Analysis of Student and Teacher Variables Among Students Referred for Psychological Testing

David M. Rosen

Loyola University Chicago
LOYOLA UNIVERSITY

ANALYSIS OF STUDENT AND TEACHER VARIABLES
AMONG STUDENTS REFERRED FOR PSYCHOLOGICAL TESTING

A DISSERTATION
SUBMITTED TO THE SCHOOL OF EDUCATION
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
for the degree
DOCTOR OF EDUCATION

by
David M. Rosen
Chicago, Illinois
June, 1977
Vita

The author, David M. Rosen, was born on April 15, 1925, in Chicago, Illinois.

Elementary school education was obtained in Perth Amboy, New Jersey, as well as in Chicago. Secondary education was received at the John Marshall High School, Chicago, Illinois, where he graduated in 1943.

Early university studies were taken at Herzl Junior College for a two year period. Subsequently, the author attended George Williams College where he received the Bachelor of Science, June, 1948, with a major in Group Work Education. Graduate studies were also pursued at George Williams College and he received the Master of Science, December, 1949, with a major in Group Work Administration. Later, he received a Master of Social Work degree from the University of Illinois in June, 1961.

His doctoral studies have been taken at Loyola University of Chicago under the direction of Dr. John P. Eddy, Professor, Department of Guidance and Counseling.

The author was formerly employed as the Chicago Region Director of the B'nai B'rith Youth Organization. For the past seven years, he has served as Coordinator of Special Education for Community Consolidated School District 64 in Park Ridge, Illinois.
ACKNOWLEDGEMENTS

There are many people to whom I am deeply indebted for their guidance, support, and friendship.

My thanks to Dr. John Eddy, Chairman of the Dissertation Committee, who never stopped providing encouragement and assistance to me. My thanks to Dr. Ernest Proulx and Dr. James Russell, members of the committee, for their helpful suggestions and refinements. I have thoroughly enjoyed working with Dr. Pedro J. Saavedra, who served as research consultant. His expertise was most valuable in the total development of the study.

There were many others who were also helpful to me in the accomplishment of this project. Dr. Harry Eschel helped provide the initial impetus and idea for the study. Dr. Mark Stone gave much assistance and guidance in the early stages. Dr. Raymond E. Hendee provided encouragement, support, and made available the research data. Special thanks to Alice Petersen who assisted as a statistical consultant. To all of these friends, my sincerest thanks.

Lastly, my thanks to my wife for her understanding, patience, and support during the long hours of study, research, and writing of this paper.

David M. Rosen

June, 1977
TABLE OF CONTENTS

ACKNOWLEDGMENTS

Chapter

I. INTRODUCTION OF THE STUDY

 Statement of the Problem 1
 Definition of Terms 4
 Limitations 5
 Significance of the Study 5

II. A REVIEW OF THE RELATED LITERATURE

 The Special Education Controversy 6
 Communication Between Teacher and Psychologist 9
 The Referral Process 11

III. METHODOLOGY

 Analysis I - The Factor Analysis 21
 Analysis II - An Analysis of Variables 22
 Analysis III - A Cross Tabulation 23

IV. ANALYSIS OF THE DATA

 Analysis I - The Factor Analysis 24
 Factor I - Extroversion-Introversion 24
 Factor II - Cognitive Ability 25
 Factor III - Scholastic Motivation 26
 Analysis II - An Analysis of Variables 27
 Main Results 27
 Sex of Student 27
 Sex of Teacher 28
V. SUMMARY AND CONCLUSIONS

Summary 36

Review of Factors 39

Factor I 39

Factor II 42

Factor III 44

The Effective Referral 46

Possible Use of Obtained Data 48

Recommendations for Further Study 51

Closing Comments 53

REFERENCES 58

APPENDIXES 63
Appendix A: Personality and Behavior

Trait Scale

Appendix B: Matrix Table

Appendix C: Summary of Mean and Standard Deviation Scores
CHAPTER I

Introduction of the Study

Statement of the Problem

The classroom teacher and the school psychologist are the two key persons who determine whether or not a child will receive special education supportive services or be placed in a self-contained classroom. It is the teacher's perceptions of the child's academic abilities and/or behavioral needs that may motivate her to begin the process that results in the referral of the child for psychological evaluation. It is possible for different teachers to have different perceptions of the same child's needs. One teacher would make a referral while another would feel able to meet the child's needs in the regular classroom. This study will attempt to identify the elements that seem to influence the teacher's perceptions of the child.

The psychologist's role is also central in determining whether special education services are to be provided. The Illinois Office of Education in its Rules and Regulations for Special Education (1976) has established procedures to be followed in the referral of a pupil for purposes of evaluation. They indicate that when a child exhibits problems which interfere with his educational progress and/or his adjustment to the educational setting, or when there is reason to believe that a child may require special education services, the child should be referred for a case study evaluation.

In keeping with this regulation, each local school district develops specific procedures by which a case study evaluation of a child may be requested. Referrals may be made from many sources i.e., the
parents, community agencies, and physicians. Most referrals are made by the classroom teacher who believes she has observed a need for further evaluation of the pupil. While case study evaluations are designed to include the reports of a variety of multi-disciplines such as speech clinicians, learning disability diagnosticians, social workers, nurses, and so forth, it is the evaluation done by the psychologist that is given priority emphasis by the Illinois Office of Education.

The Rules and Regulations (1976) specifically provide that psychologists must be involved in the case study evaluation process before a child can be provided with selected special education services. A completed study by the school psychologist is required before any child can be declared eligible for a program or service for children with mental impairment. A psychologist must also evaluate children before they can be placed in an instructional program or service for more than half of his school day, or declared eligible for special education because of behavior disorders. The psychologist is also required to evaluate any child where there are questions of intellectual functioning and/or learning capacity. A complete psychological evaluation consists of an assessment of intelligence, perceptual motor functioning, behavior and academic achievement, and a review of all previous psychological evaluations of the child.

This study developed two major foci. First, there was an attempt to examine the referral form used by teachers to describe personality and behavior traits of students when making a referral for psychological evaluation. Part of this analysis was to identify any interrelationships in the data through a factor analysis. The goal was to
reduce the number of variables in the referral form to a few common factors. School psychologists test many children and need to review much background material in the preparation for a child evaluation. It was hoped that the successful identification of common factors would be of assistance to school psychologists in their use of the referral material. It would enable them to identify more quickly the personality and behavior traits of children and look for constellations of traits as preliminary diagnostic guides to their final assessment.

The second focus of the study was to examine select factors which may influence the frequency of student referrals for psychological testing by instructional classroom teachers. A set of factor scores was examined in order to determine significant effects due to student variables, teacher variables, school variables, and reasons for referral.

In a given school district, not all teachers make child referrals. In addition, some teachers seem to make referrals more frequently than others. Questions are raised as to whether student referrals are influenced by teacher perceptions, student needs and behavior, or both. Are teacher variables such as age, sex, and length of teaching experience significant factors in determining a referral? Or, are student variables such as age, sex, and grade level important factors? Perhaps, there is an interrelationship among several of the teacher and student variables.

The major purpose of this part of the study was to understand the dynamics involved in teacher referrals of students for psychological testing and, specifically, to try to insure that all students
needing such evaluation will be properly referred.

Definitions

Special education shall be defined as those instructional programs, supportive services, unique materials, physical plant adjustments, and other special educational facilities described or implied in Article XIV of the School Code of Illinois which, to meet the unique needs of exceptional children, modify, supplement, support, or are in place of the standard educational program of the public (Rules and Regulations, 1976).

Staff conference shall be defined as a deliberation among appropriate professional persons for the purpose of determining eligibility for special education, determining the provision of special education, reviewing educational progress, or considering the continuation or termination of special education for an individual child (Rules and Regulations, 1976).

Referral shall be defined as a formal procedure, established by the local school district, by which a case study evaluation may be requested (Rules and Regulations, 1976).

Case study evaluation shall be defined as a series of in-depth multidisciplinary diagnostic procedures, conducted within an established time frame and designed to provide information about the child, the nature of the problems which are or will be affecting his educational development, and the type of intervention and assistance needed to alleviate these problems (Rules and Regulations, 1976).

School psychologist shall be defined as a psychologist who has graduated with a Masters or higher degree in psychology from an institution of higher learning which maintains equipment, course of study,

Limitations

This study was limited to the teachers and students in a northwest elementary suburban school district near Metropolitan Chicago. It includes data about the 210 instructional classroom teachers and information about the 120 pupils who were referred for psychological evaluations in a one year period.

Significance of the Study

The factor analysis of the referral form could prove helpful to school psychologists in a number of ways. Just as the psychologist is trained to analyze the WISC test score results for specific patterns of learning modes, the successful factor analysis may provide him with a similar valuable tool for use with the teacher referral form. He may be able to make effective diagnostic projections as to a pupil's personality and behavior patterns from the results.

The second part of the study providing an analysis of student and teacher personnel factors affecting referrals of children for psychological evaluations also has important implications. It may provide a better understanding of those factors which motivate a teacher's actions in this area. The study will show whether age, sex, grade level, teaching experience, or type of problem have any significant influence on the referral process. The study may also suggest ways in which teachers can look at students, and themselves, more critically to make sure that all children needing psychological evaluations are provided with the important service.
A Review of the Related Literature

In general, there is not a great amount of material available directly related to the analysis of the referral form. Only one article (Walsh, Serafica, and Bibace, 1976) deals with an analysis of the referral form used by teachers. In the area of teacher referrals, there are a larger number of related articles, though still limited in scope. The literature will be reviewed in three main areas: 1) the controversy in special education placement - an issue in which the school psychologist is directly involved; 2) the need for communication between the teachers and psychologists; and, 3) the components of the referral process including teacher characteristics.

The Special Education Controversy

Many of the programs and procedures for handicapped children that were considered appropriate only a few years ago are being questioned. Some of this criticism is being leveled at the self-contained special class. While such a class seems an appropriate placement for some children, its suitability as a setting for the mildly handicapped is being re-examined. There are currently available a number of programming alternatives for these mildly handicapped children seeking to involve them in regular class programming to a greater extent. The psychological evaluation is important in determining which children should be recommended for which alternatives.

An important concern must also be the acceptance of these alternatives on the part of teachers and administrators. Haring, Stern, and
Cruickshank (1958) state that successful educational programs for handicapped children are largely dependent on the attitudes of classroom teachers. Several models delineating the range of services which should be available to meet the instructional needs of all children have been developed (Deno, 1970; Reynolds, 1962; Willenberg, 1967). Each of these different approaches are focused on a similar continuum of services. Reynolds' conceptual framework suggests that most children should be able to be served in regular classrooms, while there are increasingly smaller numbers of children who require increasingly specialized services, as successively higher levels on the framework are reached.

This continuum of services model provides for several alternative programs between placement in the regular classroom and placement in a self-contained, full time special class. Included in the range of potential supportive services are consultation with regular classroom teachers, regular class placement with supplementary help from an itinerant specialist, regular class placement plus resource room services where the pupil spends up to half a day with a specially trained teacher to provide remediation in areas of special need.

The efficacy of special class placement has been under continuous study. Most studies suggest improved social abilities as a result of special class placement, while better academic success seems to be achieved in regular classes (Goldstein, Moss, and Jordan, 1965; Thurstone, 1959; Cassidy and Stanton, 1959; Blatt, 1958).

In recent years, special educators have been charged with lack of success, lower teacher expectations, and stigmatizing, labeling,
and segregating children who are disadvantaged and mildly handicapped. Johnson (1962) states that where the stress has been removed from the learning situation, as in special classes where the primary objective is to remove pressure and make the child happy, little learning can take place despite the instruction that may be provided. Fine (1967) feels that the special education teacher places greater emphasis on personal and social adjustment than do regular classroom teachers. Also, that the special class teachers appear to be less demanding than regular class teachers for the low ability child to try harder.

Cantrell and Cantrell (1976) report the effects of a support teacher program in maintaining exceptional and potentially exceptional children within the regular school program. They also explore the relative frequency of referring children for special education or psychological services. Six categories of reasons for children being referred were developed: a) suspected intellectual handicap, b) suspected perceptual handicap, c) underachievement, d) physical handicap, e) suspected emotional handicap, and f) others. Their findings show that psychological services referral rates were lower the following year in schools where immediate aid was available to teachers for pupils having difficulties. In some instances, it may be that teacher referrals for psychological services is an attempt to build a case against a child so that he can receive some services. Traditional psychological services are often the only recourse available to teachers.

It becomes more clear that the referral of a student for psychological evaluation can be affected by the teacher's attitude toward special education, the availability of other support services, as well
as other variables to be explored.

Communication Between Teacher and Psychologist

Baker (1965) states that the primary responsibility for developing an atmosphere of cooperation in a program of school psychological services lies with the school psychologist. The psychologist is in a position to encourage teachers, principals, and counselors to avail themselves of his service through an expression of awareness of both the teacher's needs as well as the needs of the students. Gilmore and Chandy (1973) propose that in order to improve the quality of interaction, psychologists must take the teacher's perspective seriously. They must approach school problems with a recognition of the teacher as a genuine colleague with educational expertise that the psychologist himself may not enjoy. Whereas, Schmidt and Pena (1964) emphasize the importance of the psychological consultant as one who helps teachers with the frustrations they encounter in their teaching, rather than to help them to be teachers.

In another look at communication, Roberts (1969) states that the confusion about the role of the school psychologist is directly related to the uncertainty concerning the most effective way of providing assistance to teachers. He believes that psychologists will be devoting more time to consultation activities and less to psychometrics. This change would indicate an immediate need to re-educate the personnel who utilize his services. Lucas and Jones (1970) feel that teachers and psychologists are not always in disagreement about the roles of the psychologist. Both seemed to view the ideal role of the
psychologist similarly, except for psychotherapy, which the psychologist rated less important than the teacher. The way in which educational personnel, other than teachers, view the psychologists functioning in the school is also important. These perceptions may influence the types of service that are provided, in addition to the teacher's evaluations of these services.

Rich and Bardon (1964) believe the psychologist can set the scene for interaction by communicating with the teacher as soon after a referral has been made as possible. They can discuss the reasons for the referral. The teacher can describe what steps she has already taken to ameliorate the situation. She can express her feelings about the child. The psychologist, in turn, can share his understanding that learning may take place at a slower pace than the teacher would like. He can help the teacher develop goals more in keeping with the child's potential. The emphasis needs to be on the psychologist and the teacher making plans together and helping the teacher use her own resources.

Walsh, Serafica, and Bibace (1976) believe that the manner in which the referral is made determines the nature of the assessment process, diagnosis, and ultimately, the remediation program. Their experience in a large city school system demonstrated that adequate communication of information from the teacher to the psychologist is facilitated through: a) providing the teacher with a clear understanding of her role in the referral process, b) utilization of a theoretical approach to learning disabilities which is shared by both the teacher and the school psychologist, and c) employment of a specific
referral form-based on the theoretical approach. The provision of a wide range of information provided by the referral enabled the psychologist to develop an individual testing strategy in the process of making the diagnosis. Testing was tailored to confirm or disconfirm specific hypotheses arising out of the referral data. The use of the referral form proved most helpful. There seemed to be a change in the teacher's conception of the child's problem during the process. Requiring teachers to describe the child's difficulties specifically in terms of cognitive functions as well as behavioral problems helps the teacher to reconceptualize her understanding of the child's problem.

It is apparent from the above studies that role clarification for the psychologist as well as the classroom teacher are important if they are to be able to communicate effectively. The teacher must be helped to understand her specific responsibilities in making a referral for psychological evaluation. The school psychologist must initiate contact with classroom teachers at the earliest possible opportunity. He or she must be seen as a supportive, non-threatening professional who will be able to understand the teacher's needs as well as the child's problem.

The Referral Process

Although quite limited, there have been a number of studies examining various aspects of the referral process. These studies have explored such components as grade level, sex, and age of students who have been selected for referral for psychological evaluation. In addition, some studies have looked at some of the teacher characteristics involved including the difference in referrals between elementary
and high school teachers, as well as the number of years of teaching experience.

Grade level: Keenan (1964) noted that the focus of psychological studies in the schools was at the primary level, followed by special education, junior high and senior high. Nicholson (1967) observed that children in grades 1-6 made up approximately 81% of sampled cases with the great majority occurring in grades kindergarten through 3, about 56%. In a similar study, Gross and Farling (1969) found that 65% of all cases involved children below the 6th grade level. This data seems to confirm the fact that school psychologists devote the majority of their time to children in the early elementary levels. Green et al (1966) in an examination of the psychological services in Maryland Public and Non-Public Schools, noted that 64.6% of the school psychologist's time was spent with children in the early grades. A total of 30.2% was spent with children in the junior high and only 5.2% with senior high children.

One of the reasons for the disparity in number of referrals between elementary and secondary teachers results from the differences in their role perceptions. The high school teacher seems to be more subject oriented. The child orientation philosophy has had its greatest impact in the elementary schools, reflecting in a greater similarity of attitude between the elementary school teacher and the clinician.

Beilin (1959) found that the criteria of adjustment and maladjustment differ depending upon age and grade level. An age trend was found
with a concern, in elementary grades, for social-interpersonal aspects of adjustment, e.g., withdrawal, aggressiveness, emotional instability to later, in high school, with character traits, e.g., reliability, dependability. Elementary teachers are in greater agreement with mental hygienists than secondary school teachers. In terms of children's behaviors, elementary teachers are more concerned with withdrawing tendencies: secondary teachers with classroom management and problems related to class work and school routine.

Age and sex: There seems to be general agreement that boys are most likely to be identified as being maladjusted or being behavior problems than girls. Ullmann (1952) explains that boys patterns of adjustments are more manifest to the observer, whereas girls deal with their problems on an intrapsychic level. The temptation is to say that the differences result from different expectations. Boys and girls are expected to act in prescribed ways in our culture. Behaviors which facilitate the teacher's ability to teach are more likely to be valued. The behaviors of girls are more of this kind. Beilin (1959) supports this view and says the same behavior is not expected or demanded of boys and girls.

In an early study by Ellis and Miller (1936), they found evidence that men and women teachers evaluate the problems of children differently. Women rated behavior problems as more serious than did men. Hunter (1957) reported that specific problem behaviors are treated differently by each sex. Men teachers consider sex problems as less serious than do women. Women consider appearance and destruction of property as less serious than do men.
Meyer and Thompson (1956) noted that boys who were perceived to be more non-conforming and aggressive than girls, received more disapproval from teachers. Furthermore, both boys and girls were aware of the difference in teachers' attitudes. In a study of sixth grade classrooms, they found that masculine behavior is not tolerated by the typical teacher who in turn attempts to inhibit such behavior by means of punishment. Teacher initiation of punishment serves to reinforce an already existing dislike for school and further leads to peer group reinforcement. The authors feel that the social mores of the typical female teacher, at least with respect to aggressiveness, assertive behavior, are in sharp contrast to the behavior tendencies of the typical male youngster.

Kohn and Fiedler (1961) found that age and sex differences of perceivers affect their judgement of individuals who are significant in their lives. The persons studied differed in their descriptions of themselves and of significant others. Sex differences seemed to have a rather consistent affect upon interpersonal perception, while age differences apparently influences certain perceptions. The study also showed that females perceived significant persons in their environment in a less differentiated and more favorable manner than did males. The authors project that males in our society generally have greater latitude in expressing strong negative feelings toward others, in contrast to females from whom we expect warmer and more accepting attitudes. They also believe that females either learn to mask their genuine feelings about others, or they may actually evaluate other people more favorably.
In a review of studies concerning teachers' and clinicians' attitudes toward the behavior problems of children, Beilin (1959) concluded that: 1) teachers' attitudes have become more like clinicians, 2) elementary and secondary teachers use different criteria to evaluate the behavior problems of pupils, 3) more boys are identified as maladjusted than girls and different criteria for determining maladjustment are used, and, 4) the sex of the teacher affects attitudes toward children's problems.

**Years of Teaching Experience:** Gilmore and Chandy (1973) emphasize the differing perceptions held by novices (four years or less of experience) and veterans (ten or more years of experience) in terms of their understanding of assessment. The veteran teacher more often views the school psychologist as a tester or diagnostician. Their expectations are more traditional many times involving exclusion of a child from the regular classroom. Newer teachers appear more inclined to utilize innovative procedures not requiring this form of action. Another area in which these two groups differ concerns is their treatment management. The more experienced teachers expect more psychological involvement in the treatment process than those with less experience. In another article written later that year, the same authors assume that veteran teachers have more skills in using the psychologist effectively. Psychologists may also believe they can draw more upon the teaching experience of the veteran. However, they feel that in both groups, teachers feel that a child with a behavior problem needs to be referred most to the school psychologist.
Other Reasons for Referral: Nicholson (1967) noted that academic difficulties and class placement were the most stated reasons for referral at all grade levels. The majority of work done by psychologists in this study concerns children who are unsuccessful in academic tasks. Another study of referral problems by Gilbert (1957), revealed that at all grade levels academic difficulties were the primary reason for referral.

Teacher and student characteristics were examined to determine their possible influence on the teacher's desire to have the child removed from the classroom. Bowen (1972) found that the teacher characteristics which suggest the teacher is least likely to want the referred child removed from her classroom are: age 53-66; taught 18 or more years; received last degree 20 or more years ago; 31-37 children in her class and no children of her own. Students with an IQ of 71-79 presenting an academic problem are those most rejected by classroom teachers.

Tanners (1972) studied the perceptions that elementary school teachers have toward the importance of problems as reason for referral to a school psychologist. Teachers rated three behaviors as most important for making a referral: 1) explosive and unpredictable behavior, 2) bizarre behavior, and, 3) the child speaks in a disconnected, incoherent, and unintelligible manner.

Ronstadt (1975) in her study on effects of teacher characteristics on teacher referral behavior concluded that: 1) the grade level taught was a significant predictor of teacher's intentions to make
referrals to the school psychologist for testing or therapy, and, 2) in no instance was the amount of teaching experience a significant predictor of the dependent variables investigated.
CHAPTER III

Methodology

Referral procedures for psychological evaluations are usually initiated by the classroom teacher. It is when the teacher becomes concerned about the pupil's lack of academic progress, or his behavioral conduct, that she enlists the services of the specialist for further diagnostic and prescriptive assistance. In the school system, she may first consult with educational diagnosticians, social workers, speech clinicians, nurses, and other classroom teachers. However, if the problem seems to persist, she will probably decide to make a referral to the school psychologist.

To begin the referral, the teacher fills out two forms describing the student and the problem as she perceives it. The first form is the Classroom Teacher's Report. It includes such basic information as name, grade, school date, reason for referral, description of behavior, and teacher's method of dealing with the problem. It also contains a summary of all previous academic grades and standardized intelligence test scores. The second form is the Personality and Behavior Traits scale. This is a 16 point rating scale with each point having a one to five continuum. It is designed to give the examiner an overview of the teacher's perceptions of the child's personality and behavior traits. This includes such areas as: academic interest, social adjustment in the classroom, social adjustment outside of the class, emotional stability, self concept, adaptability to new situations, passive-aggressive adjustment, motivation, energy, concrete-abstract thinking, coordination, imaginative ability, attention, acceptance of
authority, and approach to a problem (see Appendix A).

The Personality and Behavior Traits scale has been in use for twenty years. According to Sam Romberg, Historian of the Illinois Psychological Association, it was developed in 1957 under the direction of Lucy Hepfinger, who served as Supervisor of School Psychological Services for the State of Illinois. At that time, there were a total of fourteen school psychologists in the entire State working out of six district offices. Ms. Hepfinger, working with a committee of psychologists, prepared the initial draft of the scale. This draft was then circulated, reviewed, and revised by each of the fourteen psychologists until a final document evolved. The Personality and Behavior Traits rating scale is still in wide use throughout Illinois by many school psychologists.

The teacher sends these items to the building principal for his review and consultation. The principal then distributes report forms to all specialists in the school who have been involved with the child including diagnosticians, resource room teachers, social workers, speech clinicians, and nurses. Each of these individuals fills out their report offering additional background information on the pupil. For the social worker and the nurse, contacts with the parents and visits to the home may be involved. All completed reports are sent to the principal.

After the principal has received all of the background reports, he or she completes a check list confirming their availability and forwards all the materials to the office of the school psychologists.
When the material is received, the case is assigned to one of the district psychologists and a testing date is established. The home school principal and the parents are then notified as to the date, time, and place of the testing.

When the formal testing has been completed, the psychologist will contact the principal to set up a staffing conference at the pupil's home school. All personnel involved with the child will be invited to attend to listen to the report of the psychological evaluation. At the conference, prescriptive recommendations will be made for the pupil's academic or behavioral remediation. In some instances, the pupil's parents will be present at the staffing conference. However, it is more common for the psychologist and the case coordinator to meet with the parents at a later date to review the testing information and the staffing recommendations.

The sample in this study consisted of 120 elementary and junior high students who were referred for evaluation to the school district psychologists in a twelve month period from July 1, 1975 to June 30, 1976. All of the students (92 male and 28 female) attended school in a northwest suburban elementary school district. In addition, supplementary information was obtained for each of the 210 elementary and junior high instructional classroom teachers in the district.

The following measures were compiled for this study:

- sex of student
- grade level of student
  Primary = K-3
  Intermediate = 4-6
  Jr. High = 7.8
- reason for referral (academic, behavioral, or both)
- referring school
- student age
- age of referring teacher
  under 30
  30-39
  40-49
  50-59
  60 and over
- years teaching in the district of the referring teacher
  less than 1
  1-5
  6-10
  11-15
  16-20
  over 20
- total years teaching of the referring teacher
  less than 1
  1-5
  6-10
  11-15
  16-20
  over 20
- academic level of the referring teacher (Bachelors, Masters, or Doctorate)
- sex of referring teacher
- marital status of referring teacher (single or married)

Procedure

Analysis I

As a first step toward conducting a factor analysis of the Personality and Behavior Traits scale, a 16x16 correlation matrix was obtained from its items. A principal components solution was obtained
from this matrix using selected options of the SPSS computer package. (Nie, Bent, and Hull, 1970)

A scree test was performed to estimate the number of factors necessary for a complete interpretation of the data (Cattell, 1966). The scree test appeared to indicate that three factors were appropriate for the interpretation. These three factors, accounting for 56.7% of the total variance, were extracted through a principal factor solution and then submitted to a varimax rotation (see Appendix B).

Factor scores were estimated for all students referred where no more than four items were left unanswered. This included 110 out of the 120 cases. Therefore, only 110 cases were used in Analysis II.

Analysis II

The factor scores were examined in order to determine significant results due to student variables, teacher variables, school variables, and reasons for referral.

**Sex of student:** A t test was conducted to determine whether male students were rated differently than female students on each of the factors.

**Sex of teacher:** A t test was conducted to determine whether male teachers rated students differently than the way female teachers rated students.

**Developmental trends:** In order to explore developmental trends, multiple linear regression was used with age of the student as the criterion measure and the factor scores resulting from Analysis I as the predictor variables was conducted. In addition, each of the correlations between the factor scores and age was tested for significance.
The same procedure was then followed separately for each sex.

**Teaching experience:** A multiple linear regression was used with years of teaching experience as the criterion measure and the factor scores resulting from Analysis I as the predictor variables was conducted. In addition, each of the correlations between the factor scores and years of teaching was tested for significance.

**Type of referral:** A one-way analysis of variance with type of referral as the independent variable and each of the factors resulting from Analysis I as the dependent variables was conducted.

**School:** Two one-way analyses of variance were conducted for each of the factors resulting from Analysis I. One analysis was done for junior high students and one analysis for elementary school students. The schools where the students attended were the independent factors.

In addition, one-way analyses of variance were conducted with each of the Factors as the dependent variables and Sex of student, Student grade level, School, Teacher's age, Years teaching in the district, total years teaching, Academic level of the teacher, Sex of the teacher, Marital status of the teacher, and Student's age as the independent variables. All of these analyses were also conducted for each sex.

**Analysis III**

The type of referral was also compared with Sex of student, Student grade level, School attended, Teacher's age, Years teaching in the district, total years in teaching, Academic level of teacher, Marital status of the teacher through a Chi square test.

The type of referral analysis was also conducted separately for each sex and separately for each elementary school and each of the junior high schools.
CHAPTER IV

ANALYSIS OF THE DATA

This chapter will report the findings of the three analyses used to carry out the study. Analysis I will describe the three factors obtained accounting for 56.7% of the total variance. It will also interpret the specific variables included in each factor. Analysis II will describe the significant results observed when the factor scores were examined in relation to student variables, teacher variables, school variables, and reasons for referral. Analysis III will describe significant results obtained when the type of referral was compared with the sex of the student, student grade level, school attended, teacher's age, years teaching in the district, total years in teaching, academic level of teacher, and marital status of teacher. The type of referral analysis was also conducted separately for each sex and separately for each elementary school and for each of the junior high schools.

Analysis I

Factor I

The six variables with highest loadings on the Factor were Passive-Aggressive Adjustment (.77), Social Adjustment in the Classroom (.68), Social Adjustment Outside of Class and/or at Home (.63), Acceptance of Authority (-.56), Self Concept (.45), and Imaginative Ability (.44).

All of the above variables seem to have a direct relationship to the student's ability to function in the area of human relationships.
They affect his ability to get along with peers and adults. With the exception of the two Social Adjustment variables, the other variables all lack a clear cut socially desirable direction. An example of this is the Passive-Aggressive variable. It is not desirable to be rated high (overly aggressive) or low (very passive). The most desirable rating is in the center (participation in give and take, not overly passive or aggressive).

The student who scores high on this factor is rated as being an overly aggressive, pugnacious type of individual, who is defiant of authority. The student is also rated as a very outgoing individual who exhibits an unrealistic imagination and an unrealistically confident self concept. In contrast, the student who scores low on this factor is rated as being a dependent person who displays shyness and timidity in social situations. The student is also rated as having no imagination, accepting of all authority, and with strong feelings of inadequacy relating to his self concept.

Based on the above examination, it would seem appropriate to label Factor I: Extroversion-Introversion. It includes those variables in the instrument pertaining to the personality and behavior traits necessary for successful social relationships.

Factor II

The six variables loading highest on this Factor were Attention (.71), Adaptability to New Situations (.66), Approach to a Problem (.66), Concrete-Abstract Thinking (.58), Energy (.47), and Emotional Stability (.36).
All of the above variables seem to have a direct relationship to the student's ability to master the academic demands made upon him. They affect his ability to perform skills and demonstrate attributes which when linked together are essential for successful academic functioning. As opposed to Factor I, all of the variables in this Factor indicate a clear cut desirable direction. The most desirable rating for a student is at the positive end of the continuum.

The student who scores high on this Factor is rated as being a person with a high energy level yet able to focus his attention for long periods of time. The student is also rated as having the ability for high level of abstract thinking, the ability to show a consistent and logical approach to a problem, and the ability to utilize initiative and independence in his adaptation to given situations. Beyond this, the student is also rated as a calm, relaxed and happy person. In contrast, the student who scores low on this Factor is rated as being very distractible as well as tense, nervous, and excitable. The student seems to approach problems in a slovenly and illogical manner and is at a loss in new situations. The student is also rated as functioning mostly on a concrete learning level and must constantly be urged to continue to work on assigned tasks.

Based on the above examination, it would seem appropriate to label Factor II: Cognitive Ability. It includes those variables in the instrument pertaining to the skills and traits necessary for successful academic functioning.

Factor III

The remaining four variables are included in the third factor.
They are: Academic Interest (.61), Social Acceptance (.57), Motivation (.52), and Coordination (.43).

All of the above variables seem to have a direct relationship to the student's attitude toward and enjoyment of the school experience. They affect his ability to gain satisfaction and recognition from school and school related activities. The two Social Adjustment variables from Factor I also seem to have a strong bearing on this Factor. As similar to Factor II, all of the variables in this Factor indicate a clear cut desirable direction. The most desirable rating for a student is at the positive end of the continuum.

The student who scores high on this factor is rated as someone who is enthusiastic about academics and displays a constant interest in all school activities. The student is well-coordinated, excels in athletics, and is sought by others in social situations. In contrast, the student who scores low on this Factor is rated as having a low level interest in all areas and is particularly unresponsive to academics. The student is also rated as having poor coordination, being clumsy in physical activities, and as being avoided by others in social contacts.

Based on the above examination, it would seem appropriate to label Factor III: Scholastic Motivation. It includes those variables in the instrument pertaining to the necessary components for a satisfying school experience for the student which would also affect his attitudes toward academic as well as social accomplishments.

Analysis II

Sex of student: The t tests did not yield any significant results
for any of the factors. In other words, no significant differences between male and female students were found on any of the factors.

**Sex of teacher:** The t tests did not yield any significant results. No significant differences were found as to the way male teachers rated students when compared with the way female teachers rated students.

**Developmental trends:** The multiple linear regression using age of the student as the criterion measure and the factor scores resulting from Analysis I as the predictor variables yielded no significant results for the combined samples or for each sex taken separately. None of the correlations between each of the factors and age of the student was significant.

**Teaching experience:** The multiple linear regression using years of teaching experience as the criterion measure and the factor scores resulting from Analysis I as the predictor variables yielded no significant result for the combined samples. None of the correlations between years of teaching experience and each of the factors was significant.

**Type of referral:** The one-way analysis of variance with Factor I (Extroversion-Introversion) as the dependent variable and Referral Type as the independent variable yielded a significant result ($F=7.41; p<.01$). A significant F was found for male students but not for female students.

Teachers seem to rate students whom they refer for behavioral reasons as more extroverted than those whom they refer for cognitive
reasons as more extroverted than those whom they refer for cognitive reasons. Conversely, it would seem that students referred for cognitive reasons are seen as more introverted.

**School** - The one-way analysis of variance for elementary schools did not yield any significant results on any of the factors. The one-way analysis of variance with Factor III (Scholastic Motivation) as the dependent variable and the junior high schools as the independent variables yielded a significant result ($F=9.10; p < .05$). It appears that teachers in the larger junior high school take more of a view that students are not scholastically motivated than in the smaller school.

Also, while not statistically significant ($F=3.65; .05 < p < .10$), there seems to be an interesting relationship between Factor I (Extroversion-Introversion) and these same junior high schools. It appears that teachers in the larger junior high school not only see their students as less motivated, but also as more introverted. This would seem to be closely related to the student behavior patterns previously described under the analyses of Factor I and Factor III.

**Analysis of Additional Variables.** One-way analyses of variance were conducted with each of the factors as the dependent variables and sex of student, student grade level, school, teacher's age, years in teaching in the district, total years teaching, academic level of the teacher, marital status of the teacher, and student's age as the independent variables. Findings with significant results are described.

1. The one-way analysis of variance with Factor I (Extroversion-Introversion) as the dependent variable and Years of Total Teaching
as the independent variable yielded a significant result ($F=2.48; p<.05$). However, no clear cut linear pattern appears to emerge. A similar pattern existed for male students but was not present for female students.

Teachers with 6-10 and 16-20 years of total teaching experience rated students as more extroverted. However, the ratings by teachers in the 16-20 year category was only slightly positively rated. They seem to rate most of the referred students as fairly well adjusted on this Factor. It is possible that teachers in the 6-10 year category, having built up some confidence in themselves, as well as seniority and security in the school system, feel themselves better able to confront the extroverted child.

Gilmore and Chandy (1973) assert that veteran teachers have more skills in using the psychologist effectively. However, they believe that new and veteran teachers feel that a child with a behavior problem needs to be referred to the school psychologist. Ronstadt (1975) in her study on effects of teacher characteristics on teacher referral behavior concluded that in no instance was the amount of teaching experience a significant predictor of the dependent variables investigated.

2. The one-way analysis of variance with Factor II (Cognitive Ability) as the dependent variable and Years of Teaching in the District as the independent variable yielded a significant result ($F=2.68; p<.05$). However, no clear cut linear pattern appears to emerge. A Significant F was found for the female students referred, but not for
male students. While it is significant for females, the presence of single subject cells make the latter results suspect.

Teachers with more than 10 years of teaching experience in the district rated referred children as having high cognitive ability. Teachers with less than 10 years experience rated students as having low cognitive ability. The exception was the few teachers with over 20 years of experience who rated students similar to the teachers with less than 10 years of experience.

3. The one-way analysis of variance with Factor III (Scholastic Motivation) as the dependent variable and Student Grade Level as the independent variable yielded a significant result \( (F=4.22; p \leq .05) \). A significant F was found for male students but not for female students.

It appears that the referring teachers rate junior high students as less motivated than do elementary school teachers referring elementary grade children. The lowest mean of the three group levels is for junior high students. It is not uncommon for junior high students to find themselves completely overwhelmed in their new school setting i.e., the larger size of the school, the larger number of teachers to whom to relate, increased class sizes, advanced academic requirements, and frequent homework assignments. For a student who was "just making it" in elementary school, the new challenges may be more than he can handle. To the classroom teacher, he may seem unmotivated to perform.

Beilin (1959) offers another explanation. He found that elementary school teachers were concerned for social-interpersonal aspects of adjustment, e.g., withdrawal, aggressiveness, and emotional instability. High school teachers seemed to be concerned more with
character traits such as reliability and dependability. He also observed that elementary school teachers were more concerned with withdrawing tendencies of children while high school teachers were more interested in classroom management and problems related to class work. It would seem that junior high school teachers more closely resemble high school teachers than they do their elementary counterparts.

The focus of psychological studies in the schools seems to be at the primary level. Nicholson (1967) found that children in grades 1-6 made up approximately 81% of sampled cases. In a similar study, Gross and Farling (1969) found that 65% of all cases involved children below the 6th grade level. School psychologists seem to devote the majority of their time to children in the early elementary levels. One of the reasons for this emphasis results from the differences in teacher role perceptions. Beginning with the junior high school, the teachers seem to be more subject oriented. The child orientation philosophy has its greatest impact in the elementary schools.

4. The one-way analysis of variance with Factor III (Scholastic Motivation) as the dependent variable and Years of Teaching in the District as the independent variable yielded a significant result (F=2.50; p < .05). However, no clear cut linear pattern appears to emerge. There are no significant F's for either male or female students considered separately.

Teachers having 6-10 and over 20 years of teaching experience in the district rated students as being relatively high in scholastic motivation. All other teachers in the study rated the students as rel-
atively low in scholastic motivation. A study by Gilbert (1957) re-
vealed that, at all grade levels, academic difficulties were the pri-
mary reason for referral. Nicholson (1967) confirmed this by noting
that academic difficulties and class placement were the most stated
reasons for referral at all grade levels.

5. The one-way analysis of variance with Factor I (Extroversion-
Introversion) as the dependent variable and Student Grade Level as the
independent variable yielded a significant result (F=4.28; p < .05)
for female students only. Among referred female students, primary
level pupils were rated more extroverted than students in intermediate
grade levels. Since there were no female students referred on a jun-
ior high level, it was not possible to determine the continuation of
this pattern. There were no significant F scores for male students
or for total students.

There may be a pattern where very young girls in the primary grades
may exhibit hyperactive and extroverted behavior patterns. Such chil-
dren are frequently referred for evaluation. However, when these fe-
male students reach the intermediate grades, the extroversion behavior
pattern may disappear. To some degree, this pattern is true with all
children who enter the latency period of development. The traits may
still be there but do not become obvious again until the pre-adoles-
cent period - the junior high years.

6. The one-way analysis of variance with Factor III (Scholastic
Motivation) as the dependent variable and Marital Status of the
Teacher as the independent variable yielded a significant result
(F=5.32; p < .05) for female students only. There were no significant F's for male students or for the combined sample.

Married teachers referring female students rated them as more scholastically motivated than did single teachers referring female students. There were no significant F's for referred male students or for the total group of referred students.

Married teachers may be inclined to see the role of wife and/or mother as more important than single teachers. These attitudes might affect their evaluation of student functioning. They may be more tolerant in accepting lower standards for scholastic motivation. Single teachers may be younger, just out of school, have higher student expectations, and be career oriented.

7. The one-way analysis of variance with Factor III (Scholastic Motivation as the dependent variable and Sex of Teacher as the independent variable yielded a significant result (F=4.61; p < .05). Male teachers rated referred students as being lower in scholastic motivation. This probably relates to the fact that 5 of 7 male teachers included in the study taught at the junior high level. Male teachers at the junior high level seemed to be likely to refer male students. Male teachers at that level may have a sex role conflict in terms of being uncomfortable in referring female students. Another possibility is that they do not judge the behavior of female students to be unmotivated.

None of the other one-way analyses of variance yielded significant results. No significant differences were found when analyses were also conducted for each sex.
Analysis III

The Chi square test between Referral Type and Sex of Teacher yielded a significant result ($\chi^2 = 7.48; p < .05$). Male teachers are more likely to refer students for behavior reasons. Five out of seven referrals by male teachers were for this reason. There is a possibility that some of the male students so referred are actually seeking out a male image with whom to relate albeit on a negative level. They may be looking for the support of a male authority figure because of a lack of such a figure in their own lives. They may need such an adult to help them define their own power and limitations. If the adult, in this case the teacher, is threatened by such behavior, then he is unable to serve as the role model needed.

There were no significant Chi squares for all other tests conducted. The Type of Referral analysis was also conducted separately for each elementary school and for each of the junior high schools without yielding any significant results.

Chapter IV has presented the findings of this study on the analysis of student and teacher variables among students referred for psychological testing. It has also provided the data obtained through Analyses I, II, and III including an interpretation of the factor analysis and the variables involved. In Chapter V, the summary and the conclusions will be presented as well as specific recommendations for further use of the obtained results.
CHAPTER V

Summary and Conclusions

Summary

It was the purpose of this study to try to examine the elements that seem to influence the teacher's perceptions of the child when making a referral for psychological testing. It is the teacher's perceptions of the child's academic abilities and/or behavioral needs that are most crucial in the identification, documentation, and referral of the student. As such, it seemed possible for different teachers to have different perceptions of the same child's needs.

The study was designed to take two major directions. First, there was an attempt to examine the referral form used by teachers to describe personality and behavior traits of students when making a referral for psychological evaluation. Part of this analysis was to identify any interrelationships in the data through a factor analysis. The goal was to reduce the number of variables in the referral form to a few common factors. It was hoped that the successful identification of common factors would be of assistance to school psychologists in their use of the referral material. It could enable them to look for constellations of traits as preliminary diagnostic guides to their final assessment.

The second focus of the study was to examine select factors which might influence the frequency of student referrals for psychological testing by instructional classroom teachers. A set of factor scores was examined to determine significant effects due to student variables,
teacher variables, school variables, and reasons for referral.

The study was limited to the teachers and students in a suburban school system near Metropolitan Chicago. It includes data about the 210 instructional classroom teachers and data about the 120 elementary and junior high pupils who were referred for psychological evaluations in a one year period.

The related literature was reviewed in three main areas. First, the special education classroom controversy was explored. The efficacy of special class placement has been under continuous examination. Most studies suggest improved social abilities as a result of special class placement, while better academic success seems to be achieved in regular classes (Goldstein, Moss, and Jordan, 1965; Thurstone, 1959; Cassidy and Stanton, 1959; Blatt, 1958). Special educators have been charged with lack of success, lower teacher expectations, and stigmatizing, labelling, and segregating children who are disadvantaged and mildly handicapped. Johnson (1962) states that where the stress has been removed from the learning situation, as in special classes where the primary objective is to remove pressure and make the child happy, little learning can take place despite the instruction that may be provided. Fine (1967) feels that special education teachers place greater emphasis on personal and social adjustment than do regular classroom teachers.

There are currently available a number of programming alternatives for mildly handicapped children seeking to involve them in regular class programming to a greater extent. Several models delineating
the range of services which should be available have been developed (Deno, 1970; Reynolds, 1962; Willenberg, 1967). Reynold's conceptual framework suggests that most children should be able to be served in regular classrooms, while there are increasingly smaller, as successively higher levels on the framework are reached.

The second area of related literature examined was the communication between the teacher and the psychologist. Walsh, Serafica, and Bibace (1976) believe that the manner in which the referral is made determines the nature of the assessment process, diagnosis, and ultimately, the remediation program. Adequate communication of information from the teacher to the psychologist is facilitated through providing the teacher with a clear understanding of her role in the referral process.

Roberts (1969) states that the confusion about the role of the school psychologist is directly related to the uncertainty concerning the most effective way of providing assistance to teachers. Rich and Bardon (1964) believe that the psychologist can set the stage for interaction by communicating with the teacher as soon after a referral has been made as possible.

It seems apparent that role clarification for the psychologist as well as the classroom teacher are important if they are to be able to communicate effectively. The teacher must be seen as a supportive, non-threatening professional who will be able to understand the teacher's needs as well as the child's problem.

The third and final area of related literature examined was in
relation to the referral process and a look at the teacher and student variables involved. In the Grade Level variable, it was noted that the focus of psychological studies in the schools was at the primary level, followed by junior high and senior high (Keenan, 1964; Nicholson, 1967; Gross and Farling, 1969; and Green, 1966). One of the reasons for the disparity in number of referrals between elementary and secondary teachers (including junior high) results from the differences in role perceptions. The high school teacher seems to be more subject oriented. The child orientation philosophy has its greatest impact in the elementary schools.

In the Age and Sex variables, there seems to be general agreement that boys are most likely to be identified as maladjusted or behavior problems than girls (Ullman, 1952; Beilin, 1959; Ellis and Miller, 1936, Hunter, 1957; and Meyer and Thompson, 1956).

In the Years of Teaching experience variables, Gilmore and Chandy (1973) assume that veteran teachers have more skills in using the psychologist effectively. Both new and veteran teachers feel that a child with a behavior problem needs to be referred most to the school psychologist. Other variables in the referral process were also reviewed. Academic difficulties were the most stated reasons for referral at all levels (Nicholson, 1967; Gilbert, 1957).

**Review of factors.** At this point it would seem valuable to review the three factors, the variables with significant F scores for each factor, and the possible implications.

**Factor I:** Extroversion-Introversion seemed to describe specific
types of behavior problems suggested by the referring teacher. Pupils with high ratings were considered aggressive, unrealistic, and defiant. Pupils with low ratings were viewed as passive, resigned, and without any imagination.

There were three variables with significant F scores for this factor.

1. **Referral Type**: Teachers seem to rate students whom they refer for behavioral reasons as more extroverted than those whom they refer for cognitive reasons. Students referred for cognitive reasons are seen as more introverted.

2. **Student Grade Level**: Among female referred students, primary level pupils were rated more extroverted than students in intermediate grade levels. Since there were no female students referred on a junior high level, it was not possible to determine the continuation of this pattern. There were no significant F scores for male students or for total students.

3. **Years of Total Teaching**: Teachers with 6-10 and 16-20 years of total teaching experience rated students as more extroverted. However, the ratings by teachers in the 16-20 year category was only slightly positively rated. For the most part, except for the teachers in the 6-10 year category, teachers seemed to rate most of the referred students as fairly well-adjusted on this factor.

The three variables listed above seem to have a reasonable relationship to each other as well as to the Factor itself. It would certainly seem logical for teachers to rate students referred for be-
havioral reasons as more extroverted. This is the type of behavior that would be distractible to the teacher and to other children. It would interfere with the teacher's ability to provide instruction and to maintain classroom control.

In discussing behavior patterns of children, Yahraes (1976) states that no single pattern of psychopathology is characteristic. Among the more common patterns are anxiety states that preclude attention to academic tasks, preoccupation with fantasy such that the child is psychologically absent from class, passive-aggressive syndromes in which resistance to parental coercion is subtly executed by a hopeless failure to learn, low self esteem based upon identification with an inadequate parent, and schizophrenic thought pathology in which letters and words become invested with idiosyncratic meanings.

Although a significant F score was obtained only for female referred students, the literature, as reviewed earlier, abounds with studies showing that the largest percentage of children of both sexes referred for testing were in the primary grades (Keenan, 1964; Nicholson, 1967; Gross and Farling, 1969). These studies also report that boys were referred much more frequently for testing than were girls.

Werry and Quay (1971) report that the prevalence of many symptoms of psychopathology in the general 5-8 year-old population is quite high. Restlessness, short attention span, distractibility, attention seeking, selfconsciousness, boisterousness, shyness, fighting, laziness, unresponsibility, and hyperactivity were present in
31-49% of all boys studied in K, 1st, and 2nd grades. Most symptoms were found to be significantly more common in boys than in girls.

With regard to sex differences, most studies have been done comparing the total student population. The absence of significant sex differences in this study is probably due to the fact that the girl pupils who appear in the sample were already referred for testing and their characteristics were more similar to the characteristics of the trouble prone boys. Regardless, an implication for the mental health professional is to help teachers learn ways to deal effectively with the aggressive male child in the context of the regular classroom so that special placement can be avoided.

The third variable, Years of Total Teaching, is the only teacher variable in Factor I where any significant differences were found. Another possibility is that teachers in the 6-10 year category will have gained enough confidence in their abilities, and be secure enough in their tenure, to challenge the acting-out students and make the necessary referral.

Factor II: Cognitive Ability seemed to describe high rated students as having a high level of abstract thinking, ability to attend for long periods, and displaying initiative and independence. Pupils with low ratings were viewed as distractible, slovenly, very dependent, and able to think only in concrete terms.

There was only one variable with a significant F score for this Factor.

Years of Teaching in the System: Teachers with more than 10 years of teaching experience in the district rated referred children
as having relatively higher cognitive ability. Teachers with less than 10 years of experience rated students as having low cognitive ability. The exception was the few teachers with over 20 years of experience who rated students with similar scores to the ratings given by teachers with less than 10 years of experience.

It may be that teachers who have been in the system for 10 or more years are older, married, and less critical than their younger counterparts. As such, they may be more tolerant of student learning efforts. Or, perhaps, they have developed instructional skills which enables them to reach students more effectively on a cognitive level.

The literature also suggests that boys are more likely than girls to have learning disorders. They are also at greater risk than girls to hyperactivity, behavior disturbances, autism, and schizophrenia. However, since the girls included in this study have already been referred, one would not expect to find significant sex differences. In the case of learning disorders, this may be at least partly because the nervous system in boys tends to develop more slowly. Blom (1975) offers several additional explanations:

- The typical girl has more opportunities and incentives for reading.
- Verbal abilities begin earlier in girls.
- Teachers are likely to rate girls higher than boys.
- Girls have a different attitude toward school and learning.
- Reading text books usually carry more material of primary interest to girls.
Factor III: Scholastic Motivation seemed to describe student attitudes, relationships, and skills which would directly affect the satisfactions a pupil would be having from his school related experiences. Pupils with high ratings were viewed as being enthusiastic, sought by others, and excelling in physical activities. Pupils with low ratings were viewed as being unresponsive, avoided by others, having a low interest level, and very poorly coordinated.

There were five variables with significant F scores for this factor.

1. **Sex of Teacher:** Male teachers rated referred male students as being lower in scholastic motivation than female students who were referred for testing. However, 5 of the 7 male teachers included in the study taught at the junior high level.

2. **Years of Teaching in the System:** Teachers having 6-10 and over 20 years of teaching experience in the district rated students as being high in scholastic motivation. All other teachers referring students rated them as low in scholastic motivation.

3. **Marital Status of Teacher:** Married teachers referring female students rated them as more scholasitcally motivated than did single teachers referring female students. There were no significant F scores for referred male students or for the total group of students.

4. **Student Grade Level:** The referring teachers rated junior high students as less motivated than do elementary school teachers who refer elementary grade children. The lowest mean of the three groups (Primary, Intermediate, Junior High) is for junior high students.
5. School: The teachers from the larger junior high school rated students as less scholastically motivated than teachers from the smaller school. They also seem to see their students as more introverted.

It is noted that 3 of the 5 variables reported with significant F scores for this Factor were teacher related. They are Sex of Teacher, Years of Teaching in the System, and Marital Status of Teacher.

It may well be that the importance of finding so many teacher related variables on this factor would support a premise made by George Kelly (1958). Kelly believes that motivation is only one of the possible ways of construing the behavior of a child. He also believes that it is an ineffective approach and is not helpful in providing an understanding of the child. Some teachers will try to use the lack of motivation as an explanation of the behavior where other teachers seem not to use motivation or laziness as a reason.

Kelly indicates that, in his findings, the complaints about motivation taught them much more about the complainants than it did about their pupils. He further suggests that when a child is described as lazy or lacking motivation, it would be important to analyze specifically what the child seems to be doing with his time. There are probably other variables which would need to be explored to see if they are involved in affecting the child's ability to function successfully.

Two of the teacher related variables seem to have elements in common. Teachers with many years of teaching and married teachers
will tend to be older, more mature, and perhaps more accepting of student behavior. Therefore, they might be slower to rate a student as unmotivated and be more ready to accept his behavior as typical than would less experienced, single and younger teachers. Student Grade and Level and Sex of Teacher also seem to share common elements about scholastic motivation and sex of student referred.

As have been reviewed earlier, boys seem to display more of the behavior that seems to disturb and confront classroom teachers. This would be particularly true at the junior high level when the student is entering pre-adolescence and struggling to control new emotions and feelings.

**The effective referral.** Moran (1976) states that "the basic question for any teacher is whether to rely upon her own assessment of a student's strengths and weaknesses or to refer the learner for evaluation by other professional specialists." Moran then describes the specifics of what should be included in a referral for psychological evaluation. The article indicates the specific elements of an effective referral question.

1. A good referral question is accompanied by all information already available to the teacher. A teacher who refers a student must know everything that can be learned about him under classroom conditions before considering a referral of the learner to someone else for testing.

2. The teacher should always report as part of a referral any intervention she has already attempted with the student. Any special materials or methods which have been tried, and the length of time
they have been applied should be mentioned. The textbooks and supple­
mentary materials currently being used with the student should be
tested.

3. The teacher must make a statement of what needs to be known
in order to instruct the student appropriately. The teacher should
state what it is about the student that was not able to be discovered
in the classroom.

Moran believes that a teacher's close attention to these three
components of a good referral question will help the teacher clarify
specific goals and programs for a given student. Moran identifies
the sub parts of a referral question to be:

- a list of academic achievement levels in each subject area,
- statements about word-recognitions and comprehension reading
  skills, arithmetic computation skills, arithmetic reasoning
  skills, writing and spelling skills,
- comprehensive reports of all materials and methods which have
  been attempted with the student, and
- precise questions about what the teacher needs to know about
  the child.

Moran believes that teachers compiling this information would
probably find themselves answering their own instructional questions
without referral. In addition, the teacher would be providing the
basis for straight forward answers from the school psychologist.

It would seem that more attention does need to be given to the
information provided by the teacher in making the referral. Better
preparation would result in better evaluation. This study supports
Moran's contention with its concentration on the referral process.

Possible use of obtained data. It would seem to be appropriate to review the Personality and Behavior Trait scale and project how it might be successfully used by school psychologists based on the Factor Analysis information provided from this study.

The computation of Factor scores is a tedious procedure for a local school district psychologist to conduct unless he has easily accessible computer services. Therefore, there is a need to develop a simpler system for estimating the scores involved. A number of authors (Overall and Klatt, 1972; Stanley and Wang, 1970) have suggested that simple addition or subtraction of appropriate variables would serve to approximate factor scores and provide an aide to the practitioner.

One such system is to add up the scores of all of the variables whose loadings on the factor are higher than in any other factor, or, whose loading on the factor is greater than .5. For variables with negative loadings, the scoring will be inverted. For each of the three factors, there are exactly six items that meet the above criteria (Social Adjustment in the Classroom and Social Adjustment Outside of Class meet the criteria for both Factors I and III).

On the trait scale, each variable is rated on a 1 to 5 continuum. Since there are six variables, the maximum score for each factor is equal to 30 points. The minimum score for each factor would be six points. Since the maximum score is 30 and the minimum is 6, it would be desirable for ease of description to subtract a score of 6 from the achieved scores. This would create a reporting range of scores from
0 to 24, with a mean of 12, for each factor. It would then be possible to use the following formulas to provide an estimated measurement of the student's score on each one of the factors: (each letter refers to the score on the trait scale showing the student rating by the referring teacher)

Factor I  = H + B + C - O + F + M
Factor II = G + N + P + K + J + E - 6
Factor III = A + D + I + L + B + C - 6

Using these formulas, the writer has selected three referrals, at random, one in each referral category to demonstrate the results.

The first referral is a TYPE A - Academic referral. The scores according to each factor are:

Factor I:  2 + 3 + 4 - 4 + 2 + 5 = 12
Factor II: 1 + 1 + 2 + 3 + 1 + 1 - 6 = 3
Factor III: 4 + 3 + 2 + 2 + 4 + 3 - 6 = 12

For the first factor, Extroversion-Introversion, the psychologist would be able to assume a child with generally average classroom behavior with an average score of 12. The score of 3 on the second factor, Cognitive Abilities, would indicate a child with very low intellectual functioning in the classroom. The score obtained on the third factor, Scholastic Motivation, is similar to the 12 on the first factor, and would indicate the teacher's perception of a student who has average motivation for school activities.

In his testing of the referred pupil, the psychologist did confirm the existence of learning problems. The pupil was diagnosed as eligible
for placement in a learning disability classroom.

The second referral is a TYPE B - Behavior referral. The scores according to each factor are:

Factor I:  \( 5 + 5 + 5 - 1 + 5 + 5 = 24 \)
Factor II:  \( 5 + 1 + 4 + 4 + 5 + 2 - 6 = 15 \)
Factor III:  \( 2 + 1 + 2 + 3 + 5 + 5 - 6 = 12 \)

The scores on Factor I: Extroversion-Introversion would indicate a pupil with the highest obtainable score. The teacher perceives this child to be totally unmanageable, disruptive, and overaggressive. The scores on the remaining two factors would indicate average to above average cognitive ability with average degree of scholastic motivation. The psychologist would immediately be alerted to the need for projective techniques to explore the child's personality patterns and emotional functioning.

In the actual testing situation, the psychologist found the pupil to have at least average intellectual functioning with possibly more potential than presently able to be measured. The psychologist also observed the student to have severe emotional disorders and recommended placement in a classroom for emotionally disturbed children. The family was also urged to seek psychiatric help for the pupil.

The third referral is a TYPE C - Academic and Behavioral. The scores according to each factor are:

Factor I:  \( 3 + 1 + 3 - 3 + 1 + 2 = 7 \)
Factor II:  \( 1 + 2 + 2 + 2 + 2 + 2 - 6 = 5 \)
Factor III:  \( 1 + 3 + 2 + 2 + 1 + 3 - 6 = 6 \)

The scores on all three factors are at the low end of the scale.
The Factor I score indicates a pupil with high introversion qualities being dependent, passive, and withdrawn in social adjustment. The Factor II score would show a very low level of functioning in cognitive areas. The score on Factor III would show a pupil with low motivation to succeed in any school related activities.

In the testing of this pupil, the psychologist found the pupil to be of average intelligence, but achieving academically a little over a year behind his grade level. The student was also described as having strong feelings of anger who manages himself by withdrawing into a facade of passive resistance. Because of a variety of family problems, it was recommended that the entire family be seen for counseling purposes. The student was also recommended for special academic tutoring assistance.

It is in the above described manner that the Personality and Behavior trait scale could be of value to school personnel in gaining an overall look at a teacher's perceptions of a given pupil. The suggested scoring system would provide a simplified method of viewing the overall patterns described by the teacher.

Recommendations for Further Study

1. It would seem useful for future researchers to make a comparison of the ratings of students who are referred for testing with the ratings of students who are not referred. Students could be selected at random and teachers asked to rate them using the same instrument. Analysis of the data would show the specific areas in which sample students are rated differently than teacher referred students. The
results may indicate the personality or behavior traits of the re­ferred students which seem to cause the most concern for the classroom teacher. It might also indicate at what level academic difficulties of a student begin to concern the teacher. An implication of the study would be for local school officials to establish workshops and training programs in these areas. In the behavioral area, teachers might be taught how to respond more effectively to student actions and comments. In the academic area, teachers may need assistance in individualizing instruction in terms of student needs and abilities.

2. Additional studies could analyze the effectiveness of the factor analysis scoring technique developed for the Personality and Behavior Traits rating scale. Results could indicate whether teachers and other school personnel find the three number scoring system descriptive of the teacher's perceptions of the student. An evaluation could review whether additional information was needed for a full description.

3. Another study might be conducted to analyze individual teacher perceptions of the student being referred. The teacher's ratings on the referred student could be compared with direct child observations by other school personnel. Other teachers could use the same form to rate the referred student. The forms could then be compared to review other teachers' perceptions of the same student. This would provide an opportunity to see if the problem was indeed as described by the referring teacher. Differences in perception could serve as the basis for supervision and training of personnel.
Closing Comments

It is hoped that this study will have positive impact on a broader and more effective use of the teacher referral form, in a better understanding of the teacher and student variables affecting referral of children, and, most importantly, in helping to make sure that those children needing professional assistance are identified and referred for such services. All segments of the school professional and lay community should be able to benefit from specific aspects of this study.

Psychologists. The results of this study should have the greatest operational value to school psychologists. By using the factor analysis results, the psychologist will have a new way of examining the variables rated by the referring teacher. The suggested scoring system will enable him to gain a quick analysis of the teacher's perceptions of the student on each of the three factors: Extroversion-Introversion, Cognitive Abilities, and Scholastic Motivation. The psychologist will also be able to interpret the teacher's ratings more easily to other members of the team, as well as to parents. He will be able to do this through the use of three numbers instead of referring to sixteen variables.

Social workers and counselors. Other supportive personnel such as social workers and counselors may find elements of the proposed scoring system useful in their helping roles. If a student receives a very low numerical score on Factor III, Scholastic Motivation, supportive personnel may need to become alert to several distinct possibilities as needs for service. Direct counseling for the student
may be required to discover what elements seem to be preventing the existence of a positive school experience. Depending on further exploration, the worker may add the student to his case load or refer the student to an outside resource for service. Since social acceptance and social adjustment variables weigh heavily in this factor, the worker might need to concentrate on teaching the student new patterns of interpersonal relationships.

George Kelly (1958) hypothesized that what a student would do seemed to hinge primarily on what alternatives his personal construction of the situation allowed him to sense. Kelly believes that the psychotherapeutic solution is a reconstruing process, not a mere labeling of the student's motives. Kelly also observes that complaints about motivation taught him more about the complainants than it did about their pupils. This thought leads us to another direction to be explored by school supportive personnel. When a student has been given a low rating on Factor III, it might be important to also take a close look at the teacher and the teacher's expectations for that student. The teacher may need some assistance in learning to work with "troublesome, unmotivated" students.

Among female referred students in this study, primary level students were rated more extroverted than students in intermediate grade levels. No female students were referred on a junior high level. It appears that girls do learn to control their behavior more effectively, or to comply with classroom needs as they become older. One possible answer is the earlier development of their neurological systems.
Counseling personnel may need to assist teachers in becoming more patient with primary age children, especially girls, before referring them for testing. Their acting out behavior may be a part of the normal developmental pattern for these children. We would need to compare this sample with girls who were not referred in order to determine whether this pattern exists for the population as a whole.

.Administrators. There is value in the results of this study for school administrators including principals, special education coordinators, directors of pupil services, and curriculum directors. One of the study's observations is that all junior high students referred were split evenly between academic and behavioral needs. An administrator might find it important to establish classes or professional growth workshops for junior high personnel in order to meet the unique needs of the male junior high student. Content of the sessions could include academic areas such as assessing student abilities and individualizing student instruction. The behavioral needs of the junior high male student could be reviewed by exploring the normal development of the pre-adolescent as well as exploring teacher responses to student behavior.

Administrators may also wish to look carefully at the teacher related variables showing significant results in this study. Although few clear cut patterns emerge, the data seems to indicate that teacher variables do have some kind of relationship to the frequency and type of student referral. Local school districts may wish to study these variables more closely to be able to understand their implications more fully. It may be desirable to establish workshops and training
sessions for teachers by age, sex, teaching experience, or other categories.

**Teachers.** It is hoped that this study will help teachers become more alert to their own perceptions of students when determining the need to make a referral for testing. The use of simplified scoring system for the trait rating scale may also provide them with additional insight as to how they view the student. Instead of their just checking sixteen separate variables, the new scoring system gives the teacher an opportunity to view the student using the three factors and provides a more generalized impression of the total student. Teachers could also be asked to fill out the same form later in the school year to observe changes in perception as well as student growth.

**Parents.** For many parents, the entire experience of coming to school for conferences is threatening and anxiety producing. The tension is further heightened when the conference is to receive the results of academic or psychological testing. It is possible that under such circumstances, parents may actually "hear" very little of what is being presented. Therefore, the simplification of the information being presented may be most helpful in giving parents a better understanding of what needs to be transmitted. Again, instead of referring to sixteen different variables, the psychologist can present a better picture of the teacher's perceptions by using the suggested scoring system. The system will give the parents a total picture of their child as perceived by the classroom teacher making the referral.

Dr. Stephen Hersh in Yahraes (1976) states that "The ability to
communicate, articulate, and organize through spoken and written language one's internal and external experiences has a profound impact on behavior. Thus, learning disorders theoretically can lay foundations of vulnerability for delinquent and criminal behavior, for severe mental illnesses, for emotional problems, and for social dysfunction" (p. 27).

With this in mind, one can begin to understand the importance of early detection and remediation of learning problems. Unless they are detected early and successfully treated, they may have a disastrous outcome for the child, and probably for society as well. While it would seem that teachers are able to make discriminations about the behaviors of their students based on their judgement, it must be remembered that this represents their judgements about the behaviors and not the behaviors themselves. Rating preconceptions and expectations may strongly influence the judgements made about the behavior of children.

It is hoped that an additional outgrowth of this study will be to help teachers look at children more carefully, better understand their own and their students' variables and traits, and refer for testing and remediation those children needing a specialized evaluation. It is in this manner that we shall be able to assist children in receiving the best possible school experience where they may be helped to fulfill their greatest individual and unique potentials.
References


Blatt, B. The physical, personality, and academic status of children who are mentally retarded attending special classes as compared with children who are mentally retarded attending regular classes. *American Journal of Mental Deficiency*, 1958, 62, 810-818.


Fine, M.J. Attitudes of regular and special class teachers toward the educable mentally retarded child. *Exceptional Children,* 1967, 33, 429-430.


APPENDIX A

Personality and Behavior Traits
PERSONALITY AND BEHAVIOR TRAITS

One of these scales is to be rated as accurately as your knowledge of the child permits. Each point is explained and each mark may be made anywhere on the line between 1 and 5. It may be on the number or anywhere in between. Each scale should be evaluated individually before the rating is made since they do not all have the same emphasis. In some there is a progression from the most negative to the most positive with the middle being average. Others both extremes are negative characteristics and the middle is the positive.

**ACADEMIC INTEREST**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unresponsive</td>
<td>Usually Indifferent</td>
<td>Some Interest</td>
<td>Considerable Interest</td>
<td>Enthusiastic</td>
</tr>
</tbody>
</table>

**SOCIAL ADJUSTMENT IN THE CLASSROOM**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very withdrawn, shy and timid</td>
<td>Moderately shy</td>
<td>Neither shy nor outgoing; is good follower</td>
<td>Outgoing and spontaneous; makes friends easily</td>
<td>Very outgoing; strong leadership tendencies</td>
</tr>
</tbody>
</table>

**SOCIAL ADJUSTMENT OUTSIDE OF CLASS AND/OR AT HOME**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very withdrawn, shy and timid</td>
<td>Moderately shy</td>
<td>Neither shy nor outgoing; is good follower</td>
<td>Outgoing and spontaneous; makes friends easily</td>
<td>Very outgoing; strong leadership tendencies</td>
</tr>
</tbody>
</table>

**SOCIAL ACCEPTANCE**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoided by others</td>
<td>Tolerated by others</td>
<td>Liked by others</td>
<td>Well liked by others</td>
<td>Sought by others</td>
</tr>
</tbody>
</table>

**EMOTIONAL STABILITY**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very tense, nervous, excitable; frequent outbursts or tantrums</td>
<td>Occasional outbursts or tantrums, moderately tense</td>
<td>Mild symptoms of tension which do not interfere with ability to function</td>
<td>Generally relaxed and symptom free</td>
<td>Always calm, relaxed and happy</td>
</tr>
</tbody>
</table>

**SELF CONCEPT**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong feelings of inadequacy; extremely self-critical</td>
<td>Mild feelings of inadequacy; tendency toward self-criticism</td>
<td>Moderately self-confident in most areas</td>
<td>Confident in all areas; realistic appraisal of abilities</td>
<td>Over confident or unrealistically confident</td>
</tr>
</tbody>
</table>

**ADAPTABILITY TO NEW SITUATIONS**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very dependent and at a loss in new situations</td>
<td>Difficulty with most new situations immediately but eventual adaptation</td>
<td>Usually adapts adequately except in more difficult situations</td>
<td>Adapts easily with good confidence</td>
<td>Excellent adaptation utilizing initiative and independence</td>
</tr>
</tbody>
</table>

**PASSIVE—AGGRESSIVE ADJUSTMENT**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very passive and dependent</td>
<td>Seldom stands up for rights; moderately dependent</td>
<td>Participation in &quot;give and take&quot;: not overly passive or aggressive</td>
<td>More aggressive than average</td>
<td>Overly aggressive and/or pugnacious; asserts self strongly</td>
</tr>
</tbody>
</table>
MOTIVATION

initiates activities; interest level in all
Participates in activities but with little overt
interest without enthusiasm; or interest
limited to narrow range
Moderate interest with some enthusiasm for all
subjects, marked enthusiasm in some areas
Above average interest and enthusiasm for
most things; initiates activities frequently
Very enthusiastic and almost constant interest
in all school activities

ENERGY

Always has to be urged to continue working at tasks
Will work for short time and then slows down
Maintains average amount of energy through completion of task
Above average energy, completes most tasks rapidly
Very high energy level; never has enough to do

CONCRETE-ABSTRACT THINKING:

Thinks only in concrete, or mostly concrete terms
Recognizes symbols but more concrete than abstract
Average ability to abstract
Better than average ability to abstract
High level of abstract thinking

COORDINATION

Very poorly coordinated; clumsy in all physical activities
Below average coordination
Average coordination; no outstanding physical skills
Above average coordination; does well in physical activities
Outstanding coordination; excels in athletics and other physical activities

IMAGINATIVE ABILITY

No imagination
Little imagination
Imagination within normal limits and which is utilized constructively and effectively
Above average imagination which leads to creative thinking and productions
Has flights of fancy which interfere somewhat with achievement
Unrealistic imagination which interferes seriously with school achievements

ATTENTION

Very distractible
Difficult to hold his attention
Attends adequately
Above average ability to attend
Can hold attention for long periods of time

ACCEPTANCE OF AUTHORITY

Defiant
Critical of authority
Ordinarily obedient
Respectful, complies by habit
 Entirely resigned, accepts all authority

APPROACH TO A PROBLEM

Very slovenly and biological
Inexact, a dabbler, careless
Moderately careful
Consistent and logical
Precise
APPENDIX B

Matrix Table
### MATRIX TABLE

**FACTOR I: EXTROVERSION - INTROVERSION**

<table>
<thead>
<tr>
<th>Component</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Passive Aggressive</td>
<td>.77</td>
</tr>
<tr>
<td>B. Social Adjustment - In the Classroom</td>
<td>.68</td>
</tr>
<tr>
<td>C. Social Adjustment - Outside of Classroom</td>
<td>.63</td>
</tr>
<tr>
<td>O. Accept. of Authority</td>
<td>-.56</td>
</tr>
<tr>
<td>F. Self Concept</td>
<td>.45</td>
</tr>
<tr>
<td>M. Imaginative Ability</td>
<td>.44</td>
</tr>
</tbody>
</table>

**FACTOR II: COGNITIVE ABILITY**

<table>
<thead>
<tr>
<th>Component</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. Adaptability</td>
<td>.66</td>
</tr>
<tr>
<td>N. Attention</td>
<td>.71</td>
</tr>
<tr>
<td>P. Approach to a Problem</td>
<td>.66</td>
</tr>
<tr>
<td>K. Concrete Abstract</td>
<td>.58</td>
</tr>
<tr>
<td>J. Energy</td>
<td>.47</td>
</tr>
<tr>
<td>E. Emotional Stability</td>
<td>.36</td>
</tr>
</tbody>
</table>

**FACTOR III: SCHOLASTIC MOTIVATION**

<table>
<thead>
<tr>
<th>Component</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Academic Interest</td>
<td>.42</td>
</tr>
<tr>
<td>D. Social Acceptance</td>
<td>.57</td>
</tr>
<tr>
<td>I. Motivation</td>
<td>.52</td>
</tr>
<tr>
<td>L. Coordination</td>
<td>.43</td>
</tr>
</tbody>
</table>
APPENDIX C

SUMMARY OF MEAN AND STANDARD DEVIATION SCORES
### SUMMARY OF MEAN AND STANDARD DEVIATION SCORES

<table>
<thead>
<tr>
<th>ITEM</th>
<th>SUB HEADING</th>
<th>NUMBER</th>
<th>MEAN</th>
<th>S.D.</th>
<th>MEAN</th>
<th>S.D.</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Extroversion-</td>
<td>Cognitive</td>
<td>Scholastic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Introversion</td>
<td>Abilities</td>
<td>Motivation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FACTOR I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FACTOR II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FACTOR III</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Student Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Student</td>
<td>8</td>
<td>.34</td>
<td>1.20</td>
<td>.01</td>
<td>.75</td>
<td>-.18</td>
<td>.72</td>
</tr>
<tr>
<td>6</td>
<td>Age</td>
<td>23</td>
<td>.01</td>
<td>.87</td>
<td>.07</td>
<td>1.06</td>
<td>-.17</td>
<td>.91</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>14</td>
<td>-.15</td>
<td>.81</td>
<td>-.07</td>
<td>1.04</td>
<td>.28</td>
<td>.97</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>14</td>
<td>.23</td>
<td>.92</td>
<td>.08</td>
<td>.66</td>
<td>-.04</td>
<td>.74</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>17</td>
<td>-.17</td>
<td>.51</td>
<td>.03</td>
<td>.86</td>
<td>-.00</td>
<td>.94</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>12</td>
<td>-.13</td>
<td>.74</td>
<td>-.01</td>
<td>1.10</td>
<td>.33</td>
<td>.97</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>10</td>
<td>-.25</td>
<td>.75</td>
<td>-.19</td>
<td>1.03</td>
<td>-.46</td>
<td>.62</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>7</td>
<td>-.92</td>
<td>.45</td>
<td>.05</td>
<td>1.02</td>
<td>-.87</td>
<td>.48</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>5</td>
<td>.55</td>
<td>1.24</td>
<td>-.63</td>
<td>.92</td>
<td>-.83</td>
<td>2.06</td>
</tr>
<tr>
<td><strong>Student Grade Level</strong></td>
<td>1-Primary</td>
<td>60</td>
<td>.07</td>
<td>.91</td>
<td>.03</td>
<td>.91</td>
<td>-.03</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>2-Interm.</td>
<td>39</td>
<td>-.18</td>
<td>.64</td>
<td>-.04</td>
<td>.96</td>
<td>-.02</td>
<td>.91</td>
</tr>
<tr>
<td></td>
<td>3-Jr. High</td>
<td>11</td>
<td>-.31</td>
<td>1.11</td>
<td>-.23</td>
<td>1.0</td>
<td>-.85</td>
<td>1.29</td>
</tr>
<tr>
<td><strong>Referred Type</strong></td>
<td>1-Academic</td>
<td>60</td>
<td>-.31</td>
<td>.73</td>
<td>-.05</td>
<td>.96</td>
<td>-.08</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>2-Behavior</td>
<td>28</td>
<td>.38</td>
<td>.89</td>
<td>.12</td>
<td>1.03</td>
<td>-.14</td>
<td>1.23</td>
</tr>
<tr>
<td></td>
<td>3-Both</td>
<td>22</td>
<td>.07</td>
<td>.89</td>
<td>-.13</td>
<td>.76</td>
<td>-.24</td>
<td>.74</td>
</tr>
<tr>
<td><strong>Years in System</strong></td>
<td>1-Less Than</td>
<td>7</td>
<td>-.12</td>
<td>.83</td>
<td>-.47</td>
<td>.87</td>
<td>-.15</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>2 (1-5)</td>
<td>35</td>
<td>-.19</td>
<td>.81</td>
<td>-.06</td>
<td>1.06</td>
<td>-.20</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>3 (6-10)</td>
<td>35</td>
<td>.19</td>
<td>.93</td>
<td>-.19</td>
<td>.89</td>
<td>.16</td>
<td>.95</td>
</tr>
<tr>
<td></td>
<td>4 (11-15)</td>
<td>24</td>
<td>-.18</td>
<td>.83</td>
<td>.35</td>
<td>.68</td>
<td>-.27</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>5 (16-20)</td>
<td>6</td>
<td>-.17</td>
<td>.65</td>
<td>.63</td>
<td>.82</td>
<td>-1.04</td>
<td>1.65</td>
</tr>
<tr>
<td></td>
<td>6 (Over 20)</td>
<td>3</td>
<td>-.26</td>
<td>.98</td>
<td>.93</td>
<td>.52</td>
<td>.74</td>
<td>1.28</td>
</tr>
<tr>
<td>ITEM</td>
<td>SUB HEADING</td>
<td>NUMBER</td>
<td>MEAN</td>
<td>S.D.</td>
<td>MEAN</td>
<td>S.D.</td>
<td>MEAN</td>
<td>S.D.</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td><strong>FACTOR I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FACTOR II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FACTOR III</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Years</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Teaching</td>
<td>1 (Less Than)</td>
<td>0</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td></td>
<td>2 (1-5)</td>
<td>30</td>
<td>-.23</td>
<td>.94</td>
<td>-.13</td>
<td>1.12</td>
<td>-.21</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>3 (6-10)</td>
<td>27</td>
<td>.32</td>
<td>.97</td>
<td>-.08</td>
<td>.90</td>
<td>.32</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>4 (11-15)</td>
<td>22</td>
<td>-.29</td>
<td>.97</td>
<td>-.10</td>
<td>.83</td>
<td>-.30</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>5 (16-20)</td>
<td>22</td>
<td>.05</td>
<td>.63</td>
<td>.18</td>
<td>.79</td>
<td>-.41</td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td>6 (Over 20)</td>
<td>9</td>
<td>-.35</td>
<td>.68</td>
<td>.19</td>
<td>1.02</td>
<td>.04</td>
<td>1.01</td>
</tr>
<tr>
<td><strong>Sex of Teacher</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 - Male</td>
<td>7</td>
<td>-.08</td>
<td>1.03</td>
<td>-.16</td>
<td>.75</td>
<td>-.86</td>
<td>1.68</td>
</tr>
<tr>
<td></td>
<td>2 - Female</td>
<td>103</td>
<td>-.06</td>
<td>.84</td>
<td>-.01</td>
<td>.95</td>
<td>-.07</td>
<td>.88</td>
</tr>
<tr>
<td><strong>Academic Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. B.S.</td>
<td>73</td>
<td>-.08</td>
<td>.88</td>
<td>-.14</td>
<td>.87</td>
<td>-.17</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>2. M.S.</td>
<td>37</td>
<td>-.02</td>
<td>.79</td>
<td>.20</td>
<td>1.02</td>
<td>-.02</td>
<td>1.17</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Single</td>
<td>30</td>
<td>-.10</td>
<td>1.07</td>
<td>-.12</td>
<td>.93</td>
<td>-.25</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>2. Married</td>
<td>80</td>
<td>-.05</td>
<td>.76</td>
<td>.01</td>
<td>.93</td>
<td>.07</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Teacher Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Under 30</td>
<td>17</td>
<td>-.35</td>
<td>.72</td>
<td>-.21</td>
<td>.85</td>
<td>-.11</td>
<td>.70</td>
</tr>
<tr>
<td></td>
<td>2. 30-39</td>
<td>46</td>
<td>.14</td>
<td>1.03</td>
<td>-.15</td>
<td>.95</td>
<td>-.10</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>3. 40-49</td>
<td>29</td>
<td>.02</td>
<td>.54</td>
<td>.30</td>
<td>1.03</td>
<td>-.01</td>
<td>1.13</td>
</tr>
<tr>
<td></td>
<td>4. 50-59</td>
<td>11</td>
<td>-.38</td>
<td>.72</td>
<td>-.03</td>
<td>.71</td>
<td>-.38</td>
<td>1.02</td>
</tr>
<tr>
<td></td>
<td>5. 60 &amp; Over</td>
<td>6</td>
<td>-.44</td>
<td>.92</td>
<td>.03</td>
<td>.78</td>
<td>.04</td>
<td>1.18</td>
</tr>
<tr>
<td><strong>Sex of Student</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Male</td>
<td>84</td>
<td>-.06</td>
<td>.90</td>
<td>-.10</td>
<td>.94</td>
<td>-.16</td>
<td>.98</td>
</tr>
<tr>
<td></td>
<td>2. Female</td>
<td>26</td>
<td>-.07</td>
<td>.71</td>
<td>.22</td>
<td>.89</td>
<td>.03</td>
<td>.87</td>
</tr>
<tr>
<td><strong>School Elementary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>10</td>
<td>-.01</td>
<td>.65</td>
<td>.31</td>
<td>.90</td>
<td>.32</td>
<td>.73</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>-.06</td>
<td>.00</td>
<td>.63</td>
<td>.00</td>
<td>-2.62</td>
<td>.00</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4</td>
<td>-.19</td>
<td>.66</td>
<td>-.55</td>
<td>1.12</td>
<td>.72</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>10</td>
<td>-.03</td>
<td>1.0</td>
<td>-.27</td>
<td>.84</td>
<td>-.02</td>
<td>.45</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>12</td>
<td>.26</td>
<td>1.11</td>
<td>.50</td>
<td>1.01</td>
<td>-.14</td>
<td>.73</td>
</tr>
<tr>
<td>ITEM</td>
<td>SUB HEADING</td>
<td>NUMBER</td>
<td>MEAN</td>
<td>S.D.</td>
<td>MEAN</td>
<td>S.D.</td>
<td>MEAN</td>
<td>S.D.</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>25</td>
<td>-.05</td>
<td>.96</td>
<td>-.28</td>
<td>.94</td>
<td>.12</td>
<td>.91</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>20</td>
<td>-.13</td>
<td>.63</td>
<td>.12</td>
<td>.91</td>
<td>.07</td>
<td>.99</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>9</td>
<td>-.09</td>
<td>.68</td>
<td>.26</td>
<td>.64</td>
<td>-.22</td>
<td>.88</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>8</td>
<td>-.03</td>
<td>.60</td>
<td>-.69</td>
<td>.70</td>
<td>-.14</td>
<td>.86</td>
</tr>
<tr>
<td>Total</td>
<td>Elementary</td>
<td>99</td>
<td>-.03</td>
<td>.82</td>
<td>.00</td>
<td>.93</td>
<td>-.03</td>
<td>.88</td>
</tr>
<tr>
<td>School</td>
<td>10</td>
<td>4</td>
<td>.48</td>
<td>1.41</td>
<td>-.55</td>
<td>1.21</td>
<td>.32</td>
<td>.68</td>
</tr>
<tr>
<td>Jr. High</td>
<td>11</td>
<td>7</td>
<td>-.76</td>
<td>.79</td>
<td>-.33</td>
<td>.62</td>
<td>-1.57</td>
<td>1.13</td>
</tr>
<tr>
<td>Total Jr. High</td>
<td></td>
<td>11</td>
<td>-.31</td>
<td>1.17</td>
<td>-.41</td>
<td>.83</td>
<td>-.88</td>
<td>1.35</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>110</td>
<td>.06</td>
<td>.85</td>
<td>-.02</td>
<td>.93</td>
<td>-.12</td>
<td>.96</td>
</tr>
</tbody>
</table>
The dissertation submitted by David M. Rosen has been read and approved by members of the School of Education.

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Education.

April 18, 1977
Date

Signature of Adviser