directed to the relationship between life stress or change and physical and mental disorders. Miller and Cooley (1981), for example, found significant correlations between the introvert, thinking, feeling and judging dimensions and external health locus of control. Cooley and Keesey (1981) obtained significant correlations between introverted thinking and sensing types and life change and illness.

Finally, there have been no investigations utilizing the MBTI with emotionally disturbed adolescents. This study will partially compensate for this omission in the current research literature.

Rationale for Selection of the Myers-Briggs Type Indicator

The MBTI was selected for this study for the following reasons:

1. the self-rating factor was preferred over the more commonly used observation checklists,
2. it was age-appropriate to adolescents functioning at varying academic levels, having been used with students as low as fourth grade,
3. it is a relatively valid and respected instrument, and
4. previous research has suggested the possibility that it is sufficiently discriminative to be used with the populations studied in this current investigation.

Samples

The following samples were administered the MBTI questionnaire in this study:

1. Fifty-four adolescents in self-contained programs for the emotionally handicapped in a public school setting. Parents of all participating students were required to sign a letter granting permission for their children to participate in the study (see Appendix 1).

These students were divided into two distinct groups; (1) conduct disordered, and (2) emotionally disturbed. To form these groups the following procedure was established: The student's teacher, the school psychologist and the special education zone consultant, after reviewing the definitions developed for this study (see Appendix 2), independently made a determination concerning the appropriate categorization (i.e. conduct disordered or emotionally disturbed). Categorization agreement between two of the three participants was a precondition to student assignment to either of the groups.

Academic levels of functioning vary considerably among students in self-contained emotionally handicapped classrooms. For this reason, the MBTI questionnaire was read to students in all but one of the participating classrooms. The exception was a self-contained classroom for high cognitive level emotionally

handicapped students. These students had previously taken the MBTI by individually reading the questionnaire. Profiles obtained from all students comprised the data of this study.

2. One-hundred-seventy-two subjects from the specific local adolescent student population. Parents of all participating students were required to sign a letter granting permission for their child to participate in the study (see Appendix 1).

These students were obtained from the following regular classes:

- a. One above grade-level class, one grade-level class, and one below grade-level class from an urban senior high school,
- b. one grade-level class, and one below grade-level class from an urban high school,
- c. one above grade-level class from a rural junior/senior high school,
- d. one above grade-level, one grade-level, and one below grade-level class from an urban junior high school.

3. Population figures cited were obtained from the following sources:

- a. temperament dimension figures are from a normed sample obtained by Isabel Myers in the late 1950's using Pennsylvania junior/senior high school students (McCaulley, 1978),
- b. personality characteristic figures are extrapolated from norms cited in the MBTI manual (E. J. Kelly, November 15, 1983; Myers, 1963).
- c. temperament expectancy figures reflected those cited in Please Understand Me, by Keirsey and Bates (1978).

Age and Sex

Chronological age was not a specific determiner for participation in this present study. Eligibility for participation was based on enrollment in a junior or senior high school spanning grades seven through twelve in the public school setting under investigation. Standards for sex difference in the thinking/feeling dimension are part of the original structure of the MBTI.

Analysis of Results

Statistical treatment of data included a comparison of study samples utilizing both chi-square and correlational analyses. The chi-square statistic was used to determine whether observed frequencies differed statistically from expected frequencies or whether such differences were due to chance. In this investigation, since data involved proportions of students in dichotomous bipolar dimensions which were discrete and non-overlapping, the basic preconditions essential to the use of the chi-square statistic were regarded as met.

For the investigation of temperament dimensions chi-square determinations were computed utilizing the following equation for contingency tables (Garrett, 1958):

$$\chi^2 = \frac{N[(AD-BC) - .5N]^2}{(A + B)(C + D)(A + C)(B + D)}$$

Since the data used in this investigation was essentially dichotomous, correlations between the temperament dimension and membership in the various student groups were effected through use of the phi co-efficients. In a manner analogous to the chi-square statistic, these correlations were effected through use of the following equation:

$$\phi = \frac{AD - BC}{\sqrt{(A + B)(C + D)(A + C)(B + D)}}$$

The significance of the phi co-efficient was determined through the relationship of phi to chi-square by the equation $\chi^2 = N\phi^2$, an equation which permits testing phi co-efficients against the chi-square. Because the Yates correction was incorporated in the chi-square equation for the 2 X 2 contingency tables with one degree of freedom, it was also necessary to incorporate a similar correction into the phi co-efficient to obtain comparable results. This corrected formula became:

$$\phi = \frac{(AD - BC) - .5N}{\sqrt{(A + B)(C + D)(A + C)(B + D)}}$$

Since data collected relative to personality characteristics and temperament similarly involved proportions of students in dichotomous bi-polar categories which were discrete and non-overlapping, an analogous chi-square was also used. Thus a

2 X 4 contingency design was utilized comparing emotionally disturbed and conduct disordered subjects to one another and the local student sample. In this and all other instances, the .05 level was used to determine significance for the purposes of null hypothesis testing.

Results and Discussion

The need for an assessment instrument which discriminates between conduct disordered and emotionally disturbed adolescents among the emotionally handicapped population in public school settings was documented in Chapter 1. The Myers-Briggs Type Indicator (MBTI) was described in Chapter 2 as an instrument which previous research suggests may be sufficiently discriminative to make the critical distinction between these two disorders. The current chapter presents the results of this attempt to effect differential diagnosis with the MBTI.

Chi-square Analyses of Temperament Dimensions

Tables 1 and 2 present summaries of the results of chi-square analyses of temperament dimensions comparing conduct disordered and emotionally disturbed adolescents to each other, local junior/senior high school students and an independent normative sample of Pennsylvania junior/senior high school students obtained by Isabel Myers in 1957 (McCaulley, 1978).

Table 1

Summary of Chi-Square Analyses of Temperament Dimensions^a--
Conduct Disordered Versus All Categories

Dimension	Samples		
	Emotionally Disturbed	Local	Normative
Extrovert vs Introvert	.00002	2.1716	4.1078*
Sensing vs Intuition	2.5404	.0073	.7437
Thinking vs Feeling	.7754	1.3368	2.3727
Judging vs Perceiving	.4067	.0255	3.0216

^a df = 1

* p < .05

Table 2

Summary of Chi-Square Analyses of Temperament Dimensions^a --
Emotionally Disturbed Versus All Categories

Dimensions	Samples		
	Conduct Disordered	Local Sample	Normative
Extrovert vs Introvert	.00002	2.0398	3.8071*
Sensing vs Thinking	2.5404	7.4269*	1.9778
Thinking vs Feeling	.7754	9.4268*	13.2945*
Judging vs Perceiving	.4067	.2818	5.5562*

^a df = 1

* p < .05

Table 1 presents the results of chi-squares obtained between conduct disordered adolescents and the other three categories investigated -- i.e. emotionally disturbed adolescents in self-contained classrooms, local junior/senior high school students and Myers' normative sample. Since all of the obtained chi-square values for the emotionally disturbed adolescents and the local student samples were less than the pre-determined acceptable confidence level of .05, the results support the conclusion that no significant differences were found between conduct disordered and emotionally disturbed adolescents nor the local sample on MBTI temperament dimensions. Hypotheses one and two of this investigation were therefore accepted.

At the same time, the results obtained in the comparison between conduct disordered adolescents and the Myers' normative sample did contain one chi-square value which was significant at the .05 level, extroversion versus introversion at 4.1078. Since acceptance of hypothesis three was predicated upon no difference in any of the four temperament dimensions, this significant variation prompted rejection of hypothesis three.

Table 2 presents χ^2 's obtained comparing emotionally disturbed students to the other samples investigated -- the conduct disordered, a sample of junior/senior high school students from the local area and the Myers' normative sample. As the discussion of Table 1's results noted, there were no significant differences between

conduct disordered and emotionally disturbed subjects in any of the temperament dimensions, a result which prompted the acceptance of hypothesis one. While chi-squares of 2.0398 on the extrovert versus introvert dimension and .2818 on the judging versus perceiving dimension between emotionally disturbed adolescents and the local junior/senior high school sample were not significant at the .05 level, those obtained for the sensing versus intuition (7.4269) and thinking versus feeling (9.4268) dimensions were significant. Such significant variations between the two groups prompted rejection of hypothesis four.

In comparing the emotionally disturbed sample to Myers' normative sample, the obtained chi-square of 1.9778 in the sensing versus intuitive dimension was less than the .05 level. The χ^2 's obtained in the introvert versus extrovert (3.8071), thinking versus feeling (13.2945) and judging versus perceiving (5.5562) dimensions, however, were greater than necessary for a decision of no difference from chance. Hypothesis five, that emotionally disturbed adolescents placed in self-contained classrooms do not demonstrate different temperament dimensions from the Myers' normative sample, was therefore rejected.

Comparison of the Local Sample Versus the Normative Sample

While the essential thrust of this investigation focused upon the presence or absence of differences between emotionally handicapped subjects, the use of both local non-handicapped subjects

and Myers' normative sample prompted specific comparisons between those two discrete "control" groups. Chi-square comparisons between these two groups, the local non-handicapped sample and Myers' normative sample, are cited in Table 3 below.

Table 3

Summary of Chi-Square Analyses of Temperament Dimensions -- Local Sample Versus Normative Sample

Dimensions	Chi-Square ^a
Extrovert versus Introvert	.4350
Sensing versus Intuition	16.2380*
Thinking versus Feeling	.5371
Judging versus Perceiving	16.1754*

^a df = 1

* p < .05

From Table 3 it is noted that the χ^2 's of .4350 and .5371 obtained for the extrovert versus introvert and thinking versus feeling dimensions respectively were not significant at the .05 level. However, the χ^2 's of 16.2380 and 16.1754 obtained for the sensing versus intuition and judging versus perceiving dimensions both exceeded the critical χ^2 value ($\chi^2_{.95}(1) = 3.8$) necessary for significance at or beyond the .05 level. It was therefore

concluded that the samples were drawn from different populations for these dimensions.

Temperament Dimension Correlations

Correlations between the temperament dimensions and membership in the various student groups were effected through use of the phi co-efficient utilizing the Garrett (1958) equation. Significance of the phi co-efficient is determined through its relationship to chi-square; thus decisions reached as a result of these calculations are therefore identical to those previously noted in Tables 1, 2 and 3. Tables 4 through 9 present the phi co-efficients obtained for the samples under investigation in this study with their resultant chi-squares. These tables, which provide an alternative format, are presented without comment in support of previous discussion.

Table 4

Summary of Phi Co-efficients and Related Chi-Squares -- Conduct
Disordered Versus Emotionally Disturbed

Dimension	Phi	Chi-Square ^a
Extrovert versus Introvert	.0545	.00002
Sensing versus Intuition	.2189	2.3404
Thinking versus Feeling	.1210	.7754
Judging versus Perceiving	.0300	.0476

^adf = 1

Table 5

Summary of Phi Co-efficients and Related Chi-Squares -- Conduct
Disordered Versus Local Student Sample

Dimension	Phi	Chi-Square ^a
Extrovert versus Introvert	.1061	2.1716
Sensing versus Intuition	.0061	.0073
Thinking versus Feeling	.0072	1.4681
Judging versus Perceiving	.0115	.0255

^a df = 1

Table 6

Summary of Phi Co-efficients and Related Chi-Squares -- Emotionally Disturbed Versus Local Student Sample

Dimension	Phi	Chi-Square ^a
Extrovert versus Introvert	.1000	2.0379
Sensing versus Intuition	.1908	7.4269*
Thinking versus Feeling	.2146	9.4167*
Judging versus Perceiving	.0118	.0282

^a df = 1

* p < .05

Chi-Square Analyses of Personality Characteristics

The question of whether conduct disordered and emotionally disturbed adolescents in self-contained classes demonstrate different personality characteristics than other student populations was examined utilizing a chi-square 2 X 4 contingency design. Samples of conduct disordered and emotionally disturbed adolescents from self-contained classes were compared with each other, the local junior/senior high school student population and to expectancy figures for the general population (Myers, 1963; Kelly, November 15, 1983). The results of this analysis are presented in Tables 7 and 8.

Table 7

Summary of Chi-Square Analyses of Personality Characteristics --
Conduct Disordered Versus Other Samples

Chi-Squares ^a		
Emotionally Disturbed Sample	Local Sample	Expectancy Figures
4.973	2.1509	5.7795

^adf = 3

Table 8

Summary of Chi-Square Analyses of Personality Characteristics --
Emotionally Disturbed Versus Other Samples

Chi-Squares ^a		
Conduct Disordered Sample	Local Sample	Expectancy Figures
4.973	18.3906*	13.6081*

^adf = 3

* P < .05

Table 7 presents a summary of the χ^2 's obtained when conduct disordered adolescents in self-contained programs were compared to the other three study samples. The χ^2 values obtained of 4.973 for the emotionally disturbed sample, 2.1509 for the local sample and 5.7795 for the expectancy figures were not significant at the .05 level. Hypotheses six, seven and eight, predicting no personality characteristic differences between conduct disordered adolescents and the three sample populations, was therefore accepted.

Table 8 presents results of χ^2 analyses comparing emotionally disturbed to conduct disordered adolescents, the specific local junior/senior high school students and general population expectancy figures (Myers, 1963; Kelly, November 15, 1983). As the discussion of Table 7's results noted, there were no significant differences between conduct disordered and emotionally disturbed subjects in the area of personality characteristics, a result which prompted the acceptance of hypothesis six.

The χ^2 values of 18.3906, obtained between emotionally disturbed and local students, and 10.6081, between the emotionally disturbed and general population figures were both significant at the .05 level (critical value = 7.80). It was therefore concluded that since the emotionally disturbed sample differed from both the local sample and the expectancy figures for the general population in the personality characteristics of sensing/thinking, sensing/

feeling, intuitive/feeling and intuitive/thinking, hypotheses nine and ten could be rejected.

Comparison of Local Sample Versus Expectancy Figures

Comparisons in this study relating to personality characteristics were also made between the local sample and general population expectancy figures. The resulting chi-square of 36.2652 was significant at the .05 level. It was therefore concluded that the local sample exhibited significantly different personality characteristics than those cited for the MBTI's general population.

Chi-Square Analyses of Temperament

The question of whether conduct disordered and emotionally disturbed adolescents demonstrated different temperaments from one another and other student populations was examined utilizing a chi-square 2 X 4 contingency design. Samples of conduct disordered and emotionally disturbed adolescents from self-contained classrooms were compared to each other, the local junior/senior high school student population and general population expectancy figures (Keirsey and Bates, 1978). The results of these analyses are presented in Tables 9 and 10.

Table 9

Summary of Chi-Square Analyses of Temperament -- Conduct
Disordered Versus Other Samples

Chi-Squares ^a		
Emotionally Disturbed	Local Sample	Expectancy Figures
4.5671	1.2098	5.8797

^a df = 3

Table 10

Summary of Chi-Square Analyses of Temperament -- Emotionally
Disturbed Versus Other Samples

Chi-Squares ^a		
Conduct Disordered	Local Sample	Expectancy Figures
4.5671	10.5049*	4.4071

^a df = 3

* p < .05

Table 9 presents χ^2 's obtained for comparisons between conduct disordered adolescents in self-contained programs and the other three groups. The obtained values of 4.5671 for the emotionally disturbed sample, 1.2098 for the local sample and 5.8797 for the general population expectancy figures were all less than the .05 confidence level necessary to support a conclusion that variation was not due to chance. Thus hypotheses eleven, twelve and thirteen, predicting no temperament difference between conduct disordered adolescents and the three sample populations in the areas of sensing/perceiving, sensing/judging, intuitive/thinking and intuitive/judging were accepted.

Table 10 presents results of χ^2 analyses comparing emotionally disturbed adolescents to the conduct disordered, the local junior/senior high school student population and general population expectancy figures. As the discussion of Table 9 results noted, there was no significant difference obtained between emotionally disturbed and conduct disordered students in temperament areas, a result which prompted the acceptance of hypothesis eleven.

The χ^2 value of 10.5049 obtained in the comparison of emotionally disturbed to the specific local student population was significant at the .05 level. This prompted rejection of hypothesis fourteen that there is no difference in temperament between emotionally disturbed adolescents and students in the specific local student population.

The χ^2 of 4.4071 obtained comparing the emotionally disturbed to the general population expectancy figures was less than significant at the .05 level ($\chi^2_{.95}(3) = 7.8$). Hypothesis fifteen was therefore accepted.

Comparison of Local Sample Versus Expectancy Figures

A chi-square value was also obtained to determine if the observed difference between the local sample and the student and general population expectancy figures (Keirsey and Bates, 1978) was significantly different. The obtained chi-square value of 46.1482 is significant at the .05 level. It was therefore concluded that the two samples reflected significantly different temperaments.

Resolution of Basic Research Questions

Two major questions were identified for study:

1. Do conduct disordered students in self-contained classes demonstrate different temperament dimensions, personality characteristics and temperaments than other students who are categorized as emotionally disturbed and normal?
2. Do emotionally disturbed students in self-contained classes demonstrate different temperament dimensions, personality

characteristics and temperaments than students who are categorized as conduct disordered and normal?

Resolution of Question One

The question of whether conduct disordered students in self-contained programs demonstrate different temperament dimensions could not be definitively answered. Obtained chi-square results prompted acceptance of hypotheses one and two and rejection of hypothesis three; that is, while conduct disordered adolescents did not demonstrate different temperament dimensions from emotionally disturbed or local junior/senior high students, they did demonstrate different temperament dimensions from Myers' normative sample.

At the same time, no significant differences were observed in comparisons between conduct disordered and emotionally disturbed and clinically normal groups in either personality characteristics or temperaments. These results would appear more conclusive were it not for several mitigating factors. The first consideration is the possibility of contamination between the conduct disordered and emotionally disturbed samples. Given the lack of an assessment instrument to substantiate the conclusions of the raters this possibility must be considered. Second, while differences were noted between the conduct disordered and emotionally disturbed on most comparisons, such

differences typically failed to be significant due to the relatively few number of subjects in both groups, especially the conduct disordered. If, for example the number of conduct disordered and emotionally disturbed subjects had been exactly double, significant chi-squares in the temperament dimensions and personality comparisons would have been obtained. These two factors raise questions which suggest that the results of this investigation are inconclusive relative to differences between conduct disordered, emotionally disturbed and clinically normal students.

Resolution of Question Two

In response to the second research question concerning hypothesized differences between emotionally disturbed, conduct disordered and clinically normal adolescents in the areas of temperament dimensions, personality characteristics or temperament, it should be noted that while results obtained relative to the conduct disordered were inconclusive, some significant differences were found between the emotionally disturbed and clinically normal in all areas investigated. Specifically, emotionally disturbed students varied significantly on the dimensions of sensing versus intuition and thinking versus feeling; i.e., there were significantly more sensing than intuitive types and more thinking than feeling types among the

emotionally disturbed than in the normal student sample.

Significant variation between emotionally disturbed students and Myers' normative sample was also found, most specifically in the thinking versus feeling dimension. Thus, there were significantly more thinking types found among emotionally disturbed students than occurred in Myers' normative sample. On the basis of these results it was therefore concluded that significant differences existed between emotionally disturbed and clinically normal adolescents in the area of temperament dimensions.

Significant variations between emotionally disturbed and clinically normal adolescents were also demonstrated in the area of personality characteristics (hypotheses nine and ten). These differences were observed in both the local student and general expectancy comparisons. Post hoc examination of individual cells of these chi-square comparisons (see Appendix 3) indicated that the most substantial variation occurred in the sensing-feeling and intuitive-feeling categories, with the emotionally disturbed group exhibiting more sensing-thinkers and less intuitive-thinkers than found in the local junior/senior high sample.

Similar post hoc examination of individual cells in the chi-square comparison of emotionally disturbed adolescents to general population expectancy figures (see Appendix 3) also indicated that the emotionally disturbed possessed more sensing-

thinking types and fewer sensing-feeling types than expectancy figures would predict. On the basis of such results, it was concluded that emotionally disturbed adolescents differed from the clinically normal in the area of personality characteristics.

Significant variations between emotionally disturbed adolescents and the clinically normal in the area of temperament occurred only when the emotionally disturbed and the local junior senior high school student samples were compared. The most substantial variations evidenced in this area, revealed by post hoc examination of individual cells (see Appendix 3), were found in the intuitive-feeling and sensing-perceiving categories. Thus there were more sensing-perceivers and fewer intuitive-feelers among emotionally disturbed students than were found in the local junior/senior high sample. It was therefore concluded that emotionally disturbed adolescents evidenced significant temperament differences from their non-handicapped peers.

To summarize the response to the question of whether emotionally disturbed students in self-contained classes demonstrate different temperament dimensions, personality characteristics and temperaments from the conduct disordered and clinically normal, the following outcomes merit comment:

1. Inconclusive results were obtained indicating whether emotionally disturbed students differed from conduct disordered students in the area of temperament dimensions.

2. Emotionally disturbed students did not differ from conduct disordered students in the areas of personality characteristics and temperament.

3. Emotionally disturbed students significantly differed from clinically normal students in the areas of temperament dimensions and personality characteristics.

4. While emotionally disturbed students significantly differed from the specific local student population in the area of temperament, no significant differences occurred from the general expectancy figures. Once again, all of these outcomes were affected in varying degrees by the intervening variables of insufficient numbers of conduct disordered and emotionally disturbed subjects, possible contamination between the conduct disordered and emotionally disturbed groups and the significant variations which occurred between the local sample and general population expectancy figures. At the same time, differences found between the emotionally disturbed and clinically normal students in the areas of temperament dimensions and personality characteristics achieved relative significance which did not appear to be solely an artifact of mitigating contaminating influences.

Summary and Conclusions

This investigation has focused upon differential diagnostic problems related to the provision of a free, appropriate education for emotionally handicapped adolescents. As we noted in Chapter 1, these interrelated problems occur, in large part, because a consensus definition of the term "emotional disturbance" is currently lacking. While studies indicate emotionally disturbed students tend to fall into two distinctly different categories -- the conduct disordered and the emotionally disturbed with clinical symptoms, current assessment instruments do not discriminate between the two types, leading to a tendency to identify and program for these students under the single label of "seriously emotionally disturbed." At the same time, current research also suggests that emotionally disturbed and conduct disordered students require distinctly variant educational environments. Thus, a need exists for an assessment instrument which successfully separates conduct disordered from emotionally disturbed adolescents, as well as distinguishing both types from the clinically normal. The present study investigated the use of the MBTI to determine its relative value in making this necessary discrimination.

Two major questions were identified for study:

1. Do conduct disordered students in self-contained classes demonstrate different temperament dimensions, personality characteristics and temperaments than other students who are categorized as emotionally disturbed or normal?

2. Do emotionally disturbed students in self-contained classes demonstrate different temperament dimensions, personality characteristics and temperaments than student who are categorized as conduct disordered and normal? From these two basic questions fifteen research hypotheses were generated and investigated.

This investigation did not conclusively resolve the first question; i.e. whether conduct disordered students in self-contained programs demonstrate different temperament dimensions, personality characteristics and temperaments than the other groups. Such inconclusive results occurred for several reasons: because of insufficient numbers in bother the conduct disordered and emotionally disturbed groups, possible contamination in the selection of these two groups and the lack of correspondence between the two normative groups on any of the MBTI comparative variables.

In response to the question of whether emotionally disturbed adolescents differ from the clinically normal in the areas of temperament dimensions, personality characteristics and temperament, more conclusive results were obtained. Thus,

significant variation occurred between emotionally disturbed adolescents and their normal peers in temperament dimensions, personality characteristics and temperament.

Implications of the Study

The results of this study suggest that the MBTI may possess sufficient discriminative power to effect certain differentiations between emotionally disturbed and conduct disordered adolescents. While the number of subjects was not sufficient to conclusively make such distinctions in this present investigation, examination of MBTI trends indicate that conduct disordered and emotionally disturbed adolescents appear to vary in several characteristic ways. In the area of personality characteristics, for example, emotionally disturbed adolescents tended to be predominantly sensing-thinkers, while conduct disordered adolescents tended to be relatively more balanced between the four types. Similarly, in the area of temperament, conduct disordered adolescents exhibited relatively balanced temperament preferences, while emotionally disturbed adolescents were essentially sensing-judgers and sensing-perceivers.

The results of this study also have implications upon the various problems identified in Chapter 1. In the area of definition, for example, although results were inconclusive relative to the conduct disordered and emotionally disturbed, the fact that conduct disordered adolescents were not significantly different from normal students in the various MBTI areas would suggest that the observation

of Grosnick and Huntz (1979) that the use of "seriously" in conjunction with the label "emotional disturbance," is not appropriate for many of the students so identified within public school contexts, may have some merit.

Classification is also affected by the results of this study, especially its finding that emotionally disturbed students showed significant variation from the clinically normal while conduct disordered students did not. Such a result, along with the trends cited above, supports the observations of Murray and Whittenburger (1983), Cambel (1981), Morse and Cutler (1958), Smith and Grimes (1979), Peterson (1980) that the conduct disordered and the emotionally disturbed represent two distinct types.

Finally, the distinctness of the emotionally disturbed from the clinically normal, and the absence of corollary distinctness exhibited by the conduct disordered from normal adolescents underscores the previously noted suggestions of various writers in the field (Quay, 1969; Smith, 1979) that emotionally disturbed students require different programming than conduct disordered. If the previously described trends indicating that emotionally disturbed adolescents tend to be sensing-thinkers and sensing-perceivers are correct, the need for variant programming is more strongly indicated, since their dominant processes appear to be somewhat opposed to the more balanced patterns exhibited by the conduct disordered. Thus

there is support for the argument that conduct disordered and emotionally disturbed adolescents may require substantially different learning environments to meet their individual educational needs.

Suggestions for Future Studies

The results of this study provide a number of suggested areas for further study relative to the emotionally disturbed adolescent. Some of these are presented below:

1. Provocative results have been obtained relative to the primary research question of this study; however, the insufficient number of emotionally handicapped students restricts its significance. There is therefore need to replicate this study with substantially more emotionally handicapped subjects.

In planning such replication it will be important to draw upon a very large pool of subjects since serious response limitations occur whenever parental permissions are required. In this present investigation, it was found that many parents of both emotionally disturbed and conduct disordered students were extremely reluctant to permit any testing of their children-- a circumstance not so commonly encountered among parents of normal children.

2. In addition, post hoc examination of the various chi-

square cells relative to this study suggested that certain differences in temperament dimensions, personality characteristics and temperaments might be found between conduct disordered and emotionally disturbed adolescents if sample size had been larger. If these differences are significantly verified in subsequent studies, further research applying such results to their teaching implications would also be an area of investigation which might provide insights germane to future educational programming.

3. A final suggestion for future research is derived from that part of the study which examined variations between the local student sample and other expectancy figures -- specifically the junior/senior high school students from the State of Pennsylvania, dating back to 1957, expectancy figures extrapolated from the MBTI manual (Kelly, November 15, 1983) and those cited by Keirsey and Bates (1978). The disparity between the current local student sample and these expectancy figures may well reflect an overall change in the population or simply be an artifact of local sample selection. In either case, there is an obvious need for more current research to clarify specific norms for each major categorical area in the MBTI (i.e. temperament, temperament dimensions, personality characteristics, etc.). The statistical procedure of meta-analysis could be

used to provide more certain population norms than were available to this author. Such an undertaking would also appear to be a fruitful extension of what has already proven to be a relatively useful instrument.

REFERENCES

References

- Algozzine, B. (1977). The emotionally disturbed child: disturbed or disturbing. Journal of Abnormal Child Psychology, 5, 2.
- Algozzine, B., Schmidt, R., & Connors, B. (1978). Toward a more acceptable definition of emotional disturbance. Behavioral Disorders, 1, 48-52.
- Auger, T. (1975). Differences in child symptom ratings among teachers and parents of emotionally disturbed children. Psychological Reports, 36, 867-873.
- Bandura, A. (1969). Principles of behavior modification. New York: Holt, Rinehard and Winston.
- Becker, W. C., Petersen, D. R., Hellmer, L. A., Shoemaker, W. C. & Luria, D. J. (1961). Child behavior problems and parental attitudes. Child Development, 32, 151-162.
- Becker, W. C. (1960). The relationship of factors in parental ratings of self and each other to the behavior of kindergarten children as rated by mothers, fathers, and teachers. Journal of Consulting Psychology, 24, 507-527.
- Blair, J. R. (1970). A comparison of mother and teacher ratings on the preschool attainment record of four year old children. Exceptional Children, 37, 299-300.
- Bower, E. M. (1960). Early identification of emotionally disturbed children in school. Springfield, IL: Charles C. Thomas.
- Bower, E. M. (1982). Defining emotional disturbance: public policy and research. Psychology in the Schools, 1, 55-60.
- Bradbury, K. (1964). Jung's psychological types: classification by test versus classification by type. Journal of Analytical Psychology, 9, 129-135.
- Bruhn, John G.; Floyd, Chloe S.; Bunce-Harvey (1978). Training effect on attitudes and personality characteristics of nurse practitioners. Psychological Reports, 42(3. pt 1) 703-713.

- Burstein, A. G. (1972). Tests and reviews: character -- projective. In Oscar K. Buros (Ed.), The seventh mental measurement yearbook: Vol. 1. (p. 432). New Jersey: Gryphon Press.
- Cambel, M. (Ed.). (1981). State of the art and future trends in special education, 1980: analysis using the ERIC data base. Reston VA.: ERIC Clearinghouse on Handicapped and Gifted Children.
- Carlyn, M. (1977). An assessment of the Myers-Briggs Type Indicator. Journal of Personality Assessment, 41, 461-473.
- Carskadon, T. (1978). Test-retest reliabilities of continuous scores on the Myers-Briggs Type Indicator. Psychological Reports, 41, 1011-1012.
- Carskadon, T., & Knudson, M. (1978). Relationships between conceptual systems and psychological types. Psychological Reports, 42, 483-486.
- Cassel, R. H., Johnson, A. P., & Burns, W. H. (1958). Examiner, ego defense, and the H-T-P test. Journal of Clinical Psychology, 14, 157-160.
- Clarizio, H. F., & McCoy, G. F. (1970). Behavior disorders in school-aged children. Scranton: Chandler.
- Coan, R. W. (1972). The Myers-Briggs Type Indicator. In Oscar K. Buros (Ed.), The seventh mental measurement yearbook: Vol. 1. (p. 630). New Jersey: Gryphon Press.
- Conary, F. M. (1966). An investigation of the variability of behavioral response of Jungian psychology in selected individuals. Dissertation Abstracts International, 26, 5222-5223.
- Cooley, E. J., & Keesey, J. C. (1981). Moderator variables in life stress and illness relationship. Journal of Human Stress, 7, 35-40.
- Conners, C. K. (1969). A teacher's rating scale for use in drug studies with children. American Journal of Psychiatry, 126, 884-888.

- Dewinne, R. (1976). Extraversion-introversion: the personality characteristics of drug abusers. Journal of Clinical Psychology, 32, 744-746.
- American Psychiatric Association. (1980). Diagnostic and statistical manual of mental disorders (3rd ed.). Washington, DC: Author.
- Fremont, T. S., Klingsporn, M. J., & Wilson, J.H. (1976). Identifying emotional disturbance in children -- the professionals differ. Journal of School Psychology, 13, 302-308.
- Garrett, H. E. (1958). Statistics in psychology and education. Nwq Yoek: David McKay, Incorporated.
- Goldschmid, M. L. (1967). Prediction of college majors by personality type. Journal of Counseling Psychology, 14, 302-308.
- Goodkin, P. (1967). Some neglected issues in the literature on behavior modification. Psychological Reports, 20, 415-420.
- Gray, H. & Wheelwright, J. B. (1946). Jung's psychological types, their frequency of occurrence. Journal of General Psychology, 34, 3-17.
- Grosnick, J. & Huntz, S. (1979). National needs analysis in behavior disorders. Department of Special Education, University of Missouri, Columbia. Columbia, Missouri.
- Hall, L. P. & LaDriere, L. (1969). Patterns of performance on WISC similarities in emotionally disturbed and brain-damaged children. Journal of Consulting and Clincial Psychology, 33, 357-364.
- Harris, D. B. (1963). Children's drawings as measures of intellectual maturity: a revision and extension of the Goodenough Draw-a-Man test. New York: Harcourt, Brace, and World, Inc.

- Hewitt, L. E. & Jenkins, R. L. (1946). Fundamental patterns of maladjustment: the dynamics of their origin. Springfield, Illinois: State of Illinois.
- Himmelwit, H. T. (1952). A factorial study of "children's behavior problems." Cited in H. J. Eysenck. The Structure of Human Personality. London, Metheren.
- Hoffman, J. L. (1975). Personality relationships between supervising teachers and student teachers as determined by the Myers-Briggs Type Indicator. Dissertation Abstracts International, 36, 830A-831A.
- Hoy, F. & Hellriegel, D. (1982). The Kilmann and Herden model of organizational effectiveness criteria for small business managers. Academy of Management Journal, 25, 308-322.
- Johnson, L. (1980). A pilot study of personality type change. Adolescence, 15, 649-656.
- Jung, C. G. (1926). Psychological types. (H. G. Baynes, Trans.). New York, Harcourt, Brace.
- Kanner, L. (1962). Emotionally disturbed children: an historical overview. Child Development, 33, 97-102.
- Kauffman, J. M. (1977). Characteristics of children's behavior disorders. Columbus: Charles E. Merrill.
- Kaufman, A. (1980). Where special education for disturbed children is going: a personal view. Exceptional Children, 7, 522-527.
- Kaufman, A. S., Swan, W. W., & Wood, M. M. (1978). Do parents, teachers, and psychoeducational evaluators agree in their perceptions of the problems of black and white emotionally disturbed children? Psychology in the Schools, 17, 185-191.

- Kaufman, A. S., Swan, W. W., & Wood, M. M. (1978, March). How consistent are diverse ratings of emotionally disturbed children's behaviors? Paper presented at the meeting of the National Association of School Psychologists. New York City.
- Kaufman, A. S., Swan, W. W. & Wood, M. M. (1979). Dimensions of problem behaviors of emotionally disturbed children as seen by their parents and teachers. Psychology in the Schools, 16, 107-217.
- Keirsey, D., & Bates, M. (1978). Please Understand Me. Del Mar, CA:Prometheus Nemesis.
- Kelly, E. J., Miley, A. P. & Ventura, E. (1983). Technique: strategies for teaching emotionally handicapped adolescents. Las Vegas, NV: Clark County School District.
- Kitay, P. M. (1972). The Bender Gestalt. In Oscar K. Buros (Ed.), The seventh mental measurement yearbook: Vol. 1. (p. 394). New Jersey: Gryphon Press.
- Laney, A. R. (1949). Occupational implications of the Jungian personality function-types as identified by the Myers-Briggs Type Indicator. Unpublished master's thesis, George Washington University.
- Lederman, E., & Blair, J. R. (1972). Comparison of the level and predictive validity of preschool attainment record ratings obtained by teachers and mothers. Psychology in the Schools, 9, 392-395.
- Levy, N., Murphy, C., Jr., & Carlson, R. (1972). Personality types among Negro college students. Educational and Psychological Measurement, 32, 641-652.
- Long, N. J., Morse, W. C., & Newman, R. G. (Eds.). (1980). Conflict in the classroom. Belmont, CA: Wadsworth.
- Lorenz, J. L., & Coker, H. (1977, November). Myers-Briggs types as predictors of observed teacher behavior. Paper presented at the National Conference of the Use of the Myers-Briggs Type Indicator. East Lansing, Michigan.

- Madison, P., Wilder, D. H. & Suddiform, W. B. (1963). The Myers-Briggs Type Indicator in academic counseling (Statistical Research Report No. 13). Princeton, N.J.: Princeton University Counseling Service.
- May, D. C. (1971). An investigation of the relationship between selected personality characteristics of eighth-grade students and their achievement in mathematics. EdD Dissertation, The University of Florida.
- McCaulley, M. H., & Natter, F. L. (1974). Psychological type differences in education. In F. L. Natter & S. A. Rollin (Eds.), The governor's task force on disruptive youth. Tallahassee, Fla.: Office of the Governor.
- McCaulley, M. H. (Ed.). (1976, Fall). MBTI news. Available from the Center for Applications of Psychological Type, 1441 NW 6th St., Gainesville, Fla. 32601.
- McCaulley, M. H. (1978). Applications of MBTI to medicine and other health professions. Monograph. Available from the Center for Applications of Psychological Type, Gainesville, Fla.
- McGinn, P. V. (1976). An evaluation of the Myers-Briggs Type Indicator as a tool for understanding the personality and behavior of talented adolescents. Dissertation Abstracts International, 37, 2129.
- McLean, T. K. (1964). A comparison of the subtest performance of two groups of retarded readers with like groups of non-retarded readers on the Wechsler Intelligence Scale for Children. Unpublished doctoral dissertation (DR. 24, 11, 3800-4001).
- Mendelsohn, G. A. (1965). Review of the Myers-Briggs Type Indicator. In O. K. Buros (Ed.). Sixth mental measurement yearbook. New Jersey: Gryphon Press.
- Miller, L. D. (1972). School behavior check list: an inventory of deviant behavior for elementary school children. Journal of Consulting and Clinical Psychology, 38, 134-144.

- Morse, W. C. (1974). Concepts related to diagnosis of emotional impairment. A. Kramer & R. Rosorke, (Eds.). State of the Art, USOE, HEW.
- Morris, J. D., & Arrant, D. (1978). Behavior ratings of emotionally disturbed children by teachers, parents and school psychologists. Psychology in the Schools, 15, 450-455.
- Murray, J., & Whittenburger, D. (1983). The aggressive severely behavior disordered child. Journal of Learning Disabilities, 16, 76-80.
- Murstein, B. I., (Ed.). (1965). Handbook of projective techniques. New York: Basic Books, Incorporated.
- Myers, I. B. (1962). The Myers-Briggs Type Indicator manual. Princeton, New Jersey: Educational Testing Service.
- Novak, J., & Voss, B. E. (1981, May). An investigation of relationships between cognitive preference orientation and Jungian (MBTI) personality types of eighth-grade science students. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching. Ellenville, New York.
- Nunnally, J. C. (1967). Psychometric Theory. New York: McGraw-Hill.
- O'Hara, M. (1980). The personality characteristics of alcoholic and non-alcoholic groups. Canadian Counsellor, 13, 28-32.
- Paraskevopoulos, J., & McCarthy, J. M. (1970). Behavior patterns of children with special learning disabilities. Psychology in the Schools, 7, 42-46.
- Peters, H. J., & Slaughter, G. F. (1973). Racial interaction between counselor and client as a factor in counseling outcome. Final Report. National Center for Educational Research and Development, Washington, D. C.
- Peterson, D. R. (1961). Behavior problems of middle childhood. Journal of Consulting Psychology, 25, 205-209.

- Peterson, D. R., Becker, W. C., Shoemaker, D. J., Luria, Z., & Hellmer, L. A. (1961). Child behavior problems and parental attitudes. Child Development, 32, 151-162.
- Peterson, R. L. (1980, August). Practices used in the reintegration of behavior disordered children in three midwestern states. Paper presented at the Council for Exceptional Children National Conference on Special Education. Minneapolis, Minnesota.
- Pimm, J. B., Quay, H. C., & Werry, J. S. (1967). Dimensions of problem behavior in first grade children. Psychology in the Schools, 4, 155-157.
- Quay, H. C. (1959). Observing the classroom behavior of elementary school children. Exceptional Children, 35, 461-470.
- Quay, H. C. (1963). Some basic considerations in the education of emotionally disturbed children. Exceptional Children, 20, 27-31.
- Quay, H. C. (1966). An empirical experiment approach to the nature and remediation of conduct disorders in children. Published in the proceedings of the Annual Invitational Conference on Urban Education.
- Quay, H. C. (1966). Personality patterns in pre-adolescent delinquent boys. Educational and Psychological Measurement, 32, 197-201.
- Quay, H. C., Morse, W. C., & Cutler, R. L. (1966). Personality patterns of pupils in special classes for the emotionally disturbed. Exceptional Children, 32, 135-139.
- Quay, H. C., Sprague, R. L., Shulman, H. S., & Miller, A. L. (1966). Some correlates of personality disorder and conduct disorder in a child guidance clinic sample. Psychology in the Schools, 3, 44-47.
- Rabin, A. I. (1968). Adapting and devising projective methods for special purposes. In his Projective Techniques in Personality Assessment: A Modern Introduction (pp. 611-626). New York: Springer Publishing Company Incorporated.

- Rhodes, W. C., & Paul, J. L. (1978). Emotionally Disturbed and deviant children: new views and approaches. New Jersey: Prentice Hall, Incorporated.
- Rhodes, W. C., & Tracy, S. (1972). A study in child variance: conceptual project in emotional disturbance (Vol. 3). Service Delivery System. Ann Arbor, Michigan: Michigan Institute for Study of Mental Retardation and Related Disabilities.
- Richek, H. G., & Brown, O. H. (1968). Phenomenological correlates of Jung's typology. Journal of Analytical Psychology, 13, 57-65.
- Ritchie, H. B. (1975). Learning styles relevant to identified personality types of selected nursing students and selected successful registered nurses. Unpublished doctoral dissertation, Nova University.
- Ross, J. (1966). The relationship between a Jungian personality inventory and tests of ability, personality, and interest. Australian Journal of Psychology, 18, 1-17.
- Robyak, J. E., & Downey, R. G. (1979). A discriminant analysis of the study skills and personality types of underachieving and nonunderachieving students. Journal of College Student Personnel, 20, 544-550.
- Rowe, M. B. (1977). Research on college science teaching. Journal of College Science Teaching, 7, 114-120.
- Ruskin, J. T. (1981). Exceptional children conference papers: diagnostic and resource teaching. Papers presented at the Annual International Convention. Miami Beach, Florida.
- Saunders, D. R. (1960). Evidence bearing on the use of the Myers-Briggs Type Indicator to select persons for advanced religious training. (ETS RB 57-8). Princeton, New Jersey: Educational Testing Service.
- Schmidt, L. D., & Fretz, B. R. The effects of teacher-student similarity in an education skills course (Cooperative Research Project No. S217). Washington, D. C.: U. S. Office of Education.

- Schooler, D., Beebe, M., & Koepke, T. (1979). Factor analysis of WISC-R scores for children identified as learning disabled, educable mentally impaired and emotionally impaired. Psychology in the Schools, 16, 478-481.
- Shultz, W., Hersoren, A., Manton, R., & Henderson, M. (1971). A survey of public school special education for emotionally disturbed children. (Special Education Monograph No. 1-70). Illinois University, Urban Department of Special Education.
- Smith, A. B., & Ireby, R. K. (1974, April). Personality variables and the improvement of college teaching. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, Illinois.
- Smith, C. R. (1979) The identification of youngsters who are chronically disruptive. Des Moines, Iowa: Iowa State Department of Instruction.
- Smith, C. R., & Grimes, J. (1979). Identification of emotionally disturbed pupils: data and decision making. Des Moines, Iowa: Iowa State Department of Public Instruction.
- Stalcup, D. L. (1968). An investigation of personality characteristics of college students who do participate and those who do not participate in campus activities. (Doctoral dissertation, Auburn University, 1961). Dissertation Abstracts International, 28, 4452-4453.
- Stricker, L. J., & Ross, J., (1963). Intercorrelations and reliability of the Myers-Briggs Type Indicator scales. Psychological Reports, 12, 287-293.
- Stricker, L. J., Schiffman, H., & Ross, J. (1965). Predictions of college performance with the Myers-Briggs Type Indicator. Educational and Psychological Measurement, 25, 1081-1095.
- Swenson, C. H. (1957). Empirical evaluations of human figure drawings. Psychological Reports, 54, 432-466.
- Tiberia, V. (1977). The feminine component of the masculine psyche as anima projection. International Journal of Symbolology, 8, 1-16.

- VanVactor, J. D. (1974). A field study of the use of the WISC to differentiate children with learning disabilities from emotionally disturbed and clinically normal. Unpublished doctoral dissertation, Purdue University.
- Wagonseller, B. R. (1971). A comparison of intellectual ability, achievement level, self-concept, and behavior problems exhibited by children labeled as learning disabilities and emotionally disturbed. Unpublished doctoral dissertation, University of Kansas.
- Watson, C. G. (1967). Interjudge agreement of Draw-A-Person diagnostic impressions. Journal of Projective Psychology, 31, 42-45.
- Webb, S. C. (1964). An analysis of the scoring system of the Myers-Briggs Type Indicator. Educational and Psychological Measurement, 24, 765-781.
- Westcott, M. (1968). Antecedents and consequences of intuitive thinking. Final Report. Office of Education, Washington, D. C.: Bureau of Research.
- Wright, J. A. (1968) The relationship of rated administrator and teacher effectiveness to personality as measured by the Myers-Briggs Type Indicator. Unpublished doctoral dissertation, Claremont Graduate School.
- Ysseldyke, J., Algozzine, B., Regan, R., & McGee, M. (1979). The influence of test scores and naturally occurring pupil characteristics on psycho-education decision making with children. Minnesota University, Minneapolis: Institute for Research on Learning Disabilities.

APPENDICES

APPENDIX 1
PARENT PERMISSION LETTER

March 22, 1983

Dear Parent:

I am a doctoral student with the University of Nevada, Las Vegas, presently working on my dissertation. In cooperation with the Clark County School District, my research study will include testing a large number of students within the School District.

Your child _____ has been selected as a possible subject for my study. To take part in this study your child will be asked to fill out a questionnaire about what motivates him/her to study. Information obtained in this study will be used to write my dissertation and to make recommendations for future programs within the District. At no time will your child's name be associated with data gathered from this study.

For your child to participate in this study it will be necessary for you to give your written permission. Should you be willing to have your child take part in this study please sign the release below and have your child return it to school as soon as possible. Your cooperation in this matter will be very much appreciated.

Your truly,

Aldyne Miley, Consultant
Clark County School District
Department of Special
Education

My child _____ has my permission to take part in the planned research study.

(Parent or Guardian)

APPENDIX 2

Definitions Reviewed by
Teachers, Consultants
and Psychologists to
Classify Students

Conduct Disorder

Students with conduct disorders are placed in the SEH classrooms because of such overt behavior problems as acting out, inability to conform to school rules and/or impulsive anti-social actions.

Emotional Disturbance

These students have internalized, self-identity, self-concept, self-perceptual problems. Many have difficulty maintaining viable contact with reality, relate to others in bizarre ways, and manifest other clinically observable psychotic or neurotic aspects.

APPENDIX 3

Individual Chi-Square
Calculations

Table 11

Frequency Data Relative to Temperament Dimensions

Dimensions	Sample Counts		
	Conduct Disordered	Emotionally Disturbed	Local Students
Introvert/Extrovert	12/9	17/15	65/107
Sensing/Intuition	12/9	26/6	92/80
Thinking/Feeling	14/7	26/6	86/86
Judging/Perceiving	7/14	11/21	65/107

Dimensions	Sample Percentages			
	Conduct Disordered	Emotionally Disturbed	Local Students	Norm
Introvert/Extrovert	57/43	53/47	38/62	35/65
Sensing/Intuition	57/43	81/19	53/47	68/31
Thinking/Feeling	67/34	81/19	50/50	48/52
Judging/Perceiving	33/67	34/66	38/62	55/45

Table 12

Frequency Data Relative to Personality Characteristics

Characteristics	Sample Counts		
	Conduct Disordered	Emotionally Disturbed	Local Students
Sensing/Thinking	8	21	49
Sensing/Feeling	4	5	44
Intuitive/Feeling	3	1	42
Intuitive/Thinking	6	5	37

Characteristics	Sample Percentages			
	Conduct Disordered	Emotionally Disturbed	Local Students	Norm
Sensing/Thinking	38.1	65.6	28.5	37
Sensing/Feeling	19.1	15.6	25.6	37
Intuitive/Feeling	14.2	3.1	24.4	13
Intuitive/Thinking	28.6	15.6	21.5	13

Table 13

Individual Chi-Squares for Personality Characteristics --
Conduct Disordered versus Emotionally Disturbed

Frequency Data

Sample	Characteristics			
	ST	SF	NF	NT
Conduct Disordered	8	4	3	6
Emotionally Disturbed	21	5	1	5

Chi-Square Results

Row	Column	Observed	Expected	Chi-Square
1	1	8	11.49	1.0601
1	2	4	3.47	.0518
1	3	3	1.58	1.2762
1	4	6	4.36	.6169
2	1	21	17.51	.6956
2	3	1	2.42	.8332
2	4	5	6.64	.4051
Chi-Square =				4.9730

df = 3

Table 14

Individual Chi-Squares for Personality Characteristics --
Conduct Disordered versus Local Sample

<u>Frequency Data</u>				
Sample	Characteristics			
	ST	SF	NF	NT
Conduct Disordered	8	4	3	6
Local Junior/Senior Highs	49	44	42	37

<u>Chi-Square Results</u>				
Row	Column	Observed	Expected	Chi-Square
1	1	8	6.20	.5226
1	2	3	5.22	.2851
1	3	3	4.90	.7367
1	4	6	4.68	.3767
2	1	49	50.80	.0638
2	2	44	42.78	.0349
2	3	42	40.10	.0900
2	4	37	38.32	.0455
Chi-Square = 2.1509				

df = 3

Table 15

Individual Chi-Squares for Personality Characteristics --
Emotionally Disturbed versus Local Sample

Frequency Data

Sample	<u>Characteristics</u>			
	ST	SF	NF	NT
Emotionally Disturbed	21	5	1	5
Local Junior/Senior Highs	49	44	42	37

Chi-Squares

Row	Column	Observed	Expected	Chi-Square ^a
1	1	21	10.98	9.1439 *
1	2	5	7.69	.9410
1	3	1	6.75	4.8981
1	4	5	6.59	.5478
2	1	49	59.02	1.7011
2	2	44	41.31	.1752
2	3	42	36.25	.9121
2	4	37	35.41	.0714
Chi-Square = 18.3906 *				

^adf = 3

* p < .05

Table 16

Frequency Data Relative to Temperament

Temperaments	Sample Counts		
	Conduct Disordered	Emotionally Disturbed	Local Students
Sensing/Judging	6	10	44
Intuitive/Feeling	3	1	42
Intuitive/Thinking	6	5	37
Sensing/Perceiving	6	16	49

Temperaments	Sample Percentages			
	Conduct Disordered	Emotionally Disturbed	Local Sample	Expected
Sensing/Judging	28.6	31.3	25.6	38
Intuitive/Feeling	14.3	3.1	24.4	12
Intuitive/Thinking	28.6	15.6	21.5	12
Sensing/Perceiving	28.6	50.0	28.5	38

Table 17

Individual Chi-Squares for Temperament -- Conduct Disordered
versus Emotionally Disturbed

Frequency Data

Samples	Temperaments			
	SJ	NF	NT	SP
Conduct Disordered	6	3	6	6
Emotionally Disturbed	10	1	5	16

Chi-Square Results

Row	Column	Observed	Expected	Chi-Square ^a
1	1	6	6.34	.0182
1	2	3	1.58	1.2762
1	3	6	4.36	.6169
1	4	6	8.72	.8484
2	1	10	9.66	.0120
2	2	1	2.42	.8332
2	3	5	6.64	.4051
2	4	16	13.28	.5571
Chi-Square =				4.5671

^adf = 3

Table 18

Individual Chi-Squares for Temperament -- Conduct Disordered
versus Local Sample

Frequency Data

Sample	Temperament			
	SJ	NF	NT	SP
Conduct Disordered	6	3	6	6
Local Junior/Senior Highs	44	42	37	49

Chi-Square Results

Row	Column	Observed	Expected	Chi-Square ^a
1	1	6	5.44	.0576
1	2	3	4.90	.7367
1	3	6	4.68	.3723
1	4	6	5.98	.0007
2	1	44	44.56	.0070
2	2	42	40.10	.0900
2	3	37	38.32	.0455
2	4	49	49.02	.00001
Chi-Square =				1.3098

^a df = 3

Table 19

Individual Chi-Squares for Temperament -- Emotionally Disturbed
versus Local Sample

Frequency Data

Sample	Temperament			
	SJ	NF	NT	SP
Emotionally Disturbed	10	1	5	16
Local Junior/Senior Highs	44	42	37	49

Chi-Square Results

Row	Column	Observed	Expected	Chi-Square ^a
1	1	10	8.47	.2764
1	2	1	6.75	4.8982
1	3	5	6.59	.3836
1	4	16	10.20	3.2980
2	1	44	45.53	.0514
2	2	42	36.25	.9121
2	3	37	35.41	.0714
2	4	49	54.80	.6139
Chi-Square = 10.5049*				

^adf = 3

* p < .05