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AN INVESTIGATION OF THE RELATIONSHIP BETWEEN THE
INTERPERSONAL RELATIONSHIPS PERCEIVED BY A PUPIL
TO EXIST BETWEEN HIMSELF AND HIS READING TEACHER

- AND: (1) HIS READING ACHIEVEMENT AND
(2) HIS SELF-CONCEPTS

MS2

by

CARMELLA A. MANTARO

B. B. A., Le Moyne College, 1952
M. A., Syracuse University, 1961

ABSTRACT OF DISSERTATION

Submitted in partial fulfillment of the requirements for
the degree of Doctor of Philosophy in Education in
the Graduate School of Syracuse University
June, 1971

Approved _____

Date _____

Statement of the Problem

The purpose of the study was to investigate teacher-pupil relationships, as perceived by pupils, and to examine how these perceptions relate to: 1) reading achievement and 2) self-concept. More specifically this study focused on the interpersonal relationship that is perceived by the pupil to exist between himself and his reading teacher.

In the present study, it was assumed that what a child learns and that his behavior are related to what he perceives. The further assumption was made that the nature of the perceived interpersonal relationship is related to specified types of learning. These assumptions have been suggested by Rogers (1959) that the facilitation of learning are largely dependent upon the nature of the interpersonal relationship that exists between the teacher and learner; and that an integral part of that relationship is the perception and feelings of the parties involved. This study was concerned with the pupil's perceptions of that interpersonal relationship as it related to specified pupil outcomes based on the view

that a pupil lives and operates from what he perceives.

These assumptions led to the formulation and testing of four major hypotheses; each of which was concerned with the dimension of the interpersonal relationship between pupil and teacher--the independent variables--and changes in specified types of learning--the dependent variables. These hypotheses suggested that a significant positive relationship perceived by a pupil to exist between himself and his reading teacher and one of the dimensions of pupil outcome would be indicated by results which would show that those who perceived the most positive relationships would receive significantly higher scores on the outcome measures than those who perceived less positive relationships.

Procedures

The sample in this study consisted of one hundred ninety fifth grade pupils and two hundred forty-five sixth grade pupils from five schools in a well-to-do suburban central New York State school district.

The general procedure of the study was the collection of pre-post test data on SRA reading tests, a modification of the Barrett-Lennard Relationship Inventory and the Self-Social

Symbols Tasks Test. Pre-test data were collected during the sixth and seventh weeks of the school year (1968-69) and post-tests data were collected during the thirtieth and thirty-first weeks of the school year. The Lorge-Thorndike Intelligence Tests were administered during the fifth month of the school year. Reliability coefficients were computed for the modification of the Barrett-Lennard Relationship Inventory and the nine tasks of the Self-Social Symbols Tasks Test using the split half technique.

In order to examine the relationship between the interpersonal dimensions perceived by these groups and certain specified learnings. Analysis of covariance procedures were carried out with regard to data relevant to the hypotheses. This was done by first ranking all students by post-test data scores on the independent variables--regard, empathy, unconditionality and congruence--with the total group divided into three sub-groups of 144 students each on the basis of their scores. Means and standard deviations for each sub-group were computed according to raw score test performance. Next analysis of covariance procedures which covaried for intelligence were applied, that is, the use of 3 x 2 analysis

of covariance for equal N's and pre-post scores of the dependent variables. Where significant results were found for F-ratios ($p \leq .05$), comparisons of all means were made using t-tests, and, differences were accepted as significant when $p \leq .01$ (Tate & Clelland, 1957).

Conclusions

Examination of the results of this study within the context of those theoretical assumptions and methodological procedures previously described led to the following conclusions. The following sub-hypotheses were accepted under the dimensions of regard: reading comprehension, reading vocabulary, total power and identification with teacher. The sub-hypotheses under the dimension of empathy were accepted: reading comprehension, reading vocabulary, total power, teacher-pupil power, identification with teacher and identification with friend. None of the sub-hypotheses considered under the dimension of unconditionality was accepted. The sub-hypotheses under the dimension of congruence were accepted: reading comprehension, reading vocabulary, social dependence and identification with teacher.

This study has presented evidence that pupil perceptions of the dimensions of interpersonal relationships as related to changes in reading comprehension scores and reading vocabulary scores do occur under the dimensions of regard, empathy and congruence. Further, there is evidence that pupil perceptions of the interpersonal relationship under the dimension of regard and empathy indicate that in pupils' feelings of power that pupils view themselves more egalitarian in their relationship with others. Differences in identification with teacher scores also occur under the dimension of regard, empathy and congruence.

The results of this study would appear to provide some support for the premise that the facilitation of learning is related to the degree to which pupils' perception of teacher-pupil relationship within the learning situation, and are indicative of teacher effectiveness.

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CHAPTER I

INTRODUCTION

Problem

The purpose of the study was to investigate teacher-pupil relationships, as perceived by pupils, and to examine how these perceptions relate to: (1) reading achievement, and (2) self-concept. More specifically, this study investigated the interpersonal relationship that is perceived by the pupil to exist between himself and his reading teacher.

Certain current research suggests that a pupil's school achievement is influenced by the relationship that exists between his teacher and himself (Aspy, 1965; Cogan, 1958; Davidson & Lang, 1960; Lewis, Lovell & Jesse, 1965); a second set of research studies suggests that a pupil's self-concept is influenced by the relationship that exists between his teacher and himself (McCallon, 1965; Moustakas, 1966; Perkins, 1958; Schwarz, 1967; Washburne & Heil, 1960).

While teacher-pupil interpersonal relationships seems to be related to both pupil self-concept and school achievement, it has not been determined whether these two variables operate

independently of each other. Indeed, there is research which indicates a relationship exists between self-concept and school achievement (Barber, 1952; Campbell, 1966; Coleman, 1966; Farls, 1967; Henderson & Long, 1967; Henderson, Long & Ziller, 1965; Karensky, 1967; Lumpkin, 1959; McIntosh, 1966; Roth, 1959; Schwyhart, 1967; Smith, 1967; Ziller, Long & Henderson, 1966).

Therefore, it would seem important that research concerned with teacher-pupil interpersonal relationships examine both school achievement and self-concept within a single sample. This study did just that; that is, it examined pupils' perceptions of teacher-pupil relationships as they relate to both the achievement and the self-concept of a group of selected pupils.

Background

A central task of the teacher is to create a classroom climate in which learning can be maximized. To suggest, as do Sears and Hilgard (1964) that the classroom climate is to a large extent, a function of the interactions between teacher and pupils seems reasonable. One purpose of this study was to determine the degree to which pupils' perceptions of

teacher-pupil relationships relate to specified types of learning.

Perceptual psychology, in particular, emphasizes the importance of the pupil's perceptions of the teacher. Indeed, Combs (1962) suggests that one of the basic principles of human behavior is that behaving and learning are products of perceiving. And further, the perceptual frame of reference holds that behavior of an individual is a function of his ways of perceiving. A person behaves at a certain time according to the way he perceives things. Combs (1962, pages 67-68) states: "What a person does, what a person learns, is thus a product of what is going on in his unique personal field of awareness."

Therefore, this study placed major emphasis on the pupil's perceptions of the teacher. In an effort to conceptualize the phenomena examined in this investigation, the contributions of perceptual psychology were utilized. Combs and Snygg (1959), perhaps the best known of the perceptual psychologists, have viewed the process of education as the "production of adequate personalities" and "the production of adequate, intelligent people." An individual with an

adequate personality has been defined by them as one who: (1) perceives himself in essentially positive ways, (2) is open to his experience or capable of accepting himself and others, and (3) is strongly and broadly identified with others. Further, Combs and Snygg have viewed intelligent behavior as the product of perceptual fields which are: (1) rich, (2) extensive and (3) maximally available when needed. Simply put, they suggest that a person's behavior is a product of his perceptions.

If one believes, as do Combs and Snygg, that the self-concept is a function of experience, then it follows what occurs to students during their time spent in school must be of great importance to the phenomenal self. The phenomenal self encompasses all those perceptions in a particular situation. Indeed, Combs and Snygg suggest that "probably no other agency outside the family has a more profound effect on the development of the individual's concept of self" (1959, page 377).

Further, Combs and Snygg have proposed that a truly effective education needs to accept the task of dealing with the whole phenomenal field of the individual, of producing changes in his perception of himself as well as his perceptions

of his environment. Furthermore, Combs (1958) has stated that personal meanings lie inside people and as such are not open to direct manipulation. Therefore, if learning is a change in perception, then educators must find effective ways of helping students discover for themselves thus expanding their perceptual fields.

In speaking of the process of education, Rogers (1959) has contended that the facilitation of learning is largely dependent upon the nature of the interpersonal relationship that exists between the teacher and learner. An integral part of the relationship is the perception and feelings of the parties involved. Building on the implication of Rogers' work, Barrett-Lennard (1962) found that the client's perception of the therapist's response is the primary locus of influence in the interpersonal relationship. This work supports the earlier work of Cogan (1958) which suggested that the acceptant, affiliative and integrative behaviors of the teacher were positively related to pupil performance. Further support for this notion is found in the work of Aspy (1965). He found support for hypotheses which contended that the reading achievement gains of children would

be greater when the dimensions of empathy, congruence and regard were present within the classroom setting.

Ziller and his associates (1964, 1965 and 1967) have looked at self-concept and its relationship to reading achievement. Their studies report positive relationships between reading achievement and self structures, particularly, social dependency or interest. Their studies have also shown that intelligence operates independently of the self (1967).

As was stated earlier, it has been suggested in perceptual psychology that behavior and learning are functions of perceiving. Thus, it may be what a child learns and his behavior are related to what he perceives. Also, it may be possible that certain learnings are related to perceptions of the interpersonal relationship with his reading teacher.

These studies seem to suggest that the notion, that the pupil's perceptions of the teacher-pupil interpersonal relationship are related to self-concept and achievement, is a reasonable assumption. In this study, this assumption was tested using pre-test and post-test data to determine if with more positive teacher-pupil interpersonal relationships there are significantly more positive changes in reading and

self-concept. Also, by examining the interpersonal relationships pupils perceive, it may be determined whether only changes in reading achievement occur or whether changes in self-concept also occur.

Rationale and Hypotheses

Reading is generally recognized to be the most important subject taught in the elementary school. Children coming to school expect to learn to read and are expected to learn to read. Those who have observed small first graders are very much aware of the wonder and excitement exhibited by the child when he discovers he can decode, and one has also seen the unhappiness and frustration when a child is not able to do something that he has learned is a socially acceptable activity. Bond and Tinker (1967) suggest that the ability to read well influences and is influenced by the self-concept of the pupil.

Furthermore, by assuming the importance of the interpersonal experience, a relationship can be expected between the interpersonal relationship perceived by a pupil and his self-concept and reading achievement. The reading teacher, as the locus person in the reading situation and as

facilitator of learning, builds, creates, maintains (or destroys and negates) a classroom climate.

The hypotheses tested in the study were:

General Hypotheses

There is a significant positive relationship between the interpersonal relationships perceived by a pupil to exist between himself and his reading teacher and his reading achievement.

There is a significant positive relationship between the interpersonal relationships perceived by a pupil to exist between himself and his reading teacher and his self-concept.

Specific Hypotheses

H₁: There is a significant positive relationship between the level of regard perceived by a pupil to exist between himself and his reading teacher and changes in:

- a) reading comprehension achievement.
- b) reading vocabulary achievement.

- c) complexity task performance.
- d) social dependence task performance.
- e) total power task performance.
- f) teacher-pupil power task performance.
- g) esteem task performance.
- h) identification with mother task performance.
- i) identification with father task performance.
- j) identification with teacher task performance.
- k) identification with friend task performance.

H₂: There is a significant positive relationship between the level of empathy perceived by a pupil to exist between himself and his reading teacher and changes in:

- a) reading comprehension achievement.
- b) reading vocabulary achievement.
- c) complexity task performance.
- d) social dependence task performance.
- e) total power task performance.
- f) teacher-pupil power task performance.
- g) esteem task performance.
- h) identification with mother task performance.

- i) identification with father task performance.
- j) identification with teacher task performance.
- k) identification with friend task performance.

H₃: There is a significant positive relationship between the level of unconditionality perceived by a pupil to exist between himself and his reading teacher and changes in:

- a) reading comprehension achievement.
- b) reading vocabulary achievement.
- c) complexity task performance .
- d) social dependence task performance.
- e) total power task performance .
- f) teacher-pupil power task performance .
- g) esteem task performance .
- h) identification with mother task performance.
- i) identification with father task performance.
- j) identification with teacher task performance.
- k) identification with friend task performance.

H₄: There is a significant positive relationship between the level of congruence perceived by a pupil to exist between himself and his reading teacher and changes in:

- a) reading comprehension achievement.
- b) reading vocabulary achievement.
- c) complexity task performance.
- d) social dependence task performance.
- e) total power task performance.
- f) teacher-pupil power task performance.
- g) esteem task performance.
- h) identification with mother task performance.
- i) identification with father task performance.
- j) identification with teacher task performance.
- k) identification with friend task performance.

Operational Definitions

For the purposes of this study the following operational definitions were utilized.

1. Reading teacher refers to the person who is regularly assigned a class for the purpose of teaching the area of developmental reading. That person is charged with the development of basic skills of vocabulary, comprehension, study skills and oral reading skills.

2. Intelligence of the pupil refers to the pupil's intelligence quotient as measured by the Lorge Thorndike Intelligence Test and as such is an average of verbal and non-verbal performance scores.
3. Achievement in reading refers to the change in reading achievement as measured by SRA Reading Achievement Tests, Multi-Level Forms C and D. Scores used were the comprehension and vocabulary subtests.
4. Self-concept refers to a set of groupings in which the self is related to significant other persons. Groupings which were investigated in this study are:
 - a. Complexity means the degree of differentiation of self-concept. It is the selection of a more complex design to represent self. A person with a more complex self system is thought to less likely be disturbed by new experiences which may seem incongruent with self

system (Ziller and others, 1966, page 17).

Complexity scores were obtained by the complexity task of the Self-Social Symbols Tasks.

- b. Power means the conception of the self as consistently superior, equal or inferior to specific other persons. The power dimension was measured by the Power task of the Self-Social Symbols Tasks (Ziller and others, 1966, page 17).
- c. Social Interest or dependency means the degree to which a person perceives himself as a part of a group of others as opposed to the perception of the self as an individual (Ziller and others, 1966, page 13). Social interest or dependency scores were obtained by the Social Dependency Task of the Self-Social Symbols Tasks.

- d. Identification means the placement of the self in a "we" category with the other person. Closer placement of the self to a particular other person represents greater identification. Identification scores were obtained by the Identification Task of the Self-Social Symbols Tasks (Ziller and others, 1966, page 14).
 - e. Self esteem means a person's perception of his worth. It is assumed to be a derivation of a life-long series of self-other comparisons on an evaluative dimension. Self esteem dimension scores were obtained by the Self-esteem Task of the Self-Social Symbols Tasks (Ziller and others, 1966, page 11).
5. The dimensions of the interpersonal relationships refer to:
- a. Regard means the general tendency (at a given time) of various affective relationships of one person in relation to another (Barrett-Lennard, 1962, page 4). The

dimension of regard was determined from the regard scale of the Barrett-Lennard Relationship Inventory.

- b. Empathy means the extent to which one person is conscious of the immediate awareness of another (Barrett-Lennard, 1962, page 2). Empathy was determined from the empathy scale of the Barrett-Lennard Relationship Inventory.
- c. Unconditionality means the degree of constancy of regard felt by one person for another who communicates self experience to the first (Barrett-Lennard, 1962, page 4). Unconditionality of regard was determined from the unconditionality of regard scale of the Barrett-Lennard Relationship Inventory.
- d. Congruence means the degree to which one person is functionally integrated in the context of his relationship with another, such that there is absence of conflict or inconsistency between his total experience,

his awareness, and his overt communication (Barrett-Lennard, 1962, page 4). Congruence was determined from the congruence scale of the Barrett-Lennard Relationship Inventory.

Procedures

The general procedure of the study was one in which four types of measures were taken from fifth and sixth grade pupils: (1) measures of the pupil perceptions of the interpersonal relationship between himself and his reading teacher, (2) measures of pupil self concept, (3) measures of pupil reading achievement, and (4) measures of pupil intelligence. Pre-test interpersonal relationship, self-concept, and reading achievement data were collected during the sixth and seventh weeks of the school year; post-test data relevant to those three measures were collected during the thirtieth and thirty-first weeks of the school year. Measures of pupil intelligence were administered in the fifth month of the school year. The relationship of dimensions of the perceived interpersonal relationship and changes in the pupil's achievement in reading and self-concept were tested.

Statistical Procedures

Treatment of the data involved the testing of the hypotheses through the use of three by two analysis of covariance with intelligence as covariate for repeated measures with equal n's. In those cases where there was a significant main effect, a t-test was computed to determine the source of the significance. In those cases where the interaction effect was significant, a test for simple effects was computed. The criterion for acceptance of a hypothesis was set at $p < .05$.

In examining the nature of changes in the dimensions of reading achievement and the self-concept studied, multiple regression techniques were utilized (Tate, 1955).

Limitations

The sample used in this study was limited to those students in but one upper middle class suburban school system.

No effort was made to control the classroom situations and it was assumed that responses given by the pupils were given in good faith and show the pupils' perceptions of their relationships with their reading teachers at a

given time. Further, since the "self" is subject to change, the self-concepts of each pupil is the concept the individual held of himself at the moment he was tested.

Although other variables may have been operating within the sample, this study was concerned only with the variables of intelligence, reading achievement and self-concept as they related to interpersonal relationships as perceived by pupils to exist between them and their reading teachers.

Overview of the Dissertation

Chapter I has presented the statement of the problem, the background and rationale of the study, the hypotheses, operational definitions, a description of procedures used, and the limitations of the study.

Chapter II gives a review of relevant literature. Chapter III describes the design, the sample, measuring instruments and statistical analyses which were employed in testing the hypotheses. Chapter IV presents the results of the data analysis. Chapter V presents conclusions and recommendations.

CHAPTER II

REVIEW OF THE LITERATURE

The review of the literature presented in this chapter includes: (1) a brief discussion of the frame of reference on which this study is based, (2) studies which have investigated the behavior of the teacher as a factor influencing learning of children, (3) and, studies which have been concerned with the relationship between self-concept and reading achievement.

Perceptual Approach to Learning

The perspective from which this study was viewed is the perceptual approach to learning. This approach proposes that an individual's behavior is governed by the unique perceptions he has of himself and the world in which he lives, the meanings that things have for him--that a person's behavior is a product of his perception at a given moment. Robert Bierstadt, the noted sociologist, has conveyed the force of these perceptions when he observed, "I am not what I think I am, I am not what you think I am, I am what I think you think I am" (Bierstadt, 1964). It is the importance of this

interpersonal experience which Arthur Combs has sought to delineate in his work particularly in teacher-pupil relationship.

Arthur W. Combs, perhaps the most prominent exponent of perceptual psychology in education, sets the framework which girds the underlying assumptions of this study:

Perceptual psychologists have stated, as a basic axiom, that all behavior is a product of the perceptual field of the behavior at the moment of action. That is to say, how any person behaves will be the outgrowth of the way things seem to him at the moment of his behaving. To change behavior in this frame of reference requires that we understand the nature of the individual's perceptual field. Knowing the meanings that exist for a particular person, we may then be able to create the conditions which facilitate changes in behavior and personality. . . . Four characteristics of the perceptual field which seem to underlie behavior of the adequate individual are (1) a positive view of the self; (2) identification with others; (3) openness to experience and acceptance; (4) a rich and available perceptual field (Combs, 1962, page 50).

Further, the 1962 ASCD Yearbook, Perceiving, Behaving, Becoming (page 67) states four principles of the perceptual frame of reference.

1. Behaving and learning are products of perceiving.
2. Behavior exists in and can, therefore be dealt with in the present.

3. All people everywhere have a basic drive toward health and actualization.
4. Much of a person's behavior is the result of his conception of himself.

Perceptual psychology, along with theories of self and role performance, has been strongly influenced by the work of C. H. Cooley and G. H. Mead. Mead (1934) stated the self was not present at birth but developed through an individual's life. The self arose out of social experiences and could be considered a social product. Therefore, its full development would be achieved when it was a reflection of the social group to which the individual belonged. Because of the inherently social nature of man, it is assumed that the self is primarily defined in relation to other persons and as Sullivan (1953) suggests, originates in interpersonal relationships. Combs and Snygg (1959) added perception as an important element in the development of the self.

Carl Rogers (1951) was concerned with the role of the psychotherapist as an element in the development of behavioral change. He proposed the concept of the helping relationship in the role of the therapist which he referred

to as "client-centered." The thesis was that the role of the therapist was that of facilitator, or, the "self-as-instrument" function as later coined by Soper.

Rogers (1959) spoke of significant learning being facilitated in the client-centered relationship as being: "more than an accumulation of facts. It is learning which makes a difference in the individual's behavior in the course of action he chooses in the future, in his attitudes and his personality" (page 232).

He theorized that significant learning takes place when five conditions are met:

1. When the client perceives himself as faced by a serious and meaningful problem;
2. When the therapist is a congruent person in the relationship able to be the person he is;
3. When the therapist feels an unconditional positive regard for the client;
4. When the therapist experiences an accurate empathic understanding of the client's private world, and communicates this;

5. When the client to some degree experiences the therapist's congruence, acceptance and empathy.

Barrett-Lennard (1962), a student of Rogers, took Rogers' theory of "The Necessary and Sufficient Conditions of Therapeutic Personality Change" and postulated that the client's experience of the therapist's response is the primary locus of influence in the relationship. This differed from Rogers in that Rogers felt that it was first necessary for the therapist to experience certain things in the relationship. Barrett-Lennard's underlying assumption is that that which the client himself experiences affects him directly. He feels that the individual's perceptions result from the interaction of his own personality and those qualities of the therapist in relation to him.

Like Barrett-Lennard, C. B. Truax was concerned with the dimensions of the interpersonal relationship as described by Rogers in the therapeutic setting. While Barrett-Lennard focused upon the perceptions of the client with regard to the therapist's response, Truax placed emphasis upon the therapist's ability to communicate his sensitivity of the

client's feelings to the client. Truax (1965) devised three interaction observation scales to analyze the behavior of the therapist in the psychotherapeutic setting as described by Rogers. Each of the scales was designed to measure the degree to which the therapist was observed to exhibit the behaviors of empathy, regard, congruence; but, they did not measure the client's perceptions of the therapist's behavior except in the categorizing of the therapist's response to the client's behavior.

Although Rogers spoke of the therapeutic relationship in his earlier writings, his theory would seem most appropriate for the educational setting (Rogers, 1961, 1962, and 1969). A common feature shared by the psychotherapist, the teacher, the parent is that each provides an interpersonal relationship for the person or group with whom he interacts. Teaching is a relationship in which the teacher as locus person in the classroom provides that relationship. Much of that relationship centers around the learning of specific skills and tasks and the development of positive self-other relationships.

Teacher Behavior As It
Relates to Learning

Educational researchers have long been concerned with the problem of delineating teacher behaviors which are influential and can predictably lead to significant learning. This section will deal with studies which have looked at teacher behaviors, methods of gathering data and how they relate to the present study. As was stated earlier, this study placed major emphasis on the pupil's perception of the teacher as it related to the production of adequate, intelligent people. Much of the research on teacher behavior has centered around observable behaviors of the teacher in the act of teaching: the social emotional climate as studied by John Withall (1949), teaching behavior described in terms of teaching acts (Hughes, 1959), and, teaching behavior defined in terms of direct and indirect style (Flanders, 1960). Other research studies have focused on the perceptions pupils have of their teacher, teacher personality characteristics, and the teaching relationship viewed as the helping relationship.

Cogan (1958) did not observe teachers and students, he did use the perceptions that students had of teachers to

provide a basis for conceptualizing teacher behavior. The results of the study indicated a relationship between the way a teacher is perceived by students and the amount of self-initiated work that they reported doing. Cogan sought to identify those teacher behaviors as 1) those that tend to make pupils the focus of the classroom experiences; 2) those that tend to keep the pupils on the periphery of classroom experiences; 3) those that are indicators of relevant interpersonally neutral behaviors of the teacher. He designated these as being preclusive, conjunctive and inclusive behaviors. Dependent variables of the study were reports by the pupils of their required and self-initiated work.

He found that individual pupil's perceptions of the teacher's conjunctive and inclusive behavior were each positively related to pupils' scores in required work and self-initiated work. There was inconclusive evidence in regard to pupils' perceptions of teachers' preclusive behavior. Cogan's overall conclusion was that acceptant, affiliative and integrative behavior of teachers were positively related to pupil work scores.

While Cogan examined the perceptions of the teacher's

behavior as it related to achievement, Staines (1958) studied teacher behavior as it influenced a child's self-concept. Staines was concerned with development of a child's self-picture as influenced by teacher comments. He assumed that the self is an outcome of education, and once it has developed, a condition of subsequent learning--growing mainly from comments made by other people and from inferences drawn by children out of their experiences in home, school, and other social groups. Further, he assumed that teachers were likely to be the most influential in determining the self-picture in the classroom setting.

Two hypotheses were formulated: that it is possible to distinguish reliably between teachers in normal classrooms in respect to the frequency and kinds of comments they make with reference to the self; and that it is possible to teach so that, while aiming at the normal results of teaching, specific changes can be made in the self-picture. Four teachers and their classes were involved in the study.

Staines classified teacher comments into categories and dimensions of the self. Categories were those aspects of the self which individuals commonly report on: performance,

status, values, traits, wants, physique, classroom management. Dimension was defined as a direction in which people may vary. He distinguished seven dimensions for the purpose of this study: 1) salience, 2) differentiation, 3) potency, 4) integrity, 5) insight, 6) acceptance, 7) rejection.

The first hypothesis was supported. Marked differences occurred between teachers in the frequency of self-reference in their comments, particularly in their positive and negative comments on the child's performance, status, and self-confidence or potency. Staines in discussing the results of the effectiveness of distinguishing relevant teacher behavior concluded that teachers do not develop to any significant degree many of the educational outcomes to which subject matter and teaching methods may be closely geared. Further, he felt the method of investigation was least effective in gauging the effect upon the child of the various verbal and situational interactions. Categorization of what a teacher says, while indicating a prevailing classroom atmosphere, gives no clue how effective it is in forming the self-picture.

The second hypothesis was tested by establishing an experimental group and a control group. The teacher of the

experimental group studied the self-ratings and tried to teach so that certain self-ratings might be changed.

Findings supported the second hypothesis. A small number of changes occurred in self-traits, but statistically significant changes were found in the dimensions of certainty and differentiation and were interpreted as indicating greater psychological security. The control group showed significant decreases in certainty about the self and differentiation and was interpreted as leading to marked psychological insecurity. These changes, usually indicative of poor adjustment, were the unsought and unnoticed concomitant outcomes of normal methods aimed at securing the usual academic results.

Standardized tests showed that both classes made about the same gains in English and arithmetic suggesting that the import of teacher behavior may be more relevant to educational goals in wider terms of the self-picture.

Davidson and Lang (1960) wished to determine what the relationship between children's perceptions of their teacher's feelings toward them and the variables:

self-perception, academic achievement and classroom behavior.

They hypothesized that there existed a positive correlation between children's perceptions of teachers' feelings toward them and 1) children's perceptions of themselves. The more positive a child's perceptions of himself, the more positive will be his perceptions of his teacher's feelings toward him. 2) There exists a positive relationship between perceptions of teachers' feelings and good academic achievement. 3) There exists a positive relationship between favorable perception of teachers' feelings and desirable classroom behavior.

The sample consisted of two hundred fourth, fifth and sixth grade pupils. The children were considered above average readers and represented a wide range of socioeconomic status.

Investigators developed a thirty-five item adjective check list.

The check list was administered twice to the children. The first test direction instructed the children to think in terms of "My teacher thinks I am," and the second directed

the children to respond in terms of "I think I am." The first test yielded measures of perceptions of teachers' feelings, and the second, a measure of self-perception. Teachers were asked to rate their pupils on academic achievement and to rate each child on ten behavioral characteristics.

Findings in the study confirmed hypotheses. Rather interestingly, pupils were asked their perceptions of their feelings of how their teachers felt about them, and, how they felt about themselves, but, the variables of school achievement and school behavior were based on judgments furnished by classroom teachers. Perhaps both children and teachers were looking at each other as they saw each other.

Another series of reports (Washburne & Heil, 1960; Heil, Powell & Feifer, 1960; Heil & Washburne, 1961) considered the impact of emotional adjustment and suggested the organization of the teacher-pupil relationship based on personality types. By classifying teacher behaviors into three basic types (turbulent, self-controlled, and fearful) and student behavior into four basic types (conformers, opposers, waverers, and strivers), the researchers concluded that it was possible to determine a differential achievement

rate for each type of student working with each type of teachers.

Soar (1961) asserted "Tests of achievement or aptitude . . . rarely related very closely to measures of teacher performance." Bowers and Soar (1962) explored the relationship of a teacher's personality as measured by Minnesota Multiphasic Personality Inventory and classroom performance. They concluded:

Skillful interaction with pupils requires on the part of the teacher (1) responsibility, (2) depth of affective relationship, (3) well enough adjusted that much of her energy is not drained off in dealing with her intrapersonal tensions, (4) ability to perceive herself and others clearly and represent herself honestly in communication with others. A teacher must, in short, care.

Combs and Soper in a pair of studies (1963a and 1963b) sought to define teacher-behavior by viewing those behaviors in terms of characteristics of an affective helping relationship. In the first study "good" and "bad" teachers were asked to react to data collected from therapists and "good" teachers as to what constituted a good helping relationship. Results of the study indicated both "good" and "bad" teachers knew what a good helping relationship ought to be. The investigators included that knowing what were qualities of a good helping relationship did not insure its occurring in the behavior of the "bad" teachers.

In the second study, twelve perceptual variables were tested in a study of twenty-nine counselor-trainees. Rank order correlations were computed between each perceptual variable and the counselor-trainee effectiveness rankings. All but two of the correlations were significant at a .01 level. Results would indicate that apparently it is possible to distinguish good counselors from poor ones on the basis of their perceptual organization.

Spaulding (1964) demonstrated a correlation between a positive attitude of the teacher and student's self-concept. There was a significant correlation between a higher measure of pupil self-concept and the degree to which teachers in the study were calm, acceptant, supportive, and facilitative. He also found a low measure of self-concept was correlated with the degree to which teachers were domineering, threatening, grim, and sarcastic.

Lewis, Lovell and Jesse (1965) examined the perceptions students had of their sixth and ninth grade teachers. The hypothesis was that students who perceive a relationship that is in the direction of an ideal psychotherapeutic

relationship will make greater gains than those students who perceive a non-therapeutic relationship.

The investigators developed an instrument of twenty items from Fielder's (1953) report of a study by Heine (1950). The authors modified the items by substituting "teacher" for "therapist," and, "learning" for "problem." The subjects of the study were sixth (N=644) and ninth (N=845) grade students in a middle class suburban community. The instrument was administered near the end of the school year. Achievement tests were administered in September and May to obtain achievement scores.

Those achieving high scores and those achieving low scores were grouped for further study. These groups were checked for similarity of parental occupational status and chi-square tests showed no significant difference in parental status. An analysis of co-variance was used in order to control for intelligence and achievement pre-test scores. The findings indicated that sixth graders with high scores received significantly higher achievement test total scores than those with low scores. At the ninth grade level the hypothesis was not confirmed.

The investigators offered several possible explanations for the different results:

1. Student achievement measures were not the same for both groups.
2. Sixth grade students were with their teachers all day, while ninth grade students were with their English teachers for only approximately forty minutes a day.
3. The possibility that students' dependency and maturity needs are different at the two grade levels.

The present study has taken in consideration two of the three explanations proposed by Lewis and others: 1) by using the same measuring instruments for all pupils in the sample, and 2) all children involved in the study were asked to refer to their relationship with their reading teacher whom they worked with for approximately one hour a day. Further, this study has sought to clarify those dimensions of the interpersonal relationship which might be more important than others. The above study did not attempt to specify particular qualities of the relationship. It used a twenty

item instrument, whereas, this study employed a sixty-four item measure which permitted more reliable information.

Truax' and Tatum's (1965) study of the three helping conditions at the pre-school level indicated that "the degree of warmth and empathy was significantly related to positive changes in the child's pre-school performance."

David Aspy (1965) applied the Truax Scales in measuring the three facilitative conditions and their relationship to the achievement of third grade students. Aspy studied these conditions as observed in classes of six teachers by analyzing tape recordings of reading groups. Each teacher recorded ten or fifteen minutes of her reading instruction each day for a week, then, repeated this procedure two months later. Trained raters randomly selected four, four minute segments of the first tape recorded sessions and four, four minute segments completed of the second taping sessions.

Each segment was rated for one characteristic at a particular listening session. Composite rating scores were determined. Rank order designated three high condition teachers and three low condition teachers.

The Otis Quick Scoring Mental Ability Tests were administered to provide twenty-four subgroups, based on intelligence and sex. The Stanford Achievement Test Battery furnished the measure of change in test performance. Scores were obtained for: (1) paragraph meaning, (2) work study skills, (3) spelling, (4) word meaning, (5) language, and (6) total gain.

Analysis of variance procedures were employed. Findings indicated that the hypotheses that predicted that the level of empathy, unconditional positive regard and congruence related positively to cognitive growth were supported for paragraph meaning, language, work study skills and for total gain. Hypotheses were not supported in the subtests for Word Meaning and Spelling.

Aspy found that in ranking the scores of the three characteristics of the six teachers, each teacher ranked in the same position for each characteristic. He suggests that perhaps the three scales measure the same trait. Or, that it might be possible that the traits would be so interrelated that a measure of one is predictive of the others. In the present study, multiple regression procedures were employed to investigate the possibility proposed by Aspy.

Lamb and others (1965) studied the development of self-concepts with Head Start children. They also investigated whether teachers' cognitive styles and the teachers' perceptions of Head Start children affected development of the self-concept. Their findings indicated that children who participated in the Head Start Program developed more positive self-concepts than those who did not participate. Further, results indicated that teachers' cognitive style and their perceptions of Head Start children do affect pupil performance in self-social constructs.

Mason and Blumberg (1967) investigated the dimensions of interpersonal relationship in relationship to students' perceptions of those teachers from whom they learned most and those teachers from whom they learned least. Students were asked to give their perceptions of the interpersonal relationship with these types of teachers by responding to the Barrett-Lennard Interpersonal Relationship Inventory. This was one of the first instances in which this inventory was used with high school students to assess their perceptions of interpersonal relationships with individuals whom the students perceived as helping them learn or not learn.

They hypothesized that students who felt that learned most in a situation would perceive their teachers as having more empathy, regard, unconditionality and congruence than those students who felt that they learned least. The hypotheses were supported at the .01 level of confidence in relation to empathy, congruence and regard. The hypothesis concerning unconditionality was not supported.

M. Schwarz (1967) used the case study method to investigate effects of teacher approval on self-concept of children. She studied seven children and their seven teachers and found no observable relationship between children's achievement and teacher approval.

Relationship Between Reading and Self-Concept

Achievement and development of positive self-concepts are goals of education. This study has considered these to be specific types of learning. Research in the area of reading achievement has long suggested that self-concept influences reading achievement and that reading achievement influences self-concept.

Bond and Tinker state in the development of a reading program:

Proficient reading should contribute to the development of insight both into one's attitudes and patterns of behavior and into those of others. This wholly desirable outcome is achieved as a by-product of increased ability to participate in self-reliant and discriminating interpretation of what is read. The selection of a reading program best suited to promote desirable personal and social development springs from a clear recognition of the need for participating in the social community. It is only then a natural consequence that proficient reading aids in the estimation of one's own abilities and limitations as well as better understanding of human conduct in one's self and in others (Bond & Tinker, 1967, page 7).

Studies of self-concept and reading achievement are extensive but inconclusive. Reviews of the literature by Gates in 1941 and by Bower and Holmes in 1959 concurred in the conclusion that "there is no single personality pattern characteristic of reading failure." In fact, Combs and Soper (1963) reported there had been very little research done on children's self-concepts prior to 1962, and what had been done left much to be desired.

Reeder (1955) found that children who have a low self-concept will achieve lower in terms of their potential. Lumpkin (1959) matched twenty-four, fifth grade under-achievers

in reading with twenty-four over-achievers and found that the over-achievers had a more positive self-concept. Fink (1962) concluded that achievers had significantly more positive self-concepts than do under-achievers.

Perkins (1957), on the other hand, found little relationship between stability of children's self-concepts and their levels of reading achievement. He suggested that children who may not achieve well in academic skills, can and do achieve in other areas of self-development.

Wattenberg and Clifford (1964) addressed themselves to the relationship between poor self-concept and reading disability. They proposed to discover which of the two factors was antecedent. Measures of mental ability and self concept were obtained during the pupils' first semester in kindergarten. Two and one-half years later, measures were made of pupil progress in reading and self-concept. Results indicated that self-concept was significantly predictive of progress in reading, but not significantly related to mental test scores.

A study of seventh grade students was conducted by Brookover, Thomas and Patterson (1964). The students were

asked to fill out a self-concept scale. After intelligence was partialled out, scores on the self-concept scale and grade point averages were positively and significantly correlated. Campbell (1966) in a study of fourth, fifth and sixth grade students found no significant relationship existed between self-concept and school achievement when ability levels were included.

A non-verbal method for the measurement of self-social concepts was designed to investigate the development of self-social orientations by Ziller, Henderson and Long (1967). It has been applied to a variety of problems and populations. Two specific studies involving reading achievement follow and suggest different interpretations of findings.

In the earlier study, Henderson, Long and Ziller (1965) investigated the self-social constructs for achieving and non-achieving readers. Forty-eight achieving and forty-eight non-achieving readers were matched for sex, age and intelligence. Significant differences on three measures indicated greater dependence for non-achieving readers.

The investigators hypothesized years of failure and derrogation by authority figures and peers would affect the

disabled reader's perception of himself. The principal conclusion was that retarded readers were characterized by a relatively high degree of dependency. It was suggested that paced instruction would lead non-achieving readers to self-reliance which in turn would release the child from dependence upon others. It is interesting to note that in this early study, social dependence was interpreted as something which would be disruptive to reading achievement in that the reading process was viewed an individual act.

In a later study by Henderson and Long (1967) the self-social symbols tasks were applied to a difference score for reading achievement regressed on arithmetic. From a total sample of eighty-one high achieving fifth grade pupils, the top and bottom thirds were designated high and low readers.

Analyses of variances (sex by reading achievement) yield significant differences between high and low readers. High readers showed:

1. Greater individuation ($p < .005$).
2. Greater complexity of the self-concept ($p < .005$).
3. Greater dependency ($p < .01$).

4. Greater identification with friend ($p < .005$) and with father ($p < .05$).

Two interaction effects emerged:

1. High reading boys and low reading girls were closer to teacher ($p < .05$).
2. High reading girls and low reading boys had higher self-esteem ($p < .05$).

Intercorrelations showed significant relationships between all of the identification items and dependency and a significant relationship between individuation and complexity. All findings were independent of intelligence.

In discussing the results of the study, the data would seem to indicate that high readers are more socially oriented as was proposed by Roe (1956). This would be consistent with a theory of reading which holds that the process is a complex activity requiring social maturity as well as cognitive skill. The skilled reader is one who can empathize and interact with others both real and imaginary.

Summary

Chapter II has been organized to present that literature which reflects and contributes to the rationale for the present study.

First, various studies have shown that a person's behavior is a product of his perception at a given moment. This chapter has emphasized the perceptual frame of reference and has presented research which supports the assumption that the teacher as locus person in the interpersonal experience in the classroom setting influences the perceptual field of the student. Second, the literature reviewed here suggests that those which are facilitating to the learning situation are those which are also relevant to the pupil in his development as an adequate intelligent person.

Third, the studies examined here contend that teacher behaviors, as a part of the perceptual field, are related to self-concept and school achievement. Since this study investigated the relationship to teacher behavior with specified learnings, this chapter has presented studies which demonstrate the many facets of teacher behavior that have been considered as influential to school achievement and self-concept. It also points to the need of how much work remains to be done in delineating those teacher behaviors which are relevant to the classroom setting.

Fourth, the literature has suggested that reading

achievement--a most, if not the most, important elementary school subject--is influenced by and influences a child's self concept. The literature shows what appears to be a circular relationship between self-concept and reading achievement. Further, the perceptual frame of reference suggests that self-concept and reading achievement are specified learnings both of which occur in the teacher-pupil interaction. This study was interested in examining whether changes in reading achievement occur, but further, was also interested in determining the nature and degree of changes in self-concept.

Chapter III presents the design and procedures used in this study.

CHAPTER III

DESIGN AND PROCEDURES

The purpose of this study was to investigate the relationship between teacher-pupil relationships as perceived by pupils and specified pupil variables--reading achievement and self-concept. An examination of relevant literature suggested that there may be a positive relationship between pupil perceptions and pupil outcomes. Hypotheses which allowed for the testing of this assumption were formulated. These hypotheses suggested that a significant positive relationship between the interpersonal relationship perceived by a pupil to exist between himself and his reading teacher and one of the dimensions of pupil outcome would be indicated by results which would show that those who perceived the most positive relationships would receive significantly higher scores on the outcome measures than would those who perceived less positive relationships. This chapter describes the research design, sample, instruments, and procedures which were used in the testing of these hypotheses.

The general hypotheses and specific hypotheses tested in this study are restated in the section which follows:

Hypotheses

General Hypotheses

There is a significant positive relationship between the interpersonal relationships perceived by a pupil to exist between himself and his reading teacher and his reading achievement.

There is a significant positive relationship between the interpersonal relationships perceived by a pupil to exist between himself and his reading teacher and his self-concept.

Specific Hypotheses

H₁: There is a significant positive relationship between the level of regard perceived by a pupil to exist between himself and his reading teacher and changes in:

- a) reading comprehension achievement.

- b) reading vocabulary achievement.
- c) complexity task performance.
- d) social dependence task performance .
- e) total power task performance .
- f) teacher-pupil power task performance .
- g) esteem task performance .
- h) identification with mother task performance.
- i) identification with father task performance.
- j) identification with teacher task performance.
- k) identification with friend task performance.

H₂: There is a significant positive relationship between the level of empathy perceived by a pupil to exist between himself and his reading teacher and changes in:

- a) reading comprehension achievement.
- b) reading vocabulary achievement.
- c) complexity task performance .
- d) social dependence task performance.
- e) total power task performance.
- f) teacher-pupil power task performance.
- g) esteem task performance.

- h) identification with mother task performance.
- i) identification with father task performance.
- j) identification with teacher task performance.
- k) identification with friend task performance.

H₃: There is a significant positive relationship

between the level of unconditionality

perceived by a pupil to exist between himself

and his reading teacher and changes in:

- a) reading comprehension achievement.
- b) reading vocabulary achievement.
- c) complexity task performance.
- d) social dependence task performance.
- e) total power task performance.
- f) teacher-pupil power task performance.
- g) esteem task performance.
- h) identification with mother task performance.
- i) identification with father task performance.
- j) identification with teacher task performance.
- k) identification with friend task performance.

H₄: There is a significant positive relationship

between the level of congruence perceived by a

pupil to exist between himself and his reading teacher and changes in:

- a) reading comprehension achievement.
- b) reading vocabulary achievement.
- c) complexity task performance.
- d) social dependence task performance.
- e) total power task performance.
- f) teacher-pupil power task performance.
- g) esteem task performance.
- h) identification with mother task performance.
- i) identification with father task performance.
- j) identification with teacher task performance.
- k) identification with friend task performance.

Design

In order to test the hypotheses it was necessary to examine the relationship between two sets of variables-- (1) the perceived interpersonal relationship, and (2) changes in the pupil's reading achievement and self-concept. Therefore, the independent variables were the dimensions of the interpersonal relationship (empathy, regard, congruence and unconditionality) perceived by the pupil to exist between

himself and his reading teacher; the dependent variables were changes in the pupil's achievement in reading and changes in his self-concept. A control variable in this study was the intelligence of the pupil. All students were ranked by post-test data scores on the independent variables into three sub-groups of 144 students each on the basis of their scores.

Figure 1 depicts the design of the study:

3 x 2 Analysis of Covariance (Intelligence as Covariate)

		Dependent Variables					
		Reading Achievement			Self-Concept		
		Pre-Post Scores		Pre-Post Scores		Pre-Post Scores	
Independent Variables	Regard						
	High			H			
	Middle			M			
	Low			L			
	Empathy						
	High			H			
	Middle			M			
	Low			L			
	Unconditionality						
	High			H			
	Middle			M			
	Low			L			
Congruence							
High			H				
Middle			M				
Low			L				

Fig. 1. Design of the study.

ProceduresSample

The sample consisted of one hundred ninety fifth grade pupils and two hundred forty-five sixth grade pupils from five schools in a well-to-do suburban Central New York State school district. Pupils are largely drawn from a homogeneous socio-economic population that may be described as upper middle class and college educated.

Pupil costs in the 1967-68 school year were \$1,008.00 per pupil. Pupil costs for 1968-69 were approximately \$1,100.00 per pupil. This compares with the state average of \$960.00

Class size ranged from eighteen to twenty-four pupils. These were assigned to sixteen developmental reading teachers. The fifth grade pupils were distributed among four elementary schools and the sixth graders were located in a middle school and divided among three houses. Lorge Thorndike Intelligence Test Mean Scores for fifth grade were 114.46 and for sixth grade, 111.59. SRA Reading Achievement Composite Scores were 7.9 for the fifth grade and 8.9 for sixth grade.

The school district employed a total of 269 teachers to carry out its instructional program for approximately 6,100 students. Fourteen teachers participated in the study. A summary of information regarding their training and experience is found in the Appendix. The teaching experience of the teachers ranged from five years to thirty-seven years. Of the fourteen, four were trained reading specialists, seven were, or had been, subject area resource leaders in their respective buildings, and three were vice-principals of their buildings.

Measuring Instruments

Four instruments were used to collect the data in this study: (1) a modification of the Barrett-Lennard Relationship Inventory, Form OS-M-64 was used to quantify pupil perceptions of the dimensions of the interpersonal relationship between the pupil and his reading teacher; (2) the Self-Social Symbols Tasks tests developed by Ziller and others (1966) were used to assess the pupil's self-concept; (3) the Science Research Associates Multi-Level Reading Achievement Tests, Forms C and D, were used to measure changes in reading achievement; and (4) the Lorge

Thorndike Intelligence Tests, Form BB, Level 3, and Form D, Level 1, were used to assess the intelligence of the pupils.

The Barrett-Lennard Relationship Inventory

The Barrett-Lennard Relationship Inventory is an instrument developed by Barrett-Lennard (1962) for use in therapeutic situations based on Rogers' theory of therapeutic variables--dimensions of empathy, regard, unconditionality of regard and congruence.

Barrett-Lennard postulated that the client's experience of the therapist's response is the primary locus of influence in the relationship. He suggested that a client's perceptions result from the interaction of his own personality characteristics and those dimensions of the therapist's experience in relation to him.

In the present study, four measures of dimensions of the interpersonal relationship as determined from the Barrett-Lennard Relationship Inventory were used to classify perceptions of the teacher-pupil relationship:

1. The Regard sub-scale measures the general tendency (at a given time) of various

affective relationships of one person in relation to another (Barrett-Lennard, 1962, page 4).

2. The Empathy sub-scale refers to the extent to which one person is conscious of the immediate awareness of another (Barrett-Lennard, 1962, page 2).
3. The Unconditionality sub-scale measures the degree of constancy of regard felt by one person for another who communicates self-experience to the first (Barrett-Lennard, 1962, page 4).
4. The Congruence sub-scale measures the degree to which one person is functionally integrated in the context of his relationship with another, such that there is absence of conflict or inconsistency between his total experience, his awareness, and his overt communication (Barrett-Lennard, 1962, page 4).

Background. The Relationship Inventory is a 64-item multiple choice questionnaire which has four sub-scales: Regard, Empathy, Unconditionality of Regard and Congruence. Each sub-scale consists of sixteen items of which eight are positively oriented and eight are negatively oriented. The negatively oriented items are constructed so that a "low" rating of the item is considered a "high" rating in the dimension of interpersonal relationship.

The original test provided for three grades of "yes" response and three grades of "no" response which are identified as +1, +2, +3, -1, -2, -3, respectively, by the respondent. Also the respondent was asked his feelings of the therapist's response to him. Response categories such as "I feel it is probably true" (or untrue), "I feel it is true" (or untrue), and "I strongly feel that it is true" (or untrue).

The group of items representing each variable was distributed throughout the Inventory. Positive and negative items were arranged in random fashion, but in such a way that sequences were avoided which would seem to imply a particular answer to the next one.

A formal content validation procedure was carried

out. Formal directions and definitions were given to five judges who were client centered counselors of varying levels of experience. Judges classified each item: (1) as positive, negative, or neutral indicator of variable, and (2) in terms of strength or importance as positive or negative indicators of the variable. The mean ratings for items, from the five judges, were used in selecting the two half-samples of items for split-half reliability assessment.

An item analysis was conducted. The method used was to tabulate and compare the answers given to each item by the "upper" and "lower" half of the sample (N=40) divided in terms of scores on the variable to which the item belonged.

Validity of the scales. Barrett-Lennard posed two questions to be considered on the aspect of validity: (1) the primary data are valid, and (2) to the extent to which the scales actually measure what they are designed to measure. Regarding the first question, precautions were taken in assuring subjects that therapists would not see their answers and that the value of their responses depended on the extent that they represented their actual responses. Also, data were gathered as soon as possible after a client had seen his therapist

Modification of Barrett-Lennard Relationship

Inventory. The Barrett-Lennard Inventory has also been used to study interpersonal relationships in educational settings (Blumberg, 1968; Clark & Culbert, 1965; Mason & Blumberg, 1968; Weber & Blumberg, 1967). These studies have investigated interpersonal relationships between adults, or with high school seniors.

Since the subjects of the study were elementary school age children, the question of readability and the appropriateness of phrasing for a ten or eleven year child was a concern. The form of the Relationship Inventory was modified by the author in the following manner:

1. Form OS-M-64 was given to four intermediate level elementary teachers who noted words and concepts which they felt would be too difficult for fifth and sixth grade children.
2. The investigator used The Teacher's Word Book of 30,000 Words (Thorndike and Lorge, 1944) to check frequency of words in fifth and sixth grade reading vocabulary that the four teachers designated as too difficult.

This information became input for

Step No. 3.

3. A committee of seven met to develop the modification. The committee was comprised of a school psychologist, a clinical psychologist who is also a reading specialist on the secondary level, a reading clinician, a reading specialist, two intermediate level teachers and the investigator. By group consensus the following decisions were made:

- a. Development and revision of test items
- b. The answer sheet should be revised as follows:
 - 1) Positive-to-negative indicators should be represented on a scale from 1 to 6. Consensus was that positive and negative weights using the same numeral might be confusing to pupils.
 - 2) The word "true" was changed to "like" e.g., from "strongly true" to "most like." Again, consensus was that the child would

use the word "true" in the sense of correctness of true-false connotation.

- 3) All items were to be read aloud to pupils because of wide range of reading levels present in the sample.
4. Form OS-M-64 and the modified form were administered to fifteen pupils on the secondary level, and, Pearson Product-Moment Correlations were computed on subtests. Estimates of reliability were: Regard, .61; Empathy, .53; Unconditionality, .62; and Congruence, .65.

While the Barrett-Lennard Relationship Inventory must still be considered somewhat developmental, it was felt that the instrument was the best available instrument appropriate for the purpose of this study--to measure the perceptions of the dimensions of the interpersonal relationship between a pupil and his reading teacher as perceived by the pupil.

Like Barrett-Lennard, the investigator was concerned with the question of validity. In regards to primary data collection, the test administrators were strangers to the

children who assured them that their answers would be seen by only people "at the University" and that it was important to be honest. Also, children in each school were all tested at the same time by test administrators. For instance, tests were administered to all five sections in House I of the Middle School between 8:30 A. M. and 10:15 A. M. so that there was no opportunity to discuss test items with classmates.

Secondary students who took both forms of the Inventory wrote on the modified forms "that the statements about _____ were as if someone were asking about a parent or a lover, not a teacher," or "He's a real friend."

Elementary children in the sample very often noted the comments "very much," "And how!", "if he knew" and exclamation points were written in. Several times pupils wrote "too personal" if they did not respond to an item.

A teacher reported to the investigator that about two weeks after post testing, one of his pupils indicated that he wished that the investigator would re-administer the test then since he would have responded differently to those

items which had to do with his teacher understanding and accepting him.

Teachers involved in the sample were not aware of the test items and reported very few children spoke of the items except to say that they were asked about what they felt about their reading teacher. Teachers reported there appeared to be very little tension observed in children after the testing.

Estimates of reliability were established for the sample. The internal consistency of each of the four subscales was assessed by the split-half method on pre- and post-test data. Table III-1 gives the reliability coefficients of each sub-scale as estimated using the Spearman-Brown formula. These figures show a high degree of correlation and would indicate satisfactory internal reliability of the measures within this particular sample.

Science Research Associates Multi-Level Reading
Achievement Tests

The Science Research Associates Multi-Level Reading Achievement tests, Forms C and D, blue and green levels, were used in the present study to measure changes in reading

Table III-1
Corrected Split-Half Reliability Coefficients^a of the
Barrett-Lennard Relationship Inventory Scales

Scale	Pre-test (N=435)	Post-test (N=435)
Level of Regard	.90	.87
Empathy	.82	.97
Unconditionality	.53	.62
Congruence	.80	.92

^aCorrected with Spearman-Brown Formula

achievement. Since the sample was above average in reading achievement, the choice of the selection of an appropriate reading achievement test is of particular concern. The SRA tests "reflect the avowed intention to tests better adapted to superior than to below average pupils" (Buros, 1959, pages 21, 51). Norms for SRA Multi-Level Reading Achievement Tests are shown in Table B-1 in Appendix B.

The most important attribute of the SRA tests is the multi-level format. This format provides an efficient method for simultaneously measuring pupils whose levels of achievement can be expected to vary greatly and yet obtain results that can be meaningfully compared. The tests are devised so that test items of Multilevel Edition, Blue level has 2/3 of the items found on Multilevel Edition, Green level; and 2/3 of the items of the Green level are found on the Multilevel Edition, Red level (Technical report, page 4).

Reliability coefficients (Kuder-Richardson, Coefficients of Consistency) which are reasonably high have been established for the SRA tests. Table B-2 in Appendix B gives coefficients of reliability and standard error of measurements for the Blue and Green levels.

The Lorge Thorndike Intelligence Test

In this study, the Lorge Thorndike Intelligence Tests, Form BB, Level 3, and Form B, Level 1, were used to measure the intelligence of the pupils. The Lorge Thorndike is a standardized group intelligence test designed to provide measures of verbal reasoning and non-verbal reasoning. Total test scores were used.

The analysis of the tests in Buros (1959) supports the use of the instrument in this study with the selected sample. Median correlations for all items range from .43 to .70. The alternate form reliabilities for various levels and batteries range from .76 to .85. The test was considered by the test reviews to be placed among the best group tests available considering psychological constructs and statistical standardization.

It was necessary, for the purpose of this study to control to the extent possible for intelligence, a factor which might have influenced changes in reading achievement and self-concept.

Intelligence tests were administered after the twentieth week of school and the mean score for the sample was 115.45.

The Self-Social Symbols Tasks Test

The self-social symbols method was originated by Robert C. Ziller to study self-perceptions. Based on his work, Henderson and Long have developed a number of forms of paper and pencil tests which provided non-verbal measures of self in relation to others. It is a relatively new approach to the problem of measuring self-concept.

The subject is asked to respond to a series of symbolic arrays in which circles and other figures represent the self and/or other persons of importance. From these arrangements, in which the subject relates himself symbolically, to a variety of social configurations, certain aspects of a person's conception of himself are inferred. The approach assumed that there are relationships in a person's life space, and that these arrangements are readily interpretable. It is also assumed that the non-verbal mode is advantageous, and that a collection of specific measures reflecting a variety of dimensions adds to precision and depth. Finally all scoring is objective permitting the use of standard statistical techniques.

Ziller (1967) noted that not all dimensions or tasks

are suitable for all populations. The tasks used in this study were: self-esteem; social interest or dependency; identification with particular others; power; and complexity. A copy of the Self-Social Symbols Tasks Test and scoring information is found in the Appendix.

Description and Theoretical Meanings of Tasks

Self-esteem. Self esteem is thought to be a person's perceptions of his worth. It is assumed to be derivation of a life long series of self-other comparisons on an evaluative dimension.

For the six circles arranged in a row, there are provided six stimulus persons (e.g., father, someone who is successful, etc.) always including the self. The subject arranges these persons in the circles, with each person assigned to a single circle. The score is derived from the placement of the self with higher scores associated with positions to the left.

Social Interest or Dependency. Social interest or dependency is thought to be the degree to which a person perceives himself as a part of a group of others, as opposed to a perception of the self as an individual. When a person perceives himself as a part of a group, it suggests a willingness to be subject to the demands of the group.

The task for this aspect of the self-social symbols method consists of three circles representing people (parents, teachers and friends) arranged at the apexes of an imaginary equilateral triangle. The subject draws a circle anywhere on the page. Placement within the triangle is interpreted as social interest and dependency.

Identification. Identification is defined as the placement of the self in the "we" category with the other person. In the self-social symbols method separate tasks are presented for identification with mother, father, teacher, friend. Each of these consists of a row of circles, with the end circle (alternately to the right or to the left) representing the particular other person. The subject is asked to select one of the other circles to represent the self. Closer placement of the self is assumed to represent greater identification.

Power. A power dimension in the self-social orientation may be described as a conception of the self as consistently superior, equal or inferior to specific other persons. Relationships in which the self is either subordinate or superior offer a simple structure to social relations which minimizes the necessity of continual self-other comparisons. Egalitarian relationships, include a higher probability of social comparisons on a variety of dimensions, and a more flexible arrangement for interpersonal communication, in which information including criticism is more freely exchanged.

In the power items with this method, the subject is presented with a diagram, in which a central circle represents the self. His task is to select one of the remaining circles to represent a particular other person (teacher, father, etc.). Such a choice may be a circle directly above, diagonally above, even with, diagonally below, or directly below the self. A lower position for the other person is interpreted as a perception of higher power for the self.

Complexity. The complexity of the self concerns the degree of differentiation of the self-concept, or in Lewin's terms, the number of parts comprising the whole (1936). It is assumed that as a child develops and is confronted with an increasing number of diverse other persons, the accumulated continuing comparisons

will over time result in a more complex conception of self. A person with a more complex self-system is thought to be less likely to be disturbed by new experiences which may seem incongruent with the self-system.

Complexity in this approach is operationally defined as the selection of a more complex design to represent the self. The choice of a more complex design is interpreted as indicating greater complexity for the self.

Reliability and Construct Validity. Long (1967) points out that the step from theoretical constructs to empirical meaning is a complex one, and the search for meaning cannot be confined to a single or simple meaning. She has said: "What emerges involves rather a meaning in relation to particular dimensions, particular symbolic patterns, particular stimulus persons and for particular populations" (Ziller, 1967, page 24).

Reliability. Reliability scores are presented in Table III-2 for those samples in which the adolescent form had been previously used.

Estimates of reliability were established for the present sample. The internal consistency of each task was assessed by the split-half method on pre- and post-test data. Table III-3 gives the reliability coefficients using the Spearman-Brown formula.

Table III-2
Reliability Scores for Three Samples of the Adolescent Form
of the Self-Social Symbols Tasks

	Fifth Grade N=81	Ninth Grade N=207	High School Students N=99
Esteem	.84	.89	.80
Social Interest	.92	.90	.84
Identification-Mother	.94	-	.80
Identification-Father	.85	-	.95
Identification-Teacher	.83	-	.85
Identification-Friend	.78	-	.78
Power	.07	.77	.65
Complexity	.68	.84	.83

Table III-3
 Corrected Split-Half Reliability Coefficients^a
 of the Self-Social Symbols Tasks
 for Present Study
 (N=435)

Task	Pre-test	Post-test
Complexity	.67	.92
Social Interest or Dependence	.88	.92
Power	.26	.59
Teacher-Pupil Power	.53	.58
Esteem	.81	.70
Identification-Mother	.60	.72
Identification-Father	.80	.96
Identification-Teacher	.62	.81
Identification-Friend	.68	.85

^aCorrected by Spearman-Brown formula.

Data Collecting Procedures

The procedures for collecting the data are presented in this section.

The investigator met with the school superintendent to explain the study and request permission to speak with building principals. Meetings were set up with individual building principals to request permission to conduct the study in their buildings and to speak with developmental reading teachers.

In meeting with the reading teachers the investigator briefly explained the study as one of testing the child's perceptions of the relationship with them and changes in self-concept and changes in reading achievement. Test instruments were not shown or explained to participating teachers. All sixteen teachers indicated a willingness to participate in the study. Two class sections were eliminated from the study subsequently. One section was eliminated because the reading teacher walked into the room during post-testing, and, the children became anxious and voted not to continue the test. The second section was eliminated because the reading teacher left during the school year.

The testing procedure in each building was as follows:

1. The children were asked if they would be willing to participate in the study. They were given the choice of responding only to those questions

they wanted to answer, or, they could be excused from the room. Children were encouraged to respond to all items in the testing situation. Children who were absent, did not complete all items on any test, or chose not to participate were eliminated from the sample. Total number of children to complete all tests were 435 children out of a possible 548.

2. No staff member was involved in the pre- or post-testing. Seven certified teachers and the investigator administered tests. Teachers were requested not to be present or enter rooms during the testing period.
3. All testing within a building was done simultaneously with the children divided into reading classes. The test administrator was the same for all testing periods. The test administrators were not known to the children. The children were told that their responses would not be seen by their teacher; that this was part of a study on how

children felt about their relationship with their reading teacher being conducted "at the University."

4. Pre-tests were administered to all children during the sixth and seventh week of school; post-test data were collected during the thirtieth and thirty-first weeks of the school year. Measures of pupil intelligence were administered in the fifth month of the school year.

The scoring of all tests was as follows:

1. All Interpersonal Relationship Inventories were scored by the investigator and entered on summary sheets.
2. The Self-Social Symbols Tasks tests were scored by two paraprofessional teacher aides and the investigator. Summary sheets for each child were prepared by four high school seniors.
3. Reading achievement tests were machine scored by SRA Scoring Services.

4. Lorge Thorndike Intelligence tests were also machine scored.
5. All data were transferred to Docutran IBM cards by a professional key-punch operator. Cards were punched and verified.

Statistical Procedures

A first step in the analysis of data was to establish the pre- and post-test reliability of the Barrett-Lennard Relationship Inventory test data and the Self-Social Symbols Tasks test data, using the split-half techniques adjusted for length by the Spearman-Brown formula. These reliability scores have been previously reported in this chapter.

Dimensions of the interpersonal relationship--regard, empathy, unconditionality, and congruence--as perceived by the pupil were arranged into three levels. Perceived interpersonal relationships for each dimension were arranged from the highest to the lowest degree of perceived relationship for each dimension. These were arranged into three equal groups of 144 pupils (high-middle-low). A pupil's perception of his reading teacher could be designated as high in regard, for

example, and, conceivably low in his perception of the dimension congruence.

Further treatment of the data involved the testing of the hypothesis through use of three by two analysis with intelligence as covariate for repeated measures with equal n's. This yielded the following:

1. A main effect for group differences
2. A main effect for pre- post differences
3. An interaction effect

In those cases where there was a significant main effect, a t -test was computed to determine the source of the significance. In those cases where the interaction effect was significant, test for simple effects was computed. The .01 level of confidence was used as criterion in the examination of the sources of significance. The .05 level of significance was set as criterion level for acceptance of hypotheses.

All statistical analysis was programmed and processed with an analysis of covariance program which was written based on ADS Program Library, Program 2.0, Syracuse University Computer Center.

Since the problem of predicting changes was also of interest, the four independent variables were used to predict these changes through application of multiple regression suggested by Tate (1959).

Chapter IV reports the results of these analyses.

CHAPTER IV

RESULTS

This chapter presents and discusses the statistical analysis of the data collected relevant to the study. The purpose of this study was the investigation of the relationship between the levels of perceptions of the interpersonal relationships and certain specified learnings. The major assumption underlying this study was that what a child learns and how his behavior is related to what he perceives. This assumption led to the formulation and testing of four major hypotheses; each of which was concerned with the relationship of a dimension of the interpersonal relationship between pupil and teacher and changes in specified types of pupil learning. The assumption was made that the nature of the perceived interpersonal relationship is related to changes in specified types of learning. The assumption was also made that an individual's self-concepts are learned and, therefore, are influenced by interaction with others. The dimensions of the interpersonal

relationship considered in this study were: regard, empathy, unconditionality, and congruence. Types of learning were reading achievement: reading comprehension and reading vocabulary; and, certain dimensions of the self-concept: complexity, social dependence, power, teacher-pupil power, esteem, identification with mother, father, teacher and friend. Those variables examined were those which dealt with focus on the pupil's self-concepts as an individual rather than focusing on the pupil's self-concepts as a member of a group.

In order to examine the relationship between the interpersonal dimensions perceived by these groups and certain specified learnings on their parts, analysis of covariance procedures were carried out with regard to the data relevant to the hypotheses. This was done by first ranking all students by post-test data scores on the independent variables--regard, empathy, unconditionality and congruence--with the total group divided into three sub-groups of 144 students each on the basis of their scores. Means and standard deviations for each sub-group were computed according to raw score test performance. Next, analysis of covariance procedures which covaried for intelligence were applied, that is, the use of

3 x 2 analyses of covariance for equal N's and pre-post scores of the dependent variables. Where significant results were found for the F tests ($p \leq .05$), comparisons of all means were made using t-tests and differences were accepted as significant when $p \leq .01$ (Tate & Clelland, 1957).

The preceding chapter has described the design and procedures which were used to test these hypotheses; this chapter presents in the following order, the results of that testing.

1. Results of comparisons within groups on measures of the perceptions of dimensions of interpersonal relationships and intelligence.
2. Results of comparisons between groups on measures of the perceptions of the level of regard and certain specified learnings; Hypothesis 1.
3. Results of comparisons between groups on measures of the perceptions of the levels of empathy and certain specified learnings; Hypothesis 2.
4. Results of comparisons between groups on measures of the perceptions of the level of congruence and certain specified learnings; Hypothesis 3.

5. Results of comparisons between groups on measures of the perceptions of the levels of unconditionality and certain specified learnings; Hypothesis 4.
6. Results relative to the prediction of change in specified types of learning.

Intelligence

The possibility that scores of the pupils might be influenced by differences in intelligence made it necessary to consider intelligence as a covariate in the analysis of the perceptions of the four dimensions of interpersonal relationships.

Analysis of the intelligence data, as reported on Table IV-1 indicated that pupils differed within the subgroups of the perceived interpersonal relationships of regard, empathy and congruence. This was not found to be the case in regards to the dimension of unconditionality. For the purposes of this study, therefore, it was assumed that differences which occurred between groups may have been influenced by differences in intelligence. Thus, analysis of covariance procedures were used to statistically test the hypotheses.

Table IV-1

Means and Standard Deviations for Covariates: Dimensions of Interpersonal Relationship Scores and Intelligence Scores

Group	N	Regard		Intelligence	
		Means	SD	Means	SD
High	144	83.06	5.88	118.60	12.68
Middle	144	67.71	4.82	115.89	13.46
Low	144	46.13	10.16	111.99	13.18

Group	N	Empathy		Intelligence	
		Means	SD	Means	SD
High	144	76.67	6.32	118.63	12.55
Middle	144	62.94	2.78	114.00	14.24
Low	144	47.40	7.73	113.76	12.82

Group	N	Unconditionality		Intelligence	
		Means	SD	Means	SD
High	144	63.85	5.37	115.04	12.76
Middle	144	54.57	1.97	115.88	14.37
Low	144	46.01	3.95	115.44	12.90

Group	N	Congruence		Intelligence	
		Means	SD	Means	SD
High	144	79.74	5.78	119.67	12.22
Middle	144	66.33	3.49	115.64	12.99
Low	144	52.33	7.15	111.06	13.44

Hypothesis 1

Hypothesis 1 was concerned with the dimension of regard. Regard was defined as the general tendency (at a given time) of general affective relationships of one person in relation to another. The hypothesis stated:

- H₁: There is a significant positive relationship between the dimension of regard determined from the regard scale and changes in:
- a) reading comprehension achievement.
 - b) reading vocabulary achievement.
 - c) complexity task performance.
 - d) social dependence task performance.
 - e) total power task performance.
 - f) teacher-pupil power task performance.
 - g) esteem task performance.
 - h) identification with mother task performance.
 - i) identification with father task performance.
 - j) identification with teacher task performance.
 - k) identification with friend task performance.

Results from the analysis of covariance and t-test:

comparisons, computed on the data relative to Hypothesis 1 are as follows:

H_{1a} Regard-Reading Comprehension

As shown on Table IV-2, analysis of the reading comprehension scores of pupils in the three groups indicated a statistically significant group main effect ($F=10.57$, $p < .0001$). The pre-post main effect was also statistically significant ($F=58.48$, $p < .0001$). The interaction effect, however, was not statistically significant ($F=1.33$).

Additional analysis of pupil scores indicated that the differences between the groups were statistically significant at the .01 level ($t = 3.42$, $t = 10.73$, and $t = 6.24$); that is, the high group mean score (8.53) was significantly higher than both the middle group mean score (7.90) and the low group mean score (6.77), and, the middle group mean score was significantly higher than the low group mean score. Further analysis of pre-post data for the three groups indicated significance at the .01 level for each group; that is, for each of the three groups, the post-test mean scores (9.02, 8.61, and 7.20, respectively) were significantly higher than the pre-test mean scores (8.04, 7.20, and 6.33). A symbolic

Table IV-2

Analysis of Covariance of Reading Comprehension Scores of Pupils in Three Regard Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	165.99	2	82.93	10.57	.0001
Error	3367.74	429	7.85		
Pre-Post Effect	254.07	1	254.07	58.48	.0001
Interaction Effect	11.59	2	5.80	1.33	NS
Error	1859.67	428	4.35		
Total	7524.37	863			

	t-tests, Comparison of Means Between Levels				t
	Means	SD	Means	SD	
High-Middle	8.53	2.11	7.90	2.97	3.42**
High-Low	8.53	2.11	6.77	1.97	10.73**
Middle-Low	7.90	2.97	6.77	1.97	6.24**

	t-tests, Pre-Post Test Mean Scores			t
	Mean ₁		Mean ₂	
High ₁ -High ₂	8.04		9.02	5.87**
Middle ₁ -Middle ₂	7.20		8.61	4.94**
Low ₁ -Low ₂	6.33		7.20	5.12**
Total	7.20		8.27	7.61**

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	8.04	2.30	144	9.02	2.00	144	8.53	2.11
Middle	144	7.20	2.37	144	8.61	4.74	144	7.90	2.97
Low	144	6.33	2.03	144	7.20	2.22	144	6.77	1.97
Total	432	7.20	2.36	432	8.27	3.36	432	7.74	2.85

* .05 = 1.65

** .01 = 2.33

representation of the results regarding the dimension of regard and reading comprehension is presented on Figure 2.

H_{1b} Regard-Reading Vocabulary

Table IV-3 presents the results of the reading vocabulary scores of pupils in each of the three groups. The group main effect ($F=10.61$, $p < .0001$) and the pre-post main effect ($F=362.36$, $p < .0001$) were statistically significant. The interaction effect was not significant ($F=.44$).

Additional analysis of pre-post data for the three groups indicated that differences between the groups were statistically significant at the .01 level of significance ($t = 4.47$, $t = 9.18$, $t = 4.62$); that is, the high group mean score (7.72) was significantly higher than both the middle group mean score (6.83) and the low group mean score (6.95), and, the middle group mean score was significantly higher than the low group mean score. Further analysis of pre-post data for the three groups indicated significance at the .01 level for each group; that is, for each of the three groups, the post-test mean scores (9.13, 8.37 and 7.61, respectively) were significantly higher than pre-test mean scores (7.84, 7.17, and 6.47). A symbolic representation of the results regarding the

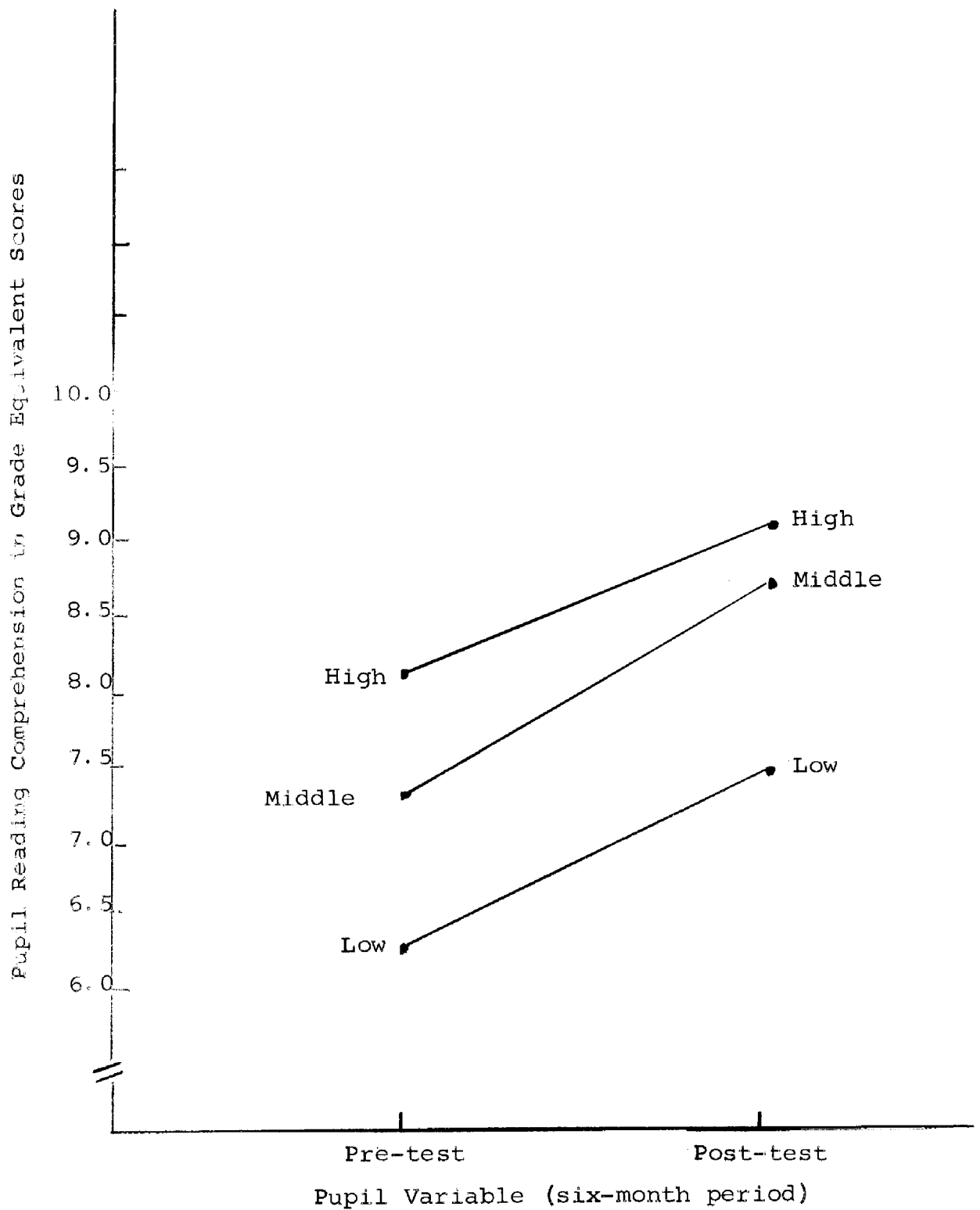


Fig. 2. Relationship between high-middle-low perceived levels of Regard and pupil mean reading comprehension pre- and post-test scores.

Analysis of Covariance of Reading Vocabulary Scores of
Pupils in Three Regard Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	78.96	2	39.48	10.61	.0001
Error	1595.94	429	3.72		
Pre-Post Effect	315.03	1	315.03	362.36	.0001
Interaction Effect	.76	2	.38	.44	NS
Error	372.09	428	.87		
Total	4146.50	863			

	t-tests, Comparison of Means Between Levels				t
	Means	SD	Means	SD	
High-Middle	8.49	1.92	7.77	1.97	4.47**
High-Low	8.49	1.92	7.04	1.84	9.18**
Middle-Low	7.77	1.97	7.04	1.84	4.62**

	t-tests, Pre--Post Test Mean Scores			t
	Mean ₁		Mean ₂	
High ₁ -High ₂	7.84		9.13	7.72**
Middle ₁ -Middle ₂	7.17		8.37	6.83**
Low ₁ -Low ₂	6.47		7.61	6.95**
Total	7.17		8.31	18.98**

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	7.84	2.03	144	9.13	2.03	144	8.49	1.92
Middle	144	7.17	2.02	144	8.37	2.13	144	7.77	1.97
Low	144	6.47	1.74	144	7.61	2.16	144	7.04	1.84
Total	432	7.16	2.02	432	8.37	2.20	432	7.78	1.91

* .05 = 1.65

** .01 = 2.33

dimension of regard and reading vocabulary is presented in Figure 3.

H_{1c} Regard-Complexity

The results of the analysis of covariance which dealt with regard and the dimension of complexity are reported on Table IV-4 and Figure 4.

The group main effect was statistically significant ($F=3.62$, $p<.0269$). The pre-post main effect ($F=1.32$) and the interaction effect ($F=2.66$) were not significant. Because of the significant group main effect, comparisons between groups were made using t-tests. This indicated statistically significant differences between the high group mean score (22.19) and the low group mean score (21.49, $t = 3.43$, $p<.01$) and the middle group mean score (22.51) and the low group mean score ($t = 5.05$, $p<.01$). However, in examining the comparison of the high-middle group ($t = 3.65$, $p<.01$), it should be noted that the middle group was significantly higher than the high group.

H_{1d} Regard-Social Dependence

Results of the analysis of covariance concerned with regard and social dependence are reported on Table IV-5 and

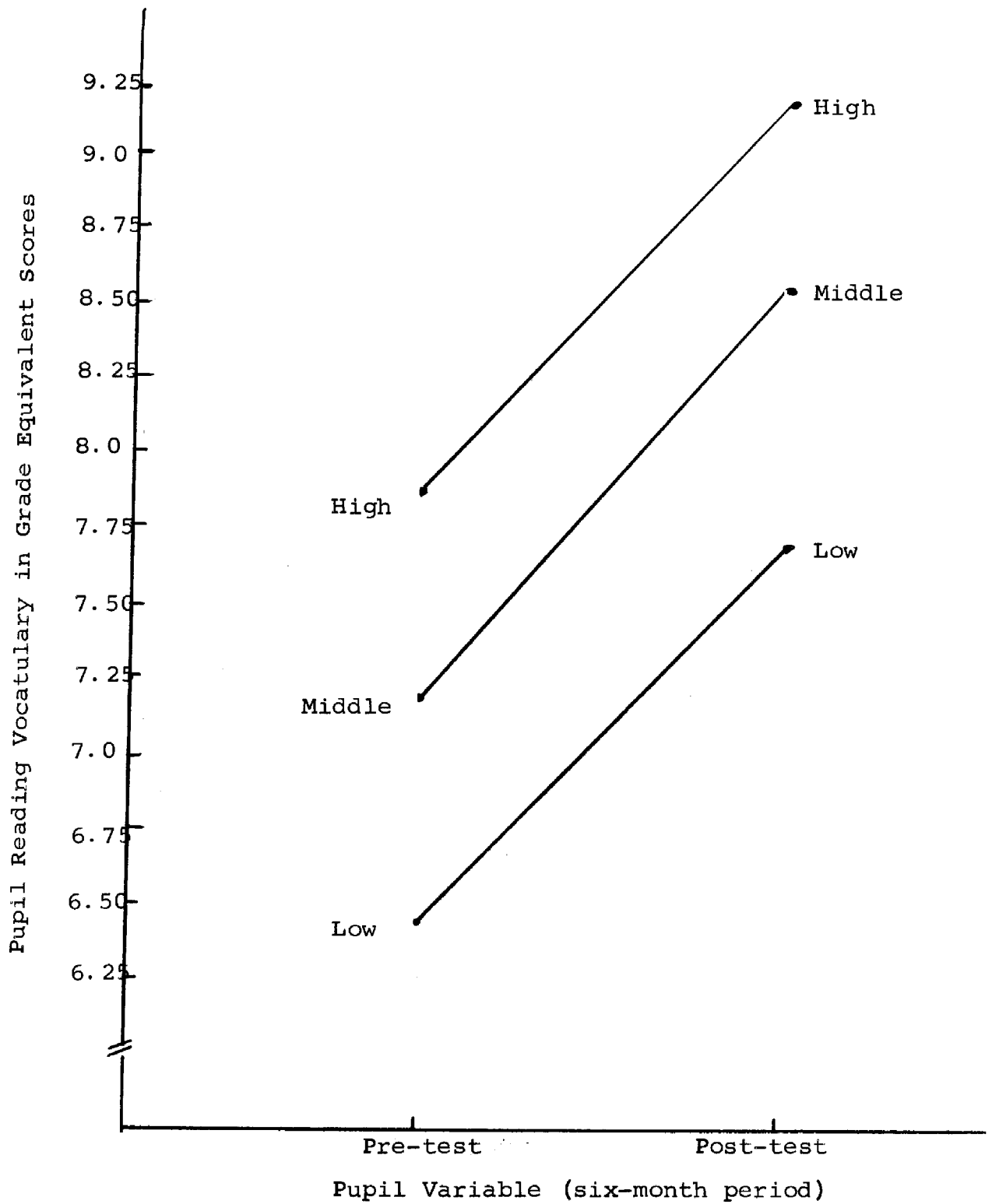


Fig. 3. Relationship between high-middle-low perceived levels of Regard and pupil mean reading vocabulary pre- and post-test scores.

Table IV-4
 Analysis of Covariance of Complexity Scores of Pupils in
 Three Regard Interpersonal Relationship Groups

Analysis of Covariance					
Source of Variation	SS	df	MS	F	P
Group Effect	126.14	2	63.07	3.62	.0269
Error	7483.55	429	17.44		
Pre-Post Effect	11.13	1	11.13	1.32	NS
Interaction Effect	44.94	2	22.47	2.66	NS
Error	3613.44	428	8.44		
Total	11365.81	863			

t-tests, Comparison of Means Between Levels					
	Means	SD	Means	SD	t
High-Middle	22.19	2.80	22.51	2.60	3.65**
High-Low	22.19	2.80	21.49	3.40	3.43**
Middle-Low	22.51	2.60	21.49	3.40	5.05**

Means and Standard Deviations									
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	22.03	3.45	144	22.35	3.58	144	22.19	2.80
Middle	144	22.14	3.11	144	22.88	3.01	144	22.51	2.60
Low	144	21.67	4.08	144	21.31	4.22	144	21.49	3.40
Total	432	21.95	3.57	432	22.18	3.70	432	22.06	2.93

* .05 = 1.65 ** .01 = 2.33

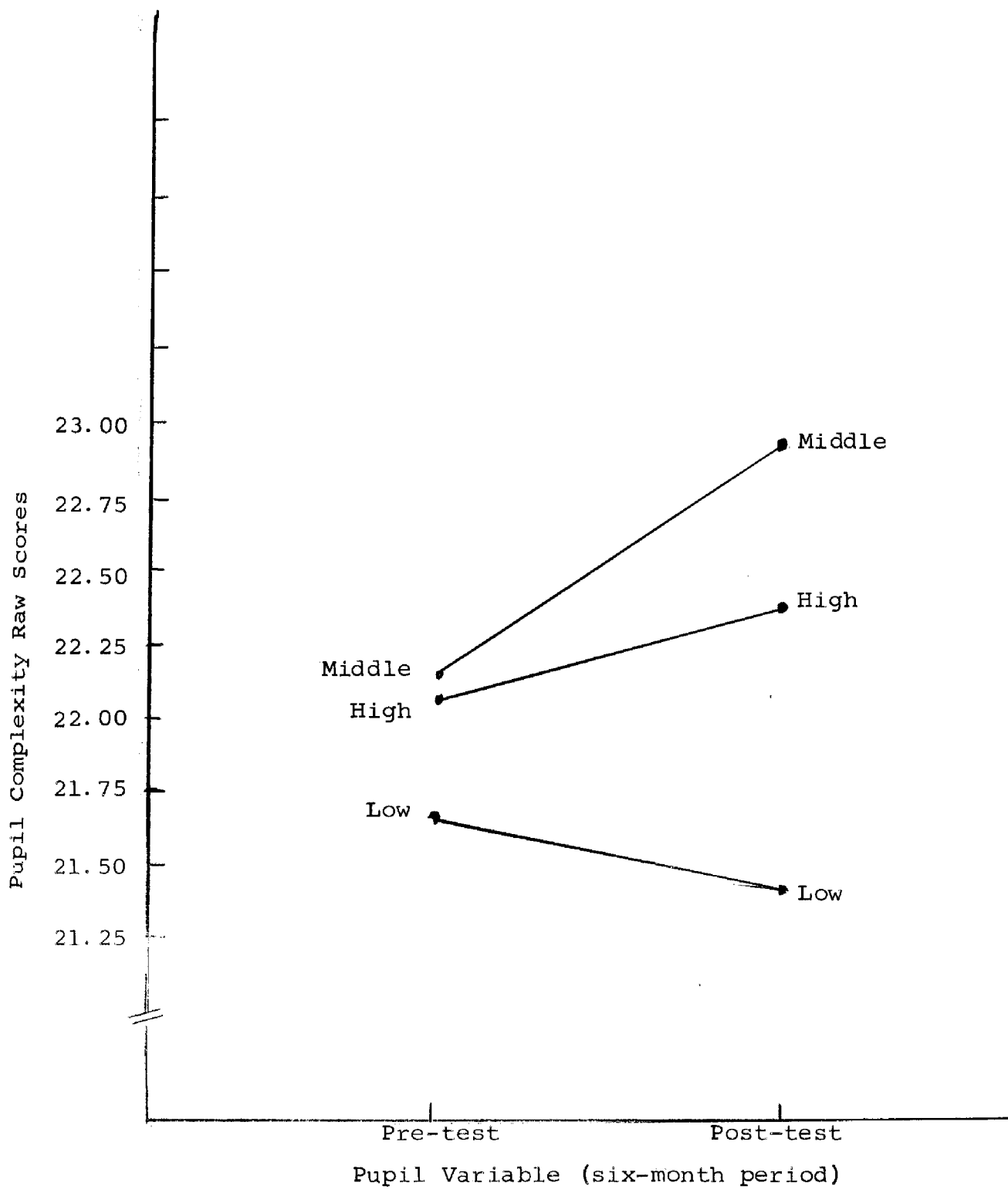


Fig. 4. Relationship between high-middle-low perceived levels of Regard and pupil mean Complexity pre- and post-test scores.

Table IV-5
 Analysis of Covariance of Social Dependence Scores of
 Pupils in Three Regard Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	100.87	2	50.44	.07	NS
Error	2571.21	429	5.99		
Pre-Post Effect	132.23	1	132.23	53.87	.0001
Interaction Effect	6.20	2	3.10	1.26	NS
Error	1050.57	428	2.46		
Total	3821.45	863			

t-tests, Pre-Post Test Mean Scores

	Mean ₁	Mean ₂	t
High ₁ -High ₂	4.03	4.98	5.63**
Middle ₁ -Middle ₂	3.96	4.81	5.06**
Low ₁ -Low ₂	4.03	4.58	3.21**
Total	4.02	4.80	7.99**

Means and Standard Deviations

	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	4.03	2.25	144	4.98	1.85	144	4.51	1.75
Middle	144	3.96	2.19	144	4.81	1.88	144	4.39	1.76
Low	144	4.03	2.13	144	4.58	2.09	144	4.31	1.72
Total	432	4.01	2.19	432	4.79	1.94	432	4.41	1.74

* .05 = 1.65

** .01 = 2.33

Figure 5. The group main effect ($F=.07$) and the interaction effect ($F=1.26$) were not statistically significant; however, the pre-post main effect ($F=53.87$, $p<.0001$) was. T-tests indicated statistically significant pre-post differences for each of the three groups at the .01 level of significance, that is, for each of the three groups the post-test mean scores (4.98, 4.81 and 4.58, respectively) were significantly higher than the pre-test mean scores (4.03, 3.96 and 4.03).

H_{1e} Regard-Total Power

Results of the analysis of covariance for regard and total power are reported on Table IV-6 and Figure 6. The group main effect ($F=4.50$, $p<.0107$) was statistically significant. The pre-post main effect ($F=.50$) and the interaction effect ($F=1.78$) were not statistically significant.

Because of the significant group main effect, comparisons between the groups were made. This indicated a statistically significant difference between high-middle groups ($t = 2.98$, $p<.01$), high-low group ($t = 4.97$, $p<.01$), and, middle-low group ($t = 1.96$, $p<.05$), that is, the high group mean score was significantly higher than both the middle group mean score and the low group mean score, and the middle

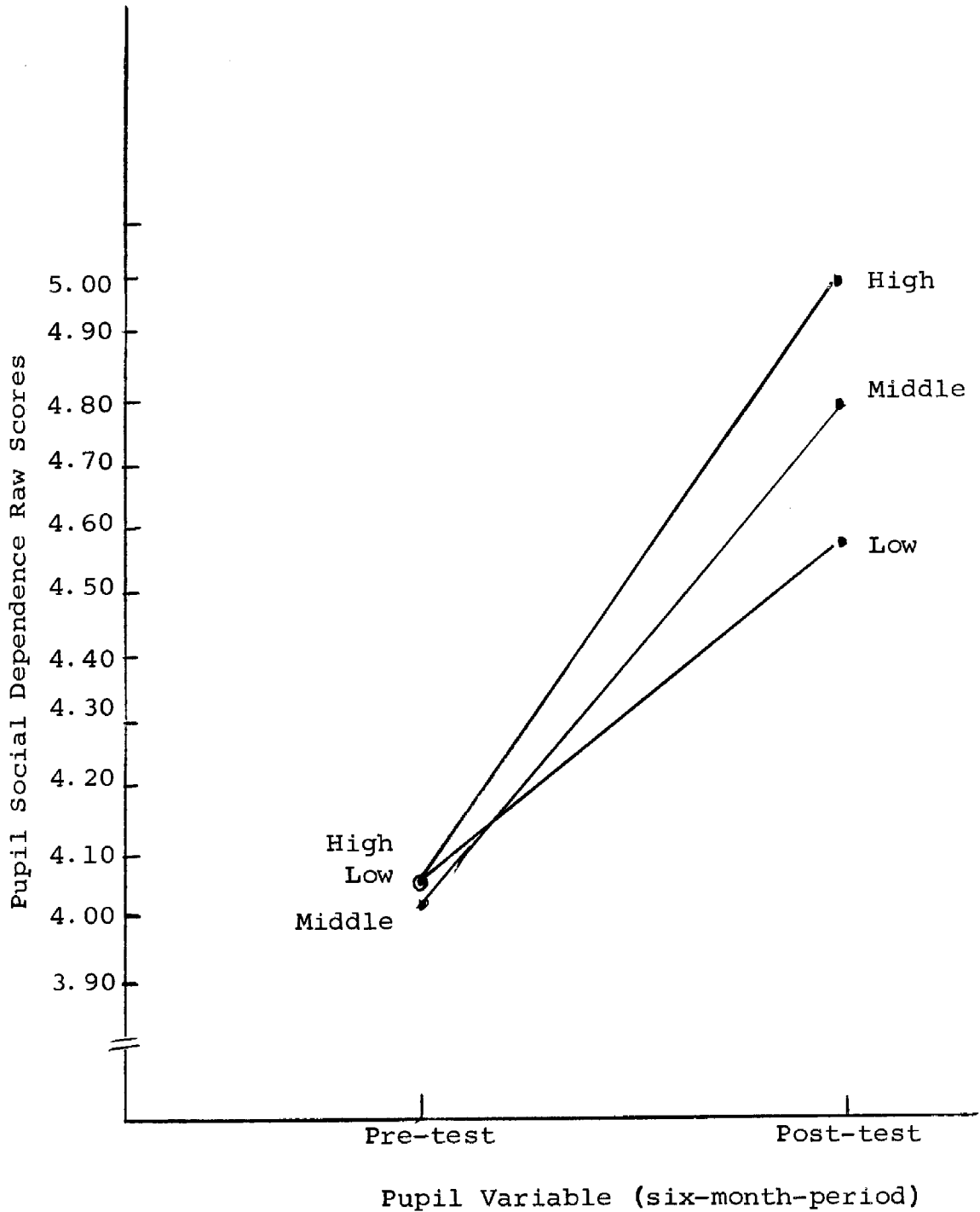


Fig. 5. Relationship between high-middle-low perceived levels of Regard and pupil mean social dependence pre- and post-test scores.

Table IV-6
 Analysis of Covariance of Total Power Scores of Pupils in
 Three Regard Interpersonal Relationship Groups^a

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	111.86	2	55.93	4.50	.0107
Error	5227.56	429	12.19		
Pre-Post Effect	5.00	1	5.00	.50	NS
Interaction Effect	30.94	2	15.47	1.78	NS
Error	3728.06	428	8.71		
Total	9108.50	863			

t-tests, Comparison of
 Means Between Levels

	Means	SD	Means	SD	t
High-Middle	16.37	2.36	16.91	2.57	2.98**
High-Low	16.37	2.36	17.27	2.47	4.97**
Middle-Low	16.91	2.57	17.27	2.47	1.96*

Means and Standard Deviations

	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	16.23	3.03	144	16.51	3.31	144	16.37	2.36
Middle	144	17.09	2.89	144	16.73	3.36	144	16.91	2.57
Low	144	17.00	3.38	144	17.53	3.43	144	17.27	2.47
Total	432	16.77	3.11	432	16.93	3.38	432	16.82	2.43

^aHigher score denotes less feeling of power by pupil.

*.05 = 1.65

** .01 = 2.33

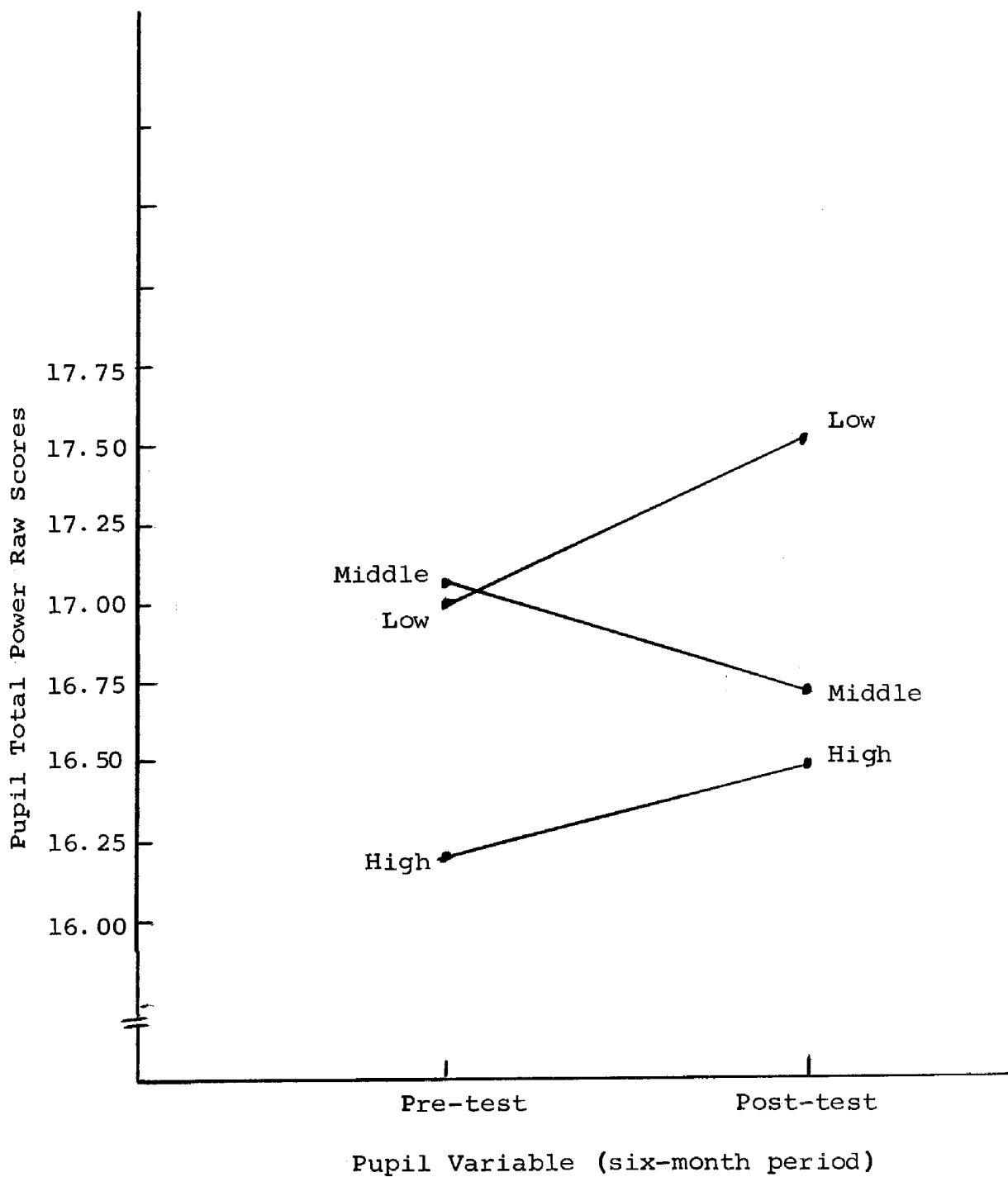


Fig. 6. Relationship between high-middle-low perceived levels of Regard and pupil mean total pupil power pre- and post-test scores.

group mean score was significantly higher than the low group mean score. It should be recalled that the lower the mean score on the total power items, the greater the pupil's feeling of power. The means indicated that a high regard group pupil had greater feelings of power than did the low regard group child.

H_{1f} Regard-Teacher-Pupil Power

The results of the covariance which dealt with regard and teacher-pupil power are reported in Table IV-7 and Figure 7. The group main effect was statistically significant ($F=5.50$, $p<.0047$). The pre-post main effect was not statistically significant ($F=.00$). The interaction effect was statistically significant ($F=3.26$, $p<.0381$).

Because of the significant main group effect, comparisons between groups were made. The results indicated a statistically significant difference between high-low group scores ($t = 4.61$, $p<.01$); and high-middle group ($t = 2.32$) and middle-low group ($t = 2.29$) were statistically significant at the .05 level, the high group mean score was significantly higher than both the middle group score, and low group mean score, and

Analysis of Covariance of Teacher-Pupil Power Scores of
Pupils in Three Regard Interpersonal
Relationship Groups^a

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	93.14	2	46.57	5.50	.0047
Error	3632.42	429	8.47		
Pre-Post Effect	.00	1	.00	.00	NS
Interaction Effect	31.02	2	15.51	3.26	.0381
Error	2036.48	428	4.76		
Total	5793.37	863			

Means and Standard Deviations

	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	5.90	2.39	144	5.85	2.49	144	5.88	1.91
Middle	144	6.48	2.41	144	6.04	2.72	144	6.26	2.06
Low	144	6.41	2.74	144	6.90	2.67	144	6.65	2.17
Total	432	6.26	2.52	432	6.26	2.66	432	6.26	2.05

Simple Effect

		SS	df	MS	F	P
Groups at	a ₁	35.98	2	17.99	2.74	NS
	a ₂	89.68	2	42.34	6.44	.05
Error		5631.64	857	6.57		
Groups	b ₁	14.22	1	14.22	3.06	NS
	b ₂	13.78	1	13.78	2.96	NS
	b ₃	.31	1	.31	.07	NS
Error		1992.96	428	4.66		

t-tests, Comparison of
Means Between Levels

	Means	SD	Means	SD	t
High-Middle	5.88	1.91	6.26	2.06	2.32*
High-Low	5.88	1.91	6.65	2.17	4.61**
Middle-Low	6.26	2.06	6.65	2.17	2.29*

*.05 = 1.65

**.01 = 2.33

^aHigher score denotes less feeling of pupil power.

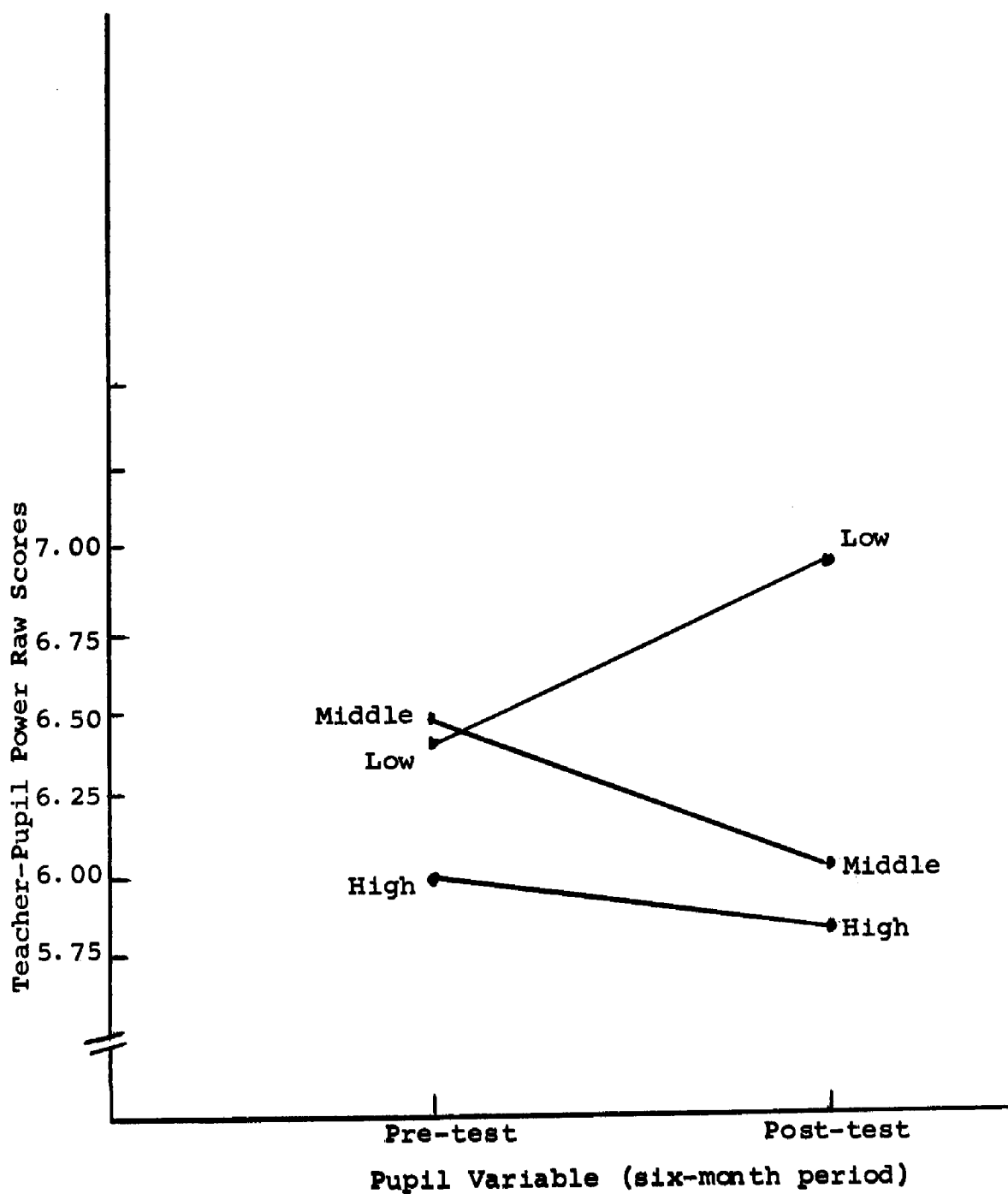


Fig. 7. Relationship between high-middle-low perceived levels of Regard and pupil mean teacher-pupil power pre- and post-test scores

middle group mean score was significantly higher than the low group.

In regard to the interaction effect data, an analysis of variance for simple effects, also reported on Table IV-7 indicated (1) a significant difference in post-test effect at the .05 level of confidence, and, (2) no significant differences between groups.

H_{1g} Regard-Esteem

The results of the analysis of covariance which dealt with regard and the dimension of esteem are reported on Table IV-8 and Figure 8.

The pre-post main effect was statistically significant ($F=13.09$, $p<.0006$). The group main effect ($F=1.17$) and the interaction effect ($F=.25$) were not statistically significant. Further analysis of the pre-post data for the three groups indicated statistical significance at the .01 level ($t = 6.01$, $t = 3.69$, and $t = 4.25$), that is, for each of the three groups, the post-test mean scores (24.95, 23.68 and 24.08, respectively) were significantly higher than pre-test mean scores (23.19, 22.57 and 22.77).

Table IV-8

Analysis of Covariance of Esteem Scores of Pupils in Three
Regard Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	133.42	2	66.71	1.17	NS
Error	24391.62	429	56.86		
Pre-Post Effect	419.44	1	419.44	13.09	.0006
Interaction Effect	15.88	2	7.94	.25	NS
Error	13712.69	428	32.04		
Total	38674.75	863			

t-tests, Pre-Post Test Mean Scores

	Mean ₁	Mean ₂	t
High ₁ -High ₂	23.19	24.95	6.01**
Middle ₁ -Middle ₂	22.57	23.68	3.69**
Low ₁ -Low ₂	22.77	24.08	4.25**
Total	22.84	24.84	3.65**

Means and Standard Deviations

	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	23.19	6.25	144	24.95	6.22	144	24.07	5.27
Middle	144	22.57	6.80	144	23.68	6.41	144	23.13	5.25
Low	144	22.77	6.86	144	24.08	7.03	144	23.43	5.43
Total	432	22.84	6.61	432	24.24	6.68	432	23.54	5.32

* .05 = 1.65

** .01 = 2.33

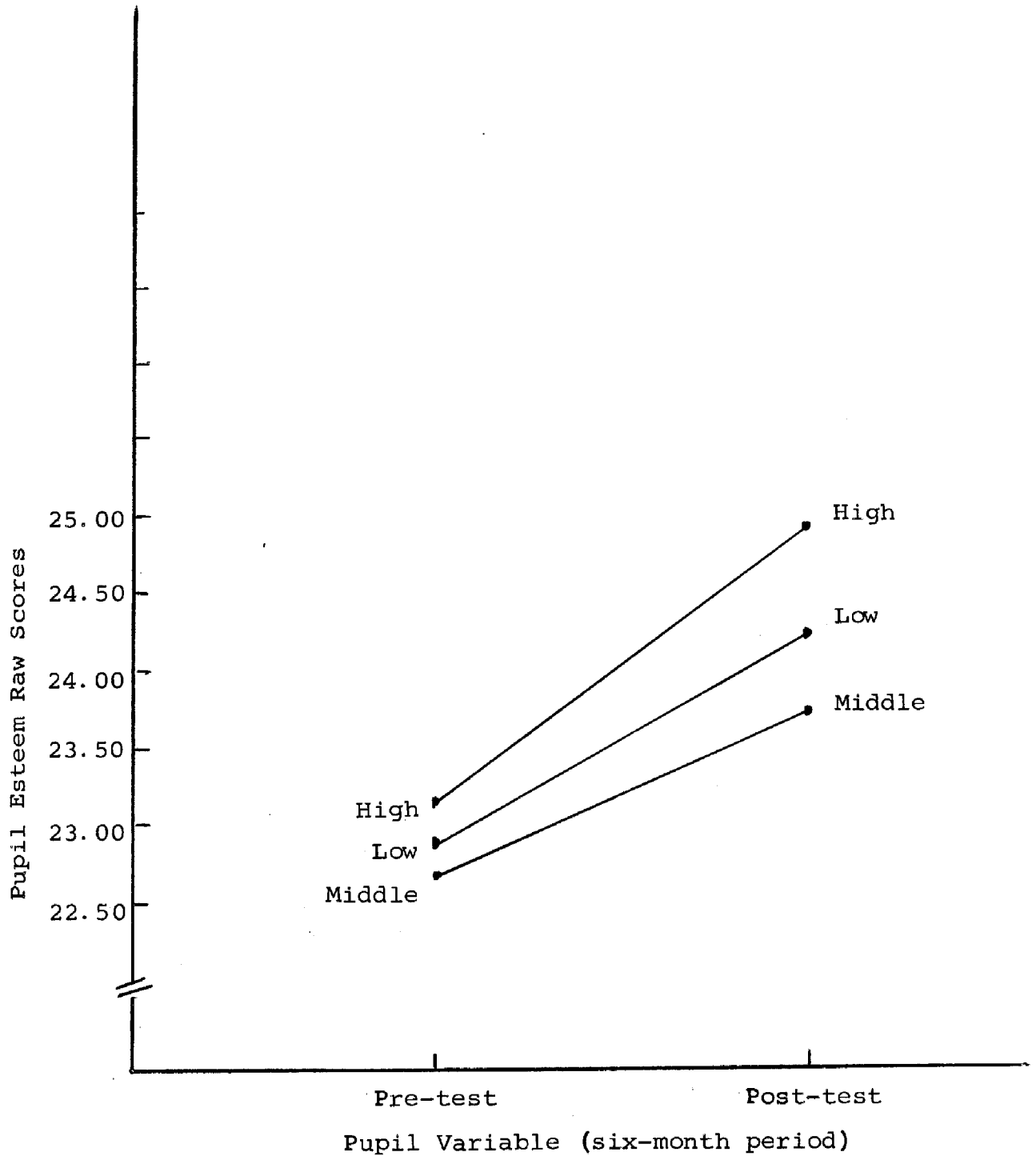


Fig. 8. Relationship between high-middle-low perceived levels of Regard and pupil mean esteem pre- and post-test scores.

H_{1h} Regard-Identification with Mother

The results of analysis of covariance which dealt with regard and identification with mother are reported on Table IV-9 and Figure 9.

The pre-post main effect was statistically significant ($F=13.84$, $p<.0005$). The group main effect ($F=1.01$) and the interaction effect ($F=.56$) were not statistically significant. Further analysis of the pre-post data for the three groups were not statistically significant; that is, post-test mean scores (1.66, 1.61 and 1.50 respectively) were not significantly higher than pre-test mean scores (1.48, 1.43 and 1.41).

H_{1i} Regard-Identification with Father

Results from the analysis of covariance which dealt with regard and identification with father are reported on Table IV-10 and Figure 10. The group main effect ($F=.79$), pre-post main effect ($F=3.16$), and the interaction effect ($F=.38$) were not statistically significant.

H_{1j} Regard-Identification with Teacher

The results of the analysis of covariance which dealt with regard and identification with teacher are reported on Table IV-11 and Figure 11.

Table IV-9

Analysis of Covariance of Identification with Mother Scores
in Three Regard Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	1.82	2	.91	1.01	NS
Error	385.40	429	.90		
Pre-Post Effect	4.89	1	4.89	13.84	.0005
Interaction Effect	.39	2	.20	.56	NS
Error	151.22	428	.35		
Total	543.81	863			

t-tests, Pre-Post Test Mean Scores

	Mean ₁	Mean ₂	t
High ₁ -High ₂	1.48	1.66	NS
Middle ₁ -Middle ₂	1.43	1.61	NS
Low ₁ -Low ₂	1.41	1.50	NS
Total	1.44	1.59	3.73**

Means and Standard Deviations

	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	1.48	.71	144	1.66	.83	144	1.57	.65
Middle	144	1.43	.73	144	1.61	.70	144	1.52	.61
Low	144	1.41	.92	144	1.50	.81	144	1.45	.74
Total	432	1.44	.83	432	1.59	.74	432	1.51	.67

* .05 = 1.65

** .01 = 2.33

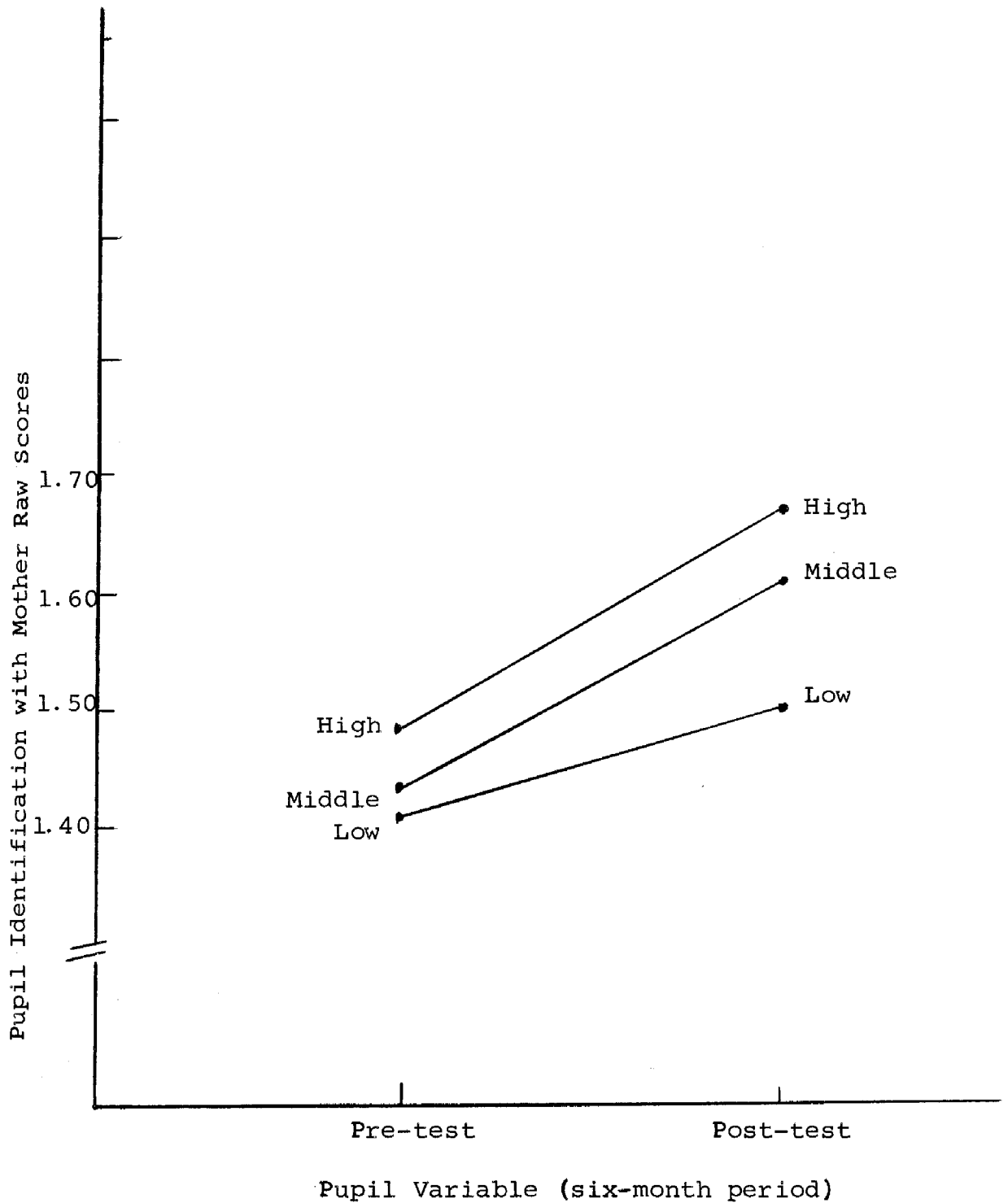


Fig. 9. Relationship between high-middle-low perceived levels of Regard and pupil mean identification with mother pre- and post-test scores.

Table IV-10
 Analysis of Covariance of Identification with Father Scores
 of Pupils in Three Regard Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	1.58	2	.79	.79	NS
Error	431.90	429	1.01		
Pre-Post Effect	1.34	1	1.34	3.16	NS
Interaction Effect	.32	2	.16	.38	NS
Error	181.34	428	.42		
Total	616.96	863			

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	1.42	.83	144	1.46	.88	144	1.44	.73
Middle	144	1.32	.86	144	1.38	.87	144	1.35	.72
Low	144	1.38	.85	144	1.51	.79	144	1.44	.67
Total	432	1.37	.85	432	1.45	.85	432	1.31	.71

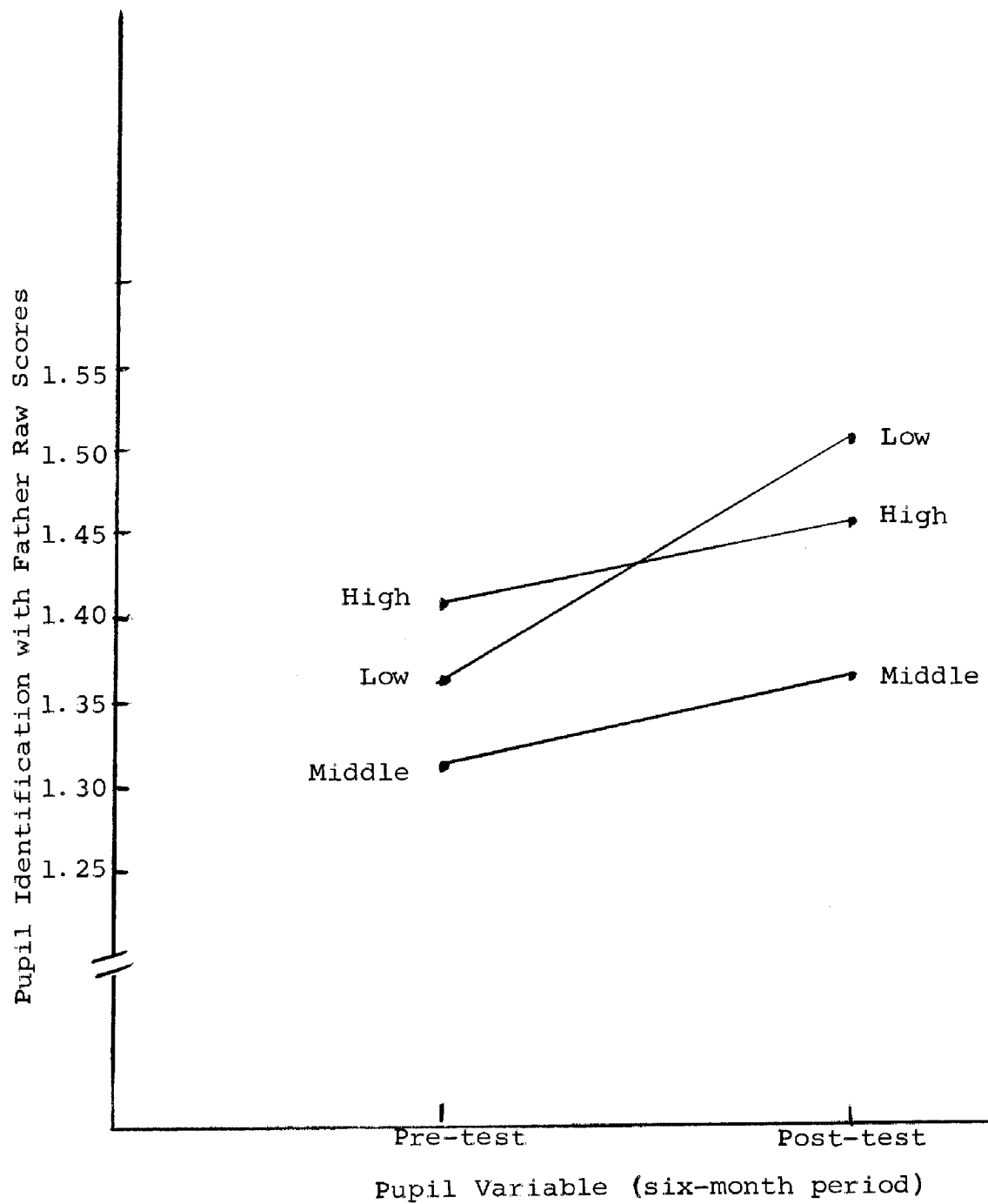


Fig. 10. Relationship between high-middle-low perceived levels of Regard and pupil mean identification with father pre- and post-test scores.

Table IV-11
 Analysis of Covariance of Identification with Teacher Scores
 of Pupils in Three Regard Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	f	P
Group Effect	7.34	2	3.67	5.78	.0037
Error	272.43	429	.64		
Pre-Post Effect	.01	1	.01	.02	NS
Interaction Effect	.73	2	.36	1.18	NS
Error	131.27	428	.31		
Total	412.20	863			

	t-tests, Comparison of Means Between Levels				t
	Means	SD	Means	SD	
High-Middle	.48	.62	.32	.54	17.84**
High-Low	.48	.62	.27	.52	23.62**
Middle-Low	.32	.54	.27	.52	5.83**

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	.44	.69	144	.51	.78	144	.48	.62
Middle	144	.35	.70	144	.29	.68	144	.32	.54
Low	144	.29	.66	144	.26	.62	144	.27	.52
Total	432	.36	.69	432	.35	.70	432	.36	.56

*.05 = 1.65

**.01 = 2.33

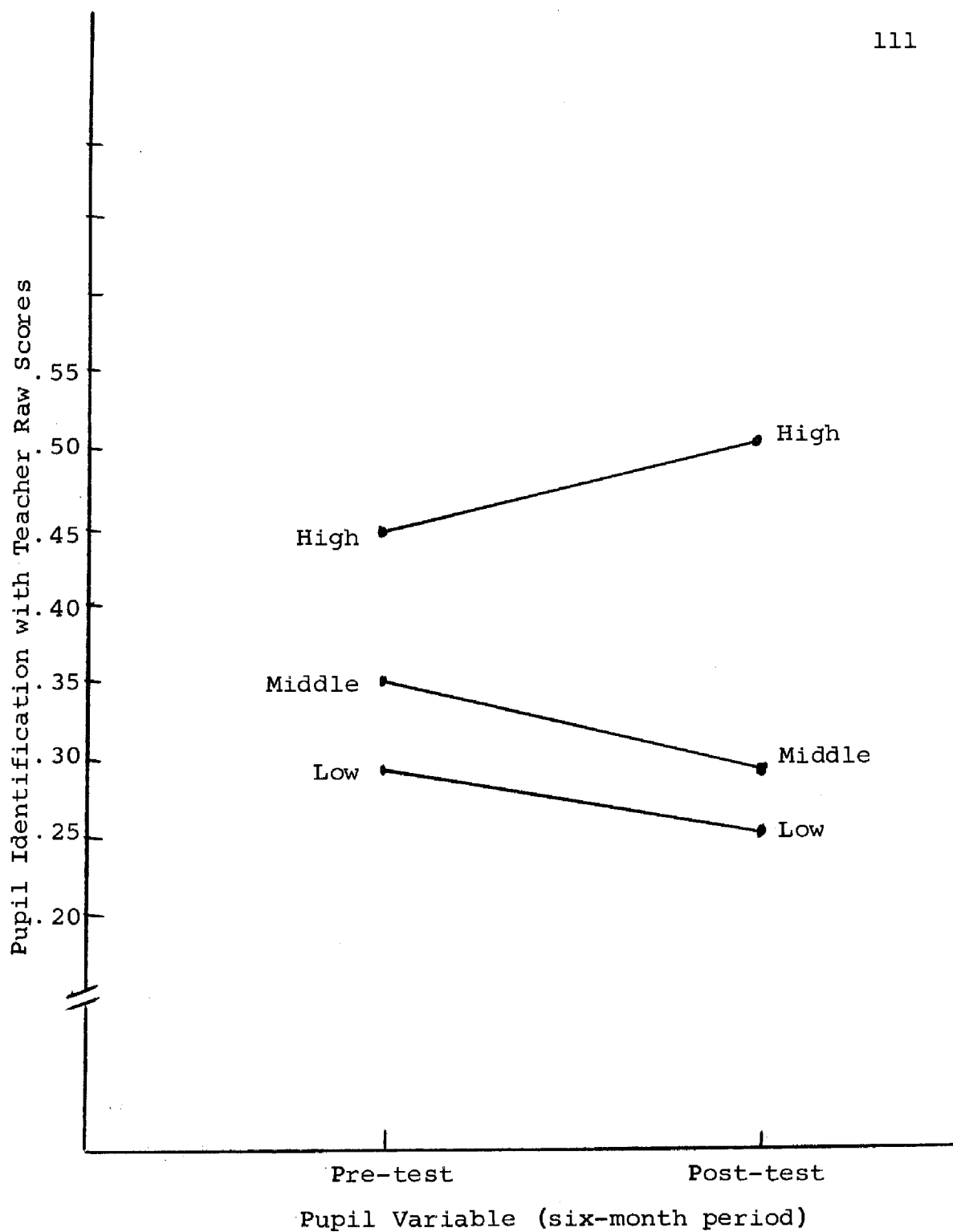


Fig. 11. Relationship between high-middle-low perceived levels of Regard and pupil mean identification with teacher pre- and post-test scores.

The group main effect was statistically significant ($F=5.78$, $p<.0037$). The pre-post main effect ($F=.02$) and the interaction effect ($F=1.18$) were not statistically significant. Because of the significant group main effect, comparisons between groups were made. Analysis of pre-post data for the three groups indicated that differences between groups were statistically significant at the .01 level ($t = 17.84$, $t = 23.62$, $t = 5.83$); that is, the high group mean score (.48) was significantly higher than both the middle group mean score (.32) and the low group mean score (.27), and the middle group mean score was significantly higher than the low group mean score.

H_{1k} Regard-Identification with Friend

The results of the analysis of covariance which dealt with regard and identification with friend are reported on Table IV-12 and Figure 12. The group main effect ($F=.75$), pre-post main effect ($F=1.93$), and the interaction effect ($F=.57$) were not statistically significant.

Hypothesis 2

Hypothesis 2 was concerned with the interpersonal dimension of empathy. Empathy was defined as the extent to

Table IV-12
 Analysis of Covariance of Identification with Friend
 Scores of Pupils in Three Regard Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	1.54	2	.77	.75	NS
Error	439.19	429	1.02		
Pre-Post Effect	.97	1	.97	1.93	NS
Interaction Effect	.57	2	.29	.57	NS
Error	215.96	428	.51		
Total	658.33	863			

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	1.12	.87	144	1.19	.87	144	1.16	.69
Middle	144	1.09	.88	144	1.09	.87	144	1.09	.72
Low	144	1.13	.87	144	1.26	.88	144	1.19	.73
Total	432	1.11	.87	432	1.18	.88	432	1.14	.71

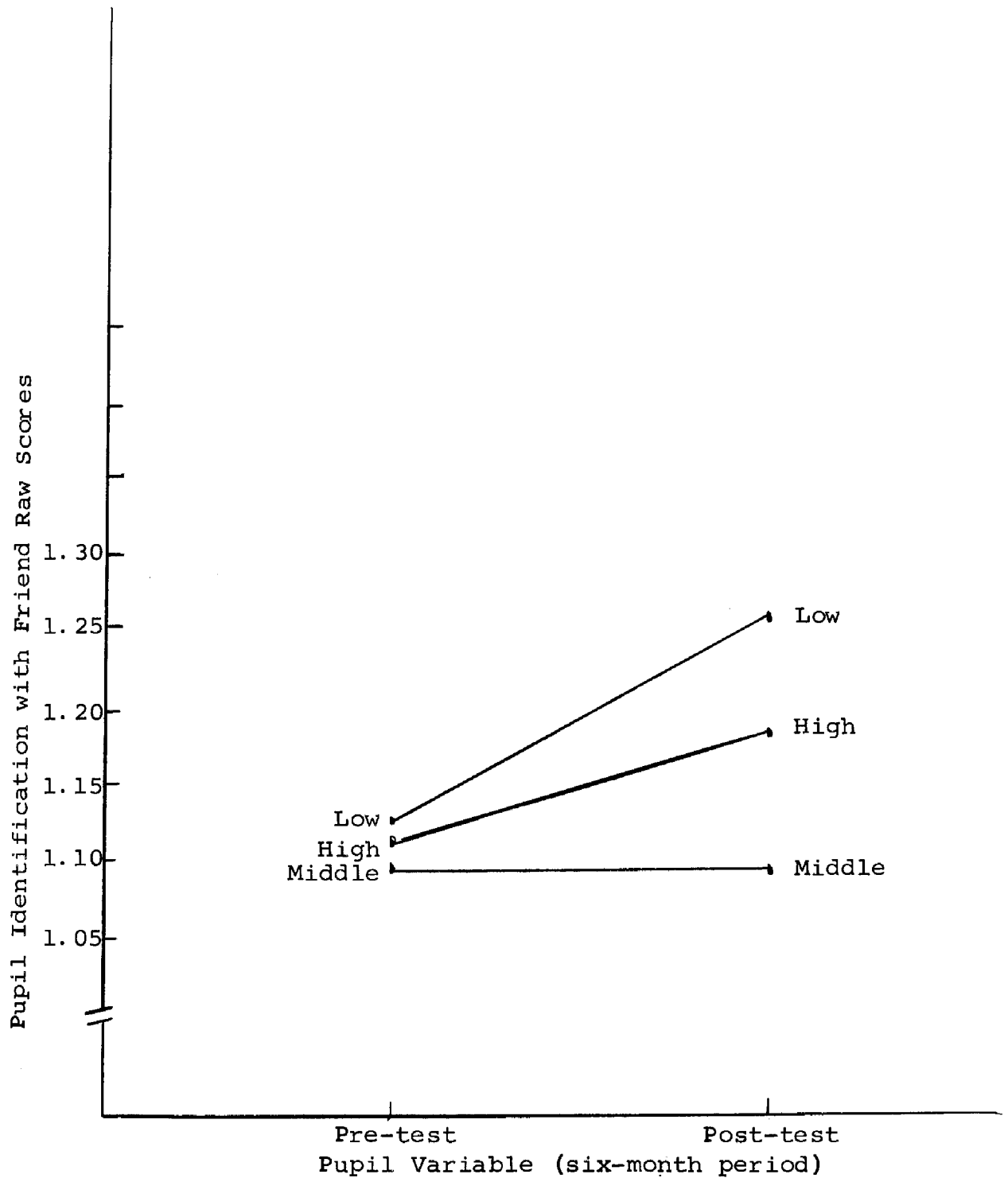


Fig. 12. Relationship between high-middle-low perceived levels of Regard and pupil mean identification with friend pre- and post-test scores.

which one person is conscious of the immediate awareness of another. Therefore, Hypothesis 2 was formulated in the following manner:

- H₂: There is a significant positive relationship between the dimension of empathy determined from the empathy scale and changes in:
- a) reading comprehension achievement.
 - b) reading vocabulary achievement.
 - c) complexity task performance.
 - d) social dependence task performance.
 - e) total power task performance.
 - f) teacher-pupil power task performance.
 - g) esteem task performance.
 - h) identification with mother task performance.
 - i) identification with father task performance.
 - j) identification with teacher task performance.
 - k) identification with friend task performance.

Results from the analysis of covariance and comparisons computed on the data relative to Hypothesis H₂ are as follows:

H_{2a} Empathy-Reading Comprehension

As shown on Table IV-13, analysis of the reading comprehension scores of pupils in the three groups indicated a statistically significant group main effect ($F=15.41$, $p<.0001$). The pre-post main effect was also statistically significant ($F=58.36$, $p<.0001$). The interaction effect was not significant ($F=.92$).

Additional analysis of pupil scores indicated that the differences between the high-middle group ($t = 7.66$) and the high-low group ($t = 9.83$) were statistically significant at the .01 level of significance; and, the middle-low groups ($t = 2.03$) was statistically significant at the .05 level. The high group mean score (8.79) was significantly higher than both the middle group mean score (7.38) and the low group mean score (7.04) and the middle group mean score was significantly higher than the low group mean score. Further analysis of pre-post data for the three groups indicated significance at the .01 level for each group; that is, for each of the three groups, the post-test mean scores (9.47, 7.87 and 7.50 respectively) were significantly higher than the pre-test mean scores (8.79, 7.38 and 7.04). A symbolic

Table IV-13

Analysis of Covariance of Reading Comprehension Scores of Pupils in Three Empathy Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	236.84	2	118.42	15.41	.0001
Error	3296.83	429	7.69		
Pre-Post Effect	254.08	1	254.08	58.36	.0001
Interaction Effect	8.04	2	4.02	.92	NS
Error	1863.23	428			
Total	7524.37	863			

	t-tests, Comparison of Means Between Levels				t
	Means	SD	Means	SD	
High-Middle	8.79	2.84	7.38	2.23	7.66**
High-Low	8.79	2.84	7.04	1.99	9.83**
Middle-Low	7.38	2.23	7.04	1.99	2.03**

	t-tests, Pre-Post Test Mean Scores			t
	Mean ₁		Mean ₂	
High ₁ -High ₂	8.11		9.47	6.21**
Middle ₁ -Middle ₂	6.89		7.87	6.17**
Low ₁ -Low ₂	6.58		7.50	7.76**
Total	7.20		8.27	7.61**

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	8.11	2.33	144	9.47	4.64	144	8.79	2.84
Middle	144	6.89	2.37	144	7.87	2.38	144	7.38	2.23
Low	144	6.58	2.09	144	7.50	2.19	144	7.01	1.99
Total	432	7.16	2.02	432	8.37	2.20	432	7.74	2.85

* .05 = 1.65

** .01 = 2.33

representation of the results regarding the dimension of empathy and reading comprehension is presented in Figure 13.

H_{2b} Empathy-Reading Vocabulary

Table IV-14 presents the results of the reading vocabulary scores of pupils in each of the three groups. The group main effect ($F=15.83$, $p<.0001$) and the pre-post main effect ($F=365.27$, $p<.0001$) were statistically significant. The interaction effect was not significant ($F=2.12$).

Comparisons between high-middle groups ($t = 7.70$) and high-low groups ($t = 8.23$) were statistically significant at the .01 level while, the middle-low group was not statistically significant; that is, the high group mean score (8.61) was significantly higher than both the middle group mean (7.37) and the low group mean (7.31), but, the middle group mean was not significantly higher than the low group mean. Further analysis of the pre-post data for the three groups indicated significance at the .01 level for each group; that is, for each of the three groups the post-test mean scores (9.28, 7.89 and 7.94, respectively) were significantly higher than the pre-test mean scores (7.94, 6.86, and 6.69). A symbolic representation of the perceived levels of empathy

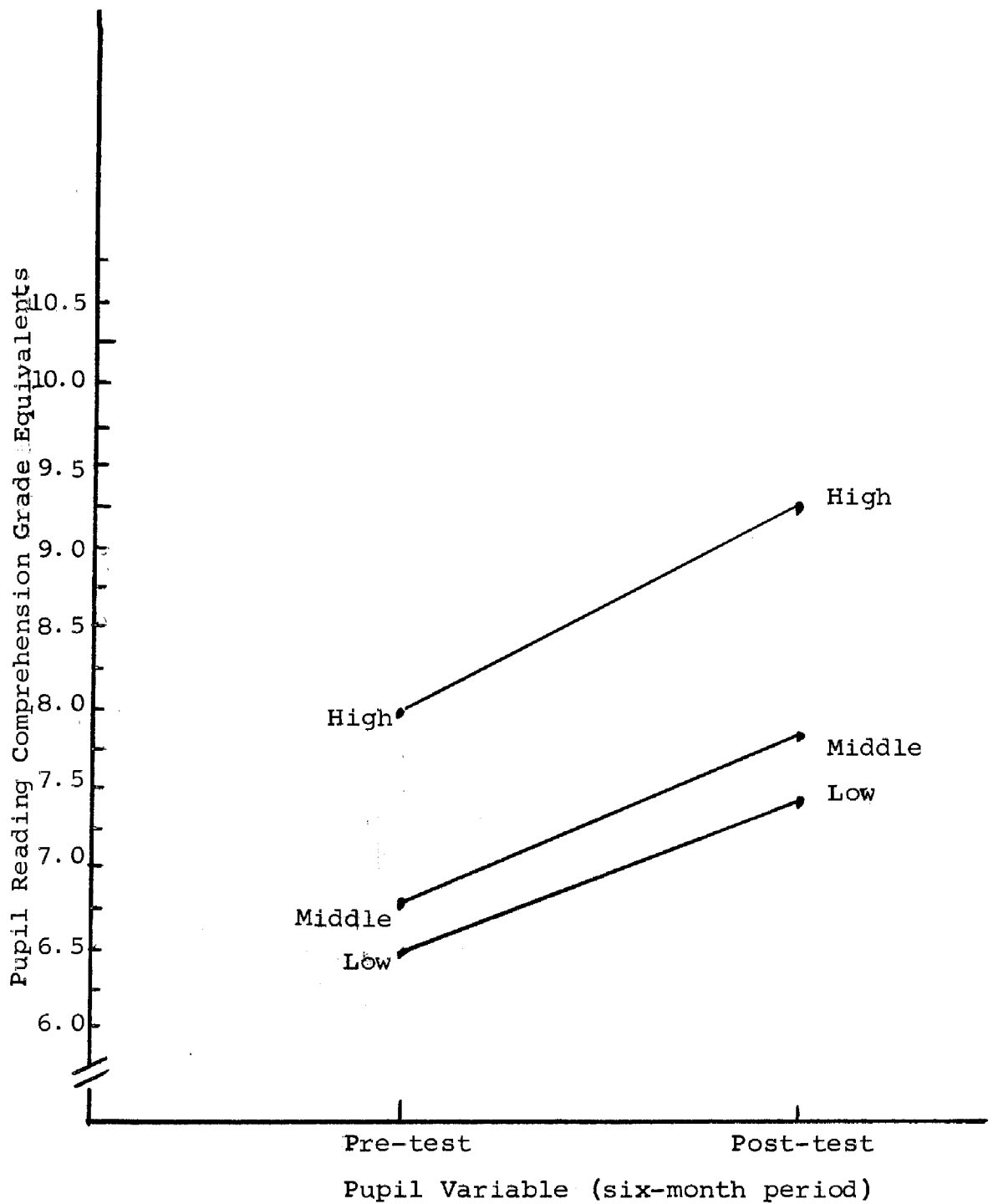


Fig. 13. Relationship between high-middle-low perceived levels of Empathy and pupil mean reading comprehension pre- and post-test scores.

Table IV-14

Analysis of Covariance of Reading Vocabulary Scores of
Pupils in Three Empathy Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	115.08	2	57.54	15.83	.0001
Error	1559.74	429	3.64		
Pre-Post Effect	315.07	1	315.07	365.27	.0001
Interaction Effect	3.65	2	1.82	2.12	NS
Error	369.18	428			
Total	4146.54	863			

t-tests, Comparison of
Means Between Levels

	Means		SD		t
	Means	SD	Means	SD	
High-Middle	8.61	1.96	7.37	1.96	7.70**
High-Low	8.61	1.96	7.31	1.81	8.23**
Middle-Low	7.37	1.82	7.31	1.81	NS

t-tests, Pre-Post Test Mean Scores

	Mean ₁		Mean ₂		t
	Mean ₁	SD	Mean ₂	SD	
High ₁ -High ₂	7.94		9.28		8.02**
Middle ₁ -Middle ₂	6.86		7.89		6.17**
Low ₁ -Low ₂	6.69		7.94		7.76**
Total	7.17		8.37		18.98**

Means and Standard Deviations

	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	7.94	2.12	144	9.28	2.06	144	8.61	1.96
Middle	144	6.86	1.94	144	7.89	2.16	144	7.37	1.95
Low	144	6.69	1.75	144	7.94	2.10	144	7.31	1.82
Total	432	7.16	2.02	432	8.37	2.20	432	7.78	1.91

*.05 = 1.65

** .01 = 2.33

and reading vocabulary is presented on Figure 14.

H_{2c} Empathy-Complexity

The results of covariance which dealt with empathy and complexity are reported on Table IV-15 and Figure 15. The group main effect ($F=1.18$) and the pre-post main effect ($F=1.33$) were not statistically significant; however, the interaction effect was statistically significant ($F=4.69$, $p<.0098$).

In regard to the interaction effect data, an analysis of variance for simple effect indicated (1) a significant difference in post-test data at the .05 level of significance, and (2) a statistically significant middle group difference ($F=8.01$, $p<.01$) and no significance in high or low groups.

H_{2d} Empathy-Social Dependence

The results of analysis of covariance which dealt with empathy and social dependence are reported on Table IV-16 and Figure 16.

The pre-post main effect was statistically significant ($F=53.71$, $p<.0001$). The group main effect ($F=.63$) and the interaction effect ($F=.63$) were not statistically significant. Further analysis of the pre-post data for the three

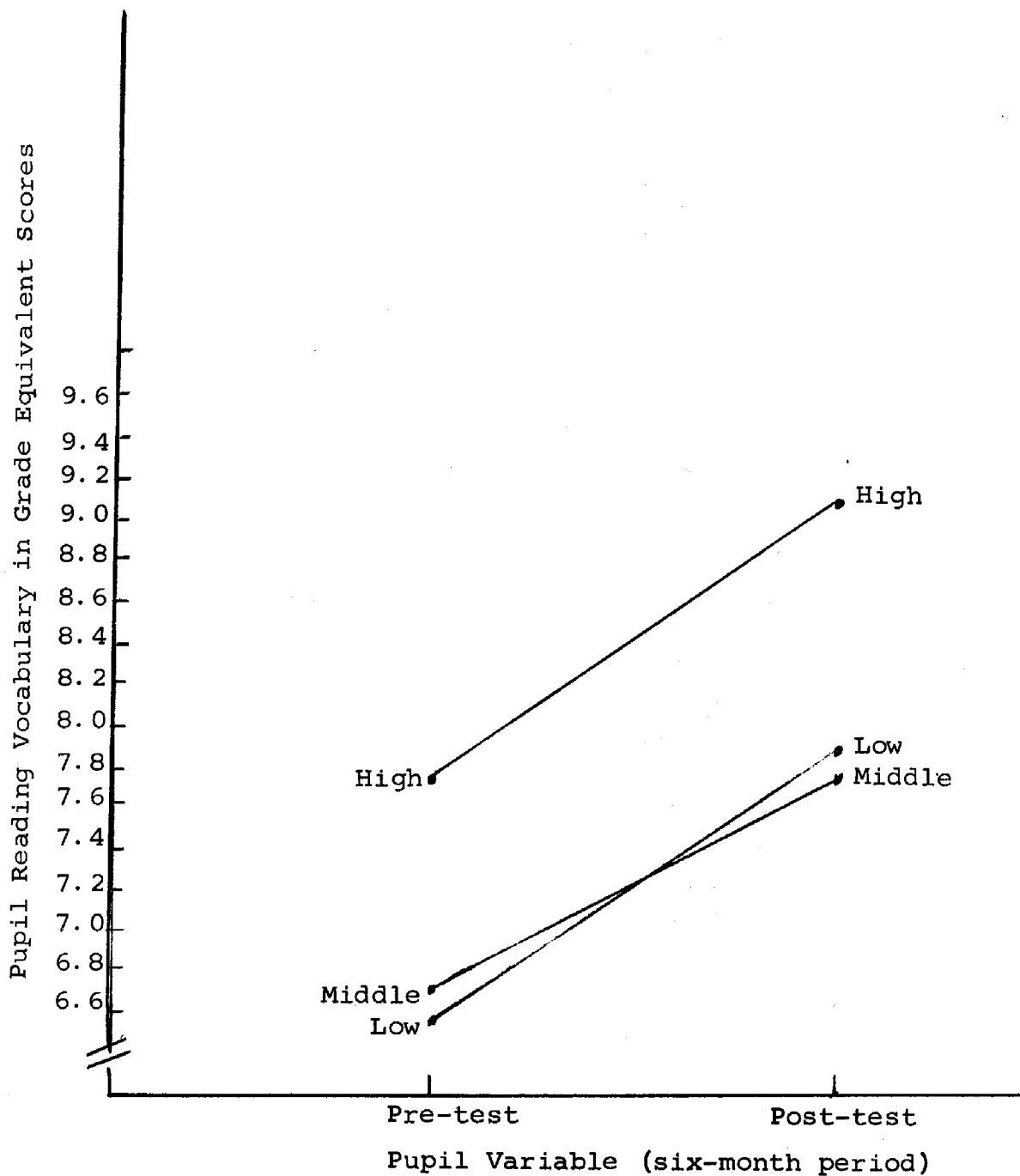


Fig. 14. Relationship between high-middle-low perceived levels of Empathy and reading vocabulary pre- and post-test scores.

Table IV-15

Analysis of Covariance of Complexity Scores of Pupils in
Three Empathy Interpersonal Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	41.53	2	20.77	1.18	NS
Error	7568.15	429	17.64		
Pre-Post Effect	11.13	1	11.13	1.33	NS
Interaction Effect	78.44	2	39.22	4.69	.0098
Error	3579.94	428	8.36		
Total	11365.81	863			

	Simple Effects				
	SS	df	MS	F	P
Groups at a ₁	20.22	2	10.11	.77	NS
a ₂	104.64	2	52.32	3.99	.05
Error	11229.40	857	13.10		
Groups at b ₁	17.50	1	17.50	2.09	NS
b ₂	67.09	1	67.09	8.01	.01
b ₃	2.00	1	2.00	.24	
Error	3586.32	428	8.38		

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	22.19	3.50	144	22.39	3.49	144	22.29	2.81
Middle	144	21.69	3.48	144	22.67	3.20	144	22.18	2.79
Low	144	21.96	3.72	144	21.47	4.22	144	21.71	3.30
Total	432	21.95	3.57	432	22.16	3.57	432	22.06	2.63

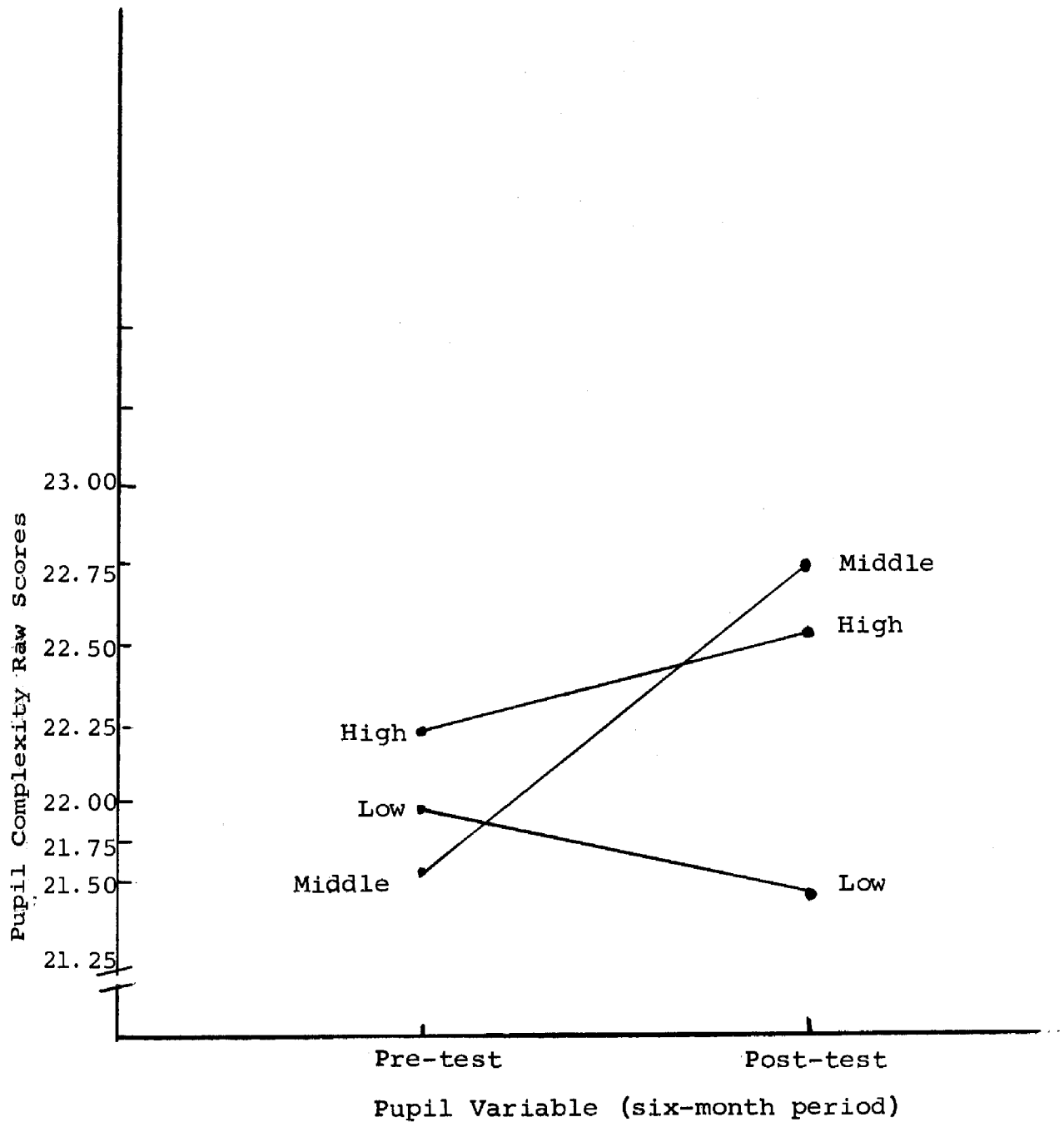


Fig. 15. Relationship between high-middle-low perceived levels of Empathy and pupil mean Complexity pre- and post-test scores.

Table IV-16
Analysis of Covariance of Social Dependence Scores of Pupils
in Three Empathy Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	16.93	2	8.46	1.42	NS
Error	2555.16	429	5.96		
Pre-Post Effect	132.23	1	132.23	53.71	.0001
Interaction Effect	3.09	2	1.55	.63	NS
Error	1053.68	428	2.46		
Total	3821.45	863			

<u>t-tests, Pre-Post Test Mean Scores</u>			
	Mean ₁	Mean ₂	t
High ₁ -High ₂	4.31	5.02	4.28**
Middle ₁ -Middle ₂	3.76	4.67	5.34**
Low ₁ -Low ₂	3.96	4.68	4.21**
Total	4.02	4.80	7.99**

<u>Means and Standard Deviations</u>									
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	4.31	2.18	144	5.02	1.79	144	4.64	1.72
Middle	144	3.76	2.19	144	4.67	1.99	144	4.21	1.76
Low	144	3.96	2.17	144	4.68	2.04	144	4.35	1.73
Total	432	4.02	2.18	432	4.80	1.94	432	4.40	1.74

*.05 = 1.65

**.01 = 2.33

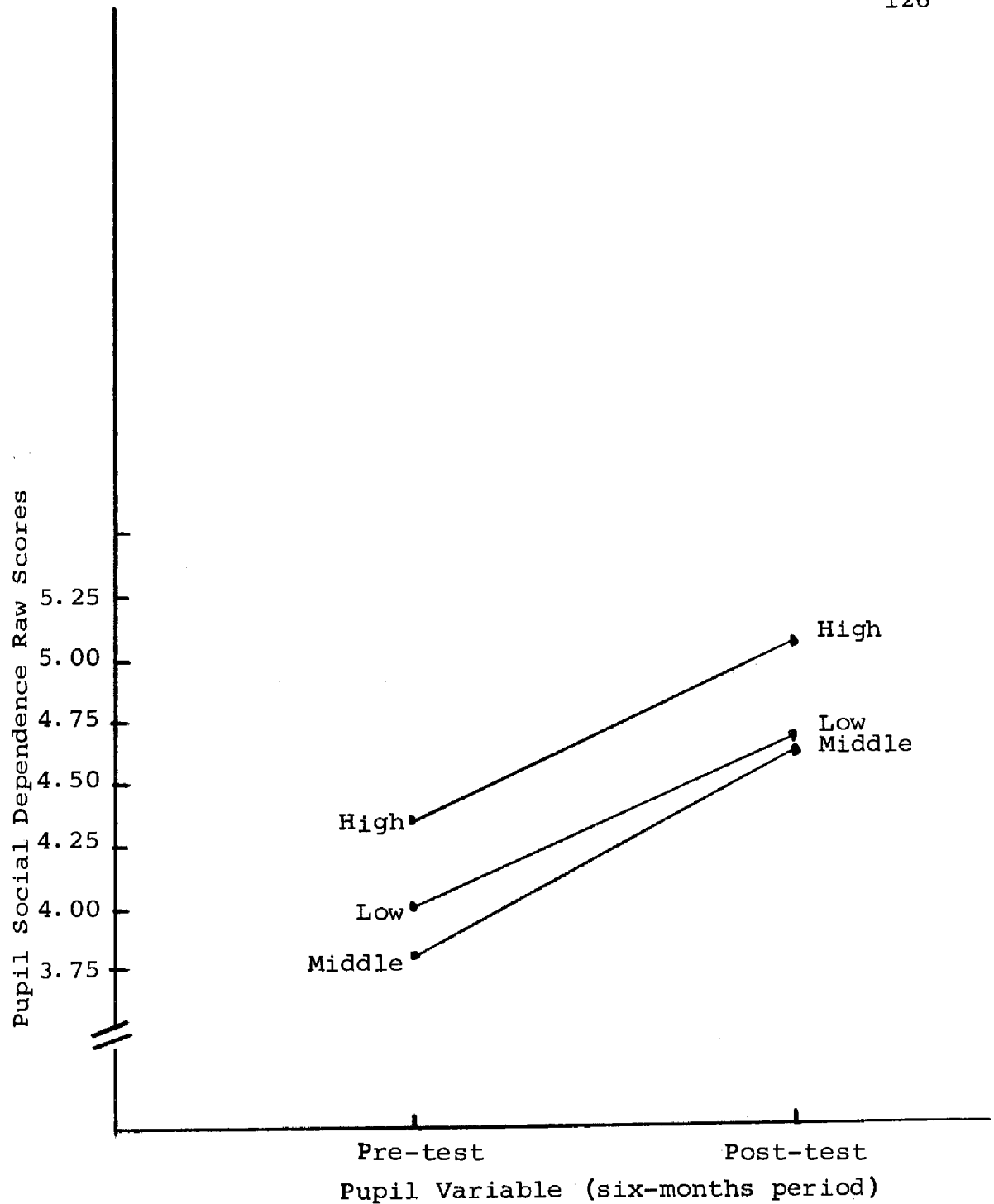


Fig. 16. Relationship between high-middle-low perceived levels of Empathy and pupil mean social dependence pre- and post-test scores.

groups was statistically significant at the .01 level for each ($t = 4.28$, $t = 5.34$, $t = 4.21$); that is, for each of the three groups, the post-test mean scores (5.02, 4.67 and 4.68) were significantly higher than pre-test scores (4.31, 3.76 and 3.96).

H_{2e} Empathy-Total Power

The results of the analysis of covariance which dealt with empathy and total power are reported on Table IV-17 and Figure 17.

The group main effect was statistically significant ($F=4.30$, $p<.0139$). The pre-post main effect ($F=.57$) and the interaction effect ($F=.05$) were not statistically significant.

Because of the significant group main effect, comparison between groups were made. This indicated statistically significant differences between high-middle groups ($t = 2.77$, $p<.01$), high-low group ($t = 4.89$, $p<.01$), and, middle-low group ($t = 1.96$, $p<.05$). The high group means score (16.39) was significantly higher than both the middle group mean score (16.90) and the low group mean score (17.26) and the middle group mean score was significantly higher than the low group mean score.

Table IV-17

Analysis of Covariance of Total Power Scores of Pupils in
Three Empathy Interpersonal Relationship Groups^a

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	105.01	2	52.50	4.30	.0139
Error	5234.41	429	12.20		
Pre-Post Effect	5.00	1	5.00	.57	NS
Interaction Effect	.81	2	.41	.05	NS
Error	3758.19	428	8.78		
Total	9108.50	863			

	t-tests, Comparison of Means Between Levels				t
	Means		SD		
	Means	SD	Means	SD	
High-Middle	16.39	2.37	16.90	2.62	2.77**
High-Low	16.39	2.37	17.26	2.39	4.89**
Middle-Low	16.90	2.62	17.26	2.39	1.96*

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	16.33	2.86	144	16.44	3.34	144	16.39	2.37
Middle	144	16.78	3.04	144	17.02	3.40	144	16.90	2.62
Low	144	17.20	3.65	144	17.31	3.38	144	17.26	2.39
Total	432	16.77	3.11	432	16.93	3.38	432	16.85	2.46

^aHigher Score denotes less feeling of power by pupil

*.05 = 1.65

** .01 = 2.33

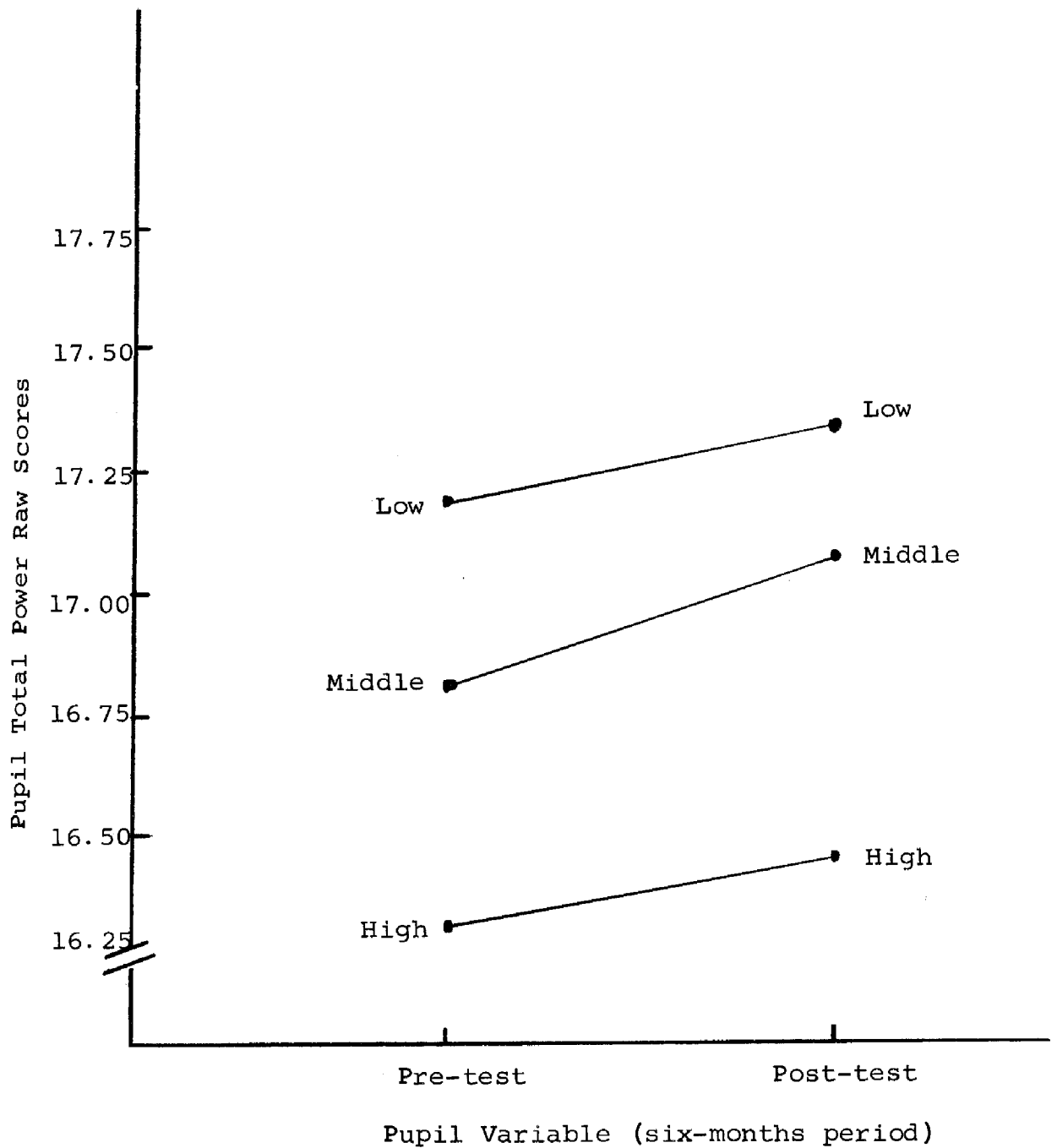


Fig. 17. Relationship between high-middle-low perceived levels of Empathy and pupil mean total Pupil Power pre- and post-test scores.

H_{2f} Empathy-Teacher-Pupil Power

The results of the analysis of covariance which dealt with empathy and teacher-pupil power are reported on Table IV-18 and Figure 18.

The group main effect was statistically significant ($F=5.27$, $p<.0058$). The pre-post main effect ($F=.00$) and the interaction effect ($F=1.22$) were not statistically significant.

Because of the significant group main effect, comparison between groups were made. This indicated statistically significant differences between high-middle groups ($t = 2.50$, $p<.01$), high-low groups ($t = 4.61$, $p<.01$), and, middle-low groups ($t = 2.12$, $p<.05$). The high group mean score (5.28) was significantly higher than both the middle group mean score (6.28) and the low group mean score (6.64), and, the middle group mean score was significantly higher than the low group mean score.

H_{2g} Empathy-Esteem

The results of the analysis of covariance which dealt with empathy and esteem are reported on Table IV-19 and Figure 19.

Table IV-18
 Analysis of Covariance of Teacher-Pupil Power Scores in
 Three Empathy Interpersonal Relationship Groups^a

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	89.31	2	44.66	5.27	.0058
Error	3636.25	429	8.48		
Pre-Post Effect	.00	1	.00	.00	NS
Interaction Effect	11.68	2	5.84	1.22	NS
Error	2055.82	428	4.80		
Total	5793.37	863			

	t-tests, Comparison of Means Between Levels				t
	Means	SD	Means	SD	
	High-Middle	5.87	1.92	6.28	
High-Low	5.87	1.92	6.64	2.20	4.61**
Middle-Low	6.28	2.03	6.64	2.20	2.12*

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	6.01	2.34	144	5.72	2.47	144	5.87	1.92
Middle	144	6.28	2.41	144	6.28	2.64	144	6.28	2.03
Low	144	6.50	2.78	144	6.78	2.78	144	6.64	2.20
Total	432	6.26	2.52	432	6.26	2.66	432	6.26	2.05

^aThe higher score denotes less feeling of power by pupil.

*.05 = 1.65 **.01 = 2.33

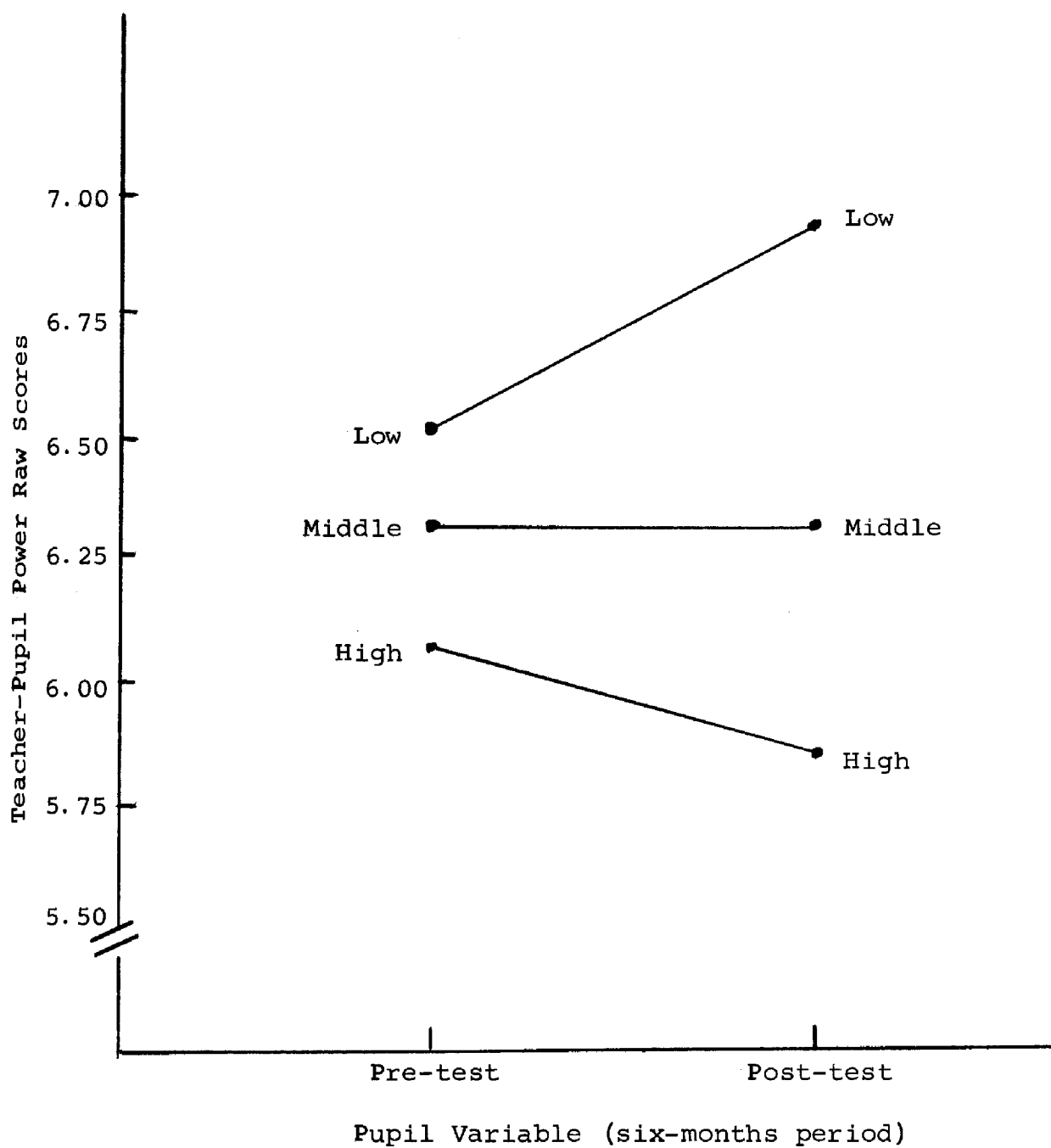


Fig. 18. Relationship between high-middle-low perceived levels of Empathy and pupil mean teacher-pupil power pre- and post-test scores.

Table IV-19

Analysis of Covariance of Esteem Scores of Pupils in Three
Empathy Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	107.23	2	53.62	.94	NS
Error	24417.80	429	56.92		
Pre-Post Effect	419.44	1	419.44	13.36	.0006
Interaction Effect	286.44	2	143.22	4.56	.0110
Error	13442.13	428	31.41		
Total	38674.75	863			

t-tests, Pre-Post Test Mean Scores

	Mean ₁	Mean ₂	t
High ₁ -High ₂	24.02	23.90	NS
Middle ₁ -Middle ₂	21.76	24.43	9.08**
Low ₁ -Low ₂	22.76	24.38	5.24**
Total	22.84	24.84	3.65**

Simple Effects

	SS	df	MS	F	P
Groups at a ₁	373.18	2	186.59	4.25	NS
a ₂	28.22	2	14.11	.31	NS
Error	37658.01	857	43.94		
Groups at b ₁	217.01	1	217.01	6.96	.01
b ₂	520.03	1	520.03	16.68	.01
b ₃	1.25	1	1.25	.04	NS
Error	13345.75	428	31.18		

Means and Standard Deviations

	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	24.02	6.33	144	23.90	6.74	144	23.96	5.48
Middle	144	21.76	6.37	144	24.43	6.33	144	23.09	4.81
Low	144	22.76	7.03	144	24.38	7.02	144	23.57	5.62
Total	432	22.84	6.61	432	24.24	6.68	432	23.54	5.30

*.05 = 1.65

**.01 = 2.33

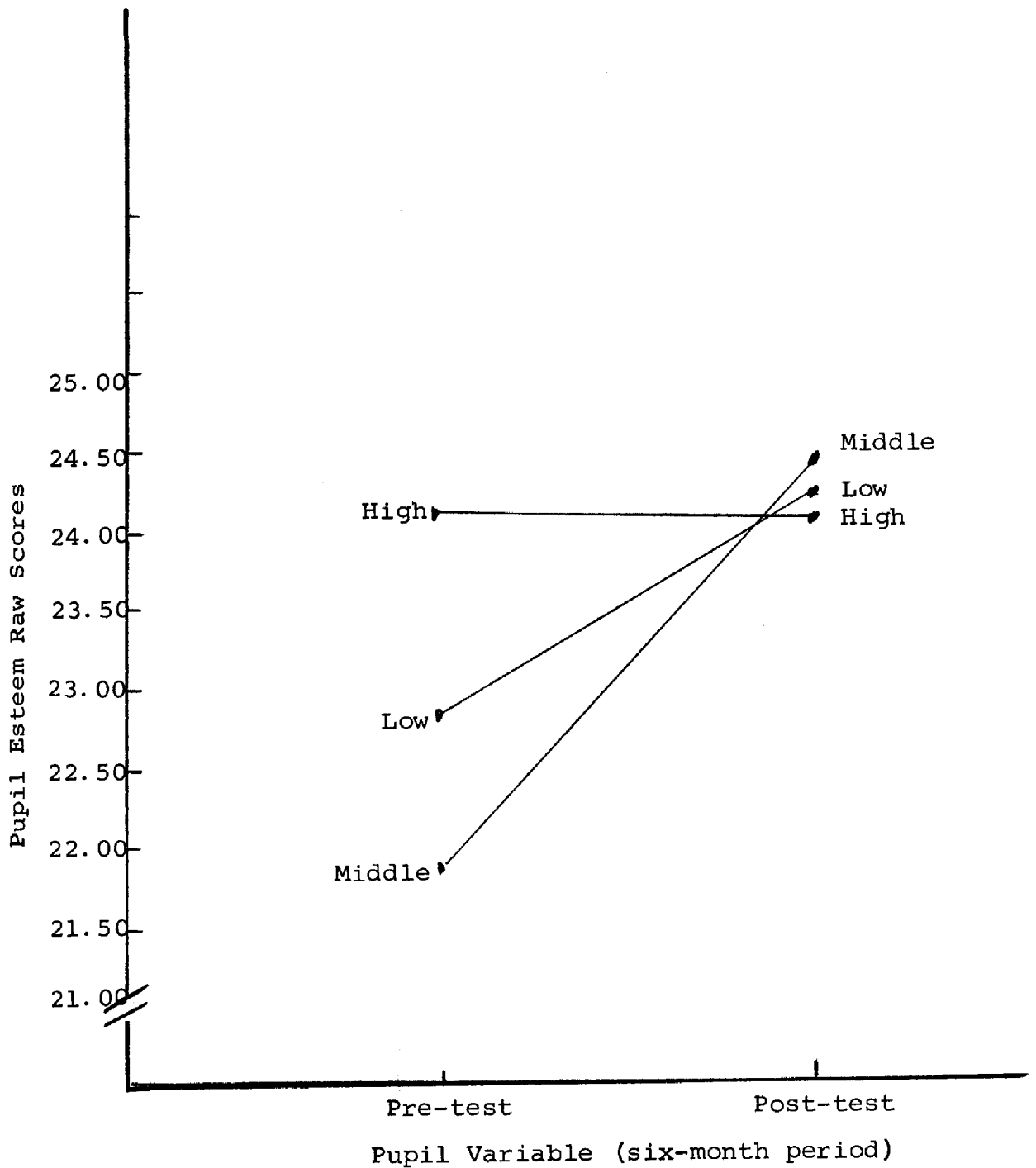


Fig. 19. Relationship between high-middle-low perceived levels of Empathy and pupil mean esteem pre- and post-test scores.

The group main effect ($F=.94$) was not statistically significant. The pre-post main effect ($F=13.36$, $p<.0006$) was statistically significant. Further analysis of the pre-post main effect indicated that middle group ($t = 9.08$) and the low group ($t = 5.24$) were significant at the .01 level while the high group pre-post scores were not statistically significant. The post-test mean scores for the middle group (24.43) and the low group mean scores (24.38) were significantly higher than pre-test mean scores (21.76 and 22.76).

Interaction effects were found to be statistically significant ($F=4.56$, $p<.0110$). An analysis of variance for simple effects, also reported on Table IV-19, indicated no significant difference in pre-post effects, and (2) that the high group ($F=6.69$, $p<.01$) and the middle group ($F=16.68$, $p<.01$) were statistically significant, while the low group was not statistically significant.

H_{2h} Empathy-Identification with Mother

The result of the analysis of covariance which dealt with empathy and identification with mother are reported on Table IV-20 and Figure 20.

The pre-post main effect ($F=13.89$, $p<.0005$) was

Table IV-20
 Analysis of Covariance of Identification with Mother Scores
 of Pupils in Three Empathy Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	3.15	2	1.57	1.76	NS
Error	384.07	429	.90		
Pre-Post Effect	4.89	1	4.89	13.89	.0005
Interaction Effect	.96	2	.48	1.36	NS
Error	150.66	428	.35		
Total	543.81	863			

t-tests, Pre-Post Test Mean Scores			
	Means ₁	Means ₂	t
High ₁ -High ₂	1.56	1.65	NS
Middle ₁ -Middle ₂	1.34	1.58	NS
Low ₁ -Low ₂	1.42	1.54	NS
Total	1.44	1.59	3.73**

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	1.56	.72	144	1.65	.79	144	1.60	.61
Middle	144	1.34	.90	144	1.58	.71	144	1.46	.67
Low	144	1.42	.81	144	1.54	.80	144	1.48	.71
Total	432	1.44	.83	432	1.59	.74	432	1.51	.67

*.05 = 1.65

**.01 = 2.33

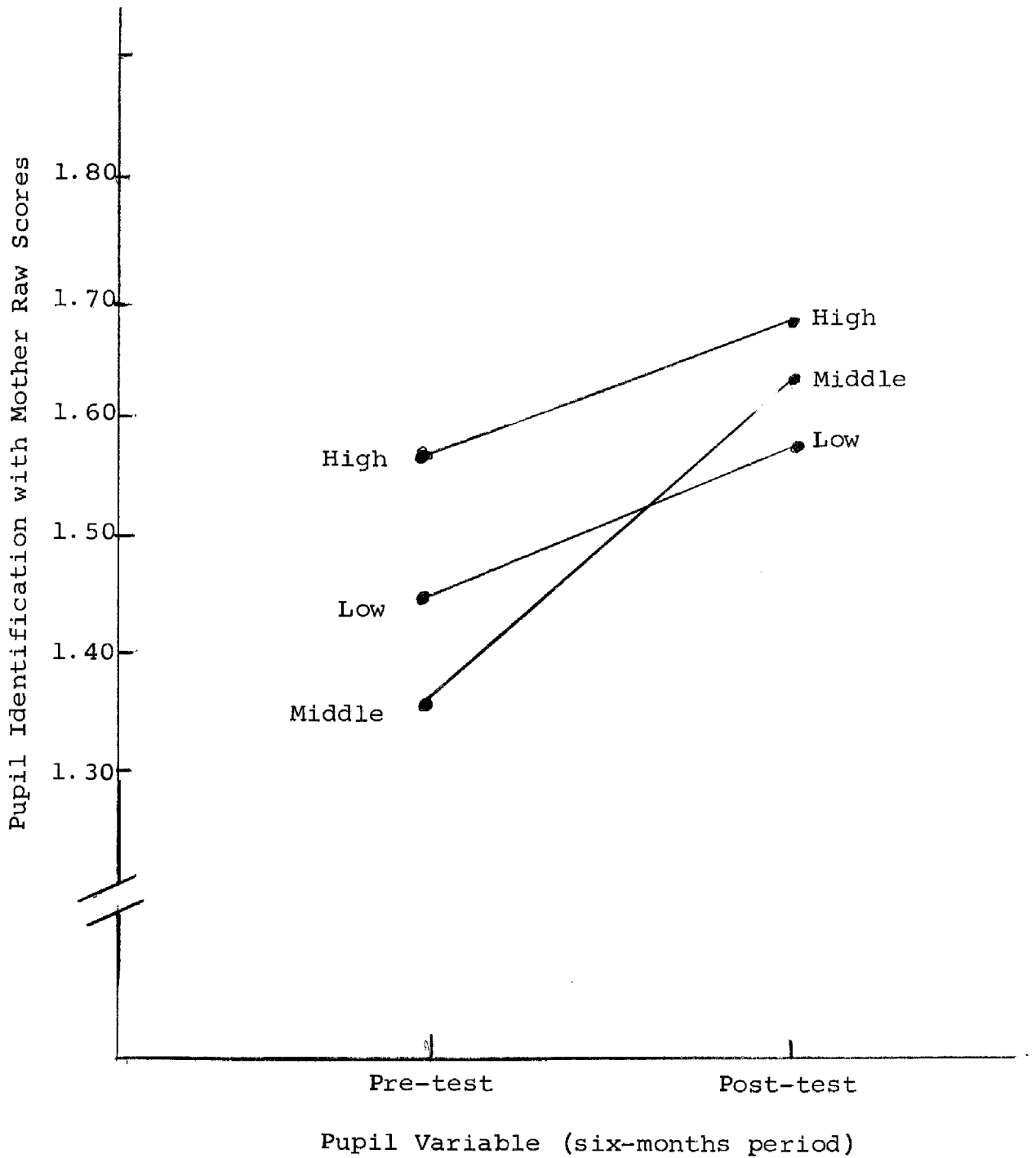


Fig. 20. Relationship between high-middle-low perceived levels of Empathy and pupil mean identification with mother pre- and post-test scores.

statistically significant. The group main effect ($F=1.76$) and the interaction effect ($F=1.36$) were not statistically significant. Further analysis of the pre-post data for the three groups were not statistically significant; that is, post-test mean scores (1.65, 1.58 and 1.54 respectively) were not significantly higher than pre-test mean scores (1.56, 1.34 and 1.42).

H_{2i} Empathy-Identification with Father

The results of the analysis of covariance which dealt with empathy and identification with father are reported on Table IV-21 and Figure 21.

The group main effect was statistically significant ($F=4.09$, $p<.0171$). The pre-post main effect ($F=3.16$) and the interaction effect ($F=.08$) were not statistically significant.

Because of the significant main effect, comparison between groups were made. This indicated no significant difference among the three groups; that is, post-test mean scores (1.27, 1.47 and 1.47 respectively) were not significantly higher than pre-test scores (1.49, 1.49 and 1.27). In fact, in high group means and middle group means, there was lower identification with father scores.

Table IV-21

Analysis of Covariance of Identification with Father Scores
in Three Empathy Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	8.11	2	4.06	4.09	.0171
Error	425.37	429	.99		
Pre-Post Effect	1.34	1	1.34	3.16	NS
Interaction Effect	.07	2	.04	.08	NS
Error	181.59	428	.42		
Total	616.96	863			

	t-tests, Comparison of Means Between Levels				t
	Means		SD		
	Means	SD	Means	SD	
High-Middle	1.49	.67	1.27	.75	NS
High-Low	1.49	.67	1.47	.68	NS
Middle-Low	1.27	.75	1.47	.68	NS

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	1.46	.79	144	1.52	.83	144	1.49	.67
Middle	144	1.24	.90	144	1.31	.89	144	1.27	.75
Low	144	1.42	.83	144	1.52	.80	144	1.47	.68
Total	432	1.37	.85	432	1.45	.85	432	1.41	.70

*.05 = 1.65

**.01 = 2.33

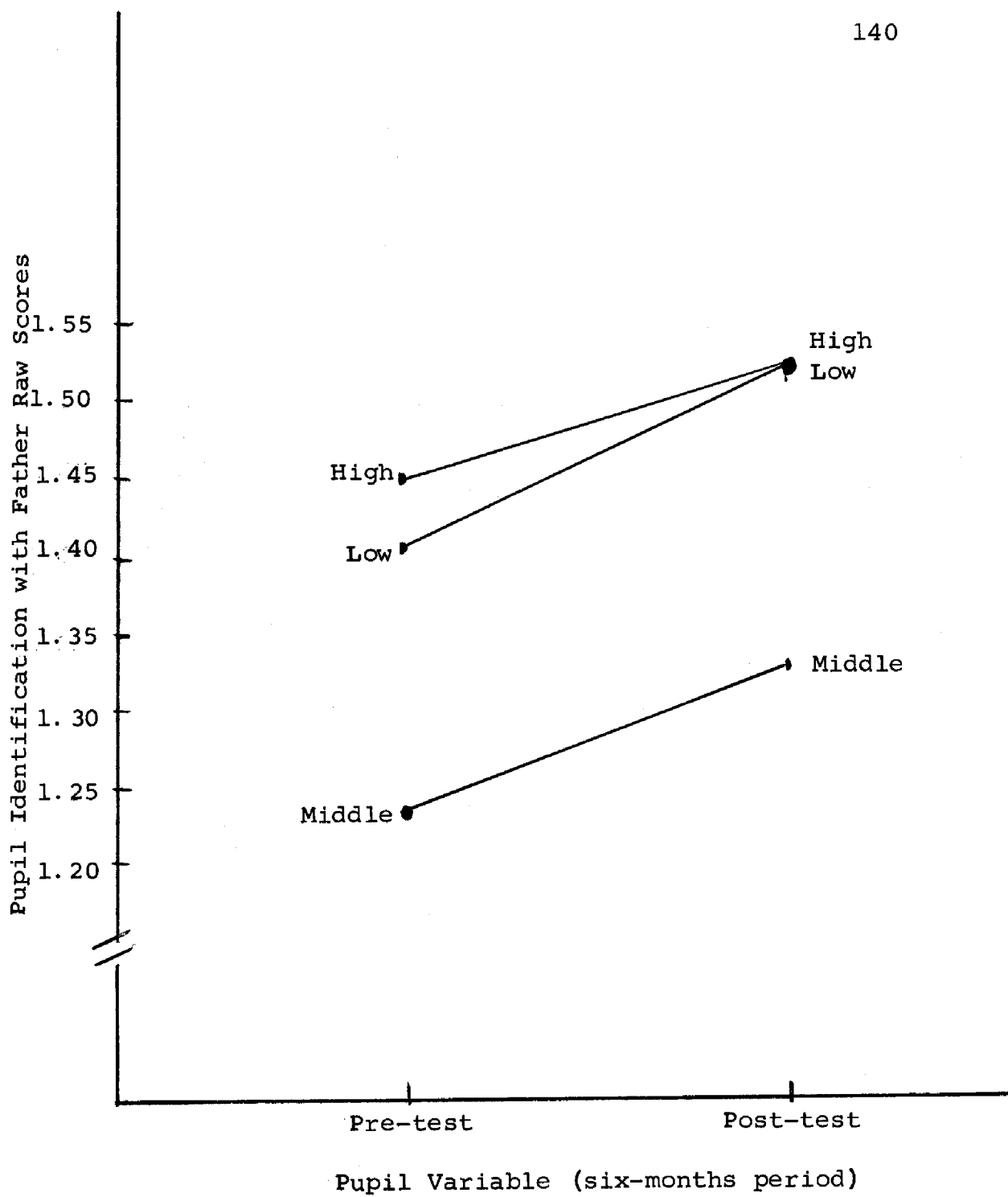


Fig. 21. Relationship between high-middle-low perceived levels of Empathy and pupil mean identification with father pre- and post-test scores.

H_{2j} Empathy-Identification with Teacher

The results from the analysis of covariance which dealt with empathy and identification with teacher are reported on Table IV-22 and Figure 22.

The group main effect was statistically significant ($F=6.78$, $p<.0017$). The pre-post main effect ($F=.02$) and the interaction effect ($F=.84$) were not statistically significant.

Because of the significant group main effect, comparisons between groups were made. Analysis of pre-post data for the three groups indicated that differences between groups were statistically significant at the .01 level ($t = 14.38$, $t = 27.24$, $t = 12.84$); that is, the high group mean score (.48) was significantly higher than both the middle group mean score (.35) and low group mean score (.24) and the middle group mean score was significantly higher than the low group mean score.

H_{2k} Empathy-Identification with Friend

The results from the analysis of covariance which dealt with empathy and identification with friend are reported on Table IV-23 and Figure 23.

The group main effect ($F=.46$) and the pre-post main

Table IV-22
 Analysis of Covariance of Identification with Teacher
 Scores in Three Empathy Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	8.57	2	4.29	6.78	.0017
Error	271.20	429	.63		
Pre-Post Effect	.01	1	.01	.02	NS
Interaction Effect	.52	2	.26	.84	NS
Error	131.48	428	.31		
Total	412.20	863			

t-tests, Comparison of Means Between Levels					t
	Means	SD	Means	SD	
High-Middle	.48	.62	.35	.56	14.38**
High-Low	.48	.62	.24	.50	27.24**
Middle-Low	.35	.56	.24	.50	12.84**

Means and Standard Deviations									
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	.45	.74	144	.50	.78	144	.48	.62
Middle	144	.35	.67	144	.35	.70	144	.35	.56
Low	144	.28	.63	144	.21	.58	144	.24	.50
Total	432	.36	.69	432	.35	.70	432	.36	.56

*.05 = 1.65

**.01 = 2.33

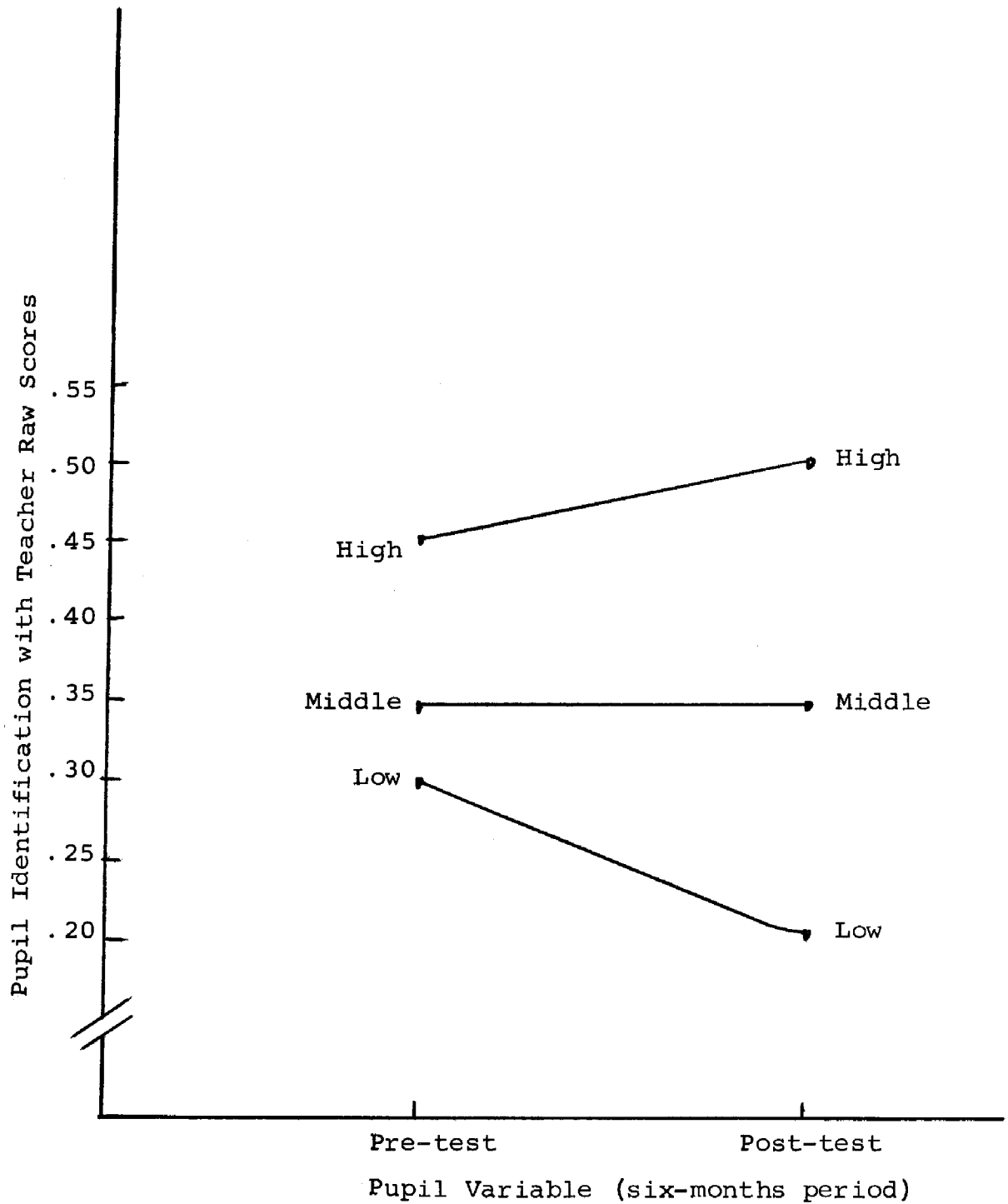


Fig. 22. Relationship between high-middle-low perceived levels of Empathy and pupil mean identification with teacher pre- and post-test scores.

Table IV-23
 Analysis of Covariance of Identification with Friend
 Scores of Pupils in Three Empathy Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	P
Group Effect	.95	2	.47	.46	NS
Error	439.79	429	1.03		
Pre-Post Effect	.97	1	.97	1.95	NS
Interaction Effect	3.00	2	1.50	3.01	.0489
Error	213.52	428	.50		
Total	658.33	863			

	Simple Effects				
	SS	df	MS	F	P
Groups at a_1	.57	2	.29	.38	NS
a_2	3.35	2	1.68	2.19	NS
Error	654.79	857	.76		
Groups at b_1	2.17	1	2.17	4.36	.05
b_2	.78	1	.78	1.57	NS
b_3	1.25	1	1.25	2.52	NS
Error	213.30	428	.50		

	Means and Standard Deviations								
	Pre-Test			Post-Test			Totals		
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	1.09	.85	144	1.22	.85	144	1.15	.70
Middle	144	1.15	.88	144	1.06	.90	144	1.10	.73
Low	144	1.10	.89	144	1.27	.87	144	1.18	.71
Total	432	1.11	.87	432	1.18	.88	432	1.14	.71

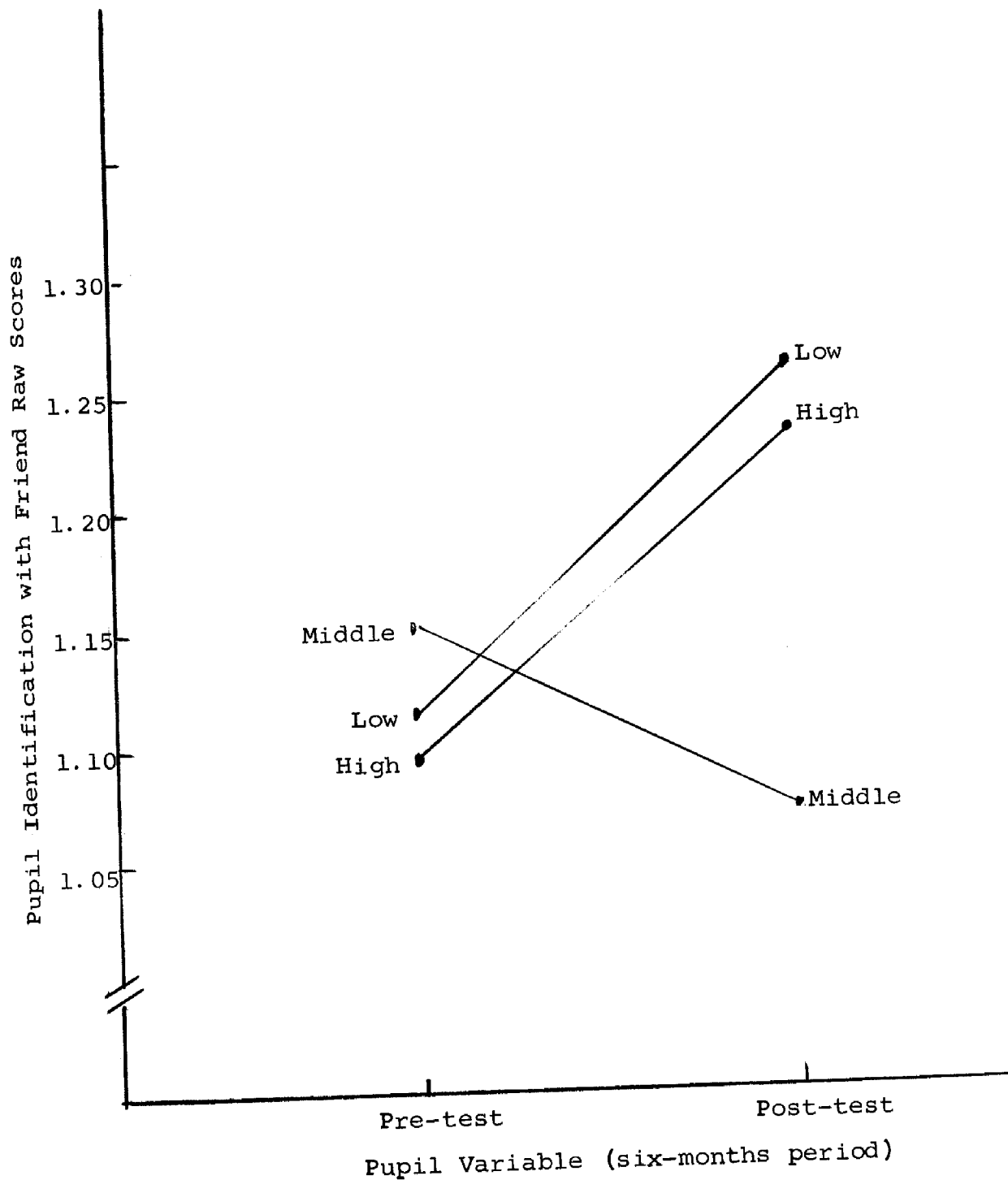


Fig. 23. Relationship between high-middle-low perceived levels of Empathy and pupil mean identification with friend pre- and post-test scores.

effect ($F=1.95$) were not statistically significant. The interaction effect, however, was found to be statistically significant ($F=3.01$, $p<.0489$). An analysis of variance for simple effect, also reported on Table IV-23, indicated (1) no significant difference in the pre-post effect, and, (2) significant difference in high empathy perception group ($F=4.36$, $p<.05$), but, no significant difference within the other two groups.

Hypothesis 3

Unconditionality refers to the degree of constancy of regard felt by one person for another who communicates self-experience to the first.

Hypothesis 3 was formulated in the following manner:

H_3 : There is a significant positive relationship between the dimension of unconditionality determined from the unconditionality scale and changes in:

- a) reading comprehension achievement.
- b) reading vocabulary achievement.
- c) complexity task performance.
- d) social dependence task performance.

- e) total power task performance.
- f) teacher-pupil power task performance.
- g) esteem task performance.
- h) identification with mother task performance.
- i) identification with father task performance.
- j) identification with teacher task performance.
- k) identification with friend task performance.

Results from the analysis of covariance and planned comparisons computed on the data relative to Hypothesis H₃ are as follows:

H_{3a} Unconditionality-Reading Comprehension

The results of the analysis of covariance which dealt with unconditionality and reading comprehension are reported on Table IV-24 and Figure 24.

The pre-post main effect was statistically significant ($F=58.50$, $p<.0001$). The group main effect ($F=.70$) and the interaction effect ($F=1.41$) were not statistically significant. Further analysis of the pre-post data for the three groups was statistically significant at the .01 level for each group ($t = 6.48$, $t = 6.53$, $t = 6.89$); that is, for each of these groups, the post-test mean scores (8.55, 8.13 and 8.15,

Analysis of Covariance of Reading Comprehension Scores of
Pupils in Three Unconditionality Interpersonal
Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	11.45	2	5.73	.70	NS
Error	3522.26	429	8.21		
Pre-Post Effect	254.10	1	254.10	58.50	.0001
Interaction Effect	12.26	2	6.13	1.41	NS
Error	1858.95	428	4.34		
Total	7524.38	863			

t-tests, Pre-Post Test Mean Scores

	Means ₁	Means ₂	t
High ₁ -High ₂	7.15	8.55	6.48**
Middle ₁ -Middle ₂	7.32	8.13	6.53**
Low ₁ -Low ₂	7.11	8.15	6.89**
Total	7.20	8.20	7.61**

* .05 = 1.65, ** .01 = 2.33

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	7.15	2.20	144	8.55	4.68	144	7.85	2.83
Middle	144	7.32	2.54	144	8.13	2.53	144	7.73	2.42
Low	144	7.11	2.32	144	8.15	2.39	144	7.63	2.61
Totals	432	7.19	2.36	432	8.28	3.36	432	7.74	2.62

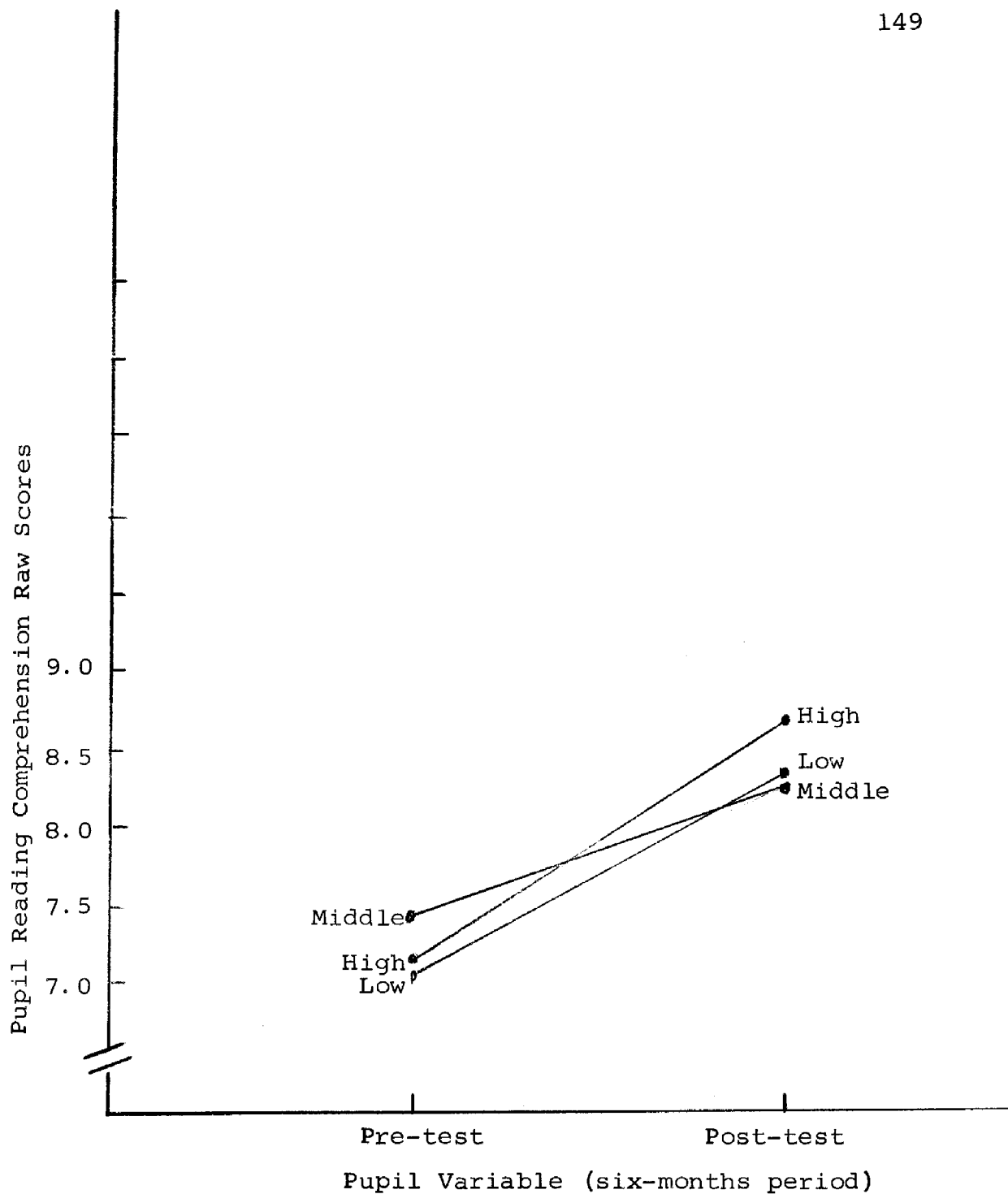


Fig. 24. Relationship between high-middle-low perceived levels of unconditionality and pupil mean reading comprehension pre- and post-test scores.

respectively) were significantly higher than pre-test mean test scores (7.15, 7.32 and 7.11).

H_{3b} Unconditionality-Reading Vocabulary

The results of the analysis of covariance which dealt with unconditionality and reading vocabulary are reported on Table IV-25 and Figure 25.

The pre-post main effect was statistically significant ($F=363.46$, $p<.0001$). The group main effect ($F=1.58$) and the interaction effect ($F=1.03$) were not statistically significant. Further analysis of the pre-post data for the three groups was statistically significant at the .01 level for each ($t = 8.32$, $t = 6.53$, $t = 6.89$); that is, for each of these groups, the post-test mean scores (8.40, 8.52 and 8.19, respectively) were significantly higher than the pre-test mean scores (7.06, 7.39 and 7.04).

H_{3c} Unconditionality-Complexity

The results of the analysis of covariance which dealt with unconditionality and complexity are reported on Table IV-26 and Figure 26.

The group main effect ($F=.55$), the pre-post main effect ($F=1.30$), and, the interaction effect ($F=.28$) were not statistically significant.

Table IV-25
Analysis of Covariance of Reading Vocabulary Scores of
Pupils in Three Unconditionality Interpersonal
Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	12.20	2	6.11	1.58	NS
Error	1662.67	429	3.88		
Pre-Post Effect	315.07	1	315.07	363.46	.0001
Interaction Effect	1.79	2	.89	1.03	NS
Error	371.02	428	.87		
Total	4146.53	863			

	t-tests, Pre-Post Test Mean Scores		
	Means ₁	Means ₂	t
High ₁ -High ₂	7.06	8.40	8.32**
Middle ₁ -Middle ₂	7.39	8.52	6.53**
Low ₁ -Low ₂	7.04	8.19	6.89**
Total	7.17	8.37	18.98**

* .05 = 1.65, ** .01 = 2.33

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	7.06	1.84	144	8.40	2.06	144	7.73	2.00
Middle	144	7.39	2.22	144	8.52	2.25	144	7.95	2.14
Low	144	7.04	1.95	144	8.19	2.28	144	7.62	1.83
Total	432	7.16	2.02	432	8.37	2.20	432	7.77	1.99

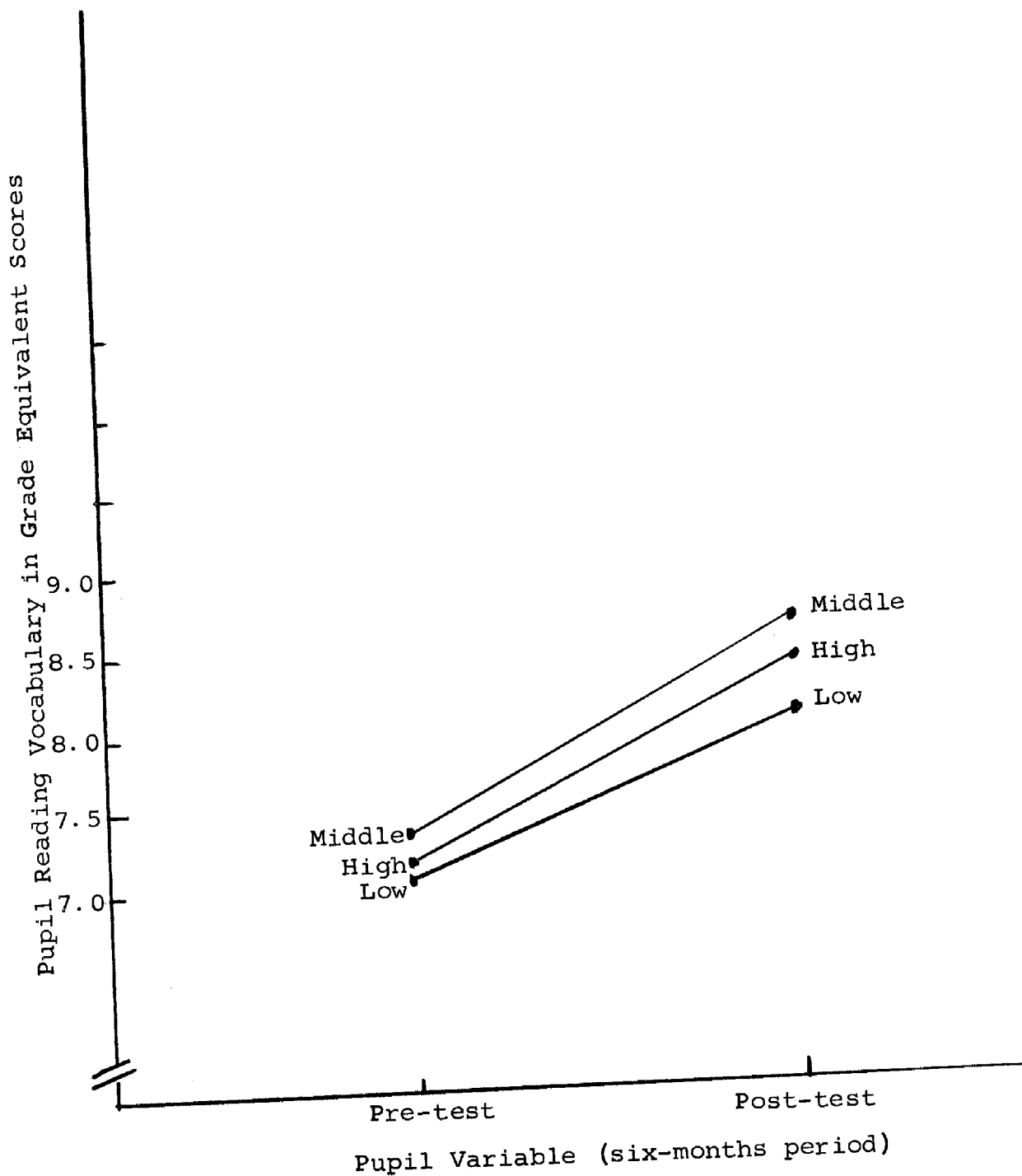


Fig. 25. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean reading vocabulary pre- and post-test scores.

Table IV-26

Analysis of Covariance of Complexity Scores of Pupils in
Three Unconditionality Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	19.42	2	9.71	.55	NS
Error	7590.26	429	17.69		
Pre-Post Effect	11.13	1	11.13	1.30	NS
Interaction Effect	4.69	2	2.34	.28	NS
Error	3653.69	428	8.54		
Total	11365.81	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test					
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	21.81	3.90	144	21.87	3.95	144	21.84	3.39
Middle	144	22.00	3.48	144	22.40	3.64	144	22.20	2.77
Low	144	22.03	3.32	144	22.26	3.47	144	22.14	2.73
Totals	432	2.195	3.57	432	22.18	3.70	432	22.06	2.96

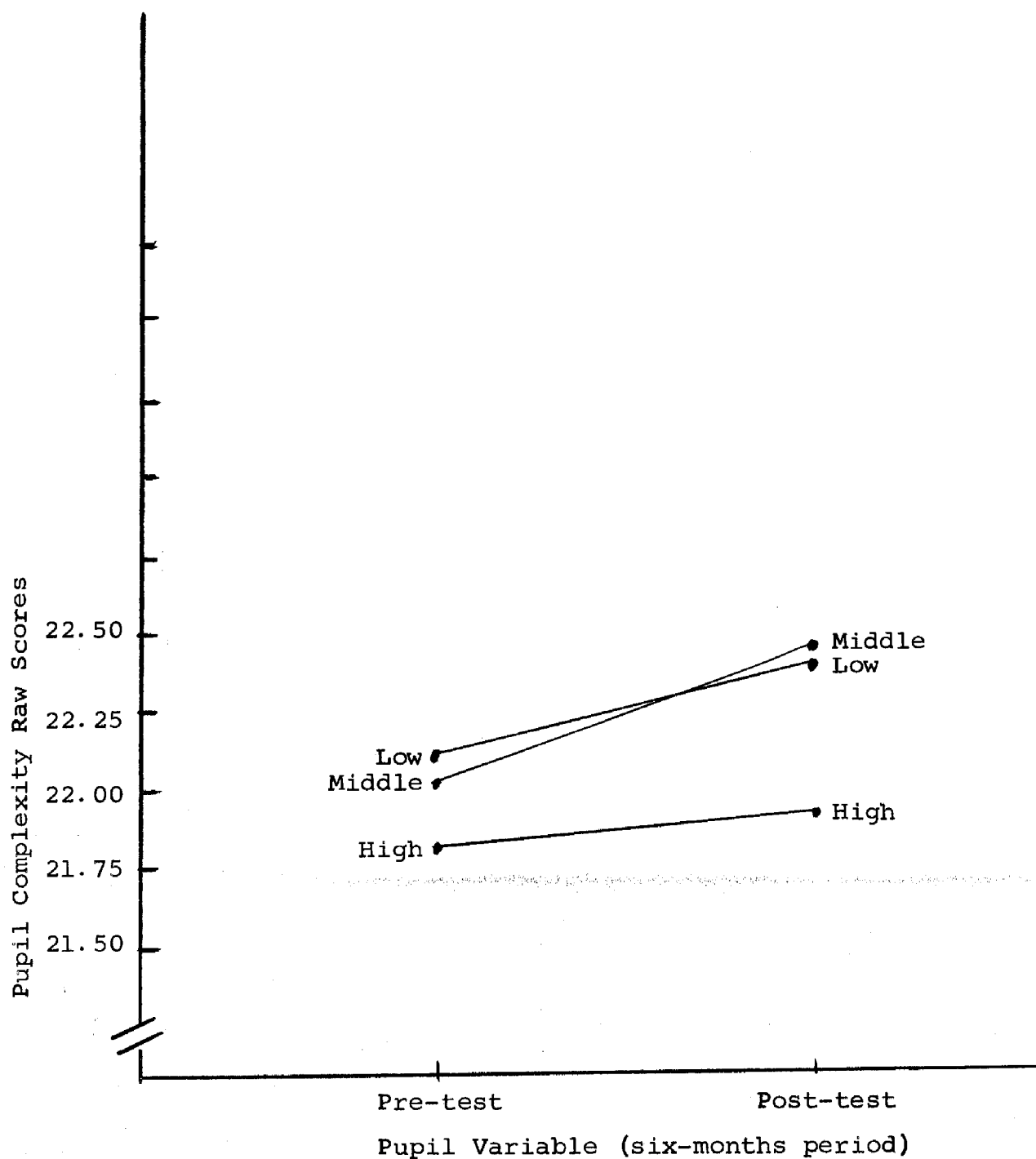


Fig. 26. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean Complexity pre- and post-test scores.

H_{3d} Unconditionality-Social Dependence

The results of the analysis of covariance which dealt with unconditionality and social dependence are reported on Table IV-27 and Figure 27.

The pre-post main effect was statistically significant ($F=53.74$, $p<.0001$). The group main effect ($F=.91$), and the interaction effect ($F=.74$) were not statistically significant. Further analysis of the pre-post data for the three groups was statistically significant at the .01 level for each ($t = 3.92$, $t = 4.17$, $t = 5.83$), that is, for each of these groups, the post-test mean scores (4.60, 4.74 and 5.03, respectively) were significantly higher than the pre-test mean scores (3.92, 4.04 and 4.06).

H_{3e} Unconditionality-Total Power

The results of analysis of covariance which dealt with unconditionality and total power are reported on Table IV-28 and Figure 28.

The group main effect ($F=.03$), the pre-post main effect ($F=.57$), and, the interaction effect ($F=.56$) were not statistically significant.

Table IV-27

Analysis of Covariance of Social Dependence Scores of Pupils
in Three Unconditionality Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	10.92	2	5.46	.91	NS
Error	2561.17	429	5.97		
Pre-Post Effect	132.23	1	132.23	53.74	.0001
Interaction Effect	3.63	2	1.81	.74	NS
Error	1053.15	428	2.46		
Total	3821.45	863			

t-tests, Pre-Post Test Mean Scores

	Means ₁	Means ₂	t
High ₁ -High ₂	3.92	4.60	3.92**
Middle ₁ -Middle ₂	4.04	4.74	4.17**
Low ₁ -Low ₂	4.06	5.03	5.83**
Total	4.02	4.80	7.99**

* .05 = 1.65, ** .01 = 2.33

Means and Standard Deviations

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	3.92	2.23	144	4.60	2.10	144	4.26	1.80
Middle	144	4.04	2.11	144	4.74	1.94	144	4.39	1.73
Low	144	4.06	2.22	144	5.03	1.77	144	4.55	1.70
Totals	432	4.02	2.18	432	4.80	1.94	432	4.40	1.74

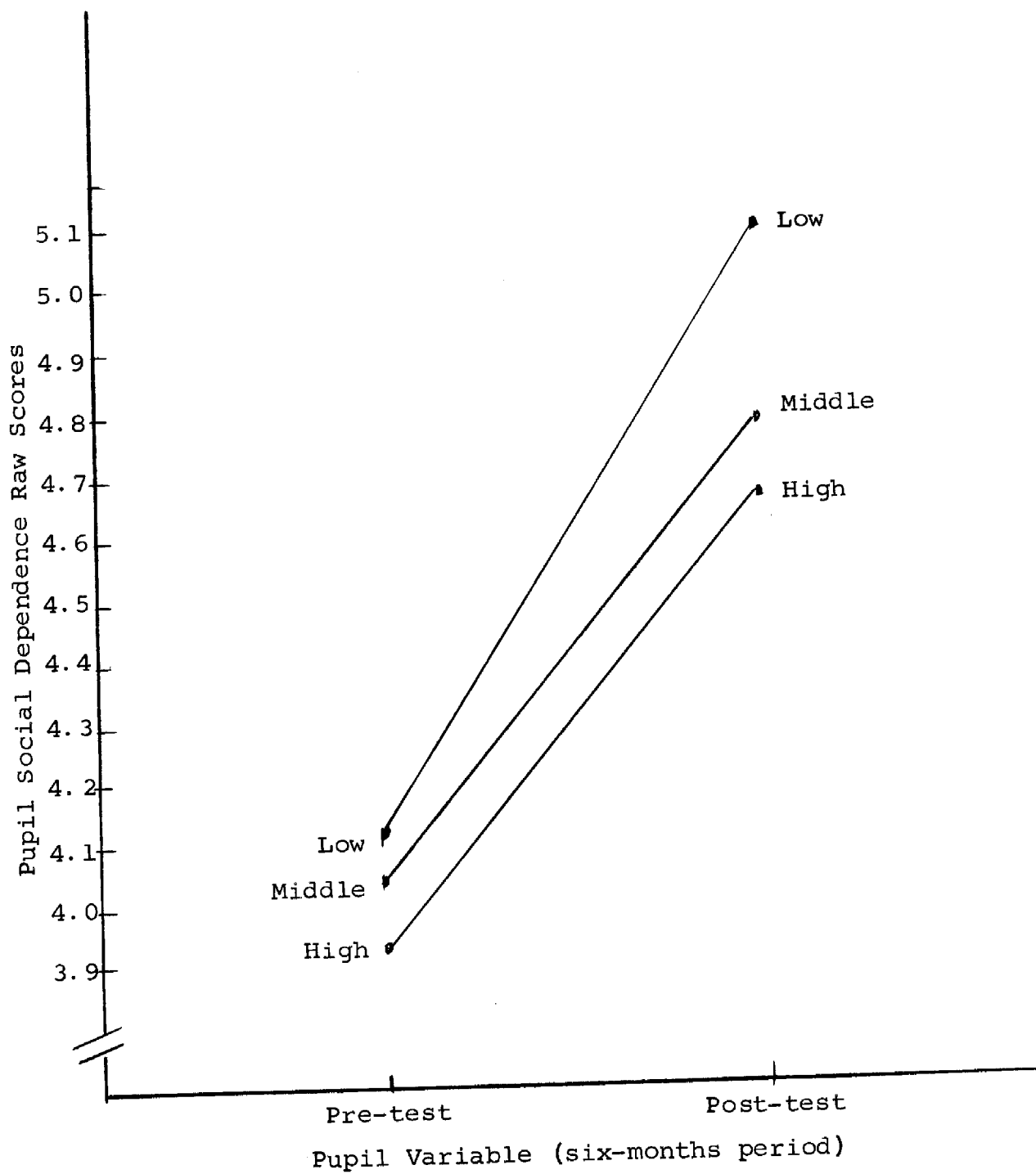


Fig. 27. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean social dependence pre- and post-test scores.

Table IV-28

Analysis of Covariance of Total Power Scores of Pupils in
Three Unconditionality Interpersonal Relationship Groups^a

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	.64	2	.32	.03	NS
Error	5338.77	429	12.45		
Pre-Post Effect	5.00	1	5.00	.57	NS
Interaction Effect	9.75	2	4.88	.56	
Error	3749.25	428	8.76		
Total	9108.50	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	16.76	2.94	144	17.01	3.34	144	16.88	2.26
Middle	144	16.63	3.32	144	16.98	3.48	144	16.81	2.26
Low	144	16.93	3.08	144	16.79	3.34	144	16.86	2.52
Totals	432	16.77	3.10	432	16.93	3.38	432	16.82	2.48

^aHigher score indicates lower feeling of power on part of pupil.

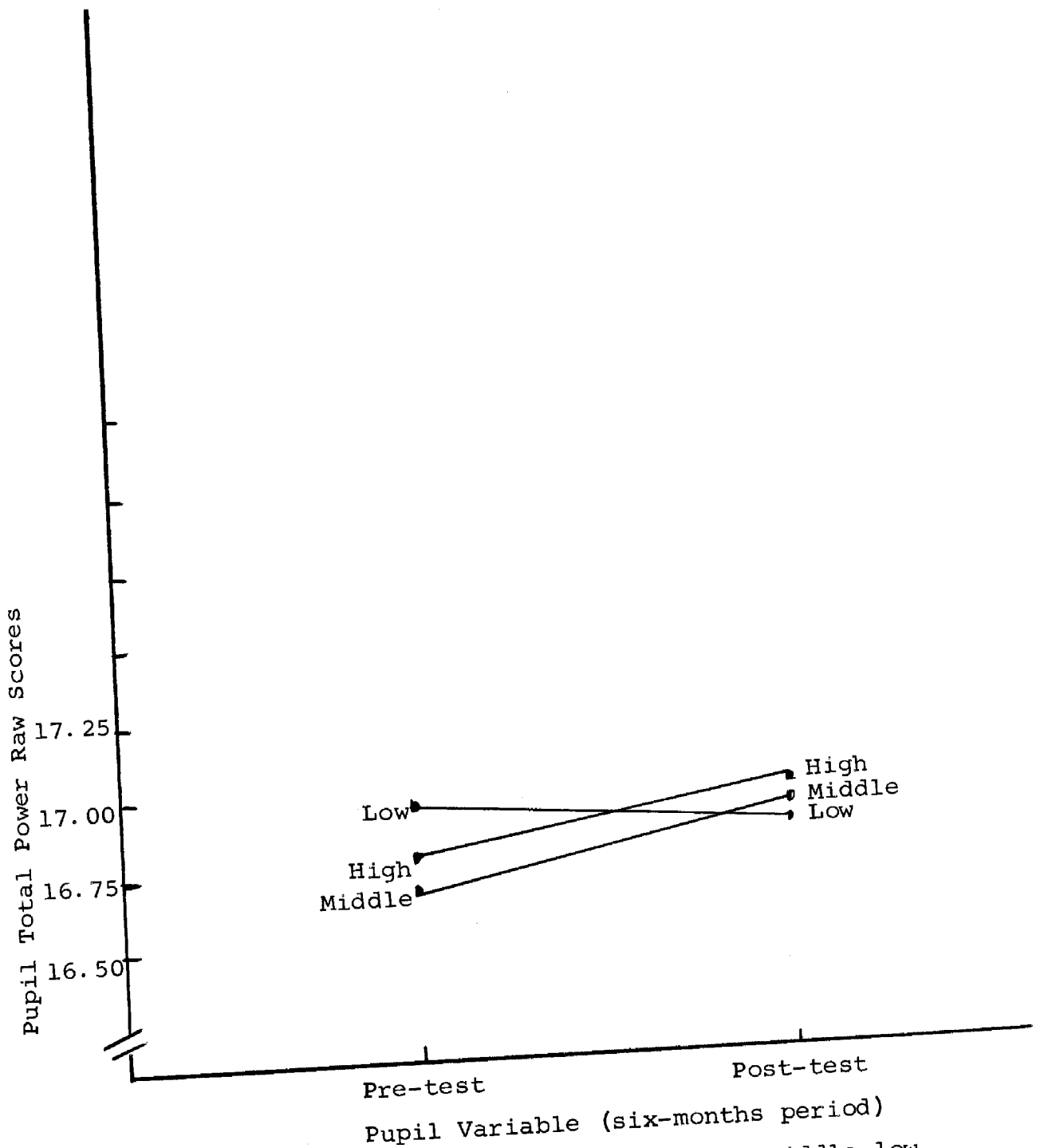


Fig. 28. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean total power pre- and post-test scores.

H_{3f} Unconditionality-Teacher-Pupil Power

The results of the analysis of covariance which dealt with unconditionality and teacher-pupil power are reported on Table IV-29 and Figure 29.

The group main effect ($F=.57$), the pre-post main effect ($F=.00$), and, the interaction effect ($F=.07$) were not statistically significant.

H_{3g} Unconditionality-Esteem

The results of the analysis of covariance which dealt with unconditionality and esteem are reported on Table IV-30 and Figure 30.

The pre-post main effect was statistically significant ($F=13.08$, $p<.0006$). The group main effect ($F=1.25$) and the interaction effect ($F=.05$) were not statistically significant. Further analysis of the pre-post data for the three groups was statistically significant at the .01 level for each ($t = 4.22$, $t = 4.35$, $t = 5.29$); that is, for each of these groups, the post-test mean scores (24.76, 23.93 and 24.02, respectively) were significantly higher than pre-test mean scores (23.47, 22.60 and 22.47).

Table IV-29
 Analysis of Covariance of Teacher-Pupil Power Scores of
 Pupils in Three Unconditionality Interpersonal
 Relationship Groups^a

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	9.94	2	4.97	.57	NS
Error	3715.62	429	8.66		
Pre-Post Effect	.00	1	.00	.00	NS
Interaction Effect	.70	2	.35	.07	NS
Error	2066.81	428	4.83		
Total	5793.37	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	6.12	2.54	144	6.19	2.71	144	6.16	2.02
Middle	144	6.24	2.55	144	6.21	2.72	144	6.22	2.16
Low	144	6.44	2.49	144	6.38	2.57	144	6.41	2.05
Totals	432	6.26	2.52	432	6.26	2.66	432	6.28	2.08

^aThe higher score indicates less feeling of power on part of pupil.

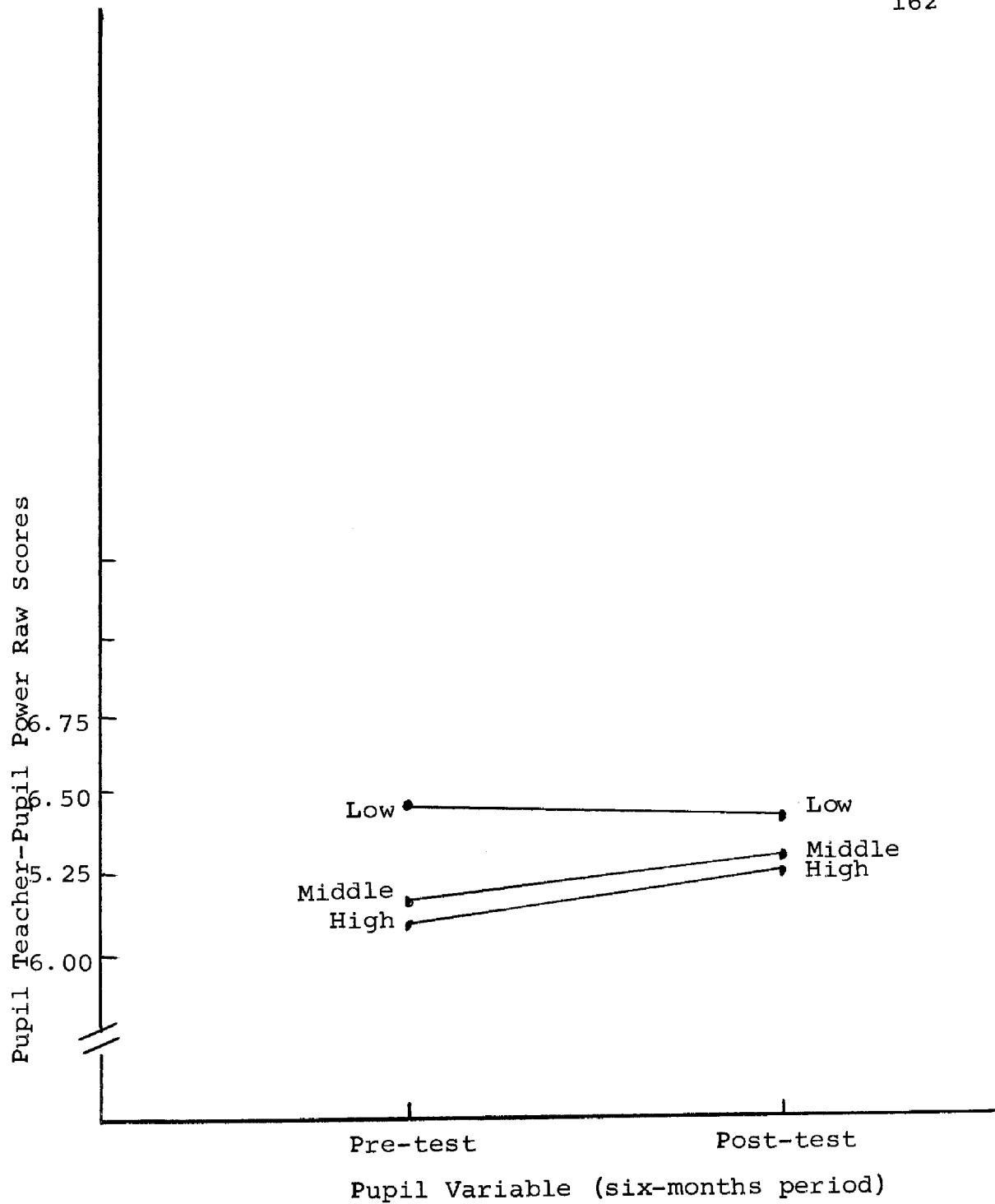


Fig. 29. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean teacher-pupil power pre- and post-test scores.

Table IV-30

Analysis of Covariance of Esteem Scores of Pupils in Three
Unconditionality Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	142.56	2	71.28	1.25	NS
Error	24382.47	429	56.84		
Pre-Post Effect	419.44	1	419.44	13.08	.0006
Interaction Effect	3.06	2	1.53	.05	NS
Error	13725.50	428			
Total	38674.75	863			

t-tests, Pre-Post Test Mean Scores

	Means ₁	Means ₂	t
High ₁ -High ₂	23.47	24.76	4.22**
Middle ₁ -Middle ₂	22.60	23.93	4.35**
Low ₁ -Low ₂	22.47	24.02	5.29**
Total	22.84	24.24	3.65**

* .05 = 1.65, ** .01 = 2.33

Means and Standard Deviations

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	23.47	6.72	144	24.76	7.03	144	24.11	5.63
Middle	144	22.60	6.68	144	23.93	7.01	144	23.27	5.37
Low	144	22.47	6.48	144	24.02	6.01	144	23.24	4.91
Totals	432	22.84	6.61	432	24.24	6.68	432	23.54	5.30

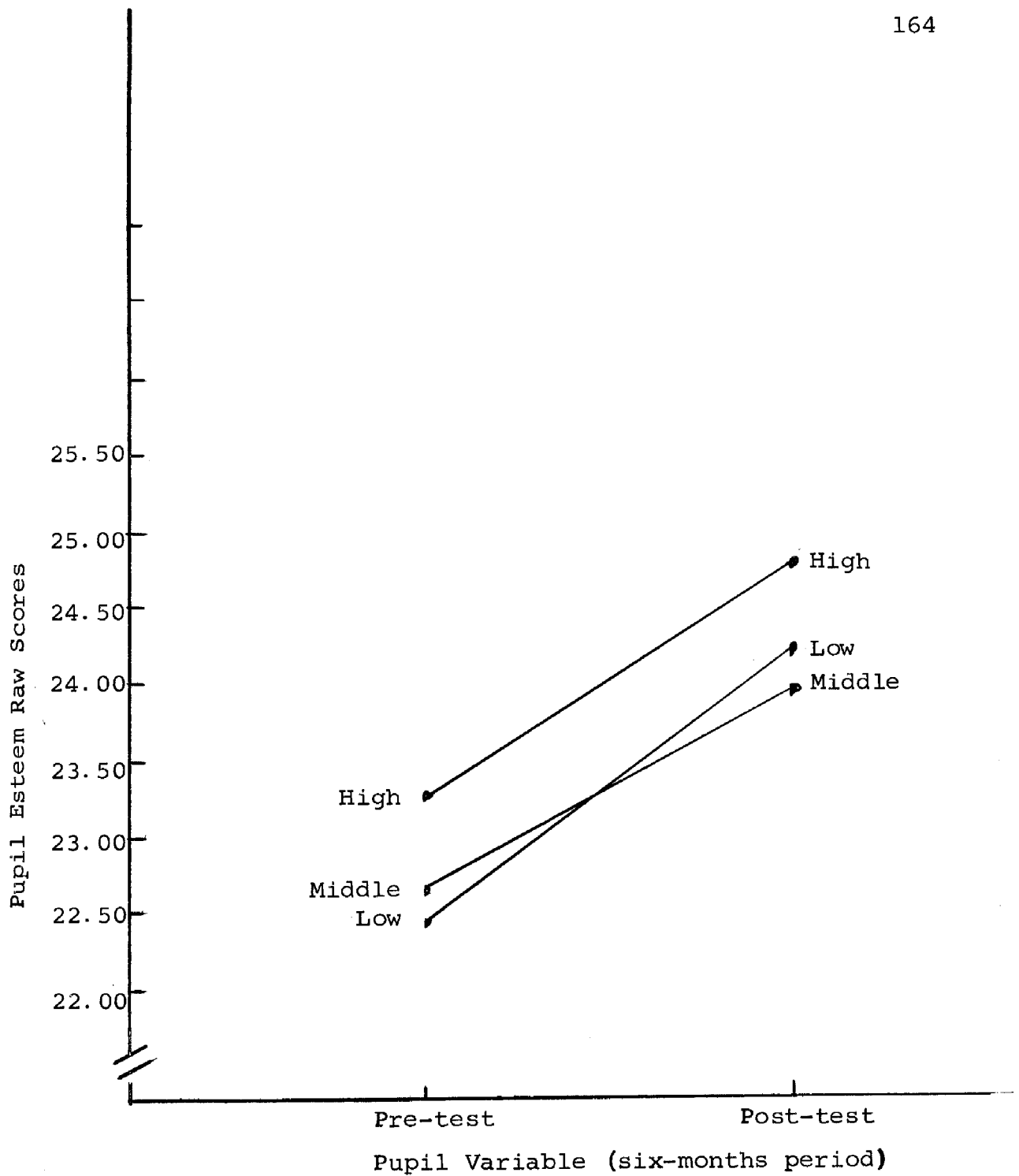


Fig.30. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean esteem pre- and post-test scores.

H_{3h} Unconditionality-Identification with Mother

The results of the analysis of covariance which dealt with unconditionality and identification with mother are reported on Table IV-31 and Figure 31.

The pre-post main effect was statistically significant ($F=13.83$, $p<.0005$). The group main effect ($F=.16$) and the interaction effect ($F=.44$) were not statistically significant. Further analysis of the pre-post data for the three groups was not statistically significant; that is, for each of these groups, the post-test mean scores (1.60, 1.59 and 1.47, respectively) were not significantly higher than pre-test mean scores (1.46, 1.39 and 1.47).

H_{3i} Unconditionality-Identification with Father

The results of the analysis of covariance which dealt with unconditionality and identification with father are reported on Table IV-32 and Figure 32.

The group main effect ($F=.51$), the pre-post main effect ($F=3.17$), and, the interaction effect ($F=.80$) were not statistically significant.

H_{3j} Unconditionality-Identification with Teacher

The results of the analysis of covariance which dealt

Table IV-31

Analysis of Covariance of Identification with Mother of
Pupils in Three Unconditionality Interpersonal
Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	.29	2	.14	.16	NS
Error	386.94	429	.90		
Pre-Post Effect	4.89	1	4.89	13.83	.0005
Interaction Effect	.31	2	.15	.44	NS
Error	151.30	428	.35		
Total	543.81	863			

t-tests, Pre-Post Test Mean Scores

	Means ₁	Means ₂	t
High ₁ -High ₂	1.46	1.60	NS
Middle ₁ -Middle ₂	1.39	1.59	NS
Low ₁ -Low ₂	1.47	1.58	NS
Total	1.44	1.59	3.73**

* .05 = 1.65, ** .01 = 2.33

Means and Standard Deviations

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	1.46	.84	144	1.60	.75	144	1.53	.68
Middle	144	1.39	.89	144	1.59	.72	144	1.49	.67
Low	144	1.47	.76	144	1.58	.81	144	1.53	.66
Totals	432	1.44	.83	432	1.59	.74	432	1.53	.67

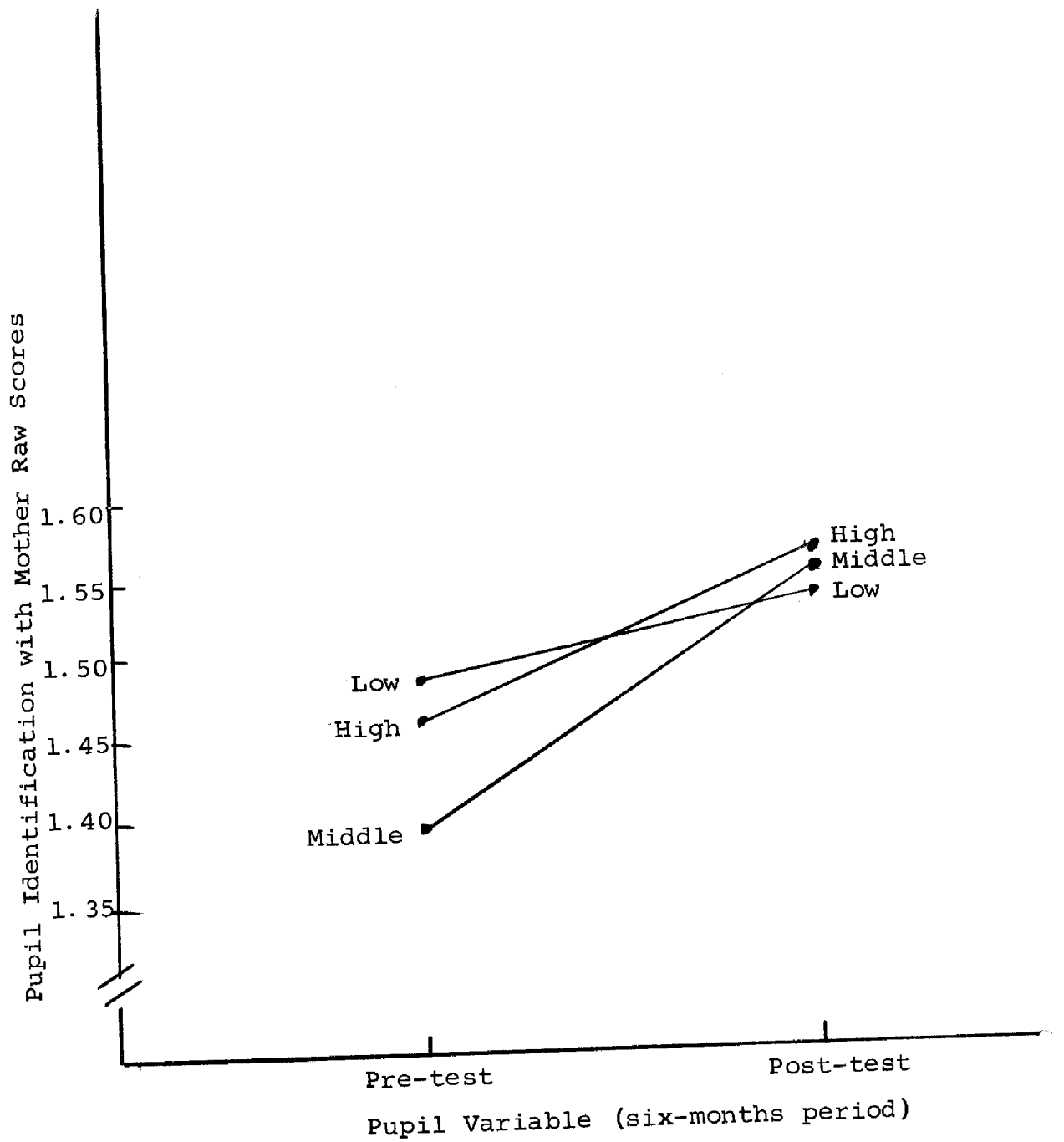


Fig. 31. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean identification with mother pre- and post-test scores.

Table IV-32

Analysis of Covariance of Identification with Father Scores
of Pupils in Three Unconditionality Interpersonal
Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	1.03	2	.51	.51	NS
Error	432.46	429	1.01		
Pre-Post Effect	1.34	1	1.34	3.17	NS
Interaction Effect	.68	2	.34	.80	NS
Error	180.99	428	4.23		
Total	616.96	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	1.32	.87	144	1.44	.85	144	1.38	.74
Middle	144	1.33	.85	144	1.44	.86	144	1.39	.73
Low	144	1.46	.81	144	1.46	.83	144	1.46	.65
Totals	432	1.37	.85	432	1.46	.85	432	1.31	.71

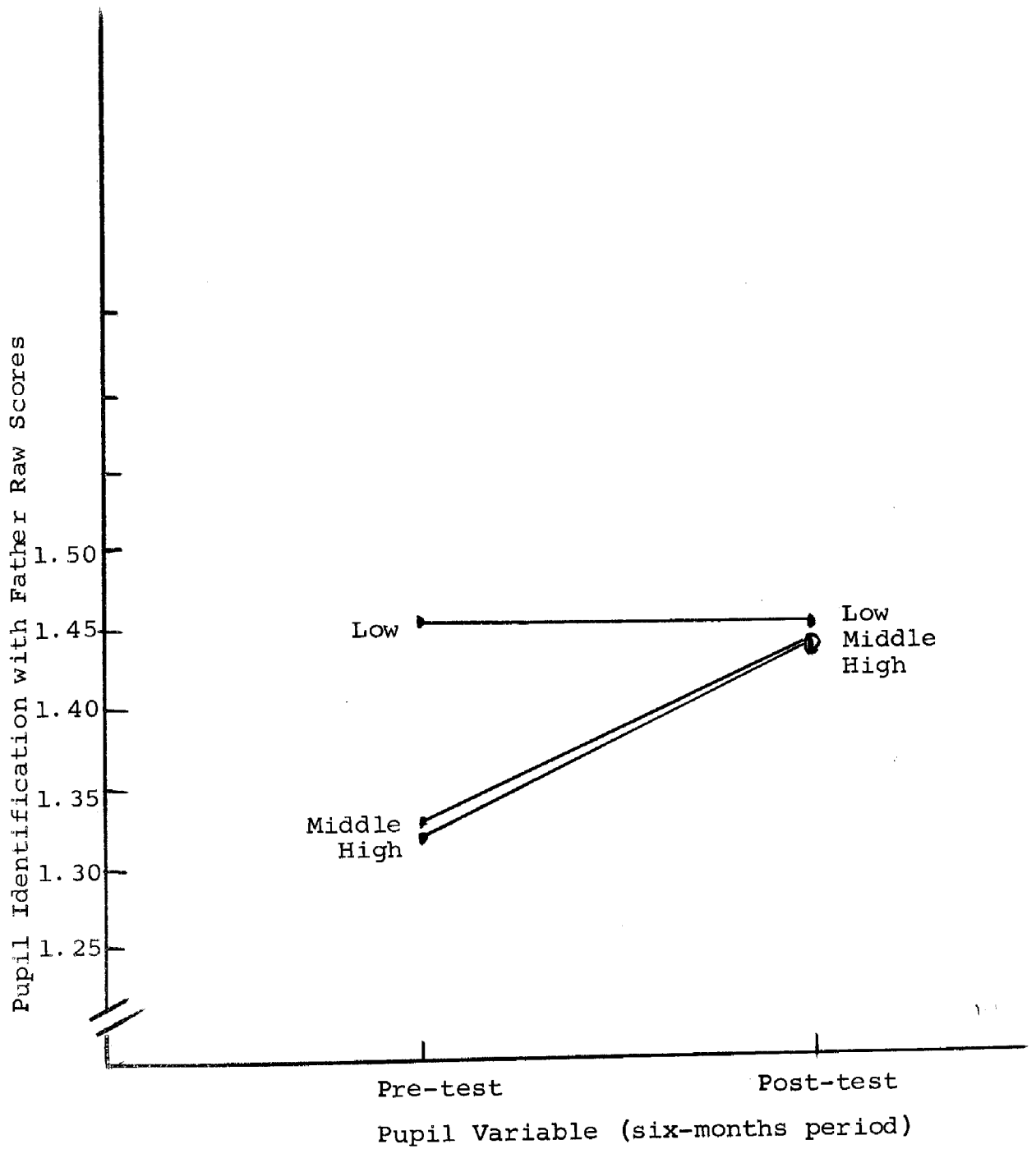


Fig. 32. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean identification with father pre- and post-test scores.

with unconditionality and identification with teacher are reported on Table IV-33 and Figure 33.

The group main effect ($F=.86$), the pre-post main effect ($F=.02$), and, the interaction effect ($F=.39$) were not statistically significant.

H_{3k} Unconditionality-Identification with Friend

The results of the analysis of covariance which dealt with unconditionality and identification with friend are reported on Table IV-34 and Figure 34.

The group main effect ($F=.35$), the pre-post main effect ($F=1.94$), and, the interaction effect ($F=1.45$) were not statistically significant.

Hypothesis 4

Rogers (1959) has suggested that the dimension of congruence in the interpersonal relationship facilitates learning. Congruence refers to the degree to which one person is functionally integrated in the context of his relationship with another, such that there is absence of conflict or inconsistency between his total experience, his awareness, and his overt communication. It was felt the behavior of the reading teacher, who being perceived as congruent in his

Table IV-33
 Analysis of Covariance of Identification with Teacher
 Scores of Pupils in Three Unconditionality
 Interpersonal Relationship Groups

	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	1.12	2	.56	.86	NS
Error	278.65	429	.65		
Pre-Post Effect	.005	1	.005	.02	NS
Interaction Effect	.24	2	.12	.39	NS
Error	131.76	428	.31		
Total	412.20	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test					
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	.42	.72	144	.40	.73	144	.41	.62
Middle	144	.30	.62	144	.34	.70	144	.32	.52
Low	144	.36	.71	144	.33	.67	144	.34	.55
Totals	432	.36	.69	432	.35	.69	432	.36	.56

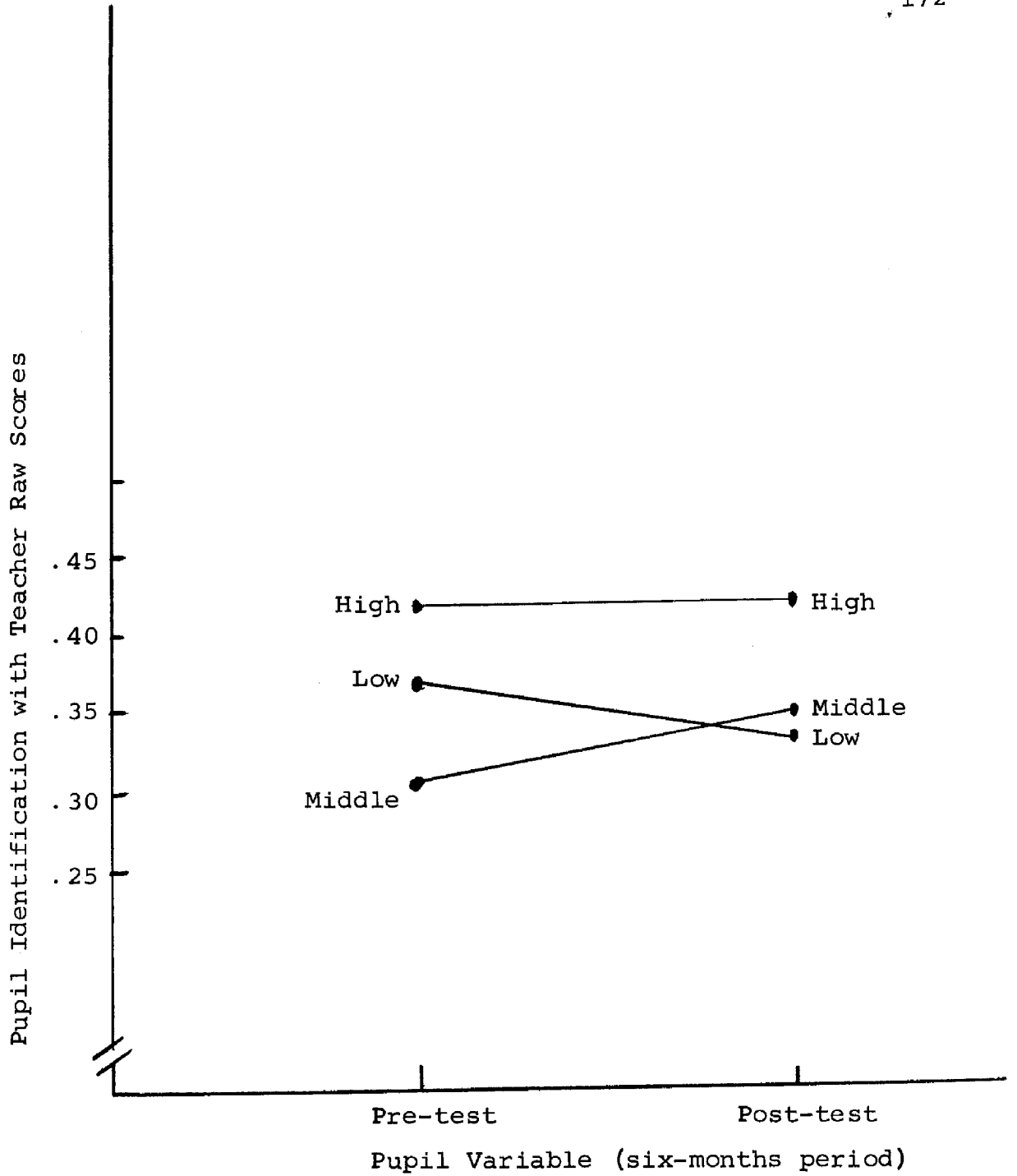


Fig. 33. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean identification with teacher pre- and post-test scores.

Table IV-34

Analysis of Covariance of Identification with Friend Scores
in Three Unconditionality Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	.71	2	.36	.35	NS
Error	440.02	429	1.03		
Pre-Post Effect	.97	1	.97	1.94	NS
Interaction Effect	1.45	2	.73	1.45	NS
Error	215.07	428			
Total	658.33	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	1.06	.87	144	1.17	.85	144	1.11	.73
Middle	144	1.08	.85	144	1.21	.86	144	1.14	.74
Low	144	1.21	.81	144	1.16	.83	144	1.18	.67
Totals	432	1.11	.87	432	1.18	.88	432	1.14	.71

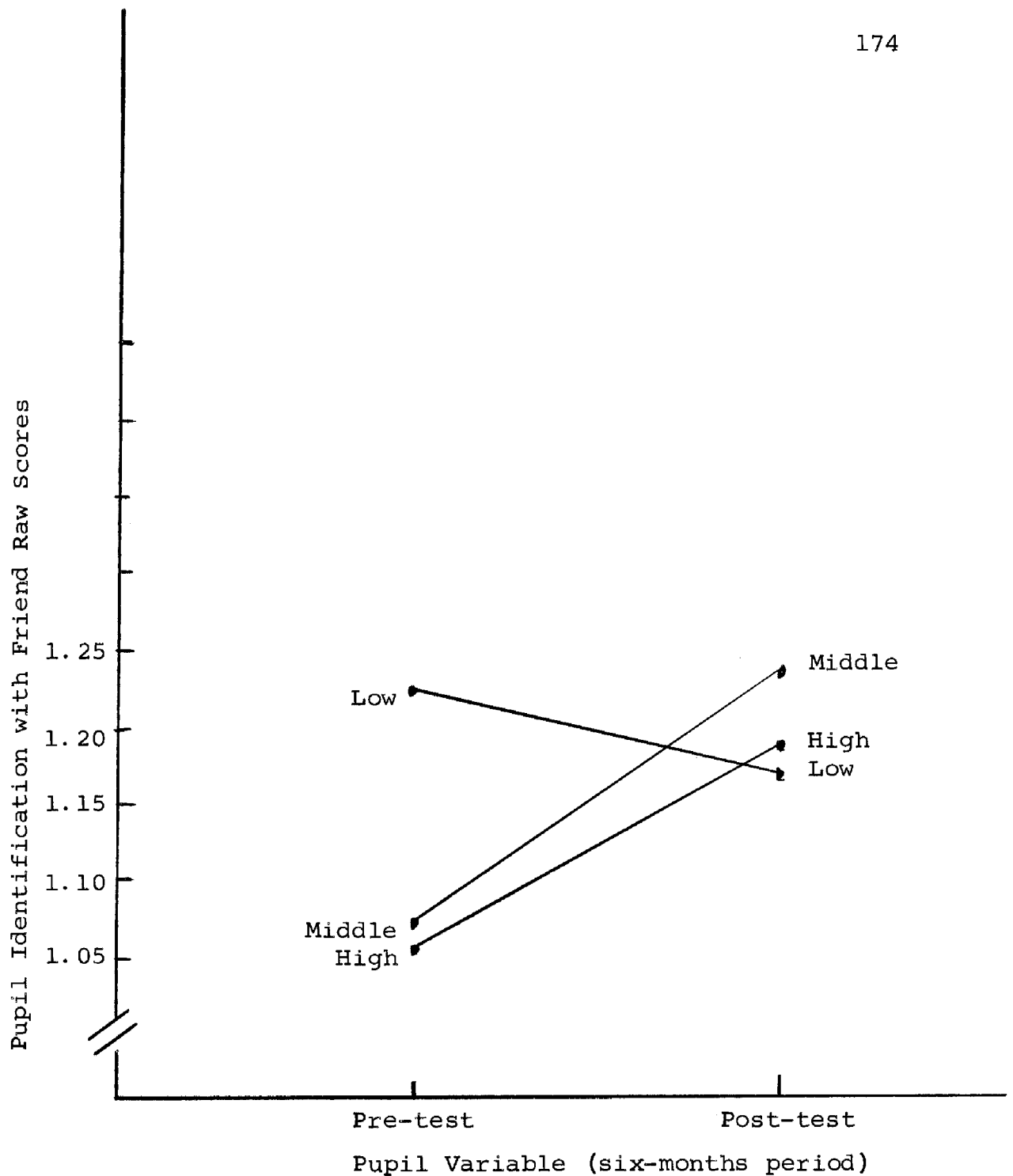


Fig. 34. Relationship between high-middle-low perceived levels of Unconditionality and pupil mean identification with friend pre- and post-test scores.

relationship with his pupil would indicate a significant positive relationship in changes in specified learnings.

Therefore, Hypothesis 4 was formulated, it stated:

- H₄: There is a significant positive relationship between the dimension of congruence determined from the congruence scale and changes in:
- a) reading comprehension achievement.
 - b) reading vocabulary achievement.
 - c) complexity task performance.
 - d) social dependence task performance.
 - e) total power task performance.
 - f) teacher-pupil power task performance.
 - g) esteem task performance.
 - h) identification with mother task performance.
 - i) identification with father task performance.
 - j) identification with teacher task performance.
 - k) identification with friend task performance.

Results from the analysis of covariance and comparisons computed on the data relative to Hypothesis 4 are as follows:

H_{4a} Congruence-Reading Comprehension

As shown on Table IV-35, analysis of the reading comprehension scores of pupils in the three groups indicated a statistically significant main effect ($F=21.37$, $p<.0001$). The pre-post main effect was also statistically significant ($F=58.39$, $p<.0001$). The interaction effect was not significant ($F=1.04$).

Additional analysis of pupil scores indicated that the differences in the comparisons between groups were statistically significant at the .01 level ($t = 7.29$, $t = 13.15$, $t = 6.35$); that is, the high group mean score (8.97) was significantly higher than both the middle group mean score (7.65) and the low group mean score (6.59), and, the middle group mean score was significantly higher than the low group mean score. Further analysis of pre-post data for each of the three groups indicated significance at the .01 level for each group; that is, for each of these groups, the post-test mean scores (9.65, 8.15 and 7.03, respectively) were significantly higher than the pre-test mean scores (8.28, 7.15 and 6.15). A symbolic representation of the results regarding the dimension of congruence and reading comprehension is presented on Figure 35.

Table IV-35
 Analysis of Covariance of Reading Comprehension Scores of
 Pupils in Three Congruence Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	320.19	2	160.10	21.37	.0001
Error	3213.58	429	7.49		
Pre-Post Effect	254.06	1	254.06	58.39	.0001
Interaction Effect	9.01	2	4.51	1.04	NS
Error	1862.29	428	4.35		
Total	7524.36	863			

t-tests, Comparison of Means Between Levels					
	Means	SD	Means	SD	t
High-Middle	8.97	2.75	7.65	2.06	7.29**
High-Low	8.97	2.75	6.59	2.02	13.15**
Middle-Low	7.65	2.06	6.59	2.02	6.35**

*.05=1.65
 **.01=2.33

t-tests, Pre-Post Test Mean Scores			
	Mean ₁	Mean ₂	t
High ₁ -High ₂	8.28	9.65	6.40**
Middle ₁ -Middle ₂	7.15	8.15	4.52**
Low ₁ -Low ₂	6.15	7.03	5.18**
Total	7.20	8.27	7.61**

*.05=1.65
 **.01=2.33

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	8.28	2.21	144	9.65	4.57	144	8.97	2.75
Middle	144	7.15	3.43	144	8.15	3.88	144	7.65	2.06
Low	144	6.15	2.12	144	7.03	2.22	144	6.59	2.02
Total	432	7.20	2.36	432	8.27	3.36	432	7.74	2.24

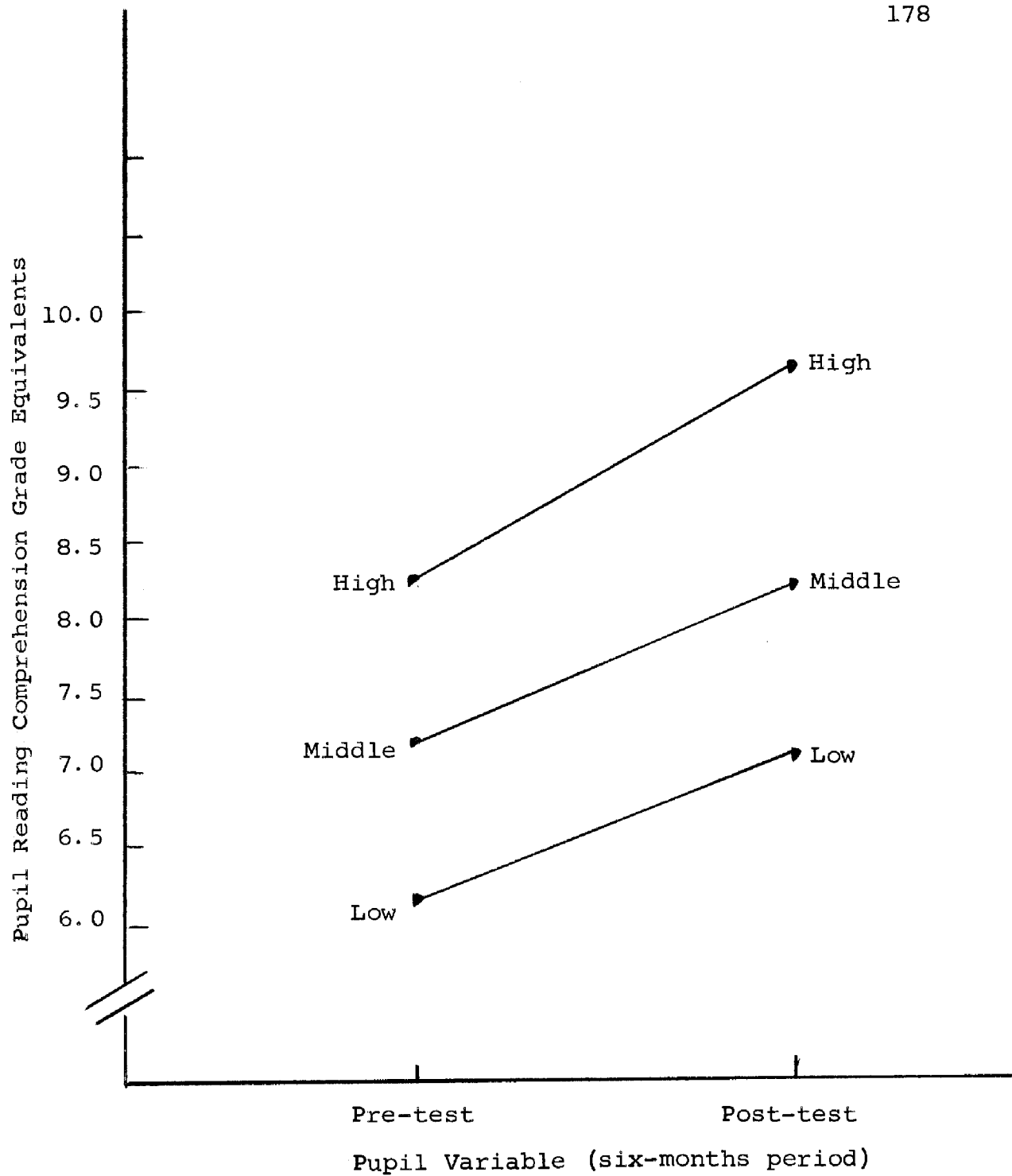


Fig. 35. Relationship between high-middle-low perceived levels of Congruence and pupil mean reading comprehension pre- and post-test scores.

H_{4b} Congruence-Reading Vocabulary

Table IV-36 presents the results of the reading vocabulary scores of pupils in relation to each of the three groups. The group main effect ($F=19.46$, $p<.0001$) and the pre-post main effect ($F=365.23$, $p<.0001$) were statistically significant. The interaction effect was not significant ($F=2.12$).

Additional analysis of pupil scores indicated that the differences between the groups were statistically significant at .01 level ($t = 6.39$, $t = 12.14$, $t = 5.44$); that is, the high group mean score (8.73) was significantly higher than both the middle group mean score (7.72), and, the low group mean score (6.86), and, the middle group mean score was significantly higher than the low group mean score. Further analysis of pre-post data for each of the three groups indicated significance at the .01 level for each group; that is, for each of the three groups, the post-test mean scores (9.38, 8.36, and 7.37, respectively) were significantly higher than the pre-test mean scores (8.07, 7.07 and 6.35). A symbolic representation of the perceived levels of congruence and reading vocabulary scores is presented on Figure 36.

Analysis of Covariance of Reading Vocabulary Scores of
Pupils in Three Congruence Interpersonal
Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	139.30	2	69.65	19.46	.0001
Error	1535.56	429	3.58		
Pre-Post Effect	315.06	1	315.06	365.23	.0001
Interaction Effect	3.66	2	1.83	2.12	NS
Error	369.20	428	.86		
Total	4146.55	863			

t-tests, Comparison of Means Between Levels					
	Means	SD	Means	SD	t
High-Middle	8.73	1.73	7.72	1.92	6.39**
High-Low	8.73	1.73	6.86	1.86	12.14**
Middle-Low	7.72	1.95	6.86	1.86	5.44**

* .05=1.65
** .01=2.33

t-tests, Pre-Post Test Mean Scores				
	Mean ₁	Mean ₂	t	
High ₁ -High ₂	8.07	9.38	8.29**	
Middle ₁ -Middle ₂	7.07	8.36	6.11**	
Low ₁ -Low ₂	6.35	7.37	5.44**	*
Total	7.16	8.37	18.98**	** .05=1.65 ** .01=2.33

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	8.07	1.85	144	9.38	1.88	144	8.73	1.73
Middle	144	7.07	2.03	144	8.36	2.10	144	7.72	1.95
Low	144	6.35	1.79	144	7.37	2.10	144	6.86	1.86
Total	432	7.16	2.02	432	8.37	2.20	432	7.78	1.81

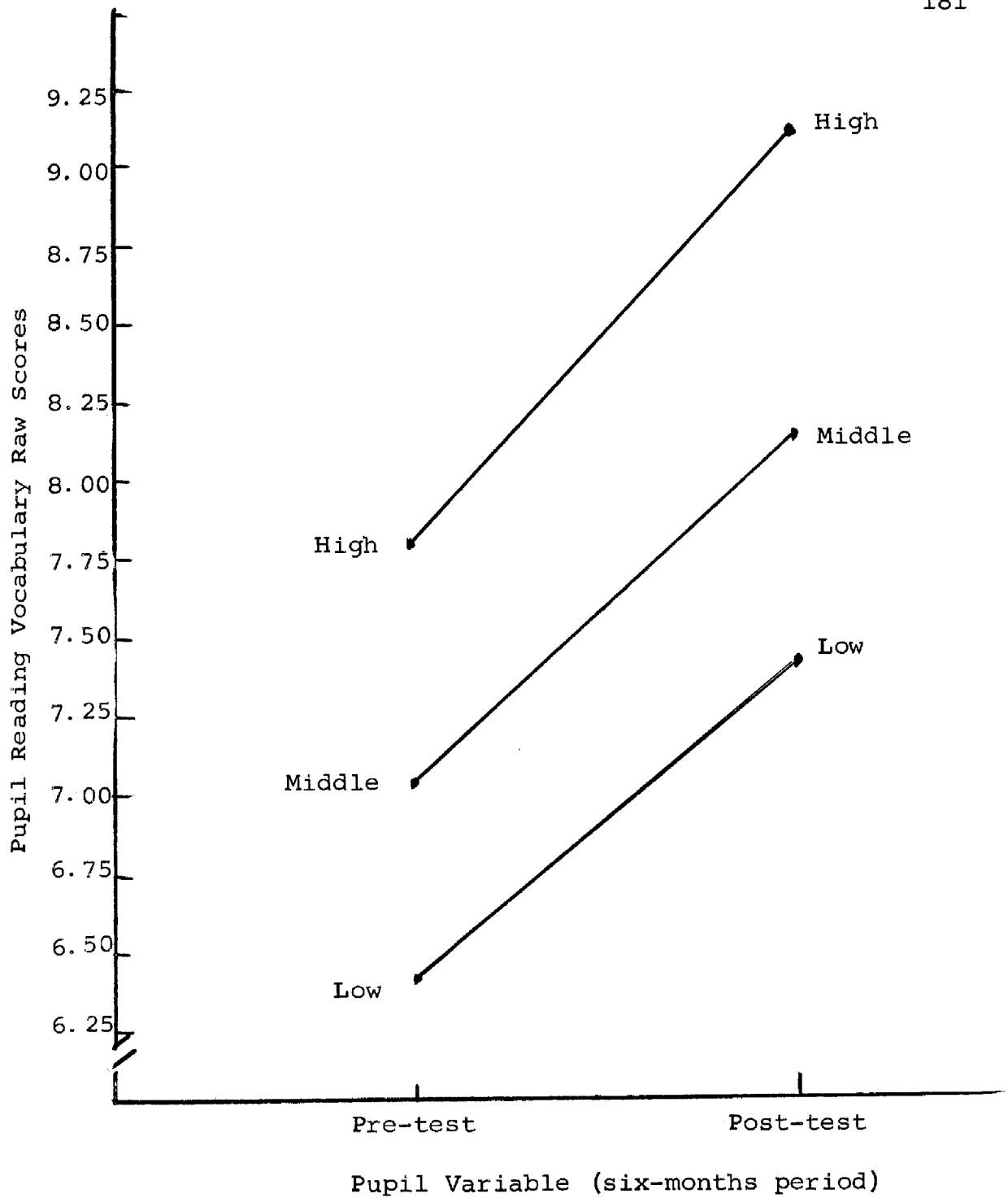


Fig. 36. Relationship between high-middle-low perceived levels of Congruence and pupil mean reading vocabulary pre- and post-test scores.

H_{4c} Congruence-Complexity

Results from the analysis of covariance which dealt with congruence and complexity are reported on Table IV-37 and Figure 37. The group main effect ($F=1.50$), the pre-post main effect ($F=1.30$), and, the interaction effect ($F=.21$) were not statistically significant.

H_{4d} Congruence-Social Dependence

Table IV-38 presents the results of the social dependence scores of pupils in each of the three groups. The group main effect ($F=5.14$, $p<.0065$) and the pre-post main effect ($F=53.87$, $p<.0001$) were statistically significant. The interaction effect was not significant.

Comparison between the high-middle groups ($t = 4.18$) and the high-low groups ($t = 4.70$) were statistically significant at .01 level. Comparison between the middle and low groups was not significant. The high group mean scores were significantly higher than both the middle group mean scores and the low group mean scores, but, the middle group mean scores were not significantly higher than the low group mean scores. Further analysis of the pre-post data for each of the three groups indicated significance at the .01 level for each group;

Table IV-37
 Analysis of Covariance of Complexity Scores of Pupils in
 Three Congruence Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	52.88	2	26.44	1.50	NS
Error	7556.81	429	17.62		
Pre-Post Effect	11.13	1	11.13	1.30	NS
Interaction Effect	3.63	2	1.81	.21	NS
Error	3654.75	428			
Total	11365.81	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test					
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	22.39	3.29	144	22.50	3.20	144	22.24	2.81
Middle	144	21.88	3.43	144	22.28	3.88	144	22.08	2.92
Low	144	21.57	3.91	144	21.74	3.92	144	21.66	3.16
Totals	432	21.95	3.57	432	22.18	3.69	432	22.06	2.96

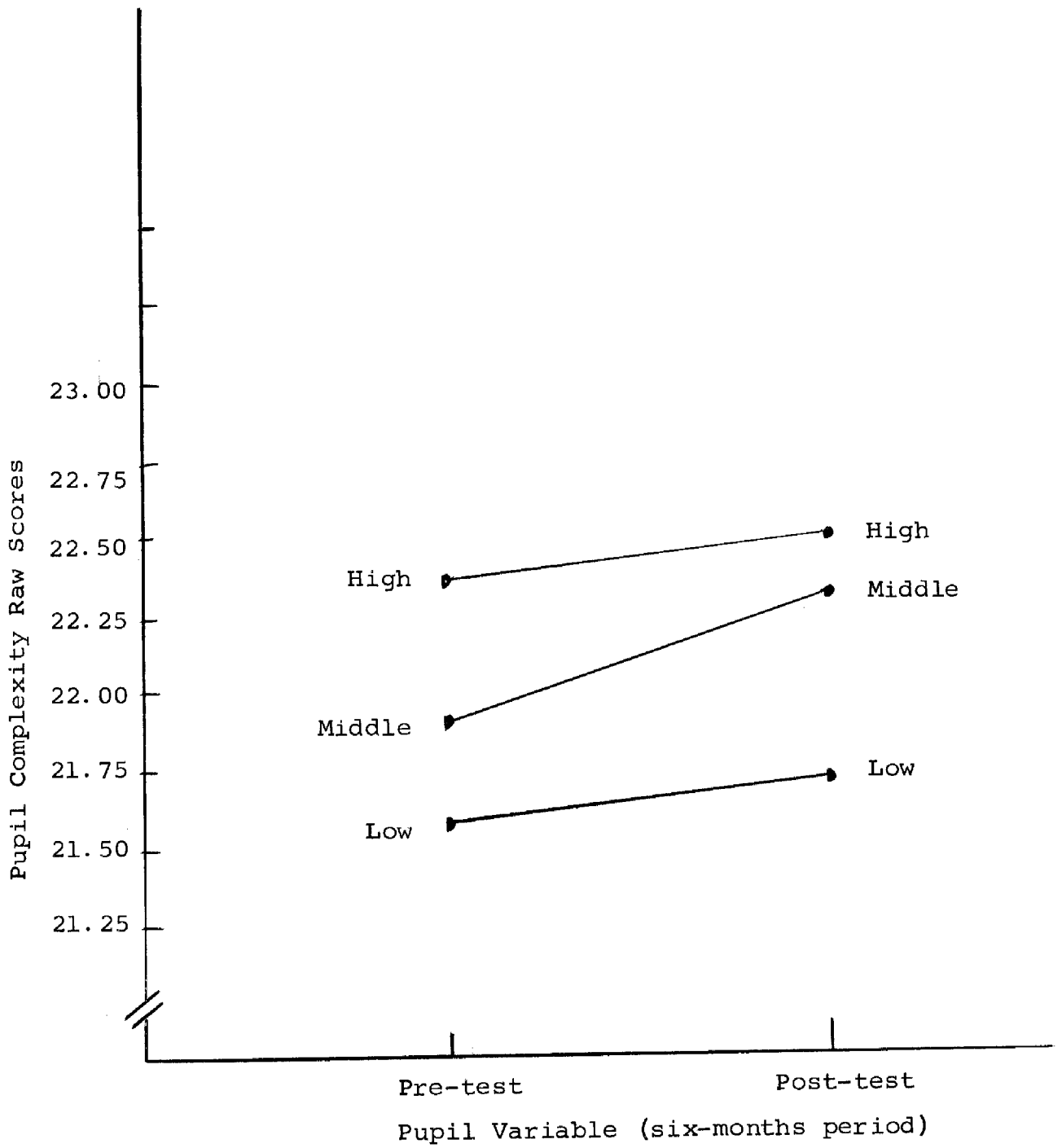


Fig. 37. Relationship between high-middle-low perceived levels of Congruence and pupil mean Complexity pre- and post-test scores.

Table IV-38

Analysis of Covariance of Social Dependence Scores of Pupils
in Three Congruence Interpersonal Relationship Groups

Analysis of Covariance					
	SS	df	MS	F	p
Group Effect	60.20	2	30.10	5.14	.0065
Error	2511.88	429	5.86		
Pre-Post Effect	132.23	1	132.23	53.87	.0001
Interaction Effect	6.26	2	3.13	1.28	NS
Error	1050.51	428	2.45		
Total	3821.45	863			

t-tests, Comparison of Means Between Levels					
	Means	SD	Means	SD	t
High-Middle	4.85	1.52	4.22	1.75	4.18**
High-Low	4.85	1.52	4.13	1.86	4.70**
Middle-Low	4.22	1.75	4.13	1.86	NS

*.05=1.65
**.01=2.33

t-tests, Pre-Post Test Mean Scores			
	Means ₁	Means ₂	t
High ₁ -High ₂	4.45	5.24	5.03**
Middle ₁ -Middle ₁	3.73	4.72	5.81**
Low ₁ -Low ₂	3.85	4.42	3.24**
Total	4.02	4.80	7.99**

*.05=1.65
**.01=2.33

Means and Standard Deviations							Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	4.45	2.01	144	5.24	1.55	144	4.85	1.52
Middle	144	3.73	2.18	144	4.72	2.00	144	4.22	1.75
Low	144	3.85	2.31	144	4.42	2.16	144	4.13	1.86
Total	432	4.02	2.18	432	4.80	1.94	432	4.40	1.71

that is, for each of the three groups, the post-test mean scores (5.24, 4.72 and 4.42, respectively) were significantly higher than the pre-test means (4.45, 3.73 and 3.85). A symbolic representation of the results regarding the dimensions of congruence and social dependence is presented on Figure 38.

H_{4e} Congruence-Total Power

Results from the analysis of covariance which dealt with congruence and total power are reported on Table IV-39 and Figure 39. The group main effect ($F=2.08$), the pre-post main effect ($F=.57$), and, the interaction effect ($F=.38$) were not statistically significant.

H_{4f} Congruence-Teacher-Pupil Power

Results from the analysis of covariance which dealt with congruence and teacher-pupil power are reported on Table IV-40 and Figure 40.

The group main effect ($F=1.06$), the pre-post main effect ($F=.00$), and, the interaction effect ($F=1.04$) were not statistically significant.

H_{4g} Congruence-Esteem

The results of analysis of covariance which dealt

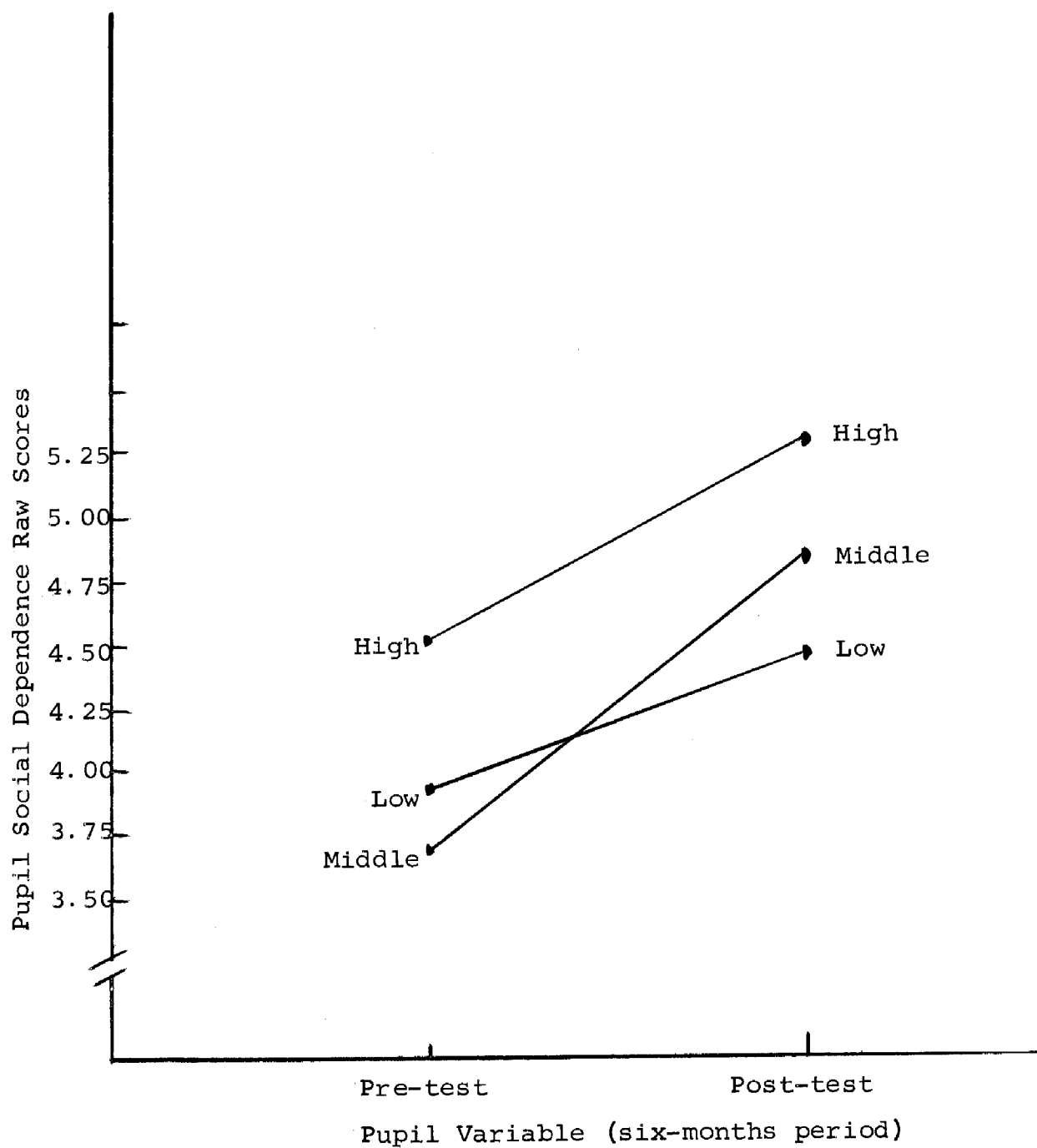


Fig. 38. Relationship between high-middle-low perceived levels of Congruence and pupil mean social dependence pre- and post-test scores.

Table IV-39

Analysis of Covariance of Total Power Scores of Pupils in
Three Congruence Interpersonal Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	51.19	2	25.59	2.08	NS
Error	5288.23	429	12.33		
Pre-Post Effect	5.00	1	5.00	.57	NS
Interaction Effect	6.63	2	3.31	.38	NS
Error	3752.38	428	8.77		
Total	9108.50	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	16.42	2.88	144	16.56	3.32	144	16.49	2.35
Middle	144	16.83	3.02	144	17.21	3.61	144	17.02	2.59
Low	144	17.06	3.39	144	17.01	3.19	144	17.04	2.47
Totals	432	16.77	3.11	432	16.93	3.38	432	16.82	2.48

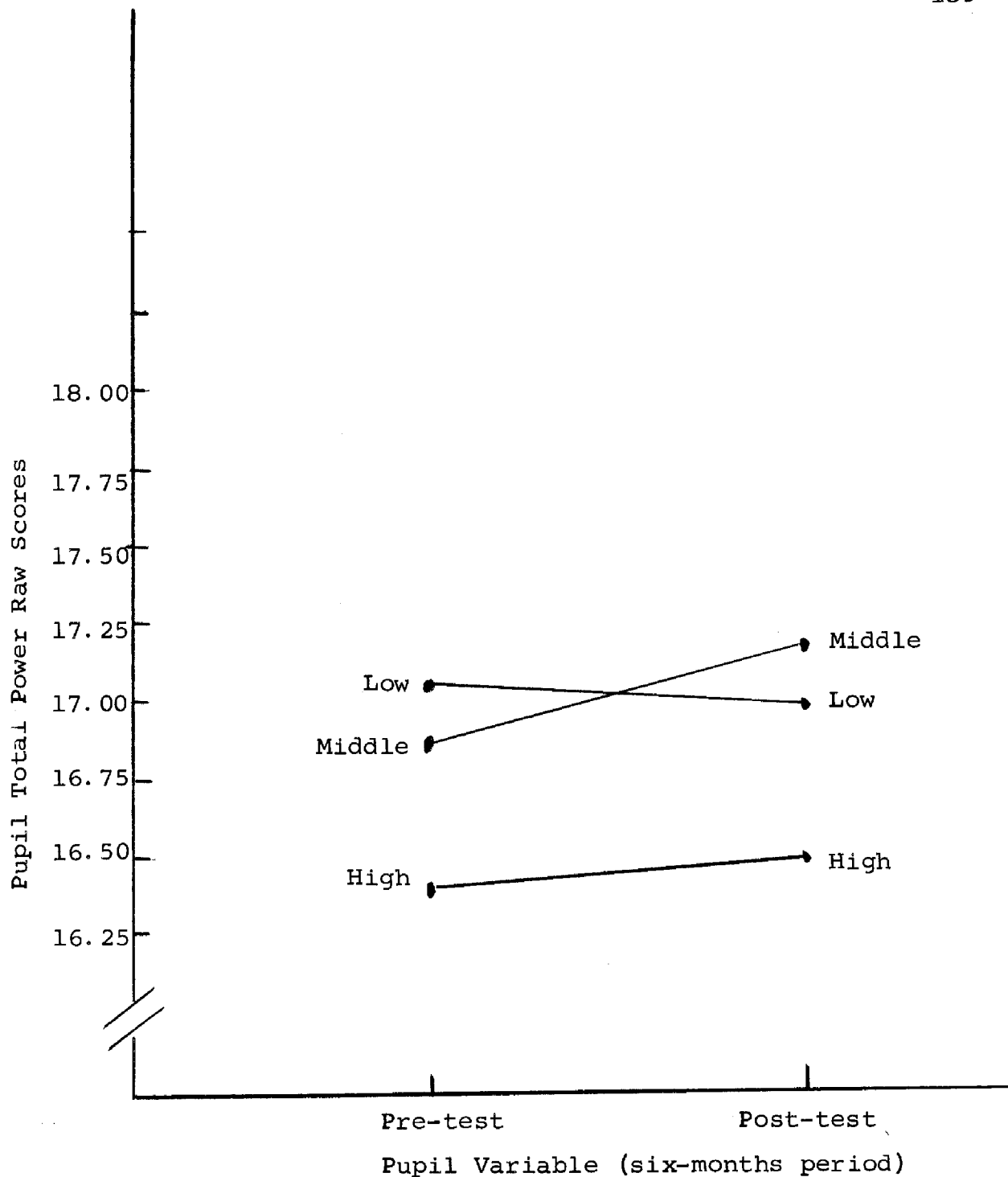


Fig. 39. Relationship between high-middle-low perceived levels of Congruence and pupil mean total pupil power pre- and post-test scores.

Table IV-40
 Analysis of Covariance of Teacher-Pupil Power Scores of
 Pupils in Three Congruence Interpersonal
 Relationship Groups^a

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	18.37	2	9.19	1.06	NS
Error	3707.19	429	8.64		
Pre-Post Effect	.00	1	.00	.00	NS
Interaction Effect	9.95	2	4.98	1.04	NS
Error	2057.55	428	4.81		
Total	5793.37	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test					
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	6.17	2.88	144	5.99	3.32	144	6.08	1.91
Middle	144	6.36	2.55	144	6.24	2.79	144	6.30	2.08
Low	144	6.26	2.66	144	6.56	2.72	144	6.41	2.21
Totals	432	6.26	2.52	432	6.26	2.66	432	6.28	2.08

^aHigher scores indicate less feeling of power on part of pupil.

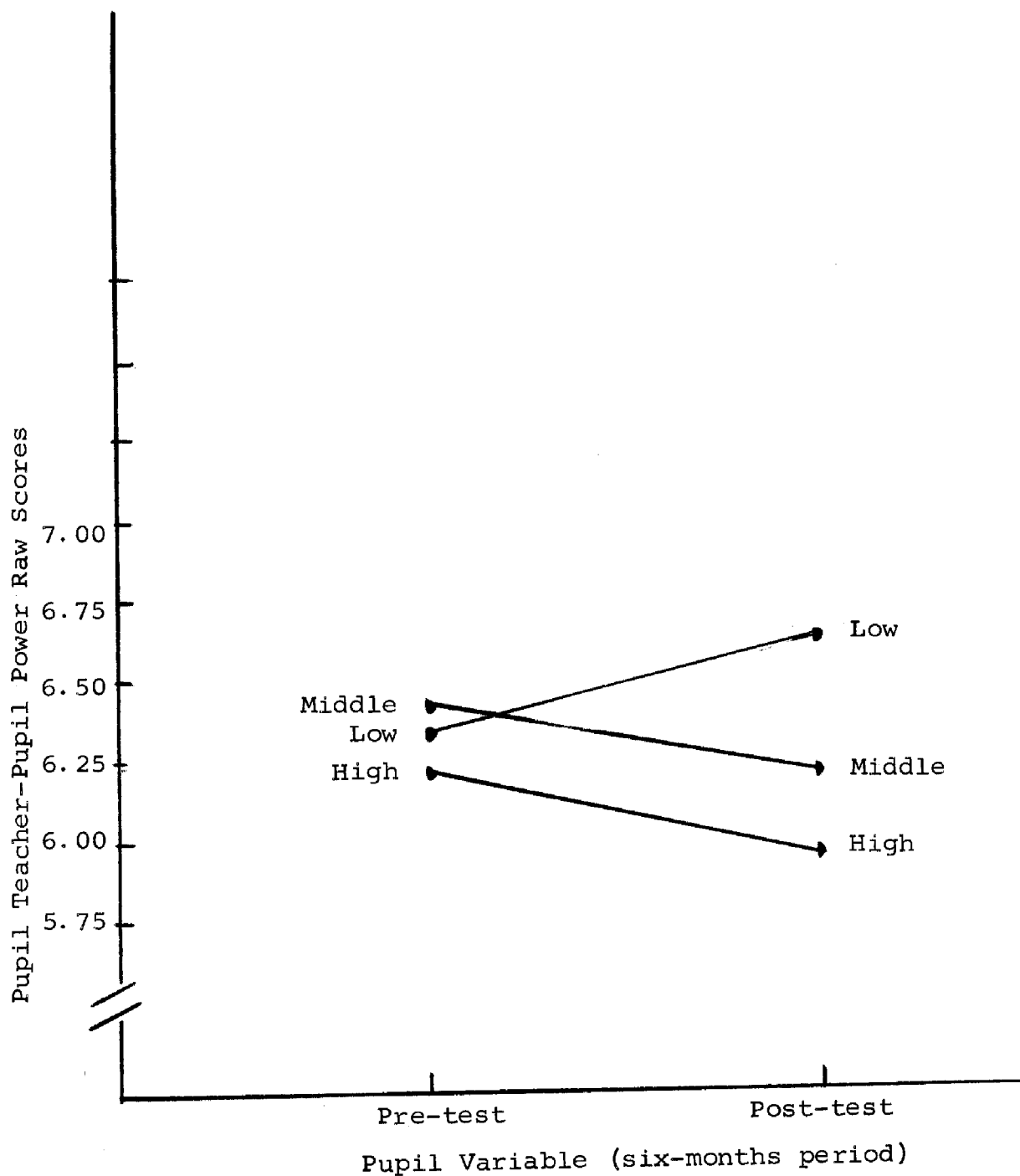


Fig. 40. Relationship between high-middle-low perceived levels of Congruence and pupil mean teacher-pupil power pre- and post-test scores.

with congruence and esteem are reported on Table IV-41 and Figure 41.

The pre-post main effect was statistically significant ($F=13.20$, $p<.0006$). The group main effect ($F=2.53$) and the interaction effect ($F=2.02$) were not statistically significant. Further analysis of the pre-post data indicated statistical significance at the .01 level for middle group mean scores ($t = 7.75$) and low group mean scores ($t = 4.42$), while high group mean scores ($t = 1.66$) were significant at the .05 level. Each of the three groups indicated that the post-test mean scores (23.97, 25.32 and 23.43, respectively) were significantly higher than pre-test scores (23.48, 22.95 and 22.10). It should be noted that post-test mean score for the middle group was higher than the high group mean score.

H_{4h} Congruence-Identification with Mother

The results of covariance which dealt with congruence and identification with mother are reported on Table IV-42 and Figure 42.

The pre-post main effect was statistically significant ($F=13.85$, $p<.0005$). The group main effect ($F=1.37$)

Table IV-41
 Analysis of Covariance of Esteem Scores of Pupils in Three
 Congruence Interpersonal Relationship Groups

Analysis of Covariance					
	SS	df	MS	F	p
Group Effect	285.42	2	142.71	2.53	NS
Error	2423.61	429	56.50		
Pre-Post Effect	419.44	1	419.44	13.20	.0006
Interaction Effect	128.19	2	64.09	2.02	NS
Error	13600.38	428	31.78		
Total	38674.75	863			

t-tests, Pre-Post Test Mean Scores			
	Means ₁	Means ₂	t
High ₁ -High ₂	23.48	23.97	1.66**
Middle ₁ -Middle ₂	22.95	25.32	7.75**
Low ₁ -Low ₂	22.10	23.43	4.42**
Total	22.84	24.24	3.65**

* .05 = 1.65, ** .01 = 2.33

Means and Standard Deviations							Totals		
	Pre-Test			Post-Test					
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	23.48	6.19	144	23.97	6.67	144	23.97	5.33
Middle	144	22.95	6.99	144	25.32	6.74	144	24.14	5.38
Low	144	22.10	6.33	144	23.43	6.61	144	22.77	5.17
Totals	432	22.84	6.63	432	24.24	6.70	432	23.60	5.29

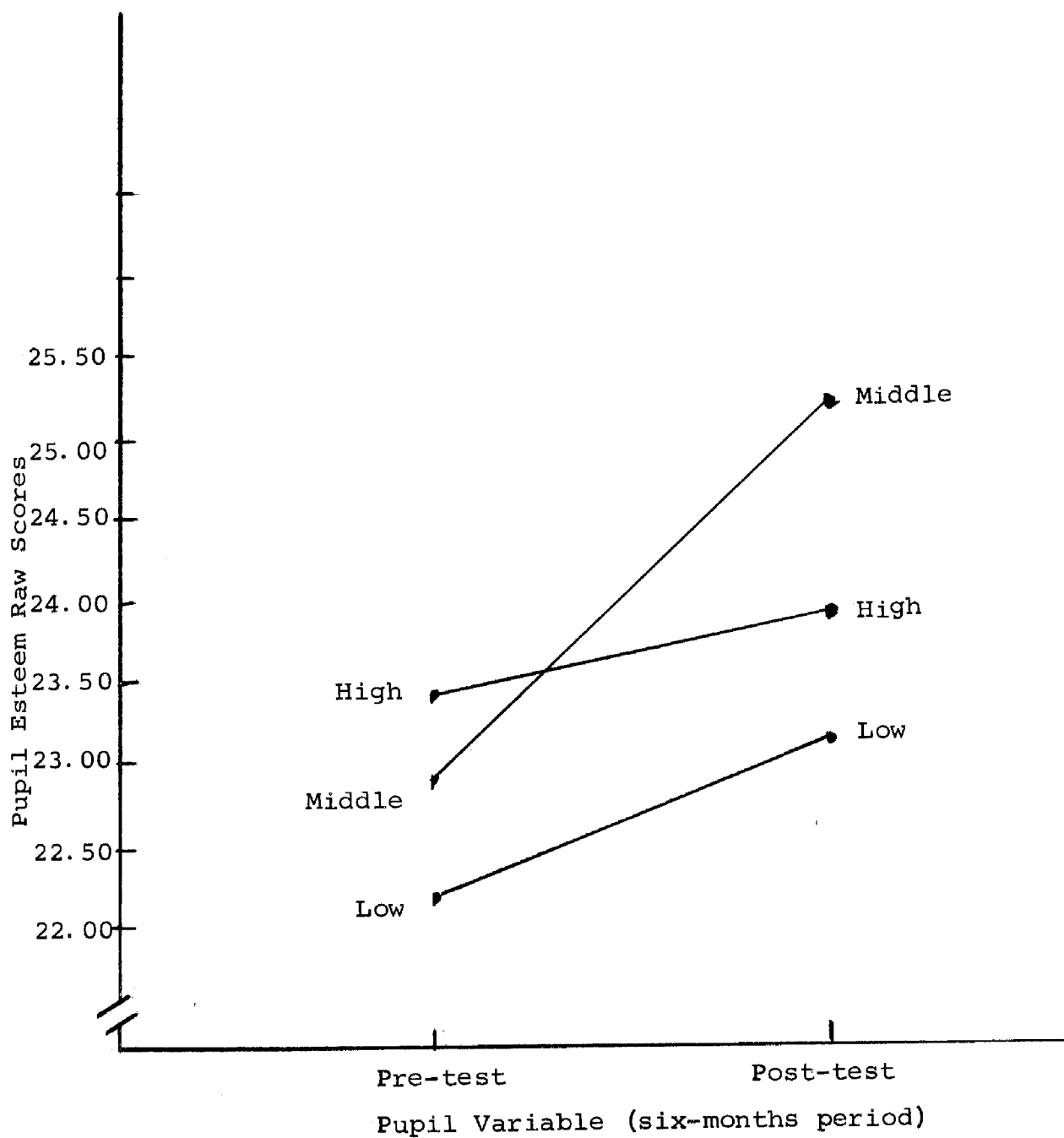


Fig. 41. Relationship between high-middle-low perceived levels of Congruence and pupil mean esteem pre- and post-test scores.

Table IV-42
 Analysis of Covariance of Identification with Mother Scores
 of Pupils in Three Congruence Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	2.45	2	1.23	1.37	NS
Error	384.77	429	.90		
Pre-Post Effect	4.89	1	4.89	13.85	.0005
Interaction Effect	.49	2	.25	.69	NS
Error	151.12	428	.35		
Total	543.81	863			

t-tests, Pre-Post Test Mean Scores			
	Means ₁	Means ₂	t
High ₁ -High ₂	1.54	1.63	NS
Middle ₁ -Middle ₂	1.42	1.60	NS
Low ₁ -Low ₂	1.36	1.54	NS
Total	1.44	1.59	3.73**

* .05 = 1.65, ** .01 = 2.33

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	1.54	.79	144	1.63	.73	144	1.58	.63
Middle	144	1.42	.87	144	1.60	.74	144	1.51	.69
Low	144	1.36	.84	144	1.54	.77	144	1.48	.68
Totals	432	1.44	.83	432	1.59	.74	432	1.52	.67

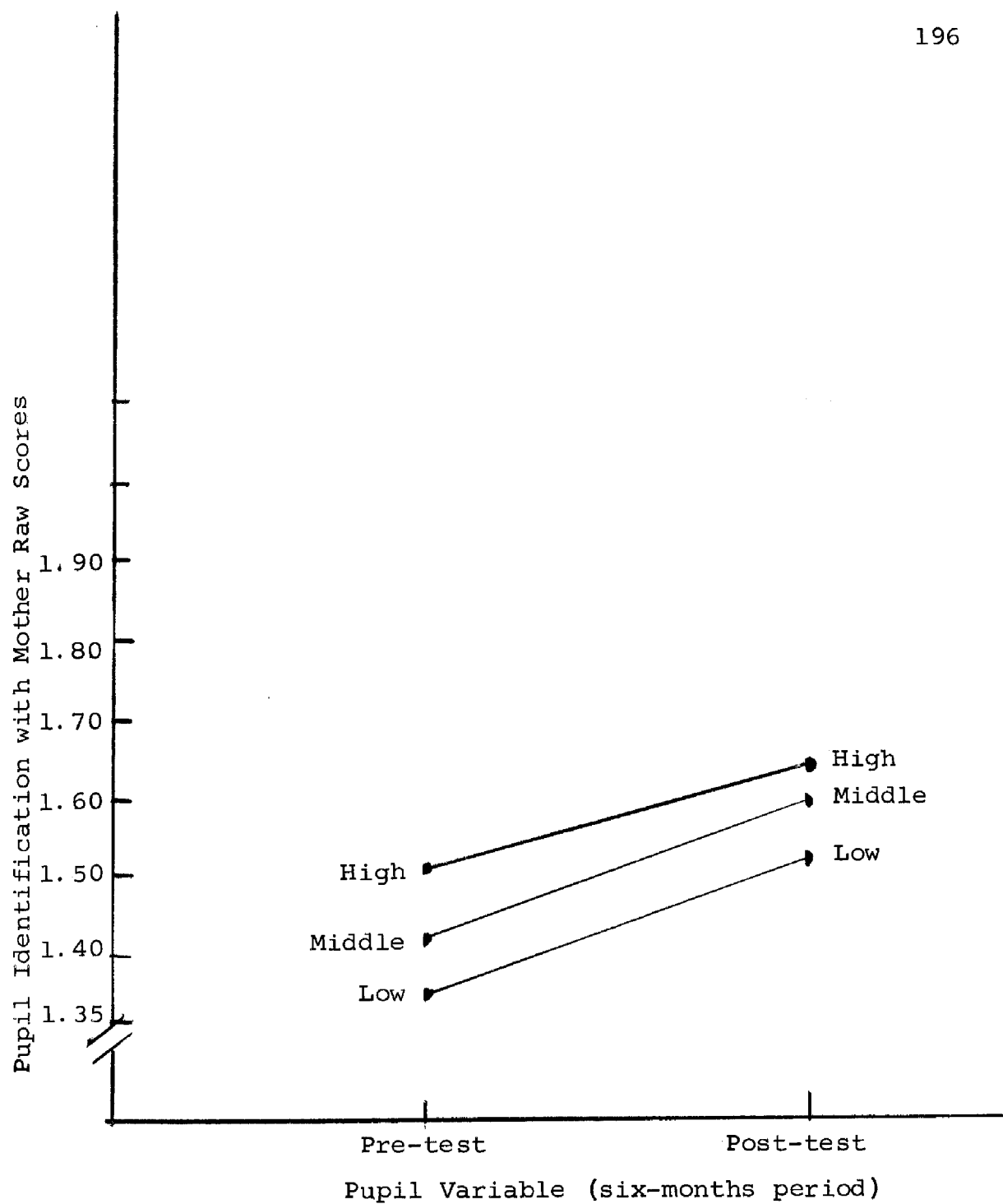


Fig. 42. Relationship between high-middle-low perceived levels of Congruence and pupil mean identification with mother pre- and post-test scores.

and the interaction effect ($F=.69$) was not statistically significant. Further analysis of the pre-post data indicated no significance in the three levels; that is, post-test mean scores (1.63, 1.60 and 1.54, respectively) were not significantly higher than pre-test scores (1.54, 1.42 and 1.36)

H_{4i} Congruence-Identification with Father

Results from the analysis of covariance which dealt with congruence and identification with father are reported on Table IV-43 and Figure 43. The group main effect ($F=2.31$), the pre-post main effect ($F=3.15$), and, the interaction effect ($F=.07$) were not statistically significant.

H_{4j} Congruence-Identification with Teacher

The results of the analysis of covariance which dealt with congruence and identification with teacher are reported on Table IV-44 and Figure 44.

The group main effect was statistically significant ($F=4.35$, $p<.0134$). The pre-post main effect ($F=.02$) and the interaction effect ($F=.86$) were not statistically significant.

Because of the significant group main effect, comparison between groups were made. This indicated statistical

Table IV-43
 Analysis of Covariance of Identification with Father Scores
 of Pupils in Three Congruence Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	4.62	2	2.31	2.31	NS
Error	428.87	429	1.00		
Pre-Post Effect	1.34	1	1.34	3.15	NS
Interaction Effect	.06	2	.03	.07	NS
Error	181.60	428			
Total	616.96	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test					
	N	Means	SD	N	Means	SD	N	Means	SD
High	144	1.46	.81	144	1.51	.83	144	1.49	.72
Middle	144	1.26	.86	144	1.35	.89	144	1.31	.71
Low	144	1.39	.86	144	1.48	.82	144	1.43	.69
Totals	432	1.37	.85	432	1.45	.84	432	1.31	.71

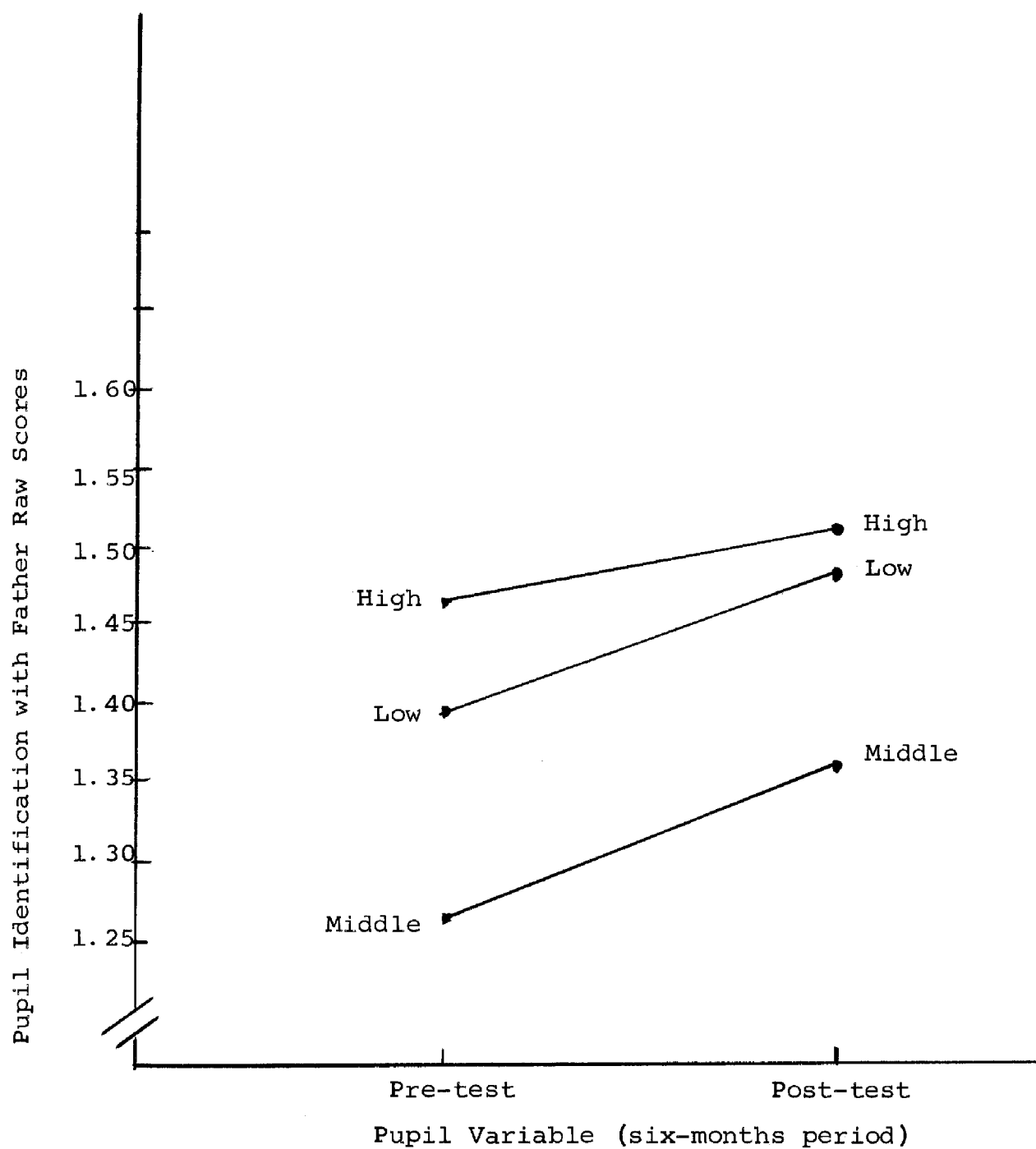


Fig. 43. Relationship between high-middle-low perceived levels of Congruence and pupil mean identification with father pre- and post-test scores.

Table IV-44

Analysis of Covariance of Identification with Teacher Scores
of Pupils in Three Congruence Interpersonal
Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	5.56	2	2.78	4.35	.0134
Error	274.21	429	.64		
Pre-Post Effect	.01	1	.01	.02	NS
Interaction Effect	.53	2	.27	.86	NS
Error	131.47	428	.31		
Total	412.20	863			

t-tests, Comparison of Means Between Levels

	Means	SD	Means	SD	t
High-Middle	.45	.61	.33	.56	13.33**
High-Low	.45	.61	.28	.52	19.21**
Middle-Low	.33	.56	.28	.52	5.78**

* .05 = 1.65, ** .01 = 2.33

Means and Standard Deviations

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	.42	.70	144	.49	.78	144	.45	.61
Middle	144	.49	.70	144	.46	.69	144	.33	.56
Low	144	.31	.64	144	.26	.59	144	.28	.52
Total	432	.36	.68	432	.35	.70	432	.36	.56

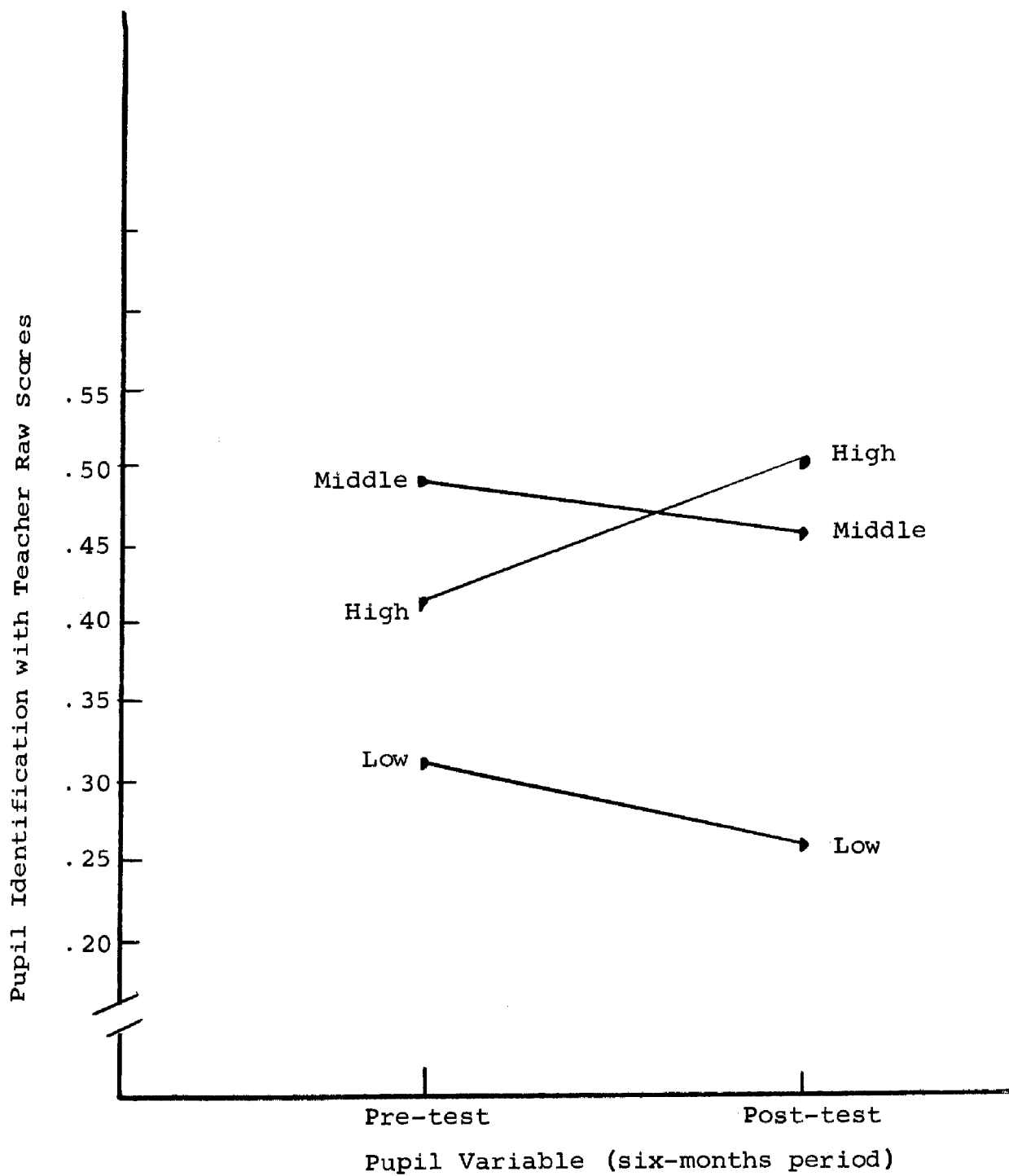


Fig. 44. Relationship between high-middle-low perceived levels of Congruence and pupil mean identification with teacher pre- and post-test scores.

differences between all groups at the .01 level of significance (high-middle perceived congruence groups, $t = 13.33$, high-low groups, $t = 19.21$, and, middle-low groups, $t = 5.78$); that is, the high group mean score (.45) was significantly higher than both the middle group mean score (.33) and the low group mean score (.28), and, the middle group mean score was significantly higher than the low group mean score.

H_{4k} Congruence-Identification with Friend

Results from the analysis of covariance which dealt with congruence and identification with friend are reported on Table IV-45 and Figure 45. The group main effect ($F=.14$), the pre-post main effect ($F=1.93$), and, the interaction effect ($F=.56$) were not statistically significant.

Summary of the Data Relative to Hypotheses

Table IV-46 on the following page presents a summary of F-tests statistical significance scores of the analyses of covariance for the dependent variables in the four interpersonal relationship dimensions. Further discussion of the results of these analyses will be presented in Chapter V.

Table IV-45
 Analysis of Covariance of Identification with Friend Scores
 of Pupils in Three Congruence Interpersonal
 Relationship Groups

Source of Variation	Analysis of Covariance				
	SS	df	MS	F	p
Group Effect	.28	2	.14	.14	NS
Error	440.46	429	1.03		
Pre-Post Effect	.97	1	.97	1.93	NS
Interaction Effect	.57	2	.28	.56	NS
Error	215.96	428			
Total	658.33	863			

	Means and Standard Deviations						Totals		
	Pre-Test			Post-Test			N	Means	SD
	N	Means	SD	N	Means	SD			
High	144	1.09	.81	144	1.22	.83	144	1.16	.71
Middle	144	1.12	.86	144	1.13	.69	144	1.12	.72
Low	144	1.13	.90	144	1.19	.86	144	1.16	.71
Totals	432	1.11	.87	432	1.18	.88	432	1.14	.71

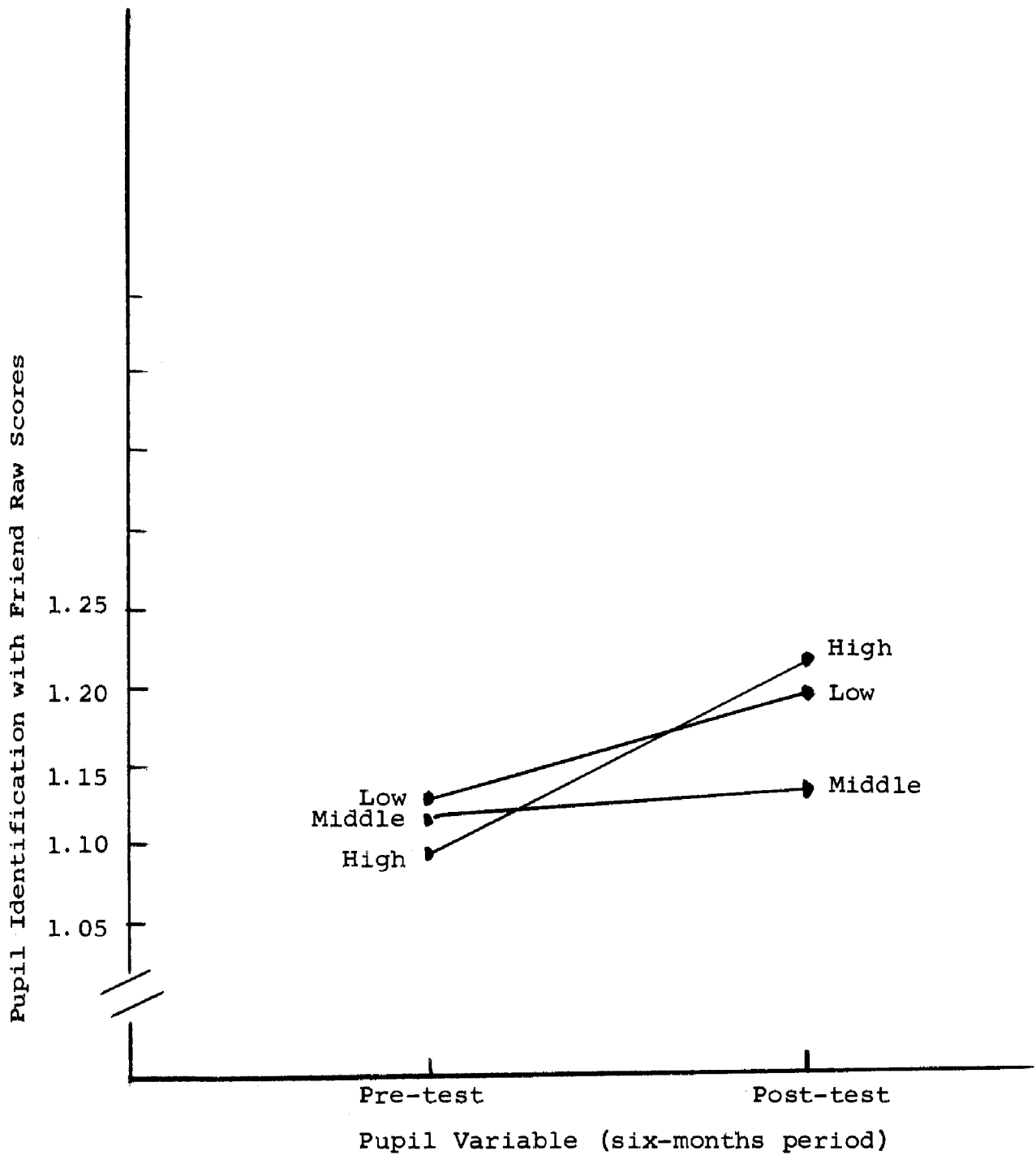


Fig. 45. Relationship between high-middle-low perceived levels of Congruence and pupil mean identification with friend pre- and post-test scores.

Table IV-46

Summary of F-tests and Levels of Significance of Dependent Variables in the
Four Interpersonal Relationship Dimensions

	Regard						Empathy					
	Group		Pre-Post A		Interaction		Group		Pre-Post A		Interaction	
	F	P	F	P	F	P	F	P	F	P	F	P
Reading Comprehension	10.57	.0001	58.48	.0001	1.33	-	15.41	.0001	58.36	.0001	.92	-
Reading Vocabulary	10.61	.0001	362.36	.0001	.44	-	15.83	.0001	365.27	.0001	2.12	-
Complexity	3.62	.0269	1.32	-	2.66	-	1.18	-	1.33	-	4.69	.0098
Social Dependence	.07	-	53.87	.0001	1.26	-	1.42	NS	53.71	.0001	.63	-
Total Power	4.50	.0107	.50	-	1.78	-	4.30	.0139	.57	-	.05	-
Teacher-Pupil Power	5.50	.0047	.00	-	3.26	.0381	5.27	.0058	.00	-	1.22	-
Esteem	1.17	-	13.09	.0006	.25	-	.94	-	13.36	.0006	4.56	.0110
Identification-Mother	1.01	-	13.84	.0005	.56	-	1.76	-	13.89	.0005	1.36	-
Identification-Father	.79	-	3.16	-	.38	-	4.09	-	3.16	-	.08	-
Identification-Teacher	5.78	.0037	.02	-	1.18	-	6.78	.0077	.02	-	.84	-
Identification-Friend	.75	-	1.93	-	.57	-	.46	-	1.95	-	3.01	.0489

Table IV-46--Continued

	Unconditionality						Congruence					
	Group		Pre-Post		Interaction		Group		Pre-Post		Interaction	
	F	P	F	P	F	P	F	P	F	P	F	P
Reading Comprehension	.70	-	58.50	.0001	1.41	-	21.37	.0001	58.39	.0001	1.04	-
Reading Vocabulary	1.58	-	363.46	.0001	1.03	-	19.46	.0001	365.23	.0001	2.12	-
Complexity	.55	-	1.30	-	.28	-	1.50	-	1.30	-	.21	-
Social Dependence	.91	-	53.74	.0001	.74	-	5.14	.0065	53.87	.0001	1.28	-
Total Power	.03	-	.57	-	.56	-	2.08	-	.57	-	.38	-
Teacher-Pupil Power	.57	-	.00	-	.07	-	1.06	-	.00	-	1.04	-
Esteem	1.25	-	13.08	.0006	.05	-	2.53	-	13.20	.0006	2.02	-
Identification-Mother	.16	-	13.83	.0005	.44	-	1.37	-	13.85	.0005	.69	-
Identification-Father	.51	-	3.17	-	.80	-	2.31	-	3.15	-	.07	-
Identification-Teacher	.86	-	.02	-	.39	-	4.35	.0134	.02	-	.86	-
Identification-Friend	.35	-	1.94	-	1.45	-	.14	-	1.93	-	.56	-

Prediction of Changes

The question of predicting changes in specified types of learning given the dimensions of interpersonal relationship was also of interest to us. The statistical method of multiple regression was employed to examine this question.

Table IV-47 presents the results of the analysis of data. Social dependence ($F=2.18$, $p<.05$); identification with mother ($F=4.77$, $p<.01$); identification with father ($F=2.11$, $p<.05$); and identification with friend ($F=3.58$, $p<.01$) were the changes in types of learning which could be predicted with .05 or .01 level of significance.

Analyses of data did not indicate statistically significant prediction of changes in the following types of learning: reading comprehension, reading vocabulary, complexity, power, teacher-pupil power, esteem, identification with teacher.

Chapter IV has reported the results obtained from the analysis of data collected relevant to this study. Chapter V presents a brief summary of the study and discusses conclusions and implications suggested by these data.

Table IV-47

Multiple Regression Analysis of Changes in Reading Achievement and Self-Concepts

	Regard		Empathy		Congruence		Uncondition- ality		Multiple R	
	β	F	β	F	β	F	β	F	β	F
Complexity	.134*	2.274	.020	NS	-.101	NS	-.040	NS	.109	NS
Social Dependence	.215**	5.895	-.176**	3.437	.013	NS	.082	NS	.125	2.18*
Power	.020	NS	-.030	NS	.020	NS	.034	NS	.040	NS
Teacher-Pupil Power	-.046	NS	-.087	NS	.048	NS	.010	NS	.093	NS
Esteem	.133*	2.265	-.133	NS	-.069	NS	.040	NS	.106	NS
Identification Mother	.286**	10.602	-.103	NS	-.200**	6.003	.063	NS	.174	4.77**
Identification Father	.081	NS	-.102	NS	-.051	NS	.109**	4.789	.123	2.11*
Identification Teacher	-.004	NS	.043	NS	.031	NS	-.019	NS	.066	NS
Identification Friend	.069	NS	.107	NS	.134*	2.654	.078*	2.454	.131	3.58**
Reading Comprehension	-.026	NS	.112	NS	-.065	NS	.054	NS	.083	NS
Reading Vocabulary	.085	NS	-.078	NS	.074	NS	.061	NS	.098	NS

df (6, 429)

* $p < .05 = 2.10$ ** $p < .01 = 2.80$

$$\frac{(\text{Mult } R^2) \cdot \text{df}}{(1 - \text{Mult } R)^2 \cdot \text{N.Y.}}$$

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter presents a brief summary of the study with special attention given to the problem, procedures, and major results. This chapter also discusses the conclusion and interpretation and implications which appeared to follow from those results. Particular emphasis has been given to the major findings of the study concerning a pupil's perceptions of the teacher-pupil interpersonal relationships and certain specified learnings, as they relate to the phenomenological, first-person point of view as suggested by the work of Rogers (1959) and Combs (1962).

Summary of the Study

Rogers (1959) has contended that the facilitation of learning is largely dependent upon the nature of the interpersonal relationship that exists between the teacher and learner. An integral part of that relationship is the perception and feelings of the parties involved.

In order to conceptualize the phenomena examined in this investigation the contributions of perceptual psychology were utilized. Recent research findings have suggested that teacher behaviors are related to specified learnings--reading achievement and self-concept. In the main, however, research which has studied classroom process-product relationships has been concerned with teacher behaviors from a third-person point of view which assumes an objectively definable reality which is the same for everyone. The present study investigated the relationship between the levels of perceptions of certain dimensions of the interpersonal relationships and certain specified learnings.

The major assumption underlying this study was that what a child learns and his behavior are related to what he perceives. This assumption led to the formulation and testing of four major hypotheses; each of which was concerned with the relationship of a dimension of the interpersonal relationship between pupil and teacher--the independent variables--and changes in specified types of pupil learning--the dependent variables. The assumption was made that the nature of the perceived interpersonal relationship

is related to changes in specified types of learning. The assumption was also made that an individual's self-concepts are learned and, therefore, are influenced by interaction with others.

The general procedure of the study was the collection of pre-post data on the SRA reading tests, the Barrett-Lennard Relationship Inventory, and the Self-Social Symbols Tasks. Pre-test data were collected during the sixth and seventh weeks of the school year and post-test data were collected during the thirtieth and thirty-first weeks of the school year. Large Thorndike Intelligence Tests were administered during the fifth month of the school year. Subjects were divided into three groups of 144 (high, middle, and low) for each of the four interpersonal relationship dimensions (regard, empathy, unconditionality and congruence). Further treatment of the data involved the testing of the hypotheses through the use of 3 x 2 analysis of covariance with intelligence as covariate for repeated measures with equal N's at the .05 level. In those cases where there was a significant main effect, a t-test was computed to determine the source of significance. In those cases where the interaction effect

was significant, a test for simple effects was computed. In the examination of the source of significance the .01 level was the criterion for significance.

Conclusions

The following section presents the conclusions of the study. The study investigated four hypotheses with eleven sub-hypotheses for each specified type of learning.

Acceptance or non-acceptance of a hypothesis was determined in the following manner. Analyses of covariance were computed on all forty-four sub-hypotheses.

A sub-hypothesis was accepted when one or more of the following findings were obtained.

1. When t-tests following a significant group main effect indicated that the high group mean scores were significantly higher than middle group mean scores and low group mean scores.
2. When t-tests following a significant pre-post main effect indicated that post-test high group mean scores were significantly higher than high group pre-test means, while middle group and low group pre- and post-test mean scores did not reveal significant gains.

3. When test for simple effects following a significant interaction effect revealed high group pre-post mean scores indicated significant gains while the middle group and low group pre-post did not.

The following section presents the conclusions of the study for each of the four hypotheses and forty-four sub-hypotheses.

Hypothesis 1 posited that there was a significant positive relationship between the level of regard perceived by a pupil to exist between himself and his reading teacher and changes in certain specified learnings.

H_{1a} Regard-Reading Comprehension

The group main effect ($F=10.57$, $p<.0001$) was significant. Comparison between group mean scores ($t = 3.42$, $t = 10.73$, and $t = 6.24$) were all significant at the .01 level. Pre-post main effect was significant ($F= 58.48$, $p<.0001$), however, subsequent t-tests did not reveal data which supported the sub-hypothesis. The interaction effect was not significant. Therefore, sub-hypothesis H_{1a} was accepted.

H_{1b} Regard-Reading Vocabulary

The group main effect ($F=10.61$, $p<.0001$) was significant.

Comparison between group mean scores ($t = 4.47$, $t = 9.18$ and $t = 4.62$) were all significant at the .01 level. Pre-post main effect was significant ($F=362.36$, $p<.0001$), however, subsequent t-tests did not reveal data which supported the sub-hypothesis. The interaction effect was not significant. Therefore, sub-hypothesis H_{1b} was accepted.

H_{1c} Regard-Complexity

The group main effect was significant ($F=3.62$, $p<.0269$). In examining group mean scores, it was noted that the middle group mean scores (22.51) were higher than the high group mean scores (22.19), thereby not fulfilling group main effect decision rule. Pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{1c} was not accepted.

H_{1d} Regard-Social Dependence

The pre-post main effect was significant ($F=53.87$, $p<.0001$). However, subsequent t-tests did not reveal data which supported the sub-hypothesis. The group main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{1d} was not accepted.

H_{1e} Regard-Total Power

The group main effect ($F=4.50$, $p<.0107$) was significant. Comparison between group mean scores for high-middle group ($t = 2.98$) and high-low group ($t = 4.97$) were significant at the .01 level. Pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{1e} was accepted.

H_{1f} Regard-Teacher-Pupil Power

The group main effect was significant ($F=5.50$, $p<.0047$), however, subsequent t-tests did not reveal data which supported the data which supported the sub-hypothesis. The pre-post main effect was not significant. The interaction effect was significant ($F=3.26$, $p<.0381$), however the subsequent test of simple effect did not reveal data which supported the sub-hypothesis. Therefore, sub-hypothesis H_{1f} was not accepted.

H_{1g} Regard-Esteem

The pre-post main effect was significant ($F=13.09$, $p<.0006$), however, subsequent t-tests did not reveal data which supported the sub-hypothesis. The group main effect and interaction effect were not accepted. Therefore, sub-hypothesis H_{1g} was not accepted.

H_{1h} Regard-Identification with Mother

The pre-post main effect was significant ($F=13.84$, $p<.0005$), however, subsequent t-tests did not reveal data which supported the sub-hypotheses. Therefore, sub-hypothesis H_{1h} was not accepted.

H_{1i} Regard-Identification with Father

Analysis of covariance procedures did not reveal any significant identification with father task main effects. Therefore, sub-hypothesis H_{1i} was not accepted.

H_{1j} Regard-Identification with Teacher

The group main effect was significant ($F=5.78$, $p<.0037$). Comparison between group means indicated significance at the .01 level ($t = 17.84$, $t = 23.62$ and $t = 5.83$). The pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{1j} was accepted.

H_{1k} Regard-Identification with Friend

Analysis of covariance procedures did not reveal any significant identification with friend main effects. Therefore, sub-hypothesis H_{1k} was not accepted.

The sub-hypotheses accepted were regard: reading comprehension, reading vocabulary, total pupil power, and identification with teacher.

Hypothesis 2 posited that there was a significant positive relationship between the level of empathy perceived by a pupil to exist between himself and his reading teacher and changes in certain specified learnings.

H_{2a} Empathy-Reading Achievement

The group main effect ($F=15.41$, $p<.0001$) was significant. Comparisons between group mean scores ($t = 7.66$, $t = 9.83$, and $t = 2.03$) were all significant at the .01 level. Pre-post main effect was significant ($F=58.36$, $p<.0001$), however, subsequent t-tests did not reveal data which supported the sub-hypothesis. The interaction effect was not significant. Therefore, sub-hypothesis H_{2a} was accepted.

H_{2b} Empathy-Reading Vocabulary

The group main effect was significant ($F=15.83$, $p<.0001$). Comparisons between group mean scores for high-middle group ($t = 7.70$) and high-low ($t = 8.23$) were significant at the .01 level. The pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{2b} was accepted.

H_{2c} Empathy-Complexity

The interaction effect was significant ($F=4.69$, $p<.0098$). A test for simple effect was computed, however,

subsequent F-ratios did not reveal data which supported the sub-hypothesis. The group main effect and pre-post main effect were not significant. Therefore, H_{2c} was not supported.

H_{2d} Empathy-Social Dependence

The pre-post main effect ($F=53.71$, $p<.0001$) was significant, however, subsequent t-tests did not reveal data which supported the sub-hypothesis. The group main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{2d} was not accepted.

H_{2e} Empathy-Total Power

The group main effect was significant ($F=4.30$, $p<.0139$). Comparisons between group mean scores for high-middle groups ($t = 2.77$) and high-low groups ($t = 4.89$) were significant at the .01 level. The pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{2e} was accepted.

H_{2f} Empathy-Teacher-Pupil Power

The group main effect ($F=5.27$, $p<.0058$) was significant. Comparison between group mean scores for high-middle groups ($t = 2.50$) and high-low groups ($t = 4.61$) were significant at the .01 level. The pre-post effect and interaction

effect were not significant. Therefore, sub-hypothesis H_{2f} was accepted.

H_{2g} Empathy-Esteem

The interaction effect was significant ($F=13.36$, $p<.0006$), however, the test of simple effect F-ratios did not reveal data which supported the sub-hypothesis. The group main effect and pre-post effect were not significant. Therefore, sub-hypothesis H_{2g} was not accepted.

H_{2h} Empathy-Identification with Mother

The pre-post main effect ($F=13.89$, $p<.0005$) was significant, however, subsequent t-tests did not reveal data which supported the sub-hypothesis. The group main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{2h} was not accepted.

H_{2i} Empathy-Identification with Father

The group main effect ($F=4.09$, $p<.0171$) was significant, however, subsequent t-tests did not reveal data which supported the sub-hypothesis. The pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{2i} was not accepted.

H_{2j} Empathy-Identification with Teacher

The group main effect ($F=6.78$, $p<.0017$) was significant. Comparison between levels indicated that all group mean comparisons ($t = 14.38$, $t = 27.24$ and $t = 12.84$) were significant at the .01 level. The pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{2j} was accepted.

H_{2k} Empathy-Identification with Friend

The interaction effect was significant ($F=3.01$, $p<.0489$). The test of simple effect revealed the high group pre-post mean scores ($F=4.54$, $p<.05$) indicated a significant gain while those in the middle and low groups did not. The group main effect and pre-post main effect were not significant. Therefore, sub-hypothesis H_{2k} was accepted.

The sub-hypotheses accepted were empathy: reading comprehension, reading vocabulary, total power, teacher-pupil power, identification with teacher and identification with friend.

Hypothesis 3 posited that there was a significant positive relationship between the level of unconditionality perceived by a pupil to exist between himself and his reading

teacher and changes in certain specified learnings.

H_{3a} Unconditionality-Reading Comprehension

The pre-post main effect ($F=58.50$, $p<.0001$) was significant. However, subsequent t-tests did not reveal data which supported the sub-hypothesis. The group main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{3a} was not supported.

H_{3b} Unconditionality-Reading Vocabulary

The pre-post main effect ($F=363.14$, $p<.0001$) was significant, however, subsequent t-tests did not reveal data which supported the sub-hypothesis. Therefore, sub-hypothesis H_{3b} was not accepted.

H_{3c} Unconditionality-Complexity

Analysis of covariance procedures did not reveal any significant complexity task main effects. Therefore, sub-hypothesis H_{3c} was not accepted.

H_{3d} Unconditionality-Esteem

The pre-post main effect ($F=13.08$, $p<.0006$) was significant. However, subsequent t-tests did not reveal data which supported the sub-hypothesis. The group main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{3d} was not accepted.

H_{3e} Unconditionality-Total Power

Analysis of covariance procedures did not reveal any significant total power task main effects. Therefore, sub-hypothesis H_{3e} was not accepted.

H_{3f} Unconditionality-Teacher-Pupil Power

Analysis of covariance procedures did not reveal any significant teacher-pupil power task main effects. Therefore, sub-hypothesis H_{3f} was not accepted.

H_{3g} Unconditionality-Esteem

The pre-post main effect ($F=53.74$, $p<.0001$) was significant. However, subsequent t-tests did not reveal data which supported the sub-hypothesis. The group main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{3g} was not accepted.

H_{3h} Unconditionality-Identification with Mother

The pre-post main effect was significant ($F=13.83$, $p<.0005$). However, subsequent t-tests did not reveal data which supported the sub-hypothesis. The group main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{3h} was not accepted.

H_{3i} Unconditionality-Identification with Father

Analysis of covariance procedures did not reveal any significant identification with father task main effects. Therefore, sub-hypothesis H_{3i} was not accepted.

H_{3j} Unconditionality-Identification with Teacher

Analysis of covariance procedures did not reveal any significant identification with teacher task main effects. Therefore, sub-hypothesis H_{3j} was not accepted.

H_{3k} Unconditionality-Identification with Friend

Analysis of covariance procedures did not reveal any significant identification with friend task main effects. Therefore, sub-hypothesis H_{3k} was not accepted.

None of the above sub-hypotheses was accepted.

Hypothesis 4 posited that there was a significant positive relationship between the level of congruence perceived by a pupil to exist between himself and his reading teacher and certain specified learnings.

H_{4a} Congruence-Reading Comprehension

The group main effect ($F=21.37$, $p<.0001$) was significant. Comparison between group mean scores ($t = 7.29$, $t = 13.15$, and $t = 6.35$) were all significant at the .01 level. The

pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{4a} was accepted.

H_{4b} Congruence-Reading Vocabulary

The group main effect ($F=19.46$, $p<.0001$) was significant. Comparison between group mean scores ($t = 6.39$, $t = 12.14$ and $t = 5.44$) were all significant at the .01 level. The pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{4b} was accepted.

H_{4c} Congruence-Complexity

Analysis of covariance procedures did not reveal any significant complexity task main effects. Therefore, sub-hypothesis H_{4c} was not accepted.

H_{4d} Congruence-Social Dependence

The group main effect ($F=5.14$, $p<.0001$) was significant. Comparison between group mean scores indicated significance between high-middle groups ($t = 4.18$) and high-low groups ($t = 4.70$) at the .01 level. The pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{4d} was accepted.

H_{4e} Congruence-Total Power

Analysis of covariance procedures did not reveal any significant total power task main effects. Therefore,

sub-hypothesis H_{4e} was not accepted.

H_{4f} Congruence-Teacher-pupil Power

Analysis of covariance procedures did not reveal any significant teacher-pupil power task main effects. Therefore, sub-hypothesis H_{4f} was not accepted.

H_{4g} Congruence-Esteem

The pre-post main effect ($F=13.20$, $p<.0006$) was significant. However, subsequent t-tests did not reveal data which supported the sub-hypothesis. The group main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{4g} was not accepted.

H_{4h} Congruence-Identification with Mother

The pre-post main effect was significant ($F=13.85$, $p<.0005$). However, subsequent t-tests did not reveal data to support the sub-hypothesis. The group main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{4h} was not accepted.

H_{4i} Congruence-Identification with Father

Analysis of covariance procedures did not reveal any significant identification with father task main effects. Therefore, sub-hypothesis H_{4i} was not accepted.

H_{4j} Congruence-Identification with Teacher

The group main effect was significant ($F=4.35$, $p<.0001$) Comparison between group means indicated significance at the .01 level. ($t = 13.33$, $t = 19.21$ and $t = 5.78$). The pre-post main effect and interaction effect were not significant. Therefore, sub-hypothesis H_{4j} was accepted.

H_{4k} Congruence-Identification with Friend

Analysis of covariance procedures did not reveal any significant identification with friend task main effects. Therefore, sub-hypothesis H_{4k} was not accepted.

The sub-hypotheses accepted were congruence: reading comprehension, reading vocabulary, social dependence and identification with teacher.

In summary, these sub-hypothesis were accepted under the four dimensions of perceived interpersonal relationships.

1. Regard: reading comprehension, reading vocabulary, total pupil power and identification with teacher.
2. Empathy: reading comprehension, reading vocabulary, total pupil power, teacher-pupil power, identification with teacher and identification with friend.

3. Unconditionality: None was accepted.
4. Congruence: reading comprehension, reading vocabulary, social dependence and identification with teacher.

Interpretation

In the present study, it was assumed that what a child learns and his behavior are related to what he perceives. The further assumption was made that the nature of the perceived interpersonal relationship is related to specified types of learning. These assumptions have been suggested by Rogers (1959) that the facilitation of learning is largely dependent upon the nature of the interpersonal relationship that exists between the teacher and learner; and that an integral part of that relationship is the perception and feelings of the parties involved. This study was concerned with the pupil's perceptions of that interpersonal relationship as it related to specified pupil outcomes based on the view that a pupil lives and operates from what he perceives. The next section examines the results of the study in terms of the hypotheses formulated.

Before examining the conclusions of this study several

comments concerning the data collected might be considered. First, an examination of the self-concept mean scores indicated that the sample as a total group can be said to have highly positive self-concepts and, thus, any discussion of the self-concept data must be viewed with that in mind. Second, the examination of intelligence scores and reading achievement must also be viewed as typical for a suburban, upper middle class school system. That is, they were largely above average. Examination of the results of this study within the context of those theoretical assumptions and the above stated limitations previously described suggest the following conclusions.

First, this study has tested assumptions based on Barrett-Lennard's work (1962) which suggest that the facilitating of learning is dependent upon the nature of the perceived interpersonal relationship within the learning situation and found that there does exist a statistical relationship between certain of the dimensions of the interpersonal relationships perceived by the pupil and pupil outcomes studied. This study has shown evidence that pupil perceptions of the regard, empathy and congruence dimensions of the teacher-pupil interpersonal relationship as significantly related to reading comprehension

scores and reading vocabulary scores. That is, pupils who perceived their relationship with their teacher to be high in regard, empathy, and congruence achieved higher reading comprehension and vocabulary scores. The data regarding unconditionality however, did not yield any significant relationships.

Second, pupil identification with teacher scores were shown to be positively related to perceptions relevant to regard, empathy and congruence. That is, pupils who perceived a better teacher-pupil relationship along those three dimensions more strongly identified with their teachers. Again, the unconditionality data revealed no significant relationship. Results relevant to identification with mother, identification with father, and identification with friend revealed only one significant finding. Those pupils who saw a high level of empathy extant in their relationship with their teachers more closely identified with friend.

Third, pupils who perceived a high level of regard and empathy in their relationship with their teacher see themselves as more egalitarian in their relationships with others as evidenced by their performance on the total power task.

Long (1968, p. 16) offers an explanation of this:

"egalitarian relationships may involve higher probability of social comparisons, and more open and flexible patterns of communication. A child who would view a hierarchical structuring of self-other relations may be interpreted as a search for a protected and/or reliable position."

Whether that same situation held in the case of the teacher-pupil power task was considered separately. Trends found in the data were essentially the same; the higher the perceived interpersonal relationship along the regard and empathy dimensions, the more open and flexible was the communication between teacher and pupil.

Fourth, there is no evidence that self-esteem is related to the level of perceived interpersonal relationship. A possible explanation for this could be the structure of the classroom organizational pattern, since all reading classes were grouped heterogeneously for developmental reading. The middle group scores on the esteem task indicated that the mean scores were lower than the low group mean scores under the dimensions of regard and empathy. A possible explanation would be that the teacher may have organized the classes so

that the low group could have received more individualized instruction to "meet their specific needs" identifying their reading weakness and giving them more attention. The high group scores remained constant; perhaps their successful reading experiences caused them to have positive feelings of self-worth. While the middle group felt accepted as indicated by their interpersonal inventory scores, little may have been done by the teacher to encourage their feelings of worth.

Fifth, a suggestion which was considered in the study was that reading achievement appeared to be influenced by and to influence a child's self-concept. The data obtained, however, do not supply information in this regard since the 432 children studied had what must be considered highly positive self-concepts. Since the variance in this regard was so small, it was impossible to determine how self-concept related to reading with this sample.

Renato Tagiuri (1957, xvi) suggested that research should be aimed less at discovering what others do not know but to make explicit the regularities of the phenomena and their relationship to other phenomena. This study has sought to contribute to making more explicit the regularities which

are assumed to be well known facts of interpersonal behavior. This study has sought to test assumptions which have been made in the works of Rogers and Combs. The theories that have been proposed have had relatively few studies to test those assumptions. This study does seem to lend support to the assumption that the facilitation of learning occurs when a high level of interpersonal relationship is perceived by the pupil to exist between himself and his reading teacher.

Implications

This section deals with two areas--practical application and future research.

In regards to practical application, there are two specific areas in which the findings of this study may be useful: first, within the pre-service teacher education programs which are being developed in many universities today; and, second, in the area of continuing education of teachers within the school setting.

On the pre-service level of teacher education, the emphasis on awareness of oneself and others should be an integral part of the entire pre-service program and not merely a mini-lab block within the sequence.

A very much neglected area of teacher education is the continuing education of the teacher within the public school. Great concentration in pre-service education is given to develop those teacher behaviors thought to be desirable in the effective teacher. However, research (Rosenshine & Furst, 1970) has shown that these teaching behaviors are not necessarily employed by the teacher in actual classroom situations. A possible reason for this could be that the "normal" situation has more than one variable operating at a time, while only one variable is focused on in the learning laboratory. In any event, in-service teacher education programs seem to be called for.

The establishment of professional training laboratories within school systems which would include a phase of human relations training to make teachers more aware of their interactions with others is one possibility. Such awareness could lead to the viewpoint that teachers are people who react in situations on the basis of what they perceive at a given moment in their perceptual field.

The above suggestions may not sound feasible for many school systems. However, all teachers should be made aware that they are accountable for the establishment of a classroom

climate which facilitates self-learning, both in the pre-service and in-service teaching situation.

The results of this study appear to provide some support for the premise that the degree to which pupils' perceptions of teacher-pupil relationships relate to specified pupil outcomes and are indicative of teacher effectiveness. Future research using this type of approach must provide more and better answers. The following studies are suggested:

1. The present study might be replicated in different school settings since pupils and their environments differ within society. This study could be replicated in urban, integrated and non-integrated schools, rural and lower middle socio-economic settings in order to determine if there is a regularity to the interpersonal relationship process.
2. The present study might be replicated using a different self-concept instrument. The self concept seems to be playing an increasingly important role in the educational process.
3. The present study employed the pre-post technique of data collection over a six month period. A

study which would permit the administration of tests several times over the school year to see what changes occur during the year which may not be seen under pre-post test conditions.

4. The procedures of the present study could be employed in conjunction with the Truax Observation scales on the dimensions of regard, empathy and congruence to determine if there would be a relationship between the child's perceptions of these dimensions and observed teacher behavior of these dimensions.
5. A longitudinal study in which the teacher-pupil interpersonal relationship would be evaluated over a period of several years to determine whether the child views teacher "A" similarly to teacher "B" and does this affect his learning for that particular year.

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APPENDICES

APPENDIX A

SUMMARY OF PARTICIPATING TEACHERS EXPERIENCE

Fourteen teachers participated in the study. The following is a summary of their degrees and experience:

Teacher No.	Degree + Hours	Years of Teaching	Years in District
1	M	14	4
2	M	16	16
3	No Degree equiv. hours	37	27
4	M + 15	12	8
5	M + 3	7	7
6	M + 15	9	8
7	B + 60	13	11
8	M	7	6
9	M	6	4
10	B + 15	9	3
11	M	6	1
12	M	5	5
13	M + 45	16	16
14	M + 24	15	11

APPENDIX B

TABLE B1--SRA NORMS FOR SRA FORMS C AND D

TABLE B2--SRA RELIABILITY AND STANDARD ERROR
OF MEASUREMENT OF ACHIEVEMENT SERIES,
FORM C AND D

Table B-1
 Norms for SRA Forms C and D

	Blue				Green							
	Grade 5		Grade 6		Grade 6		Grade 7					
	C	D	C	D	C	D	C	D				
	Mean	s.d.	Mean	s.d.	Mean	s.d.	Mean	s.d.				
Comprehension	5-2	1.83	5-3	2.00	6-1	2.50	6-3	1.89	7-4	2.89	7-1	2.56
Vocabulary	5-3	1.50	5-3	1.67	6-1	1.89	6-1	1.78	7-1	2.11	7-1	2.00
N	1044		1230		984		997		1238		1096	

Technical Report for Forms C and D. SRA, 1968, pp. 17 and 18.

Table B-2
 Reliability and Standard Error of Measurement of Achievement Series
 Multi-Level Edition, Forms C and D

	Blue Level				
	5	D	C	6	
	C	D	C	D	
	Grade	Grade	Grade	Grade	
	Equivalents	Equivalents	Equivalents	Equivalents	
KR-20	s.e.m.	KR-20	s.e.m.	KR-20	s.e.m.
Comprehension	.85	.71	.88	.87	.65
Vocabulary	.88	.52	.92	.53	.53
Green Level					
	.91	.63	.90	.63	

APPENDIX C

INSTRUMENTS

1. MODIFICATION OF BARRETT-LENNARD RELATIONSHIP INVENTORY
2. SELF-SOCIAL SYMBOLS TASK TEST
3. SCORING INFORMATION FOR SELF-SOCIAL SYMBOLS TASK TEST

BARRETT LENNARD RELATIONSHIP INVENTORY

OS-M-64

Elementary Form Man-68

1. He respects me as a person.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

2. He wants to understand how I see things.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

3. His interest in me depends on the things I say or do.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	not like

4. He is comfortable and at ease when we are together.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

5. He really likes me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	not like

6. He may understand my words but he does not understand the way I feel.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not like

7. Whether I am feeling happy or unhappy with myself makes no real difference to the way he feels about me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

8. I feel that he is acting phony with me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

9. He is impatient with me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

10. He nearly always knows exactly what I mean.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

11. Depending on my behavior, he has a better opinion of me sometimes than he has at other times.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

12. I feel that he is real and sincere with me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

13. I feel he appreciates me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

14. He looks at what I do from his own point of view (in his own way).

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

15. His feeling toward me doesn't depend on how I feel toward Him.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

16. It makes him uneasy when I ask or talk about certain things.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

17. He doesn't pay much attention to me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

18. He usually senses or realizes what I am feeling.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

19. He wants me to be a particular kind of person.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

20. I nearly always feel that what he says expresses exactly what he is feeling and thinking.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

21. He finds me rather dull and uninteresting.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

22. His own ideas toward some of the things I do keep him from understanding me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

23. I can (or could) say that I like or dislike what he is doing without making him feel any differently about me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

24. He wants me to think he likes me or understands me more than he really does.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

25. He cares for me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

26. Sometimes he thinks that I feel a certain way; because that's the way he feels.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

27. He likes certain things about me, and there are other things he does not like.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

28. He is not afraid to be honest with me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

29. I feel that he disapproves of me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

30. He realizes what I mean even when I have difficulty in saying it.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

31. His attitude toward me stays the same; he is not pleased with me sometimes and critical or disappointed at other times.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

32. Sometimes he is not at all comfortable with me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

33. He just tolerates me (puts up with me).

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

34. He usually understands everything I mean.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

35. If I show that I am angry with him he becomes hurt or angry with me, too.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

36. He expresses his true impressions and feelings with me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

37. He is friendly and warm with me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

38. He just takes no notice of some things that I think or feel.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

39. How much he likes or dislikes me is not changed by anything that I tell him about myself.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

40. At times I sense that he is not aware of what he really is feeling with me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

41. I feel that he thinks that I'm important.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

42. He appreciates exactly how things affect me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

43. He approves of some things I do, and plainly disapproves of others.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

44. He is willing to say whatever is really in his mind with me, including any feelings about himself or about me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

45. He doesn't like me for myself.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

46. At times he thinks that I feel a lot more strongly about something than I really do.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

47. Whether I am feeling happy or feeling upset does not make him change his feelings about me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

48. He is the way he wants to be when we are together.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

49. I seem to irritate and bother him.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

50. He does not realize how sensitive I am about some of the things we talk about.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

51. Whether the ideas and feelings I talk about are "good" or "bad" seems to make no difference to his feeling toward me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

52. There are times when I feel that the way he acts toward me is quite different from the way he feels inside.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

53. At times he feels I am not much good.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

54. He understands me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

55. Sometimes he feels I am more worthwhile than I am at other times.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

56. He is honest to himself about the way he feels toward me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

57. He is truly interested in me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

58. The way he acts toward me is usually automatic so that I don't really get through to him.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

59. I don't think that anything I say or do really changes the way he feels toward me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

60. What he says to me often gives me the wrong idea of what he is thinking and feeling.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

61. He feels deep affection for me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

62. When I am hurt or upset he can recognize my feelings exactly without becoming upset himself.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

63. What other people think of me does (or would, if he knew) affect the way he feels toward me.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

64. I believe that he has feelings that he won't talk about and it makes it difficult to talk with him.

Most		More like	More not like	Not	Most
Like	Like	than not like	than like	Like	Not Like

Scoring Instructions for the Self-Social Symbols Tasks
- Longer Form -

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1. Individuation. Items #1, 5, 12, 16, 24, 44, 47, 51, 53, 56. One point is given on each item if the subject chooses a circle which is different from the majority of circles within the square. Please note that horizontal shading is different from vertical shading. A higher score represents a more individuated self.

2. Power. Starting at the top, points are given chronologically, e.g., the top circle, 1; diagonal above, 2; even with self, 3; diagonal below, 4; bottom circle, 5.

Note: These items may also be scored along an egalitarianism-authoritarianism dimension. For this, one point is given for positions 2, 3, or 4 above, no points for positions 1 or 5. A higher score represents a more egalitarian relationship.

Note: For the basic scoring (1, 2, 3, 4, 5) a higher score represents more power for the self. Items #4, 8, 23, 38, 43, 52.

3. Esteem. Score is given for position of self (S). One point is given for the position on the extreme right of the row, with an additional point added for each position to the left. Scores range from one to six for each item. Items #6, 22, 31, 34, 45, 46. A higher score represents a higher self-esteem.

4. Centrality. If self is nearest the center, one point is given. If friend is nearest the center, no points are given. Use cardboard circle with center hole to mark center, and measure from center point to edge of each circle drawn by subject. Items #9, 14, 18, 25, 29, 35. A higher score represents greater centrality of self.

5. Grouping I. The score consists of the number of people in the group containing the self (including the self). A higher score represents a greater identification with others. Items #11, 20, 39, 54.

6. Grouping II. Are parents included in self group on items #11 and 20? For each item, two points if mother and father are in self group, one point if mother or father (but not the other), and no points if neither are present.

7. Identification. Items #10 and 36, mother; #26 and 30, father; #19 and 42, teacher; #15 and 49, friend.

Parametric scoring: One point, self next to other person; two points, one circle intervening; three points, two circles intervening, etc., etc.

Non-parametric scoring: Categorize as next to other or not.

Note: Distribution of scores on these items is not normal, since scores pile up at the minimum score. Thus non-parametric scoring may be advisable.

8. Dependency. Items #3, 17, 28, 33, 41, 50. One point if self is drawn inside triangle, no points if drawn outside. If position is ambiguous, draw triangle tangential to circles. If circle representing self (or any part thereof) is in triangle, one point is given.

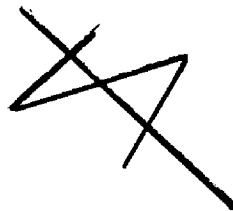
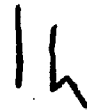
Note: Scoring may be done making use of a scoring sheet (See page 4).

9. Complexity. Designs are scored from 1 to 3, as follows:

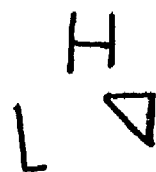
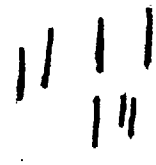
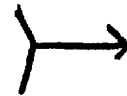
1 point



2 points



3 points



APPENDIX D

RAW SCORES OF 432 CHILDREN WHO PARTICIPATED IN STUDY

BIOGRAPHICAL DATA

Name: Carmella Mantaro

Date and Place of Birth: December 2, 1930
East Syracuse, New York

Elementary and High School: East Syracuse Schools
East Syracuse, New York

College: Le Moyne College
Syracuse, New York
B. B. A. 1952

Graduate Work: Syracuse University
Syracuse, New York
M. A. 1961

State University of New York at Plattsburgh
Plattsburgh, New York

State University of New York at Oswego
Oswego, New York