An Investigation To Determine The Relationship Of Anxiety And Reading Disability And To Study The Effects Of Group And Individual Counseling On Reading Improvement

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DOCTOR OF EDUCATION

AN INVESTIGATION TO DETERMINE THE RELATIONSHIP OF ANXIETY AND READING DISABILITY AND TO STUDY THE EFFECTS OF GROUP AND INDIVIDUAL COUNSELING ON READING IMPROVEMENT

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AN INVESTIGATION TO DETERMINE THE RELATIONSHIP OF ANXIETY AND READING DISABILITY AND TO STUDY THE EFFECTS OF GROUP AND INDIVIDUAL COUNSELING ON READING IMPROVEMENT

BY

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DISSERTATION

Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Education

in the Graduate School of
The University of New Mexico
Albuquerque, New Mexico
May, 1972
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This study is dedicated to my wife, Renée, whose love, patience and understanding made this all possible. It is also dedicated to my three children, Alan, Debbie and Mark.

Special thanks go to my father and mother, Louis and Sarah Herman, as well as to my brother, Dr. Simon Herman.
AN INVESTIGATION TO DETERMINE THE RELATIONSHIP OF ANXIETY AND READING DISABILITY AND TO STUDY THE EFFECTS OF GROUP AND INDIVIDUAL COUNSELING ON READING IMPROVEMENT

By

Bernard Herman

ABSTRACT OF DISSERTATION

Submitted in Partial Fulfillment of the Requirements for the Degree of

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in the Graduate School of
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May, 1972
Abstract

The purpose of this study was (1) to investigate the relationship of anxiety and reading improvement, (2) to determine whether a consistent therapeutic approach can effect a reduction in manifest anxiety, and (3) to compare the effectiveness of group and individual counseling in (a) the reduction of manifest anxiety and (b) reading improvement.

Subjects for the study were forty-five school students in grades eight and nine attending a public junior high school. The sample selected consisted of those students in remedial reading classes who were determined to be "high anxious" according to their scores on the Children's Manifest Anxiety Scale (CMAS) and whose reading ability was retarded three or more grade levels according to the California Standardized Reading Achievement Test.

The forty-five students were randomly divided into three groups of fifteen. The two treatment groups received Goodstein's verbal desensitization procedure. One involved individual counseling, and the other consisted of group counseling techniques. The control group received placebo counseling. There were twelve counseling sessions, one each week for a period of forty-five minutes.

Pre- and post-testing were done with (1) the Children's Manifest Anxiety Scale, (2) Nelson Reading Achievement Test,
and (3) a rating scale of observable clinical manifestations of anxiety.

The t-test for significance of difference between means was used to test each group's pre- and post-test data on the (1) CMAS, (2) total reading score, (3) vocabulary, (4) paragraph meaning, and (5) overt anxiety scale. The Pearson product-moment method was used to compute correlations for both pre- and post-tests between (1) CMAS and IQ, (2) CMAS and vocabulary, (3) CMAS and paragraph meaning, (4) CMAS and total reading score, (5) vocabulary and IQ, (6) paragraph meaning and IQ and (7) total reading score and IQ. The significance level for rejecting the five null hypotheses was .05.

Individual counseling using Goodstein's verbal desensitization was significantly effective in reducing CMAS scores while also significantly improving vocabulary and total reading scores. There was no significant improvement in paragraph meaning score for any group. The group receiving group counseling showed no significant improvement in any reading score or anxiety. Control (placebo) group showed significant improvement only in total reading score. Correlations were significant and positive for only (1) CMAS vs. total reading, (2) CMAS vs. total reading, (2) CMAS vs. vocabulary and (3) CMAS vs. paragraph meaning, pre-test data only. All other correlations
were not significant.

The results of this study support the recommendation that counseling should be used by schools as an adjunct to remedial reading programs.
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CHAPTER I

INTRODUCTION

Background

Reading apparently is the basis for success in education in our society. It would be difficult to find a subject offered in the educational setting which is not wholly or at least partly dependent on the ability to read. The early years of a child's education may be the only period in which he may obtain much of his information, in subjects other than reading, by listening to the teacher's explanations. As a student moves into the intermediate grades, an assumption of reading ability commensurate with his grade level is apparently assumed. With this assumption comes the reliance by some teachers on students reading their assignments with a minimum of explanation of the concepts read.

From the beginning of the junior high school years through secondary and higher education there are usually no formal reading skills programs. In a few schools, a remedial reading class is offered to the child who by this time has demonstrated a serious inability to read the material presented. A student in this position finds himself unable to succeed and frustrated educationally in all subjects. This continuous lack of success and growing frustration may have a cumulative and detrimental emotional effect.
Because of the importance of reading and the apparent lack of success many students have with it, much study has been generated into the causes and consequently the remediation of reading disability (Robinson, 1964; Woolf and Woolf, 1957; Witty, 1968). Some research has been performed in reading readiness programs and pupil maturation correlates (Wattenberg and Clifford, 1964). Many new school organizational proposals are a direct result of these research studies. The maturational lag concept and the new ungraded setting experiments tend to point up the complexity of functions used in reading.

There appears to be such a delicate balance of coordination between emotional stability and physical ability that any slight lags in these areas tend to cause problems in learning to associate symbols and, in general, in learning to read. If for some reason the child progresses through the grades with a minimum of experience and minimal functioning in reading, there seems to be also generated the feeling of lack of success, the deflated ego, which is a direct cause or an extension of lack of reading success. This is believed to have a direct effect on the student's achievement in all school subjects; the individual feels he has failed in all areas when in fact his problems are only in reading.

The term generally used for the total breakdown in
achievement is "The Non-Achievement Syndrome." A child with this problem sees himself as unsuccessful and not worthwhile even though his capacity tends to refute this. He has a tendency to see himself in this way and therefore act accordingly. Poor readers are believed to show this syndrome by the time they get into the junior high school setting, particularly in the eighth and ninth grades. This may produce a junior high school pupil who, for some reason, has not acquired the basic ideas and foundations of reading and has accompanying feelings of inadequacy. This syndrome must be dealt with while providing the basic foundation needed in reading.

In these grade levels the reading in any subject, but more especially in the areas of English and Literature, tends to be viewed with a negative attitude by many students. This negative association may build a great deal of anxiety in the student when confronted with the reading he is asked to do. From what is known about anxiety, it is felt that the functioning level is reduced even from the minimal, because of the cyclical effect that anxiety has on the individual when he approaches a subject with a great deal of negative connotations. It does not seem enough, then, for an eighth or ninth grader to just go back and review the basic concepts of reading, even though much material can be found at a lower reading
level with content for the higher grades. This, it would seem, would only partly take care of the needs of a child in need of remediation of his reading problem. If this approach is used, the frustration caused by the years that the child has spent in an unsuccessful learning experience is ignored. Also ignored, then, are the symptoms of inadequacy and deflated ego, which years of lack of success tend to build in an individual's emotional makeup.

Minimally, then, the problem should be approached by not only providing the remediation in the areas of building basic reading skills, but also in some way a supportive, encouraging, and successful atmosphere for the individual should be provided. This would enable the individual to begin to associate success with the reading function and also aid in beginning to break down the debilitating cycle which anxiety presents to the student muddling in a frustrating and completely unsuccessful experience. There seems to be agreement on this approach, but for the most part it is believed that the remedial reading teacher should provide the emotional support and encouragement needed to improve reading; and the major task of reducing anxiety, and providing the support, encouragement and relaxed feelings, should fall to the counselor, who by training is better equipped to cope with this task.

The training aspect is a very crucial one; but also, the
counselor, who is not directly involved in teaching, is not an authority figure, is not the one providing marks or making judgments, and, therefore, is placed in a better position to be more effective in alleviating the negative feelings toward reading. The other task of the counselor would be to coordinate the counseling with the reading improvement teacher so as to maintain the maximum communication so vital for the counseling.

Dr. Miles Zintz of the University of New Mexico (1972) stated that there are those children in remedial reading who show mannerisms of mild emotional disturbance but who are not so seriously disturbed that they need psychiatric assistance. These children have frustrations and anxieties but will be able to read if they have reassurance and gain self-control. Zintz (1972) believed that children who are in a remedial reading setting have frustrations and anxieties which obviously are blocking the ability to learn to read. He also implied that if they could be provided with reassurance and gain self-control, possibly they could learn to read more effectively and be reached more effectively by the remedial reading teacher.

Need for the Study

The ability to read and more specifically the factors
related to reading achievement have long been the subject of much research. Much of the elementary and junior high school teacher's time is devoted to increasing the students' ability to read effectively at grade level. Although there is voluminous research relative to reading efficiency, the problem is still of sufficient concern to teachers and researchers to warrant investigation into the underlying causations of reading disability.

In their search for these causes, Leavell and Sterling (1938) found that more intelligent children develop skills more readily in various aspects of reading than less intelligent children. However, according to Gray (1950) the correlations as a rule did not rank above .40 or .50 which indicated that factors other than intelligence influenced progress in reading.

However, controlling the intelligence variable, Woolf and Woolf (1957) found evidence to support the existence of personality differences between those who have reading problems and those who do not. In a similar study Warters (1964) stated that emotional problems were often the reasons for learning difficulties. Of particular importance to this study was Warters' (1964) statement that "Remedial reading students must be helped with their emotional problems as well as their reading problems." Some authors of guidance
texts (Warters, 1964; Muro, 1966; Williamson and Hahn, 1940) have discussed the use of counseling for effective reading remediation but apparently few have subjected their assumptions to scientific analysis or experimentation.

In an effort to isolate specific emotional factors, Spache (1957) in his study of retarded readers found his subjects to be antisocial, aggressive toward authority, and overanxious. Many authors revealed a controversy over the cause and effect relationship between reading and emotional problems. Rabinovich (1959) best illustrated this when he stated that "Conflicts may cause a student to be preoccupied with classroom problems which seriously effect attention, concentration and memory. This causes him to get further behind in classwork which makes him feel more and more inadequate." It may follow that feelings of inadequacy and inability to learn create anxiety which may have a tendency to block learning.

More directly related to the present study is Pacheco's (1964) research of the relationship of anxiety and reading achievement in sixth grade children. She found that anxiety and reading ability were inversely related to each other. Harleston's (1965) using anagram solving tasks found that test-anxious subjects showed increases in heart rate, and these increases in heart rate were accompanied by poor
anagram problem solution. The assumption could be made that the processes used in anagram solutions are similar to the processes used in reading. However, Nelson (1963) in a study using the Children's Manifest Anxiety Scale found that high anxiety subjects failed to show less learning under experimentally induced anxiety conditions than low anxiety subjects. On the other hand, McCandless and Castaneda (1956) found a negative correlation between anxiety and the complex activity of reading.

Many studies, as reviewed by Ruebush (1963) indicated that the anxious child is predisposed to become anxious in situations containing some degree of stress. It was suggested that the stress which is placed upon a poor reader, through lack of achievement and non-success throughout the grade levels, progressed considerably by the time he reached the ninth grade.

**Importance of the Study**

Since the research points strongly to anxiety as a major factor blocking the remediation of reading disability, it was felt that if this manifest anxiety could be reduced, the student would be freed to make gains in his ability to cope with reading material more effectively.

Counseling to supplement the remedial reading program
could be the vehicle used to reduce the child's manifest anxiety. As is stated by Muro (1966), "In counseling sessions free from the pressure of peers, such anxieties can be reduced or perhaps eliminated. Once anxiety is reduced growth can take place." In many texts which are devoted to a review of the problems of reading disabilities, the methods of reducing the emotional problems of poor readers were conspicuous by their absence. On the other hand, those texts which were concerned with the methods of alleviating emotional problems of the disabled reader admitted to the need for interpersonal relationship, support and encouragement, but believed that the remedial reading teacher should handle these problems. It could be argued, however, that the remedial reading teacher is not qualified by training or experience to handle these emotional problems. Consequently these emotional problems often go unattended.

The literature concerned with the effect of counseling and remedial reading has been singularly sparse. Of the studies encountered, most have dealt with underachieving college students or gifted underachieving high school students (Broedel, 1965; Roth, 1967; Searles, 1962; Sheldon, 1965; Spielberger, 1964; Wilborn and Schmidt, 1965). In each of these studies only one treatment, either individual or group counseling, was given to the underachievers. It
should be noted that group counseling treatment was the most prevalent. The research of Roth, et al. (1967) and Wilborn and Schmidt (1965) were the only studies cited which reported significant relationship between counseling and an increase in grade point averages. Baymur and Patterson (1965) found significant grade point average increases with students who were given individual and group counseling. These two groups were compared to students who were exposed to motivational sessions and a control group.

Dolan (1964) restricted his dependent variable of underachievement to the results of the Stanford Achievement Reading Test. Using individual counseling, he pre- and post-tested seventh grade students for achievement and attitudes. He concluded from his data that there were no significant increases in the paragraph meaning section of the Stanford Reading Test, but did show significant increases on the word meaning section. Deskin's study (1967) using boys in a six week clinical setting found relaxation training and systematic desensitization more effective when combined with remedial reading techniques than when those techniques were used alone. It was also believed that the warm empathetic relationship between the student and therapist conducting either type of treatment tended to be an important factor causing a similarity in results of both treatments.
In the research surveyed there appears to be support to connect high anxiety levels with retarded reading achievement. It seems necessary then to investigate further the relationship between counseling and the reduction of anxiety and its subsequent effect on reading achievement. Since remedial reading students have an apparent need for a warm accepting atmosphere to facilitate their reading, every effort must be made to more fully understand the student, his self-concepts and feelings toward his reading difficulties. The counseling relationship appears to be an ideal vehicle to accomplish this and to free the student from the impact of anxiety and derogatory self-concepts. In effect, he must be helped to change from nonlearner to learner status. If group counseling is determined to be as effective as individual counseling in helping to create the necessary changes then a great saving could be effected both in terms of money and the trained counselor’s time involvement per student. In the absence of conclusive research in the aforementioned area, the following study was proposed.

Statement of the Problem

The purpose of this study was (1) to investigate the relationship of anxiety and reading improvement, (2) to determine whether a consistent therapeutic approach can effect
a reduction in manifest anxiety, and (3) to compare the
effectiveness of group and individual counseling in (a) the
reduction of manifest anxiety and (b) reading improvement.

Description of the Study

A junior high school in the south valley of Albuquerque
was selected for this study because it was one of the few
junior high schools that grouped students in English classes
according to their reading ability. The sample selected
consisted of those students who were determined to be "high
anxious" according to their scores on the Children's Manifest
Anxiety Scale and whose reading ability was retarded three
grade levels or more according to the California Standardized
Reading Achievement Test. The designation of "high anxiety"
was limited to a score of at least 50 per cent, 21 out of
42 items answered "yes" on the Children's Manifest Anxiety
Scale. The "high anxious" students were selected from grades
8 and 9. The total population of 45 "high anxious" students
was used for this study.

The 45 students were divided into three groups of 15.
Members for each group were randomly selected for placement by
the use of a table of random numbers. The independent variable
or treatment was counseling, and the dependent variables were
anxiety and reading achievement.

Group I was exposed to group counseling. This process
utilized Goodstein's system of verbal desensitization for the reduction of anxiety. By means of verbal reinforcement the subjects were encouraged to talk about their anxieties and as they talked they theoretically became less anxious. The counselor encouraged discussion through the use of praise and recognition. The counselor attempted to have students gain insight into the bases and interrelationships of their problems. Since a group of 15 was larger than most research shows for efficient operation for group counseling, random assignment into two smaller groups numbering seven and eight, respectively, was made.

Group II received the individual counseling using the same system described above.

Group III was the control group. Treatment time for both group and individual counseling consisted of 45 minutes per week for a period of twelve weeks. In order to control for the "Hawthorne effect," placebo counseling sessions were arranged for the control group.

The data was subjected to statistical analysis to determine the effect of grade level and teacher differences. Both counselors of the junior high school were involved in the treatment phase. Each worked with a randomly selected group in group counseling and also with those receiving the individual counseling. Another part-time counselor helped
with the individual sessions only. Counselors involved in
treatment phases were instructed in the method of counseling
that was used for this study.

Pre- and post-testing were done with the (1) Children's
Manifest Anxiety Scale, (2) Nelson Reading Achievement Test,
and (3) Rating Scale of observable clinical manifestations
of anxiety. These were selected for use from the Behavioral
Check List used by Gordon L. Paul in his experiment in

Statistical significance was established at the .05
level of confidence to test the difference of significance
between means for all measures. Correlational techniques
were used to determine relationships where needed.

**Hypotheses**

H₁ There is no significant improvement in reading
achievement between counseled and uncounseled
groups.

H₂ There is no significant difference between individual
and group counseling in reducing manifest anxiety.

H₃ There is no significant difference between the
reading achievement of individuals exposed to
individual and group counseling.

H₄ There is no significant difference between counseled
and uncounseled groups in reducing manifest anxiety.

There is no significant relationship between manifest anxiety and reading achievement.

**Limitations**

Because of the difficulty in defining the term "anxiety," limited means to measure it exist. Counselor and teacher judgment and observation played an important role in pre- and post-testing of overt anxiety symptoms in this study.

Measurements of anxiety were limited to the Children's Manifest Anxiety Scale and the overt anxiety scale developed for this study.

Although two counselors were trained in Goodstein's method, the differences in their personalities may have become variables which could not be measured nor completely controlled.

The training period for counselors in Goodstein's method was limited to three sessions.

The counseling was limited to twelve sessions of 45 minutes each.

Changes in the home environment of the subjects could presumably have had some effect on the results of the study.

Other factors effecting reading disability, such as physical learning problems, were not assessed in this population.
Definition of Terms

1. Reading achievement is limited to the score achieved on the Nelson Reading Test.

2. High anxiety is limited to a score of at least 50% (21 out of 42) of items answered "yes" on the Children's Manifest Anxiety Scale. Low anxiety is a score of less than 50% of the score.

3. IQ refers to the IQ scores obtained using the Lorge-Thorndike Intelligence Test. This is a group administered test which yields a verbal performance and total IQ score. This test was given to all students attending the junior high school and in fact all students attending public schools in the junior high school setting.

4. Individual counseling means a one-to-one relationship of counselor and student.

5. Group counseling means a group of students with one counselor.

6. Placebo counseling means taking students from class as in counseling groups, but having them receive no counseling.

7. Retarded reader is defined as a student determined to be three grade levels or more below the norms for his grade on the California Standardized Reading Achievement Test.

8. Anxiety is defined as a state of tension which is
unpleasant and generally occurs as a result of the organism perceiving itself to be in either physical or psychological danger.

Organisation of the Remainder of the Study

Chapter I includes the background, the need for the study, importance of the study, statement of the problem, description of the study, hypotheses, limitations, definition of terms.

Chapter II presents the review of the literature dealing with anxiety, reading problems with emotional ramifications, counseling and remedial reading, and counseling desensitization methods as they apply to anxiety reduction.

Chapter III includes the introduction, method of selecting the subjects, instrumentation, treatments, statistical method, and summary.

Chapter IV presents the statistical analysis of the data.

Chapter V summarizes the study and includes conclusions and recommendations.

The appendices contain the Children's Manifest Anxiety Scale and the rating scale for overt anxiety developed for this study.
CHAPTER II
REVIEW OF LITERATURE

Introduction

This chapter includes a review of the literature related to the relationship between anxiety and intelligence, achievement, and reading disability. In addition, available studies on the effect of counseling on reading disability and desensitization as a counseling procedure are reviewed.

Anxiety and Achievement

Psychological research has attempted to precisely define anxiety. Stern (1954) stated it to be "a specific unpleasurable state of tension which indicates the presence of some danger to the organism." Schottstaedt (1960) described anxiety similarly as "the apprehensive tension of uneasiness which stems from anticipation of imminent danger, in which the source is largely unknown or unrecognized." Other authorities (Laughlin, 1956; Noyes, 1953; Weiss, 1957; and Aldrich, 1955) have agreed that anxiety is a state of tension which is unpleasant and generally occurs as a result of the organism perceiving itself to be in danger. These authorities have held that danger, although it can mean physical threat to the organism, can and apparently does include mental or psychological threat to the personality or the well-being.
of the organism's environmental state. Because of the painfulness and uncomfortableness of anxiety, it appears to be something to contend with when it occurs in an organism.

Dr. L. Luborsky (1962) stated in his studies that manifest anxiety can be free floating or it can be attached to specific experiences. Manifest anxiety also includes anxiety expressed as tension. According to Luborsky, behavioral manifestations of anxiety could be word blocks. Phillips (1962) using the Children's Manifest Anxiety Scale with seventh grade students and comparing sex and social class groups, found that, within the normal range of IQ, performance on achievement tests was negatively related to anxiety. Lunneborg (1965) also reported that:

Anxiety and achievement correlated negatively. The Test Anxiety Scale for Children produced the largest correlations with achievement of the three anxiety measures (General Anxiety Scale for Children, TASC and the CMAS). This negative relation tended to be stronger for girls than boys and to increase in strength the higher the grade level, in accord with results of both Sarasan, et. al., and McCandless and Castaneda.

Lunneborg's research also found that the CMAS correlated highly with the General Anxiety Scale for Children (.71) and the Test Anxiety Scale for Children (.82). A negative correlation of .51 between anxiety and reading achievement was also reported.

Cowen, Zax, Klein, Izzo and Trost (1965) in their study also found support for previous research which showed negative
correlations between CMAS when compared to IQ and achievement test scores. However, Stanford, Dember, and Stanford (1963) reported no significant relationship between anxiety and IQ; but they did find that categorizing children on the basis of their score on both anxiety and IQ considerably increased the predictability of their grades.

Stevenson and O'Dom (1965) using the CMAS in studying the relationship between anxiety and children's performance on learning and problem-solving tasks concluded that anxiety had the most disruptive effect on performance in tasks involving verbal processes. Since reading is essentially a verbal process, this tended to show further support for the negative correlations found between anxiety and reading in the preceding studies.

Mandler and Watson's (1966) findings suggested possible explanations for the development of anxiety among students in the reading class room. They discovered that anxiety occurred when a response sequence was interrupted and there was no alternative response available. For example, this might occur if a student were unable to decode a key word in an oral or silent reading assignment and lacked the word attack skills needed to deal with this particular word. The inability to read questions in all subject areas, including reading, could also produce anxiety according to the concepts described by Mandler and Watson. These findings might account
for the spiraling and disabling effect students experience trying to study subjects which produce total frustration.

In Penny's study (1965) it was found that children's reactive curiosity is negatively related to their manifest anxiety. This study tends to lend support to the disabling character of anxiety, this time in the area of curiosity, which has been developed in the previous studies cited.

Paul Holmes (1966) studied the influence of anxiety upon academic performance and found (1) the performance of the high-anxious subjects was significantly lower than that of low-anxious subjects; however, (2) when the referent-of-evaluation was peer group, the performance of the group receiving supportive instructions was higher than in the case of threatening instructions. This study not only supported the previous research which revealed the disabling effects of anxiety on academic performance, but also added evidence of the effects of supportive versus threatening instructions given when the peer group was doing the evaluating.

Charles D. Smock (1963) in his study found that students who had relatively high scores on the manifest anxiety scale tended to achieve higher perceptual accuracy for objects previously associated with failure than for objects paired with success.

Britton K. Ruebush (1963), in his review of anxiety, stated: "In general, although anxiety has played a central
theoretical role in social learning theory in explaining the personality development of the child, it has rarely been studied as an independent or dependent variable in research with children conducted within this particular framework."

**Anxiety and Reading Disability**

The limited research on the relationship and interaction of anxiety and reading disability is discussed in this section of the review of literature.

Leavell and Sterling (1938) found that intelligence and various aspects of reading are positively related. However, according to Gray (1950) the correlations as a rule did not rank above .40 or .50 which indicated that factors other than intelligence influenced progress in reading.

Woolf and Woolf (1957) found evidence to support the existence of personality differences between those who have reading problems and those who do not. In a similar vein Warters (1964) stated that emotional problems were often the reasons for learning difficulties. Of particular importance to this study was Warters' (1964) statement that "Remedial reading students must be helped with their emotional problems as well as their reading problems." Some authors (Warters, 1964; Muro, 1966; Williamson and Hahn, 1940) of guidance texts discussed the use of counseling for effective reading remediation, but apparently few have subjected their
assumptions to scientific analysis or experimentation.

Spache (1957) in his study of retarded readers found his subjects to be antisocial, aggressive toward authority, and overanxious. Many authors suggested a cause and effect controversy vis-a-vis reading and emotional problems. Rubinovich (1959) illustrated this when he stated that "conflicts may cause a student to be preoccupied with classroom problems which seriously affect attention, concentration, and memory. This causes him to get further behind in class work which makes him feel more and more inadequate."

More directly related to this study was Pacheco's (1964) research of the relationship of anxiety and reading achievement in sixth grade children. She found that anxiety and reading ability were inversely related to each other. Harleston (1965), using anagram solving tasks, found that test-anxious subjects showed increases in heart rate, and those increases in heart rate were accompanied by poor anagram problem solution. The assumption could be made that the processes used in anagram solutions are similar to the processes used in reading. However, Nelson (1963) used the Children's Manifest Anxiety Scale and found that high anxiety subjects failed to show less learning under experimentally induced anxiety conditions than low anxiety subjects. On the other hand, McCandless' and Castaneda's (1956) position
described a negative correlation between anxiety and the complex activity of reading.

In addition, it was also found to be a consensus of many studies (Stevenson and O'Dom, 1965; Cowen, Zax, et al., 1965; Phillips, 1962) that verbal IQ and achievement test scores were negatively correlated with anxiety. Many studies, as reviewed by Ruebush (1963) showed the anxious child was predisposed to become anxious in situations containing some degree of stress. It was suggested that the stress which is placed upon a poor reader, through lack of achievement and non-success throughout the grade levels, progressed considerably by the time he reached the ninth grade. Therefore, the research reviewed pointed strongly to anxiety as a major factor blocking the remediation of reading disability. These studies indicated that if this manifest anxiety could be reduced the student would be freed to make gains in his ability to cope with reading material more effectively.

Counseling and Reading Disability

Counseling to supplement the remedial reading program could be the vehicle used to reduce the child's manifest anxiety. As is stated by Muro (1966) "In counseling sessions free from the pressure of peers, such anxieties can be reduced or perhaps eliminated. Once anxiety is reduced growth can

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take place." In many texts (Loughary, 1961; Raygor, 1960; Strang, 1968; Robinson, 1968) which were devoted to a review of the problems of reading disabilities, the methods of reducing the emotional problems of poor readers were conspicuous by their absence. On the other hand, those texts (Sr. Mary Peter, 1963; Nelson, 1967; Dahlberg, Rosewell, Chall, 1968; Witty, 1968) which were concerned with the methods of alleviating emotional problems of the disabled reader, admitted to the need for developing interpersonal relationships, support, and encouragement, but many believed that the remedial reading teacher should handle these problems.

The literature concerned with the effect of counseling on remedial reading problems has been sparse. Of the studies encountered, most deal with underachieving college students or gifted underachieving high school students (Broedel, 1965; Roth, 1967; Searles, 1962; Sheldon, 1965; Spielberger, 1964; Wilborn and Schmidt, 1965). All of the aforementioned research gave only one type of treatment, either individual or group counseling, to the underachievers. It should be noted that group counseling treatment was the most prevalent in these studies. The research of Roth, et al. (1967) and Wilborn and Schmidt (1965) were the only studies cited which reported significant relationship between counseling and an increase in grade point averages. Baymur and Patterson (1965)
found significant grade point average increases with students who were given individual and group counseling when compared to students who were exposed to motivational sessions and a control group.

Dolan (1964) restricted his dependent variable of underachievement to the results of the Stanford Achievement Reading Test. Using individual counseling, he pre- and post-tested seventh grade students for achievement and attitudes. He concluded from his data that there were no significant increases in the paragraph meaning section of the Stanford Reading Test, but did show significant increases on the word meaning section.

Deskin (1967) using a population of boys in a clinical setting for six weeks, studied the effects of relaxation training and physical systematic desensitization on anxiety and a remedial reading program at the clinic. There was not a significant reduction in test anxiety as measured by the Test Anxiety Scale for Children. The treatment phases were more effective when combined with remedial reading techniques than when those reading techniques were used alone. Results were similar for both treatments. The positive effects were believed to be the result of the warm, empathetic relationship of the therapist conducting either type of treatment. The following limitations of the application of these results to
a regular school program should be noted: (1) homogeneity of sex in the sample, (2) the possible difficulty in applying this type of treatment phase as a part of the regular counseling day, and (3) the population was not determined to be high anxious when selected, therefore, it was not certain that anxiety was affecting the students initially.

Although the research on the effect of counseling on improving reading performance has been limited, many studies continued to indicate the need to solve the emotional problems related to reading retardation. Woolf and Woolf (1957) in their study of retarded readers felt that the high degree of anxiety found in individuals experiencing reading problems may be the result of the need for self-assertion conflicting with the fear of its results. It was also noted in this study that the retarded reader feared the freedom to express himself. According to the authors, this had an adverse affect on creativity. They also suggested that the anxiety created by these fears resulted in distractibility and indecisiveness which interfered with problem-solving and constructive use of energies. These tensions created loss of bodily function such as is needed in seeing a word properly or in writing. It was Woolf and Woolf's (1957) opinion that reading with understanding involves creative thinking. They summarized their study of the impact of emotions on reading disability
with this statement: "Symptoms of retarded readers are not usually sufficiently alarming as to suggest mental illness, but they are often present to a degree which interferes with productivity and normal satisfaction."

Woolf and Woolf's (1957) study tended to be a further extension of Beir's (1949) findings which revealed the effect of threat upon creative thinking. Retests for abstract reasoning after induced threat to the experimental group indicated lost power for abstract reasoning and increased rigidity of thinking as compared to the control group.

More support for the intermingling of emotional problems and reading retardation was found in studies performed in college reading classes. McDonald, Zolik and Byrne (1962) reported none of the subjects in a reading class involving randomly selected students could be described as emotionally well adjusted according to the MMPI. Zolkos, Robinson and Russell (1962) indicated that emotional strain and reading disability tended to interact, adding stress to each other. However, Raines and Tait (1962) concluded that reading retardation in many cases was an indication of emotional illness in the individual.

Robinson (1964) found, in studying emotional problems and reading disability, a significant number of retarded readers gave some evidence of emotional disturbances.
Furthermore, the percentage of emotionally disturbed students was higher than among an unselected population. It was concluded that there was a definite relationship between emotional maladjustments and reading disability.

Wattenberg and Clifford (1964) found measures of self-concept and ego strength related positively to reading achievement and predictive of this achievement 2 1/2 years later.

Both Nelson (1967) and Witty, Freeland and Grotberg (1966) explored and discussed the intensification as well as the spiralling effect long-standing anxiety and emotional problems had on reading achievements, and, conversely, how the lack of success intensified the anxiety and emotional problems. This detrimental interaction became more and more intensified as the students moved to higher grades. There seemed to be agreement in these studies with regard to the debilitating effect this spiralling has upon an individual and his ability to learn.

**Desensitization as a Counseling Procedure**

Wolpe's (1958) findings suggested that there was no need for the explorations with a patient into the basis of the anxiety. He believed the reduction of anxiety could be accomplished through association learning through responses exhibited which are incompatible with fear. Lang and Lazovik (1963) in their
study supported Wolpe when their results demonstrated that desensitization therapy (systematic presentation of phobic object) effectively reduced phobic behavior.

Rachman and Hodgson (1967) found that the subjects of their investigation did not have to reduce their anxiety level below 50% of what it was originally in order to have effective desensitization occur. Furthermore, the studies by Lang, Lazovik and Reynolds (1965) as well as Garlington and Cotter (1968) indicated that when desensitization occurred for one fear it often created a reduction in other untreated fears.

In the research by Ihli and Garlington (1969) an attempt was made to determine which to be the most effective, desensitization procedures administered in a group or individual setting. They found group desensitization just as effective as individual.

Although most of the research reviewed seems to encompass studies not related to achievement and reading, Mann and Rosenthal's (1969) study attempted to study the effects of physical systematic desensitization of fifty seventh-graders assigned to them by school counselors. Both individual and group desensitization techniques affected significant results in reducing test anxiety but experimental variations did not significantly differ.
Attention should be centered on the fact that many researchers such as Mandler and Sarason (1952), Eysenck and Rachman (1965), Emery and Krumboltz (1967) to mention a few, have studied the measurement and reduction of test anxiety. Most studies encountered (Emery and Krumboltz, 1967; Kindas, 1967; Suinn, 1968) used physical systematic desensitization as the treatment method. However, it seems that only Goodstein (1965) has attempted to define verbal desensitization and apply it to individual counseling procedure. The application of physical systematic desensitization to group procedures (indicated previously) with considerable success, indicates the tenability of applying verbal desensitization to group procedures also.

Summary

The review of the literature suggested that anxiety is a state of tension of the organism when it perceives itself in danger either physically or psychologically.

The consensus of the studies reviewed indicated a positive relationship between anxiety and reading disability. There was also the recognition of a reciprocal causal relationship existing between emotional problems and reading disability. Although this relationship was apparently known to exist, few investigations were found which attempted to study
counseling methods in relation to anxiety and reading disability. Deskin (1967) apparently did not take into consideration methods and procedures applicable to school programs. It appears necessary, then, to investigate further the relationship between counseling and the reduction of anxiety and its subsequent effect on reading achievement.
CHAPTER III
RESEARCH METHODS AND PROCEDURES

Introduction

Many research investigations have dealt with anxiety and its relationship to achievement as the review of literature suggested. One of these studies (Deskin, 1967) was found to have dealt with effects of different treatment procedures on reading ability and anxiety level in children with learning difficulties. But in that study treatment was performed in a clinical setting using a select population needing summer help. However, none have focused basically on the relationship of anxiety and reading retardation within a public school setting, working in regular classroom programs and utilizing the counselors available at the school with normal time allotments. In the literature surveyed, no research was found which investigated the reduction of anxiety with remedial reading students within their own school environment through group and individual counseling. In view of this fact, there appeared to be a definite need for a research design appropriate to investigate this problem. This chapter, therefore, presents the method of selecting the subjects, the instrumentation, the treatments, the statistical method, and the summary.
Method of Selecting the Subjects

A junior high school was selected because it was one of the few junior high schools that grouped students in English classes according to their reading ability. The sample selected consisted of those students who were determined to be "high anxious" according to their scores on the Children's Manifest Anxiety Scale, and whose reading ability was retarded three grade levels or more according to the California Standardized Reading Achievement Test. The total population of high anxious students (45) was chosen from grades 8 and 9. The 45 students were divided into three groups of 15. Members for each group were randomly selected for placement by the use of the table of random numbers. The groups selected were (1) the individual counseling group, (2) the group counseling group, and (3) the control group. At the time of the selection of the sample only limited information about the subjects was known to the experimenter. All of the students were in grades 8 and 9 in remedial reading classes at Harrison Junior High, and had scores on the Children's Manifest Anxiety Scale of 21 or above.

Since there is a total possible score of 42 on this scale, it was arbitrarily determined that scores in the upper 50% of the responses should be counted as indicative of high anxiety for the purposes of this study. McCandless and
and Castaneda, the authors of the CMAS, reported in their study (1956) an overall mean score of 17.16. Therefore, the selection of scores of 21 or above in this study was well in excess of mean anxiety scores as described by the authors.

Before selection of the group, each student was given a code number in order not to bias random selection and the gathering of the data. All data was then entered under that number, and in the analysis of data names were not seen, only code numbers representing data. This was done in order to further minimize biasing of the data.

Instrumentation

Nelson Reading Test. The Nelson Reading Test, revised edition (1962), consisted of two parts: (1) vocabulary, and (2) paragraph comprehension. It was designed to be used with grades 3 through 9 inclusive. It was chosen because it was part of the normal testing program of the public schools and because it was a standardized and widely used group test to determine reading achievement. It was available in two forms [(A) and (B)] which increased the reliability of the pre- and post-testing. There were 175 items, 100 vocabulary and 75 for reading comprehension. Total testing time was 30 minutes, 10 minutes for vocabulary and 20 minutes for reading comprehension, plus whatever time needed for distribution and
collection of test materials as well as directions. Because of the time required, this test was administered in a single class period.

Three grade equivalent scores were obtained from this test. They were: (1) vocabulary, (2) reading comprehension, and (3) a total score.

The Nelson Reading Test was standardized using a total population of 17,957 randomly selected students (grades three through nine) from cities in 37 states.

Reliability coefficients for alternate forms and correlations with the Iowa Test of Basic Skills were obtained from the Examiner's Manual of The Nelson Reading Test, Revised Edition, Grades 3-9 (1962) and are reported in Tables 1 and 2.

Table 1

<table>
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<tr>
<th>Grade</th>
<th>Vocab.</th>
<th>Para.</th>
<th>Total</th>
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<td>9</td>
<td>.86</td>
<td>.87</td>
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Table 2

Nelson Reading Test - Correlations
With Subtests of Iowa Tests
of Basic Skills

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<tr>
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<th></th>
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<td>Parag.</td>
<td></td>
<td></td>
</tr>
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<td>.70</td>
<td>-</td>
<td></td>
<td>77</td>
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<tr>
<td></td>
<td>Parag.</td>
<td>-</td>
<td>.62</td>
<td></td>
<td>77</td>
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<td>Vocab.</td>
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<td>-</td>
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<td>Parag.</td>
<td>-</td>
<td>.76</td>
<td></td>
<td>99</td>
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<tr>
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<td>Vocab.</td>
<td>.88</td>
<td>-</td>
<td></td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Parag.</td>
<td>-</td>
<td>.69</td>
<td></td>
<td>83</td>
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</table>

Children's Manifest Anxiety Scale (CMAS). The Children's form of the Manifest Anxiety Scale by Castaneda, et al. (1956) was a revised form of the Taylor Anxiety Scale. Taylor's Scale was a highly researched and standardized instrument designed to measure adult manifest anxiety, and was adapted from the Minnesota Multiphasic Personality Inventory. A total of 42 anxiety items were selected and modified by Castaneda, et al., as to possible difficulties in the instructions for its administration and as to their comprehensibility. In addition to the 42 anxiety items, there were eleven items designed as an index of a subject's tendency to not be truthful in his responses. There was but one form of the test, and it was well suited for group administration. This test was
originally standardized with a population of 361 children in grades 4 through 6. The reduced level of reading ability of the subjects in this study made it necessary to use a test standardized for a population of grades 4 through 6. The mean of the distribution of the original population was 17.16. The CMAS is reproduced in Appendix A.

Lorge-Thorndike Test of Intelligence. The Lorge-Thorndike Test of Intelligence was also administered. This test provided: (1) verbal IQ, (2) performance IQ, as well as (3) total IQ score. The Lorge-Thorndike was administered in a group setting and was a requirement in the public schools. The correlation analysis between IQ and pre- and post-test scores of CMAS are summarized in Appendix C.

Behavioral Checklist. An overt behavioral evaluation sheet for manifest anxiety was developed for special use in this setting with the help of the reading teachers in this study. This sheet was based on a 22-item checklist taken from Paul (1966). The list was presented to the remedial reading teachers involved with the directions to check those items that they felt were signs of manifest tension or anxiety. Also, they were asked to add signs that they felt significant but were not listed. However, no new items were added, and total agreement was received on six items and two of the three teachers agreed on three other items. Therefore,
nine items composed the final instrument used to determine overt manifest anxiety. Total agreement was reached on 60% of the items between teachers 1 and 2, 80% agreement between teachers 1 and 3, and 70% agreement between teachers 2 and 3. This checklist was scored on a continuum of 1 (not at all) through 5 (very much so) and is reproduced in Appendix B.

Treatments

The three groups selected were subjected to pre- and post-testing of (1) Children's Manifest Anxiety Scale, (2) Nelson Reading Test, and (3) Rating Scale of observable clinical manifestations of anxiety.

All groups received remedial reading treatment as described earlier in this chapter. All members of every group were removed from the class for twelve 45-minute sessions. The independent variable or treatment was counseling and the dependent variables were anxiety and reading achievement.

Group I was exposed to the individual counseling. This treatment consisted of Goodstein's (1965) system of verbal desensitization for the reduction of anxiety which is described in this chapter.

Group II received the same counseling method except it was administered in a group setting (one counselor with seven or eight students, respectively). Since a group of 15 is somewhat cumbersome for efficient operation of group counsel-
ing, random assignment into two smaller groups numbering seven and eight, respectively, was made.

Group III was the control group. In order to control for the "Hawthorne effect," placebo counseling sessions were arranged for the control group. Since there was a possibility that just removal from class could have some effect on the results of this investigation, this placebo was administered. This helped to further isolate the effects of the treatment. Students in this group were taken from the class for the same period of time and number of sessions as the other two groups. In these sessions, there were open discussions which might be described as a "bull session" with the teacher playing as small a part as possible in order to keep the discussion going.

Content of Remedial Reading Classes. These classes were essentially the same in that all employed the use of (1) oral reading, (2) silent reading, and (3) building phonics skills and word attack skills.

The approach used by all the teachers involved in the remedial reading classes followed certain basic principles of remediation. Reading matter of high interest and low reading level was selected. The books used in each class were Reader's Digest Skill Builders, Scope Magazine, Teenage Tales, and selected supportive and adjunctive materials. These were
<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-Test</th>
<th>Remedial Reading</th>
<th>Post-Test</th>
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<tbody>
<tr>
<td>I</td>
<td>CMAS</td>
<td>Individual Counseling Treatment</td>
<td>CMAS</td>
</tr>
<tr>
<td></td>
<td>Nelson Reading</td>
<td>Group Counseling Treatment</td>
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</tr>
<tr>
<td></td>
<td>Overt Anxiety</td>
<td>12 wks -- 1 45-min. session per wk</td>
<td>Overt Anxiety</td>
</tr>
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<td>G</td>
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<td>Group Counseling Treatment</td>
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<td>12 wks -- 1 45-min. session per wk</td>
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</tr>
<tr>
<td>C</td>
<td>Pre-Test</td>
<td>Remedial Reading</td>
<td>Post-Test</td>
</tr>
<tr>
<td></td>
<td>CMAS</td>
<td>Placebo Sessions - No Treatment</td>
<td>CMAS</td>
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<tr>
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<tr>
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<td>Overt Anxiety</td>
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</table>

**Figure 1**

**Research Design**
selected for their content motivation. Teachers were highly selective of material within this specialized range in order to adjust the program to provide for individual needs. The program was constructed with much flexibility and variety. This variety included spelling, phonics, choral reading, writing, listening to short stories read by the teachers, and the encouragement of verbal expression and discussion of the highly motivating content. This, along with movies of books, placed most students in a position to increase their fund of information and background while the reading problem was being attacked. The knowledge obtained here was put to use in the teaching of writing as well as creative writing skills to the students.

It was important to allow the teachers maximum flexibility in their programs in order to make the results of this experiment capable of realistically fitting or being worked in adjunctively to any school program with only the initiating of a counseling phase. The insurance of consistency of the reading programs for this study came in the broad guidelines which all teachers followed. The random selection provided a good cross-section of students in each group from the various remedial reading classes.
Rationale for the Counseling Phase

The behavior-theoretical approach developed by Goodstein (1965) was selected not only because of the ease with which it can be applied to public school counseling, but also because it was one of the few methods which detailed an approach to counseling for the reduction of anxiety.

The author of this approach indicated that diagnosis to determine the problem is the first task in determining the presence of anxiety to an abnormal degree. He stated that this anxiety can be so debilitating as to prevent the acquisition of skills. Even though the problem was not caused by anxiety, remediation of the problem could be prevented due to the blocking effect it has on being able to learn skills necessary in remediation.

This approach was considered to apply directly to the problem being researched in this study. The question basically was why do remedial reading specialists find great difficulty in remediating the retarded reader using only the review and introduction of basic skills necessary to become a better reader? Even the individualized approach with its reinforcement quality as well as the opportunity for the student to proceed at his own pace, still does not alleviate the emotional stress involved in reading difficulties.

This lends weight to a multidisciplinary approach to
remediation of reading problems. This would involve:

1) determination of a reading problem and an accompanying "abnormal" amount of anxiety, 2) counseling to reduce anxiety which could have a blocking effect on the ability to pick up basic skills, and finally 3) the reteaching and teaching of basic skills necessary for remediation of the problem.

In support of this procedure, Goodstein stated (1965) that the counseling for reduction of anxiety can run concurrently with the acquiring of new skills, in this case the remedial reading program: "In actual counseling practice, the two processes of reducing the interfering anxiety and initiating the acquisition of skills frequently overlap in time." He also added that the concurrent nature of these procedures would be quite helpful in providing fuel for counseling discussions as well as the opportunity for the student to test his feelings and responses in real life settings which were anxiety producing. In this way, the counselor would be able to constantly evaluate and re-evaluate his approach and effectiveness in a counseling setting. The perceived added value of a concurrent program in the school setting was the ability to obtain feedback not only from the counselee, but also from his total school environment.

Dollard and Miller (1950) argued against concurrency and
stated that anxiety reduction should come first and then new learning settings instituted at appropriate times. However, Eysenck (1960) indicated that the counselor should also be concerned with providing conditions for learning more adaptive responses. This then seems to encourage and moreover defines the need for concurrent counseling with the learning of new skills. There seems to be a definite value and logic for a two-pronged counseling approach of anxiety extinction as well as learning and reality testing of adaptive responses.

Guthrie (1952) suggested that there are three main ways that are likely to lead to extinction of a learned response such as anxiety. These were:

(1) adaptation or desensitization which involves the presentation of the stimulus at very weak strength so that it will not be strong enough to actually elicit a response. The strength of the stimulus is then gradually increased, always taking care to keep the strength of the stimulus below that required to elicit the response until even the presentation of the stimulus at full strength is no longer an effective cue for eliciting the response; (2) internal inhibition which involves presenting the anxiety-producing cues in sufficient strength to elicit the anxiety response. The continual or very frequent presentation of such stimulation will result in a virtually continuous response; such continual responsiveness will in turn lead to fatigue and other changes in an organism, which will eventually lead to the cessation of the response despite the continued presence of the anxiety-arousing cues; (3) counterconditioning which involves the presentation of the anxiety cue in sufficient strength to elicit the
anxiety response while the organism is making some other response that is incompatible with the anxiety response.

Although there is some agreement on the above principles as constituting the type of theory which logically should be used to reduce anxiety, there seems to be a difference of opinion as to the method of implementation.

In this controversy over implementation in anxiety reduction counseling, there appears to be two main factions. One is the direct approach which attempts to reduce anxiety by the actual physical presentation of cues in small doses. The theory of this approach is the small dose concept can eventually produce desensitization. The other faction of implementation is the symbolic presentation of cues designed to produce anxiety. Verbal cues given by the counselor are considered to be the symbolic presentation discussed above. These cues are presented in the counseling sessions in an atmosphere of support, encouragement, security, warmth and acceptance. Theoretically these feelings become attached to the verbal symbols which are anxiety producing. In view of the incompatible nature of the two, desensitization is produced.

According to Goodstein (1965), "Interpersonal anxiety can best be extinguished in an interpersonal relationship with a warm, permissive counselor who provides an opportunity for the client to desensitize the anxiety-producing thoughts by
not punishing the client when such thoughts are expressed."

The basic difference between the direct and indirect approaches appear to be (1) the direct approach proponents feel that elimination of overt symptoms will bring appropriate changes in cognitive or mediational processes, and (2) the indirect proponents feel the cognitive changes will bring about symptom extinction. The role of the counselor in the indirect approach is far more important than in the direct approach. The cognitive changes in the indirect approach take the form of developing a more realistic self-concept and clearer thinking which tends to lead to a more effective behavior.

According to Goodstein, the proponents of the direct approach felt that the indirect orientation was "overly intellectual and pays too little attention to motivational or emotional factors." However, as was argued by Goodstein, "it is precisely these emotional factors that are conceptualized as interfering with the adequacy of the cognitive process, and it is on this anxiety that the indirect behavior-theoretical counselor concentrates his efforts."

It would seem apparent that it would not be possible or even realistic to present the variety of actual physical cues which the direct method proposes to trigger the anxiety. The more realistic approach for a school setting would be the
verbal expression of cues, since this would not require the vast variety of props in the counseling room. However, built into the indirect approach selected as the counseling method for this research was the actual day-to-day physical production of feelings of anxiety on the part of these students as they attend a variety of classes in which reading is of primary importance. It was felt that because of this factor the counseling done for this research was able to capitalize on some of the good features of both direct and indirect methods.

Description of the Counseling Treatment

There were three meetings with the counselors in order to familiarize them with the type of counseling method to be used. Since the method selected was done so in order to be easily incorporated into a school counseling program, counselors had little difficulty in understanding the methodology of the counseling procedure.

The counseling method was the same for both the group and individual sessions. Counselors encouraged subjects to talk about their inadequacy, abilities, feelings, other people, interactions or whatever seemed to be causing them to be anxious. This was done through the use of well directed questions and reflections of appropriate visual and verbal
cues. The relationship with the counselor, the interaction, acceptance and warmth in the sessions were the means by which visual and verbal cues were elicited in order for appropriate questions to be asked and pertinent reflections made. This triggered anxiety and tension states within the individual. However, the relationship which the subject simultaneously experienced with the counselor and the rapport and interaction lead the subject to feelings of hope, security, comfort and success. Since these feelings were incompatible with the feelings of anxiety and tension states, desensitization occurred. As in "Shoben's (1948, 1949) analysis based on counterconditioning, the non-anxiety responses of acceptance, warmth, and security experienced by the client in working with a counselor can now become attached to the verbal symbols which previously elicited anxiety." (Goodstein, 1965.) The stimulus-response diagram on the following page illustrates the counseling method employed.

**Statistical Method**

Statistical significance was established at the .05 level to test the significance of difference between means for all measures. This level was also established for the correlations obtained.

Mean difference comparisons were made on data obtained in the pre- and post-testing (1) with the Nelson Reading
Figure 2

A Stimulus-Response Desensitization Diagram

S
Talking about
inadequacy, inadequacies,
feelings, other people, etc.

Desensitization

R
Anxiety
Tension
states

Incompatible

S2
Relationship with
Counselor, interaction,
acceptance, and
warmth.

R2
Feelings
of hope, security,
comfort and
success
Test (Form A used for pre-test results and Form B used for post-test results), and (2) with the Children's Manifest Anxiety Scale. Each portion (vocabulary, comprehension, and total score) was subjected to this type of comparison. In addition comparisons in pre- and post-test data were collected on the overt anxiety scale.

According to Garrett (1962) and Freund (1960), the small sample statistics should be used when groups being compared contain samples of 30 or less. Since each of the three groups in the study consisted of 15 students each initially, the T-Test (significance of the difference between two means) for small samples was used. It should be stated that five students who were pre-tested were not available for part of the treatment phase as well as post-testing because they were either ill or transferred from the school. The final composition of each group was as follows: (1) Individual Counseling Group - 15, (2) Group Counseling Group - 12, and (3) Control (Placebo Counseling) Group - 13. This T-Test formula for small samples was obtained from Garrett (1962) as well as the critical ratio values from Table II of his book.

The T-Test for significance of difference between means was used to test each group's pre- and post-test data on the (1) CMAS, (2) total reading, (3) vocabulary, (4) paragraph
meaning, and (5) overt anxiety scale.

The Pearson product-moment method was used to compute correlations for both pre- and post-tests between (1) CMAS and IQ, (2) CMAS and vocabulary, (3) CMAS and paragraph meaning, (4) CMAS and total reading score, (5) vocabulary and IQ, (6) paragraph meaning and IQ, and (7) total reading score and IQ. All tests correlated with IQ were done so by parts, such as verbal and performance, as well as total.

The formula for using the Pearson product-moment method for correlation was obtained from Good (1958).

An analysis of the scores of individuals within groups on each instrument was made in order to make comparisons where significant differences were not revealed.

**Summary**

Three groups were randomly selected from a population of eighth and ninth graders. The total population of 45 high anxious students, as determined by the Children's Manifest Anxiety Scale, in remedial reading classes were used.

All groups received remedial reading treatment while Group 1 was subjected to Goodstein's method of desensitization through individual counseling, Group 2 received this same method only in a group setting, and Group 3 received placebo counseling sessions. There were twelve sessions of 45 minutes each.
Instruments for pre- and post-testing were (1) Children’s Manifest Anxiety Scale, (2) Nelson Reading Test forms A and B, and (3) overt manifest anxiety scale.

Statistical analyses used were (1) Pearson product-moment correlation, (2) mean comparison, (3) T-Test to determine significance of difference of means, and (4) intra-group analysis of individual scores.
CHAPTER IV
RESULTS OF EXPERIMENT

Introduction

The purpose of this study was (1) to investigate the relationship of anxiety and reading improvement, (2) to determine whether a consistent therapeutic approach could effect a reduction in manifest anxiety, and (3) to compare the effectiveness of group and individual counseling in (a) the reduction of manifest anxiety and (b) reading improvement.

The analysis of the data presented in this chapter tested the following hypotheses for their acceptance or rejection:

\( H_1 \) There is no significant improvement in reading achievement between counseled and uncounseled groups.

\( H_2 \) There is no significant difference between individual and group counseling in reducing manifest anxiety.

\( H_3 \) There is no significant difference between the reading achievement of individuals exposed to individual and group counseling.

\( H_4 \) There is no significant difference between counseled and uncounseled groups in reducing manifest anxiety.

\( H_5 \) There is no significant relationship between
manifest anxiety and reading achievement.

Chapter Organization

This chapter contains a general descriptive summary of the data collected. Tables present the statistical information used in determining significance of mean deviation scores.

Each hypothesis is examined. The data related to its testing are summarized and the statistics analyzed as they relate to each hypothesis.

Children's Manifest Anxiety Scale

In analyzing the data obtained on the Children's Manifest Anxiety Scale (CMAS), the statistic for finding the significance of difference between means obtained from the same group upon two occasions was used. The critical ratio was obtained to determine acceptance or rejection of the null hypotheses $H_0$: There is no significant difference between counseled and uncounseled groups in reducing Manifest Anxiety, and $H_2$: There is no significant difference between individual and group counseling in reducing Manifest Anxiety.

Table III provides degrees of freedom, mean difference, and critical ratio of individual counseling data of CMAS scores.

In this portion of the experiment this group was randomly selected to receive individual counseling treatment. All
students selected had to score at or above the score of 21 which was designated by definition to be indicative of high anxiety. After the final treatment phase for all students, a post-testing using CMAS was administered. Table 3 shows the results of this comparison to determine the effectiveness of the Individual Counseling treatment. Since the critical ratio is significant at the .01 level of confidence (most statisticians feel that .05 is sufficient for educational studies), the Individual Counseling group exhibited a reduction of manifest anxiety as measured by the CMAS.

**Table 3**

<table>
<thead>
<tr>
<th>d f</th>
<th>M_D</th>
<th>S_D</th>
<th>S E M_D</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>2.80</td>
<td>2.51</td>
<td>.906</td>
<td>-3.09***</td>
</tr>
</tbody>
</table>

***Significant at the .01 level of confidence

Table 4 provides degrees of freedom, mean difference, standard deviation, standard error of mean difference, and critical ratio of group counseling data of CMAS scores. The group designed to receive group counseling started with fifteen members as all of the other groups. However, three students in this group were unable to finish the counseling
sessions because of illness or transfer to another school.

**Table 4**

Comparison of Pre- and Post-CMAS Scores for Group Receiving Group Counseling

<table>
<thead>
<tr>
<th>d f</th>
<th>MD</th>
<th>SD</th>
<th>SE&lt;sub&gt;MD&lt;/sub&gt;</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>3.67</td>
<td>6.02</td>
<td>1.74</td>
<td>-2.12*</td>
</tr>
</tbody>
</table>

*Not significant at .05 level of confidence

Although the group statistic showed an overall decrease in CMAS scores, the critical ratio did not reach the .05 level of confidence. Therefore, it was not demonstrated that the group counseling used in this study was effective in reducing manifest anxiety as measured by the CMAS.

Table 5 provides degrees of freedom, mean difference, standard deviation, standard error of mean difference, and critical ratio of control group data of CMAS scores.

**Table 5**

Comparison of Pre- and Post-CMAS Scores for the Control Group Receiving No Counseling

<table>
<thead>
<tr>
<th>d f</th>
<th>MD</th>
<th>SD</th>
<th>SE&lt;sub&gt;MD&lt;/sub&gt;</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>0.31</td>
<td>3.6</td>
<td>1.27</td>
<td>-.0244*</td>
</tr>
</tbody>
</table>

*Not significant at .05 level of confidence
This group also had two students who did not finish the prescribed phase of the experiment because of illness or transfer. It should also be mentioned that members of this group were removed from class as were the two counseling groups so as to see what effect the placebo of removal and attention might have on the results.

The critical ratio did not indicate significance at the .05 level of confidence. Therefore, the placebo was not effective in reducing manifest anxiety as measured by the CMAS in this study.

From the analysis of the data presented, the null hypothesis $H_4$ is rejected. The group receiving individual counseling had a significant reduction in manifest anxiety as measured by the CMAS, while the control group receiving the placebo of attention and removal from class but receiving no counseling showed no significant reduction in manifest anxiety.

The data also indicated a rejection of the null hypothesis $H_2$: There is no significant difference between individual and group counseling in reducing manifest anxiety. There was significant reduction in manifest anxiety as measured by the CMAS for the group receiving individual counseling, whereas there was no significant reduction of manifest anxiety for the group receiving the group counseling.
The Nelson Reading Test

The hypotheses $H_3$: There is no significant difference between the reading achievement of individuals exposed to individual and group counseling, and $H_1$: There is no significant difference in reading achievement between counseled and uncounseled groups, were tested with forms A and B of The Nelson Reading Test. Significances of difference between means obtained from the same group upon two occasions was used to determine acceptance or rejection of these null hypotheses.

Table 6 provides degrees of freedom, mean difference, standard deviation, standard error of mean difference, and critical ratio of individual counseling data of Nelson Reading Test scores.

Table 6

Comparison of Pre- and Post-(Forms A and B) Nelson Reading Test Scores for Group Receiving Individual Counseling

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>$M_D$</th>
<th>$S_D$</th>
<th>SE$_{MD}$</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary</td>
<td>14</td>
<td>4.53</td>
<td>7.90</td>
<td>2.04</td>
<td>2.22**</td>
</tr>
<tr>
<td>Paragraph Meaning</td>
<td>14</td>
<td>2.73</td>
<td>11.61</td>
<td>3.00</td>
<td>0.91*</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>5.13</td>
<td>6.43</td>
<td>1.66</td>
<td>3.09***</td>
</tr>
</tbody>
</table>

*Not significant
**Significant at the .05 level of confidence
***Significant at the .01 level of confidence

59
The results indicated that the group receiving individual counseling increased their total reading score, as measured by the Nelson Reading Test, to a degree of significance beyond the .01 level of confidence. However, when results of subtest scores are analyzed, the increase in vocabulary scores for this group was significant at the .05 level. The paragraph meaning scores did not show significant improvement.

Table 7 provides degree of freedom, mean difference, standard deviation, standard error of the mean difference, and critical ratio of group counseling data of the Nelson Reading Test Scores.

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>M_D</th>
<th>S D</th>
<th>SE_MD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary</td>
<td>11</td>
<td>-0.75</td>
<td>6.61</td>
<td>1.62</td>
<td>-0.469*</td>
</tr>
<tr>
<td>Paragraph Meaning</td>
<td>11</td>
<td>4.67</td>
<td>10.86</td>
<td>3.14</td>
<td>1.49*</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>3.00</td>
<td>8.36</td>
<td>2.71</td>
<td>1.11*</td>
</tr>
</tbody>
</table>

*Not significant

The results indicated that the group receiving the group counseling did not show significant improvement in total reading as measured by the Nelson Reading Test. An analysis
of sub-test scores revealed no significant improvement in vocabulary or paragraph meaning.

Table 8 provides degrees of freedom, mean difference, and critical ratio of the control group data of the Nelson Reading Test scores.

Table 8

Comparison of Pre- and Post- (Forms A and B) Nelson Reading Test Scores for the Control Group Receiving Placebo Counseling

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>M_D</th>
<th>S_D</th>
<th>SEMD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary</td>
<td>12</td>
<td>7.61</td>
<td>16.75</td>
<td>4.64</td>
<td>1.64*</td>
</tr>
<tr>
<td>Paragraph Meaning</td>
<td>12</td>
<td>8.07</td>
<td>13.71</td>
<td>3.80</td>
<td>2.12*</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>8.31</td>
<td>10.42</td>
<td>2.90</td>
<td>2.85**</td>
</tr>
</tbody>
</table>

* Not significant
** Significant at the .05 level

In analyzing the Nelson Reading Test scores for the control group receiving placebo counseling, there was no significant improvement in vocabulary and paragraph meaning. However, the total reading scores as measured by this test did show improvement significant at the .05 level.

On the present evidence, of (1) significant reading improvement (beyond the .01 level of confidence) for the group receiving individual counseling, (2) no significant improvement
in total reading score of the group receiving group counseling, the null hypothesis $H_3$ is rejected. This indicated that individual counseling using Goodstein's method with this population was more effective in increasing total reading scores as measured by the Nelson Reading Test than group counseling.

The results also indicated rejection of the null hypothesis $H_3$. Individual counseling was more effective than group counseling in improving vocabulary scores on the Nelson Reading Test.

However, the null hypothesis $H_3$ was accepted for the paragraph meaning subtest of the Nelson Reading Test because neither individual nor group counseling could effect significant improvement in this area.

When comparing the results reported in Tables 6 and 8, there was significant improvement in total reading scores as measured by the Nelson Reading Test for both the individual counseling group and the control group. However, the level of confidence in the significance of total reading improvement was greater for the individual counseling group. Null hypothesis $H_1$, therefore, was accepted.

In the comparison of paragraph meaning scores, neither the individual counseling group nor the control group significantly improved. Therefore, null hypothesis $H_1$ was accepted.
for the comparison of results on this subtest.

Significant improvement was indicated in vocabulary test results for the individual counseling group, whereas no significant improvement in this area was noted for the control group. On the basis of this comparison, the null hypothesis $H_1$ was rejected, since the individual counseling was significantly effective in improving vocabulary scores on the Nelson Reading Test.

**Relationships Between Manifest Anxiety and Reading Achievement**

In order to test the null hypothesis $H_5$: There is no significant relationship between manifest anxiety and reading achievement, the Pearson product-moment correlation method (Good, 1958) was employed. The nature of the hypothesis made it necessary to amalgamate the data to be tested into one large group. This technique created correlation data for an $N$ of 40 students.

The Rusalka computer system was used for this correlation analysis.

An analysis of pre- and post-test relationships of the Nelson Reading subtest data and CMAS data as well as total data relationships are presented in Tables 9 through 14. These tables were constructed to identify $x$ and $y$ coordinates and their data and included the number in the sample, mean
minimum score, maximum score, standard deviation and coefficient of correlation.

Table 9
Correlation Analysis
Pre-Vocabulary vs. Pre-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>x (vocab)</td>
<td>40</td>
<td>46.40</td>
<td>14.00</td>
<td>65.00</td>
<td>10.252</td>
<td></td>
</tr>
<tr>
<td>y (CMAS)</td>
<td>40</td>
<td>25.125</td>
<td>21.00</td>
<td>35.00</td>
<td>3.545</td>
<td>.3720**</td>
</tr>
</tbody>
</table>

** significant at .05 level
(actually at .0173 level)

The analysis of the correlation between pre-vocabulary scores and pre-CMAS scores of the total population used for this study was indicative of a significant positive relationship. Therefore the null hypothesis $H_5$ was rejected for this reading subtest before treatment was experimentally introduced.

However, Table 10 presents post-test data of this same subtest which represents relationships after the treatment phase.

These results indicated no significant relationship between vocabulary and CMAS and therefore the null hypothesis
was accepted for this reading subtest.

Table 10
Correlation Analysis
Post-Vocabulary vs. Post-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x$</td>
<td>40</td>
<td>48.325</td>
<td>25.00</td>
<td>63.00</td>
<td>9.422</td>
<td></td>
</tr>
<tr>
<td>(vocab)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y$</td>
<td>40</td>
<td>22.925</td>
<td>13.00</td>
<td>33.00</td>
<td>5.585</td>
<td>.0546*</td>
</tr>
<tr>
<td>(CMAS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*not significant

Tables 11 and 12 present the correlations between the paragraph meaning subtest of the Nelson Reading Test and the Children's Manifest Anxiety Scale.

Table 11
Correlation Analysis
Pre-Paragraph Meaning vs. Pre-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x$</td>
<td>40</td>
<td>33.60</td>
<td>13.00</td>
<td>47.00</td>
<td>8.050</td>
<td></td>
</tr>
<tr>
<td>(par. mean.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y$</td>
<td>40</td>
<td>25.125</td>
<td>21.00</td>
<td>35.00</td>
<td>3.545</td>
<td>.2784*</td>
</tr>
<tr>
<td>(CMAS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*not significant
Table 12
Correlation Analysis
Post-Paragraph Meaning vs. Post-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>x (par. mean.)</td>
<td>40</td>
<td>34.90</td>
<td>7.00</td>
<td>53.00</td>
<td>9.692</td>
<td></td>
</tr>
<tr>
<td>y (CMAS)</td>
<td>40</td>
<td>22.925</td>
<td>13.00</td>
<td>33.00</td>
<td>5.585</td>
<td>.0553*</td>
</tr>
</tbody>
</table>

*not significant

There was no significant relationship indicated in any comparison of CMAS and paragraph meaning (Tables 11 and 12). On the basis of this data, the null hypothesis $H_5$ was accepted. However, further analysis indicated that comparisons of pre-test data and post-test data did show movement toward zero correlation after treatment phase.

Table 13 investigated the relationship between pre-experimental data of total reading scores, as measured by the Nelson Reading Test, and CMAS scores.

This analysis indicated a significant positive relationship between the total reading scores and CMAS scores taken before treatment was experimentally introduced. Therefore, the null hypothesis $H_5$ was rejected.

However, when the post-experimental data for the tests
Table 13

Correlation Analysis
Pre-Total Reading vs. Pre-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>x (total read)</td>
<td>40</td>
<td>79.75</td>
<td>27.00</td>
<td>112.00</td>
<td>17.419</td>
<td></td>
</tr>
<tr>
<td>y (CMAS)</td>
<td>40</td>
<td>25.125</td>
<td>21.00</td>
<td>35.00</td>
<td>3.545</td>
<td>0.3318**</td>
</tr>
</tbody>
</table>

**Significant at the .05 level

mentioned above was examined, in Table 14, there was no significant relationship indicated and the correlations were close to zero.

Table 14

Correlation Analysis
Post-Total Reading vs. Post-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>x (total read)</td>
<td>40</td>
<td>83.225</td>
<td>52.00</td>
<td>111.00</td>
<td>16.694</td>
<td></td>
</tr>
<tr>
<td>y (CMAS)</td>
<td>40</td>
<td>22.925</td>
<td>13.00</td>
<td>33.00</td>
<td>5.585</td>
<td>0.0629*</td>
</tr>
</tbody>
</table>

*Not significant
On the basis of the data presented in Table 14, the null hypothesis $H_5$ was accepted for the correlation of post-experimental total reading and CMAS scores.

The analysis of pre-experimental data indicated that only paragraph meaning scores had no significant relationship with CMAS. Pre-test vocabulary (significantly positive in relationship to CMAS) raw scores when combined with the paragraph meaning raw scores apparently were mutually enhancing and caused the total score to show a significant positive relationship.

On the data gathered after the treatment occurred, there was no significant relationship indicated for any subtest or total reading score when compared to CMAS.

Additional Data Analysis

Individual analysis of the data was made in order to see if further insight could be obtained on individual changes, both positive and negative, which may have occurred but was absorbed when looking at the group statistics.

Anxiety and Total Reading Achievement

Individual Counseling Group. Of the fifteen members of the group receiving individual counseling, eleven members displayed a reduction of anxiety as measured by the Children's
Manifest Anxiety Scale (CMAS). Three members showed an increase in manifest anxiety while one member's score remained the same. In analyzing the total reading score of the eleven members whose anxiety scores were lowered, it was found that nine of the eleven students improved their scores from .1 of a grade level to 1.4 grade levels. Among the three students whose anxiety scores increased, total reading efficiency for one increased, while for two decreased. The one whose anxiety score remained the same showed an increase in total reading efficiency.

Group Counseling Group. The members of the group receiving group counseling had eight of its members showing a decreased manifest anxiety as measured by the Children's Manifest Anxiety Scale (CMAS) while four members' scores increased. Of these eight members, four showed an increase in total reading efficiency while three showed a decrease and one remained the same. Of the four students whose anxiety scores increased, only two exhibited a total reading score decrease, and two showed a corresponding increase in total reading score.

Control Group. Six members of the control group (Placebo group) showed a reduction of anxiety according to the Children's Manifest Anxiety Scale (CMAS) while seven showed increased anxiety. Of the six members, five showed
an increase in total reading score and one no change from pre-testing. Five of the seven members of this group whose scores increased on the CMAS showed a corresponding increase in total reading score, while three members showed a decrease or no appreciable gain.

**Total Sample Statistics (Individual, Group and Control) for Anxiety and Total Reading Achievement.**

1. Eighteen students of 25 whose anxiety level was reduced in one way or another showed an increase in total reading efficiency.

2. Seven students of 14 whose anxiety level showed an increase exhibited a corresponding decrease in total reading efficiency as measured by The Nelson Reading Test.

3. One student's score on the anxiety scale remained the same but the total reading efficiency showed improvement anyway.

**Anxiety and Vocabulary Achievement**

**Individual Counseling Group.** Of the eleven students in the individual counseling group showing a reduction in CMAS, nine showed an increase in vocabulary score. Of the remaining two, one showed no change, the other a .2 of grade decrease. In looking at the three students who showed an increase in CMAS, all of them showed a decrease in vocabulary score. One student who had no change in CMAS between pre- and post-testing
showed no change in vocabulary score.

**Group Counseling Group.** Of the eight students in the group counseling group showing a reduction in CMAS score, three increased their vocabulary score. The remaining five members experienced a corresponding decrease in vocabulary score. In looking at the four members whose anxiety scores increased, all of them showed a decrease in vocabulary score.

**Control Group.** There were six members of the control group whose CMAS scores decreased. Four of these students showed an increase in vocabulary score, while two students showed a decrease in this score. Three of the seven members of the control group demonstrating an increase in CMAS scores had a corresponding decrease in vocabulary while the other four students showed an increase.

**Total Sample Statistics (Individual, Group and Control)**

**for Anxiety and Vocabulary Achievement.**

1. Sixteen students of 25 whose anxiety level showed a reduction as measured by CMAS demonstrated an increase in vocabulary score.

2. Ten students of 14 whose anxiety score showed an increase exhibited a decrease in vocabulary score.

3. One student who had no change in CMAS between pre- and post-testing showed no change in vocabulary score.
Anxiety and Paragraph Meaning Achievement

**Individual Counseling Group.** Of the eleven students whose CMAS scores decreased, five had an increased paragraph meaning score. One of the member's paragraph meaning score remained the same, and the other five had paragraph meaning score decreases. Of the three students showing an increase in CMAS score, two showed an increase in paragraph meaning score, and one showed a decrease in this score. One member of the group had no change in CMAS score but had an increase in paragraph meaning score.

**Group Counseling Group.** Five out of eight members whose CMAS scores were decreased demonstrated an increased paragraph meaning score. Three members whose CMAS decreased showed a corresponding decrease in paragraph meaning score. Two students of the group that increased CMAS also increased in their paragraph meaning scores. The remaining two members that increased their CMAS experienced a decrease in paragraph meaning score.

**Control Group.** Of the six members of this group whose CMAS scores decreased, all had an increased paragraph meaning score. In examining the data for the seven members with increased CMAS scores, three decreased their paragraph meaning scores, and four increased their scores.
Total Sample Statistics (Individual, Group and Control) for Anxiety and Paragraph Meaning Achievement

1. Sixteen students of 25 whose anxiety level showed a reduction as measured by CMAS demonstrated an increase in paragraph meaning score.

2. Six students of 14 whose anxiety score on CMAS increased exhibited a decrease in paragraph meaning score.

3. One student with no change in CMAS score increased his paragraph meaning score.

Total Population and CMAS Scores

Another part of the collection of data should also be indicated. The entire population of eighth and ninth grade pupils (63) in remedial reading classes at this junior high school were tested with the CMAS. Forty-five of these students were judged to be high anxious and obtained a score of 21 or above on this scale. This means that 73% of the total population of eighth and ninth grade remedial reading classes had high anxiety by the standards set forth in this study.

Overt Anxiety Scale (OAS)

The Overt Anxiety Scale developed for this study was used to determine the outward effect of treatment procedures on overt anxiety in the classroom. The scale is based on
teacher judgments of the students' overt anxiety behavior as they function in their daily tasks. Pupils were rated on a 1 through 5 scale, with 1 indicating no obvious signs and 5 very many obvious signs of anxiety.

Pre- and post-test averages of the numerical ratings were used to determine mean differences for each group and then subjected to the T-test for significance.

Table 15 provides degrees of freedom, mean difference, standard deviation, standard error or mean difference, and critical ratio of the individual counseling data of the OAS average scores.

<table>
<thead>
<tr>
<th>df</th>
<th>M_D</th>
<th>S_D</th>
<th>S_E</th>
<th>M_D</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>.084</td>
<td>.5352</td>
<td>.138</td>
<td>.138</td>
<td>.609*</td>
</tr>
</tbody>
</table>

* Not Significant

The critical ratio value was not significant at the .05 level of confidence. Therefore, the group receiving individual counseling was not effective in reducing overt anxiety symptoms as judged by the OAS in the study.
Table 16 provides degrees of freedom, mean difference, standard deviation, standard error of mean difference and critical ratio of the group counseling data of the OAS average scores.

<table>
<thead>
<tr>
<th>df</th>
<th>( M_D )</th>
<th>SD</th>
<th>( SE_{MD} )</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>.090</td>
<td>.544</td>
<td>.157</td>
<td>.573*</td>
</tr>
</tbody>
</table>

*Not Significant

The critical ratio value was not significant at the .05 level of confidence. Therefore, group counseling was not effective in reducing overt anxiety symptoms as judged by the OAS in this study.

Table 17 provides degrees of freedom, mean difference, standard deviation, standard error of mean difference and critical ratio of the control group data of the OAS average scores.

The critical ratio value was not significant at the .05 level of confidence. Therefore, the placebo was not effective in reducing overt anxiety symptoms as judged by OAS in this study.
Table 17

Comparison of Pre- and Post-OAS Average Scores for Control Group

<table>
<thead>
<tr>
<th>df</th>
<th>$M_D$</th>
<th>SD</th>
<th>$SE_{MD}$</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>.118</td>
<td>.331</td>
<td>.092</td>
<td>1.28*</td>
</tr>
</tbody>
</table>

*Not Significant

In general, no group exhibited significant improvement or reduction in overt anxiety symptoms in the judgmental determination of the classroom teachers.

In the Overt Anxiety Scale (OAS), six of those receiving individual counseling showed a reduction of overt symptoms as judged by the teacher. Six members of the group counseling treatment also showed a reduction in overt classroom symptoms. The control group had four members showing a reduction in overt classroom anxiety symptoms.
Interest in reading achievement as an integral part of a school program has been considerable and has been extensively researched. Remediation of reading problems has received increased attention from educators. Most research focused on reading as more than a mechanical problem. Emotional problems including anxiety were linked to many students experiencing reading difficulties. Few studies however attempted to test the relationship of anxiety and reading disability analytically. Fewer have experimentally evaluated individual and group counseling methods for the reduction of anxiety. There appeared a need to study the effects of anxiety and reading disability and the remediation thereof in its school environment.

The population for the study was the entire group of eighth and ninth grade students in remedial reading classes in a junior high school in the south valley of Albuquerque. The selection of the final sample (45) was determined by a cut off score on the Children's Manifest Anxiety Scale. Students for the three groups were selected randomly.

The three groups, (1) Individual Counseling, (2) Group Counseling, and (3) Control or Placebo Group, were pre- and
post-tested with the CMAS, Nelson Reading Test and Overt Anxiety Scale. The method of treatment for both individual and group counseling was Goodstein's verbal desensitization procedures for reducing anxiety. The experiment lasted 12 weeks with all groups given the treatment phase for one 45-minute session per week.

**Summary of Results**

1. There was significant reduction in anxiety as measured by CMAS for the group receiving individual counseling.

2. There was no significant reduction in anxiety as measured by CMAS for the group receiving group counseling.

3. There was no significant reduction in anxiety as measured by CMAS for the control or placebo group.

4. There was a significant improvement in vocabulary as measured by the Nelson Reading Test for the group receiving individual counseling.

5. There was no significant improvement in vocabulary as measured by the Nelson Reading Test for the group receiving group counseling.

6. There was no significant improvement in vocabulary as measured by the Nelson Reading Test for the control or placebo group.

7. There was no significant improvement in the paragraph
meaning subtest of the Nelson Reading Test for the group receiving individual counseling.

8. There was no significant improvement in the paragraph meaning subtest of the Nelson Reading Test for the group receiving group counseling.

9. There was no significant improvement in the paragraph meaning subtest of the Nelson Reading Test for the control or placebo group.

10. There was significant improvement in total reading score as measured by the Nelson Reading Test for the group receiving individual counseling.

11. There was no significant improvement in the total reading score as measured by the Nelson Reading Test for the group receiving group counseling.

12. There was significant improvement in the total reading score as measured by the Nelson Reading Test for the control or placebo group.

13. There was a significant positive relationship between pre-vocabulary and pre-CMAS scores.

14. There was no significant relationship between pre-paragraph meaning and pre-CMAS scores.

15. There was a significant positive relationship between pre-total reading and pre-CMAS scores.

16. There was no significant relationship between post-
vocabulary and post-CMAS scores.

17. There was no significant relationship between post-paragraph meaning and post-CMAS scores.

18. There was no significant relationship between post-total reading and post-CMAS scores.

19. There was no significant reduction in overt anxiety for any group in the classroom as judged by the teachers on the OAS.

20. Since 73% of the total population in the remedial reading classes had high anxiety by the standards of this study, there seems to be support for the assumption that there is a reciprocal-causal relationship between high anxiety and reading disability.

21. The individual analysis indicates that 70% of the members of the total group showed an inverse relationship between anxiety and total reading when pre- and post-differences were compared.

Conclusions

1. The results of this study indicate that individual counseling was the only treatment significant in reducing manifest anxiety as measured by the CMAS for populations similar to the study sample. For this group there was also a resultant significant increase in vocabulary and total reading score as measured by the Nelson Reading Test. Of this
group, 82% of the members who experienced a reduction in anxiety score also improved their vocabulary and total reading score. Certainly with the significance of these results, the value of the counselors' contribution to remedial programs is demonstrated. It is apparent for this and similar populations that the individual counseling procedure using Goodstein's verbal desensitization should be used in conjunction with a remedial reading program.

2. This study confirms past findings (Robinson, 1964 and Woolf and Woolf, 1957) that emotional problems should be an important factor with which to contend in remediating reading disability.

3. Since this was performed in a school setting using the personnel normally available, the results have more weight for their application than studies performed in isolated clinical settings. However, care should be taken in the assumptions and resultant application of the results of this study in view of the small size of the sample.

4. Care should be taken not to minimize the significant improvement in total reading score by the control group. The control group may have improved in total reading because of the remedial reading program itself and because of the special attention involved in the open discussions in this group's placebo treatment.
5. Pre-test positive relationships were found to exist on a significant level between (a) CMAS and total reading, (b) CMAS and vocabulary and (c) CMAS and paragraph meaning; whereas no significant relationships were found in post-test results between the same tests. The effectiveness of the individual treatment procedure to reduce anxiety and increase reading ability in conjunction with remedial classes seemed to be enough to move the correlations close to zero for the post-test data. This has a tendency to support an assumption that a reduction in anxiety causes an improvement in reading score. The individual analysis supports this assumption because 70% of the members of the total group showed an inverse relationship between anxiety and total reading when pre- and post-test differences were analyzed and then compared.

6. The group counseling procedure was not effective in reducing manifest anxiety scores on the CMAS and the group as a whole demonstrated no significant improvement in (a) total reading, (b) vocabulary, or (c) paragraph meaning as measured by the Nelson Reading Test. Caution should be taken when interpreting results of the group receiving group counseling. Although no significant changes were noted for this group in this study, it still has been shown to be an effective counseling procedure by past studies. There
are many reasons why this procedure failed to show significant results. They are: (a) There may not have been enough sessions for group interaction to become effective. (b) Goodstein's verbal desensitization procedure was developed for individual sessions and may not lend itself to group methods. (c) Differences in counselors' personalities may be a factor effecting results.

7. The control group (placebo) did not show significant reduction in manifest anxiety as measured in this study. It can be concluded then that the placebo treatment would not be an effective adjunct to a remedial reading program.

8. Since there was no significant change in overt anxiety symptoms as judged by classroom teachers on the OAS, it may be concluded that these symptoms occurred to the same degree even with the group receiving individual counseling whose manifest anxiety score was reduced significantly. However, the vocabulary and total reading scores of this group did increase even though there were no significant changes in OAS scores.

Counselors' observations and reactions from feedback and their experiences while involved in this experiment aids in the evaluation of the strengths and weaknesses as applied to the normal school program.

Counselors felt they learned to know these particular
students quite well. In some cases they felt that the students revealed deep feelings. Some difficult cases came through best in the end. Participation increased in some unexpected cases. Teachers reported some of the students became more involved in the classroom. There was reported change in behavior for the better, some of the students began to participate more often in class. Many of the students at the end of the study mentioned that they enjoyed and looked forward to the sessions. If a day was missed for some reason, students often came to see why.

Recommendations

Results indicated that individual counseling is an effective adjunct to the remedial reading program. As such, it should be made an integral part of new and existing remedial reading school programs.

Counseling should be considered as important as the teaching of any basic skill in any remedial reading or beginning reading program, clinical or otherwise.

Time must be allocated to counselors to work with the students in remedial reading programs.

Since group counseling can provide a great savings in time and money for the schools, it should be used with proven techniques to reduce the high anxiety found in most of the
students in remedial reading classes.

Schools should institute preventive diagnosis and treatment of the causes of reading disabilities in the primary school years.

There appears also to be a need for remedial reading teachers to have a dual degree in both remedial reading and counseling. This would have a tendency to increase the effectiveness of these teachers.

**Suggestions for Further Study:**

1. More research is needed to determine other causes of reading disability.

2. Further research is necessary in the use of Goodstein's verbal desensitization method of reducing anxiety in individual and group counseling procedures.

3. Other counseling methods convenient for public school use should be investigated.

4. Additional study is needed into the relationship between anxiety and reading.

5. There is a need to continue to define the effects of anxiety on reading achievement.

6. Improved overt anxiety scales need to be developed which will aid observers to more accurately record anxiety symptoms displayed by students in a classroom setting.
7. More precise instruments to measure manifest anxiety still need to be developed.

8. Since this study demonstrated some significant results, it might be used as a base for more research which might follow the same design but (a) increase the sample, (b) lengthen the duration of total treatment (either intensify by increasing the number of sessions per week in a 12 week period or increase the number of weeks to a full school semester), (c) add a control group to the design and have two controls, one with placebo of attention and the other without, and (d) add an additional group receiving a proven technique of group counseling.

It is quite apparent that the dilemmas which confront educators in the areas of teaching reading as well as remediation of reading problems tends to make studies such as this necessary. The ramifications would not only extend into the areas of reading improvement, but also into the fields of reading readiness and the primary approaches to reading. Since reading has such an important function in education, it appears necessary to explore all areas which might to some degree provide remediation of these problems.
APPENDIX A
CHILDREN'S MANIFEST ANXIETY SCALE

Name:_______________________ Grade____ Boy____ Girl____

A-Score:____  l-Score:____  School__________________________

Read each question carefully. Put a circle around the word Yes if you think it is true about you. Put a circle around the word No if you think it is not true about you.

Yes  No  1. It is hard for me to keep my mind on anything.
Yes  No  2. I get nervous when someone watches me work.
Yes  No  3. I feel I have to be best in everything.
Yes  No  4. I blush easily.
Yes  No  5. I like everyone I know.
Yes  No  6. I notice my heart beats very fast sometimes.
Yes  No  7. At times I feel like shouting.
Yes  No  8. I wish I could be very far away from here.
Yes  No  9. Others seem to do things easier than I can.
Yes  No 10. I would rather win than lose in a game.
Yes  No 11. I am secretly afraid of a lot of things.
Yes  No 12. I feel that others do not like the way I do things.
Yes  No 13. I feel alone even when there are people around me.
Yes  No 14. I have trouble making up my mind.
Yes  No 15. I get nervous when things do not go the right way for me.
Yes  No 16. I worry most of the time.
Yes  No 17. I am always kind.
Yes  No 18. I worry about what my parents will say to me.

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Yes No 19. Often I have trouble getting my breath.
Yes No 20. I get angry easily.
Yes No 21. I always have good manners.
Yes No 22. My hands feel sweaty.
Yes No 23. I have to go to the toilet more than most people.
Yes No 24. Other children are happier than I.
Yes No 25. I worry about what other people think about me.
Yes No 26. I have trouble swallowing.
Yes No 27. I have worried about things that did not really make any difference later.
Yes No 28. My feelings get hurt easily.
Yes No 29. I worry about doing the right things.
Yes No 30. I am always good.
Yes No 31. I worry about what is going to happen.
Yes No 32. It is hard for me to go to sleep at night.
Yes No 33. I worry about how well I am doing in school.
Yes No 34. I am always nice to everyone.
Yes No 35. My feelings get hurt easily when I am scolded.
Yes No 36. I tell the truth every single time.
Yes No 37. I often get lonesome when I am with people.
Yes No 38. I feel someone will tell me I do things the wrong way.
Yes No 39. I am afraid of the dark.
Yes No 40. It is hard for me to keep my mind on my school work.
Yes  No  41. I never get angry.

Yes  No  42. Often I feel sick in my stomach.

Yes  No  43. I worry when I go to bed at night.

Yes  No  44. I often do things I wish I had never done.

Yes  No  45. I get headaches.

Yes  No  46. I often worry about what could happen to my parents.

Yes  No  47. I never say things I shouldn't.

Yes  No  48. I get tired easily.

Yes  No  49. It is good to get high grades in school.

Yes  No  50. I have bad dreams.

Yes  No  51. I am nervous.

Yes  No  52. I never lie.

Yes  No  53. I often worry about something bad happening to me.
APPENDIX B
<table>
<thead>
<tr>
<th></th>
<th>Overt Behavior Evaluation Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Manifest Anxiety</strong></td>
</tr>
<tr>
<td>1.</td>
<td>Shuffles Feet</td>
</tr>
<tr>
<td></td>
<td>Not at all * * * * * *</td>
</tr>
<tr>
<td></td>
<td>Very much so</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2.</td>
<td>Extraneous Arm and Hand Movement:</td>
</tr>
<tr>
<td></td>
<td>(swings, scratches, toys, etc.)</td>
</tr>
<tr>
<td></td>
<td>Not at all * * * * * *</td>
</tr>
<tr>
<td></td>
<td>Very much so</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3.</td>
<td>Hands Restrained:</td>
</tr>
<tr>
<td></td>
<td>(In pockets, behind back, clasped)</td>
</tr>
<tr>
<td></td>
<td>Not at all * * * * * *</td>
</tr>
<tr>
<td></td>
<td>Very much so</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4.</td>
<td>No eye contact</td>
</tr>
<tr>
<td></td>
<td>Not at all * * * * * *</td>
</tr>
<tr>
<td></td>
<td>Very much so</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5.</td>
<td>Face Flushed (blushes):</td>
</tr>
<tr>
<td></td>
<td>Not at all * * * * * *</td>
</tr>
<tr>
<td></td>
<td>Very much so</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>6.</td>
<td>Voice Quivers:</td>
</tr>
<tr>
<td></td>
<td>Not at all * * * * * *</td>
</tr>
<tr>
<td></td>
<td>Very much so</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>7.</td>
<td>Speech blocks or Stammers:</td>
</tr>
<tr>
<td></td>
<td>Not at all * * * * * *</td>
</tr>
<tr>
<td></td>
<td>Very much so</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>8.</td>
<td>Bites nails:</td>
</tr>
<tr>
<td></td>
<td>Not at all * * * * * *</td>
</tr>
<tr>
<td></td>
<td>Very much so</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>9.</td>
<td>Squirms:</td>
</tr>
<tr>
<td></td>
<td>Not at all * * * * * *</td>
</tr>
<tr>
<td></td>
<td>Very much so</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
### Correlation Analysis
Verbal IQ vs. Pre-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x$ (Verbal IQ)</td>
<td>40</td>
<td>84.475</td>
<td>72.00</td>
<td>99.00</td>
<td>7.082</td>
<td></td>
</tr>
<tr>
<td>$y$ (CMAS)</td>
<td>40</td>
<td>25.125</td>
<td>21.00</td>
<td>35.00</td>
<td>3.546</td>
<td>$-0.0147^*$</td>
</tr>
</tbody>
</table>

*Not Significant

### Correlation Analysis
Verbal IQ vs. Post-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x$ (Verbal IQ)</td>
<td>40</td>
<td>84.40</td>
<td>72.00</td>
<td>99.00</td>
<td>7.005</td>
<td></td>
</tr>
<tr>
<td>$y$ (CMAS)</td>
<td>40</td>
<td>22.925</td>
<td>13.00</td>
<td>33.00</td>
<td>5.586</td>
<td>$0.0486^*$</td>
</tr>
</tbody>
</table>

*Not Significant
<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean (Non-Verbal IQ)</th>
<th>Minimum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>X (Non-Verbal IQ)</td>
<td>40</td>
<td>86.100</td>
<td>70.00</td>
<td>10.213</td>
<td>-0.089*</td>
</tr>
<tr>
<td>Y (CMAS)</td>
<td>40</td>
<td>25.125</td>
<td>21.00</td>
<td>3.546</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean (Non-Verbal IQ)</th>
<th>Minimum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>X (Non-Verbal IQ)</td>
<td>40</td>
<td>86.100</td>
<td>70.00</td>
<td>10.213</td>
<td>0.060*</td>
</tr>
<tr>
<td>Y (CMAS)</td>
<td>40</td>
<td>22.575</td>
<td>13.00</td>
<td>5.437</td>
<td></td>
</tr>
</tbody>
</table>

*Not Significant
### Correlation Analysis

#### Total IQ vs. Pre-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total IQ</td>
<td>40</td>
<td>85.375</td>
<td>74.00</td>
<td>106.00</td>
<td>7.722</td>
<td></td>
</tr>
<tr>
<td>CMAS</td>
<td>40</td>
<td>25.125</td>
<td>21.00</td>
<td>35.00</td>
<td>3.546</td>
<td>-0.0064*</td>
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</tbody>
</table>

*Not Significant

### Correlation Analysis

#### Total IQ vs. Post-CMAS

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Mean</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Standard Deviation</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total IQ</td>
<td>40</td>
<td>85.625</td>
<td>74.00</td>
<td>106.00</td>
<td>7.705</td>
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<tr>
<td>CMAS</td>
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<td>22.925</td>
<td>13.00</td>
<td>33.00</td>
<td>5.586</td>
<td>0.0810*</td>
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</tbody>
</table>

*Not Significant
References


Mary Peter, Sr. "The Role of Intelligence, Personality, and Selected Psychological Factors in Remedial Reading Progress." Doctoral Dissertation, The University of Rochester, 1963.


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Curriculum Vitae

Bernard Herman was born in Cleveland, Ohio and educated in the Detroit public schools. He received his B.S. degree at Wayne University and an M.A. degree from The University of Michigan. More than fifteen years was spent with the Detroit public schools as a teacher at both the elementary and secondary levels. During this time he also had experience as a school psychologist as well as a teacher of remedial courses and adult education. He was also employed as a Guidance Consultant in the Albuquerque public schools. Mr. Herman is currently in private practice as an educational and child counselor as well as the director of The Herman School, Inc.