8-1-1974

An Investigation of the Theoretical Relationship Between Personality Factors and Self Concept, Creativity, and Perception of the Ideal Pupil Among Educators

Shirley Pearson

AN INVESTIGATION OF THE THEORETICAL RELATIONSHIP BETWEEN PERSONALITY FACTORS AND SELF CONCEPT, CREATIVITY, AND PERCEPTION OF THE IDEAL PUPIL AMONG EDUCATORS

by

Shirley Pearson

Bachelor of Science, Bemidji State College, 1958
Master of Science, Bemidji State College, 1963

A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Grand Forks, North Dakota

August
1974

This dissertation submitted by Shirley Pearson in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

_____
(Chairman)

_____

_____

_____

_____

_____
Dean of the Graduate School

Permission

Title AN INVESTIGATION OF THE THEORETICAL RELATIONSHIP BETWEEN PERSONALITY FACTORS AND SELF CONCEPT, CREATIVITY, AND PERCEPTION OF THE IDEAL PUPIL AMONG EDUCATORS

Department Center for Teaching and Learning

Degree Doctor of Philosophy

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the Library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work or, in his absence, by the Chairman of the Department or the Dean of the Graduate School. It is understood that any copying or publication or other use of this dissertation or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my dissertation.

Signature _____

Date _____

ACKNOWLEDGMENTS

This writer wishes to express her appreciation to those who have assisted in the preparation of this dissertation.

To Dr. Rafael Lewy, chairman, whose high standards have set the tone of this paper, to Dr. Richard Landry for his encouragement and guidance throughout this work, and to the other committee members, Dr. Donald Lemon, Dr. Quinn Brunson, and Dr. Richard Ludtke for their time and patience, I wish to extend deep appreciation.

To my sons, Dean and Eric, for the unusual tolerance exhibited during all mom's "school" work, I wish to express a warm thank you; it was sincerely appreciated.

Finally, to my husband, Bob, my deepest thank you for all the time and effort you have contributed and for encouraging me to "do my thing." Your pride in me and what I do kept me going.

TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

Problem

This study investigated selected aspects of teacher personality, teacher self concept, teacher creativity, and teacher perception of the ideal pupil. Attention was given to determining the nature and degree of the relationship between personality, self concept, creativity and perception of the ideal pupil among elementary school teachers.

Procedure

The research was conducted in the Great Falls, Montana Public Schools during the school years 1971-72 and 1972-73. The sample included elementary teachers completing two or more of the instruments used in the study, participating in a Title III, PACE project in-service program.

The following three research questions were proposed and treated:

1. Are there significant relationships between teacher personality factors and teacher self concept?
2. Are there significant relationships between teacher personality factors and teacher creativity?
3. Are there significant relationships between teacher personality factors and teacher perception of the ideal pupil?

The subjects included in the analysis of data consisted of 160 elementary school teachers.

Teacher personality was measured with the Sixteen Personality Factor Questionnaire (16PF). Teacher self concept was measured with the Tennessee Self Concept Scale (TSC). Teacher creativity was measured with the What Kind of Person Are You? Test (WKP). Teacher perception of the ideal pupil was measured with the Ideal Pupil Checklist (IPC).

The statistical procedures used included the canonical correlation and multiple regression analysis. The .05 and .01 significance levels were used in the interpretation and evaluation of the findings.

Conclusions

In summary, the following major conclusions emerged from this investigation:

1. Five teacher personality-teacher self concept behavior patterns were identified, each of which could account for a different teacher personality.
   a. The apprehensive, sober, shy, and somewhat assertive teacher would be satisfied with how he sees himself, his behavior and his basic identity. He would not be satisfied with how he perceives his moral worth.
   b. The happy-go-lucky, affected by feeling, less integrated, yet conservative teacher would not be satisfied with himself and have low feelings about his basic identity, yet, feel good about his personal worth, his relationships with others, his moral worth, and have feelings of adequacy as a family member.

c. The conscientious though less integrated teacher would be satisfied with his perception of himself, his basic identity, and the way he behaves, though not with his social interaction with other people and his moral worth.

d. The apprehensive though tranquil teacher has low self acceptance, does not like the way he functions and does not feel good about his basic identity.

e. The more intelligent, shy, assertive, and tough-minded teacher feels good about his moral worth, his social interaction with other people, and his value as a family member but is not pleased with his perception of how he functions, his basic identity or self acceptance.

2. It would appear that those teachers who score high on creative thinking abilities tend to be more submissive, practical, conservative, group-dependent, conscientious, shrewd, apprehensive, and controlled than their teacher peers.

3. It would appear that those teachers who score high on teacher tolerance of the creative pupil would be more conservative than their teaching peers.

CHAPTER I

FORMULATION AND DEFINITION OF THE PROBLEM

Background

Interest in teacher effectiveness has been growing for more than seventy five years in this country. Morsh and Wilder (1954) report that, to the best of their knowledge, the first rating form for teachers was used in Milwaukee in 1896. They also report that one of the earliest attempts to quantify teacher behavior occurred in 1910. But years later Barr et al. (1953, p. 657) state:

> The simple fact of the matter is that, after 40 years of research on teacher effectiveness during which a vast number of studies have been carried out, one can point to few outcomes that a superintendent of schools can safely employ in hiring a teacher or granting him tenure, that an agency can employ in certifying teachers or that a teacher education faculty can employ in planning or improving teacher education programs.

Various writers have attempted a review of educational research relating to teacher effectiveness. One of the earlier summaries was compiled by Barr (1948). Barr called for a better definition of the kinds of teachers needed for specific purposes and situations. He proposed that more adequate record systems and fact finding were needed. More information is needed about how traits, competencies, and behavior controls function to make a good teacher. He was also concerned about misuses of statistical techniques and the need for more reliable means of evaluating our ongoing programs. One hundred

thirty-eight studies were included in his summary. Barr (1948, p. 223) concludes:

> Little research has been devoted to differential prediction. Differences in the requirements for efficiency in different subjects, grades, and school community situations remain yet, by and large, for future investigation.

Barr (1940, 1943, 1946, 1949, 1952), Barr, Eustice and Noe (1955), Barr and Jones (1958), and Barr et al. (1961) have presented articles relating to the measurement and prediction of teacher effectiveness every three years in the journal Review of Educational Research. Barr, Eustice, and Noe (1955, p. 266) state:

> The search continues for a single generalized pattern of qualities or behaviors that characterize good teachers, notwithstanding the possibility that differential studies of teachers teaching different subjects to different sorts of pupils, under different conditions, and for different purposes might prove worthwhile.

Barr and Jones (1958, p. 261) further lament:

> While an immense amount of time and thought have been given to the criteria of teacher efficiency, researchers continue to find low correlations among the more important sources of criteria such as supervisory ratings, measures of pupil growth and achievement, pupil evaluations, and teacher tests of what are thought to be fundamental knowledge, attitudes and skills.

Domas and Tiedman (1950) completed an impressive bibliography with 1006 entries, 672 of which were annotated. A classification system at the end of the publication makes the work more useable. No value judgements were made. The authors reported the ideas and results of the studies in their annotation.

Sanford and Trump (1950, pp. 1394-1395) in the 1950 Encyclopedia of Educational Research state:

> Research studies do not point to a scientific basis for preservice selection of teachers. A valid and reliable criterion of teaching success has not been found, the factors

> conditioning success in teaching are not definitely known, and a satisfactory technique of investigation for applying the criterion and the factors has not been formulated. At present the best criterion of teaching success is the judgement of experts, although pupil achievement is more nearly ideal; the most important factors are personality, scholarship, and intelligence; marks earned in practice teaching correlate more highly with success in the field than any other marks earned.

Castetter, Standlee, and Fattu (1954) compiled a 208 item annotated bibliography including a comprehensive summary index to the references. They report a relatively high level of interest in the study of teacher effectiveness since the extensive reviews of Barr (1948) and Domas and Tiedman (1950). They (1954, p. 17) report the following, however:

> . . . researchers have gone on much as before: utilizing existing or locally designed rating scales, observational check lists, and questionnaires in relatively isolated studies. There is some basis, then, for the undercurrent of feeling that researchers studying the problem of teacher effectiveness are no closer to the core of the problem than they were two decades ago.

Morsh and Wilder (1954) reviewed quantitative teacher effectiveness studies completed during the years 1900-1952. Though the study was done for the Air Force, it included, primarily, review of research in civilian schools and colleges. Over 900 references were examined, 364 of which were included in the study. They also list 28 reviews of bibliographies consulted in writing the manuscript.

They conclude that rating scales do not identify the significant items for teacher effectiveness, that systematic observation techniques have been neglected, and that residual student gain appears to offer one of the best criteria yet used.

In their summary of predictor variables they found amount of education, socioeconomic status, sex, and marital status to be

unimportant. Slight relationships were indicated between intelligence and rated success; and tests of professional information and superior ratings, but not between tests of professional information and pupil gain. Low positive relationships were found between on-the-job performance and earlier scholarship; extracurricular activities as a student and instructor effectiveness; and attitude toward teachers and teaching and pupil gains. The chief cause of failure was maintenance of discipline and lack of cooperation. They also state that it appears that rated effectiveness increases rapidly at first, then more slowly to five years or beyond, levels off the next fifteen to twenty years and then declines.

An annotated bibliography of 99 entries was compiled by Watters (1954) to include articles published in the area of teacher competence since the Domas and Tiedman (1950) bibliography. Articles included in the Watters bibliography covered the span from 1949 to March, 1953. Value judgements were not made. A very good classification index was included following the annotated entries.

Tomlinson (1955a) briefly reviewed the research in teacher evaluation prior to 1930. He found the trends to be only roughly distinguishable. The earliest efforts were concerned mainly with the collection and organization of opinions as to the qualities of successful teachers and the causes of teacher failure. Between 1910 and 1920 there were attempts to perfect rating scales and other observational devices. Much of the research of the 1920's was directed toward locating single factors or combinations of factors which would reliably predict teacher success.

Tomlinson (1955b) also reviewed more recent studies in the evaluation of teaching. He was concerned with the validity of the criterion used, however, he (1955b, p. 186) reports, "there is evidence to indicate that studies done under similar conditions give similar results, and that subjectively and objectively measured variables used in combination offer more accurate predictions."

An article in the 1960 Encyclopedia of Educational Research was of noted interest. Mitzel (1960, p. 1485), in the section titled "Criteria of Teacher Effectiveness," makes the following recommendations:

> We need much precise, painstaking research in teacher effectiveness oriented toward a variety of educational goals in a variety of educational situations. We need research in field situations (functioning classrooms) with massive samples of teachers and students. We need research in laboratory situations . . . with small samples and careful control over experimental learning conditions. Perhaps most of all we need a comprehensive theory of teacher behavior and learning to channel the research efforts that undoubtedly will be undertaken. A comparison of contemporary teacher competence research with that engaged in forty years ago suggests that little progress has been made toward theory formulation.

Ryans (1960b, p. 1489), in his section of the 1960 Encyclopedia of Educational Research entitled "Prediction of Teacher Effectiveness," generalizes:

> Understanding of teacher behavior and of the problem of teacher effectiveness and its prediction have proceeded slowly. Relatively little attention has been devoted to systematic theory, and many of the investigations reported appear to have been undertaken with blunderbuss motivation and with little attempt to relate them to other research or to a theoretical background. Indeed, it seems quite probable that the paucity of dependable knowledge of contributors to teacher effectiveness is related to the fact that so little attention has been devoted to theory development, thus restricting the generation of hypotheses.

Fattu (1962, p. 26) states: "The attempts to identify characteristics of successful and unsuccessful instructors by making lists

of traits based on opinion . . . appear largely sterile in terms of usability for evaluation or selective purposes."

Getzels and Jackson (1963) present a bibliography and discussion related to the personal qualities of teachers. Focus of the study was work from 1950 until the writing of their manuscript. The work is organized under attitudes; values, interests, favored activities; adjustment, needs; personality factors; projective techniques; and a brief account of research dealing with the cognitive abilities of teachers. They (1963, p. 574) summarize as follows:

> Despite the critical importance of the problem and a half-century of prodigious research effort, very little is known for certain about the nature and measurement of teacher personality, or about the relation between teacher personality and teaching effectiveness. The regrettable fact is that many of the studies so far have not produced significant results. Many others have produced only pedestrian findings.

Gage (1965, pp. 87-88), though claiming no attempt at adequate documentation, defense, or qualification, presents a brief summary of desirable teacher behaviors as follows:

1. Warmth. Good teachers, especially at the elementary grade levels, tend to be warm persons and to behave warmly toward pupils.
2. Cognitive organization. Good teachers tend to behave in ways that reflect a clear and valid cognitive organization of the subject matter or discipline they are attempting to teach.
3. Orderliness. Good teachers tend to be orderly, systematic, and business-like.
4. Indirectness. Good teachers tend more often than others to influence pupils indirectly, through asking questions and otherwise evoking participation in classroom activity on the part of pupils.
5. Ability to solve instructional problems. Good teachers tend to have greater ability to solve problems requiring technical knowledge of teaching methods

Flanders (1969, p. 1423) is more optimistic. He states:

> The research which is reviewed herein permits cautious optimism and indicates that the tools long needed for the analysis of the teaching-learning process are gradually being developed.

> In the past decade . . . research has begun to relate certain teacher behaviors to specific consequences in the climate of the classroom and in the academic achievement of pupils.

Statement of the Problem

The purpose of this study was to investigate the nature and degree of the relationship between teacher personality and a measure of self concept. Also considered was the relationship between teacher personality and creativity and the relationship between teacher personality and his perception of the ideal pupil. Field research involved educators in Great Falls, Montana during the school years 1971-72 and 1972-73.

Definition of Terms

Personality. Personality is the totality of human behavior. Cattell (1950, 1964) defines personality to be "that which permits prediction of individual differences--freed of intraindividual variation--of response in a defined situation." Personality, then, is all that a person is.

Personality factor.--A personality factor is defined by Cattell (1965, p. 369) as "an underlying influence responsible for part of the variability of a number of behavioural manifestations. Therefore, an influence in behaviour which is relatively independent of other influences and of a unitary nature."

Self Concept. Self concept can be defined as those perceptions, beliefs, feelings, attitudes, and values which the individual views as describing himself. A person has many selves--how he perceives himself as a family member, his basic identity, his physical appearance, his relationship to others, and more.

Creativity. Creativity can be defined as the ability to form new relationships, to exhibit uniqueness and diversity, and to tolerate complexity.

Delimitations

The following comprise delimitations of the problem under investigation:

1. The field study was limited to educators employed in Great Falls, Montana, participating in a "Program for Advanced Children's Education" (PACE) project funded by Title III during the 1971-72 and 1972-73 school years.
2. Only those educators completing two or more tests were included in the study.

Limitations

1. The findings of this study were limited by the reliability and validity of the instrument used to measure personality, namely, Cattell's Sixteen Personality Factor Questionnaire (16PF).
2. The findings of this study were limited by the reliability and validity of the instrument used to measure self concept, namely, Fitts' Tennessee Self Concept Scale (TSC).
3. The findings of this study were limited by the reliability and validity of the instrument used to measure teacher creativity, namely, Torrance's What Kind of Person Are You? Test (WKP).
4. The findings of this study were limited by the reliability and validity of the instrument used to measure teacher

perception of the ideal pupil, namely, Torrance's Ideal Pupil Checklist (IPC).

Significance of the Study

This study is based on several general putative theories. The literature strongly supports the theory that a teacher should be a good person, that whatever personality traits are normal or "good" for the general population, a teacher will be more so. Another theory relates to self concept and the effect of significant others. A teacher with a good self concept, should, theoretically, be more accepting of others and, therefore, especially in the elementary school, be a more positive influence. Another theory alluded to in this study was that in order for a teacher to accept and encourage a creative child, he, too, must be creative.

This study had several potential values. Perhaps certain patterns of personality factors of classroom teachers could be demonstrated to correlate significantly with self concept dimensions. Perhaps a relationship between the self concept of teachers could be documented through review of the literature to be directly correlated with the self concept of students, pupil gain, or other measures of teacher effectiveness. If personality factor patterns of teachers could be found that correlate significantly with high teacher creativity scores, perhaps these same personality factor patterns would correlate significantly with teacher acceptance of the creative child. Third, if significant relationships were discovered between these presage variables, it is possible that certain tests or portions of tests could serve as selection devices to secure teachers for specific purposes and/or situations.

Research Questions

In this study the present writer has endeavored to answer the following research questions:

1. Are there significant relationships between teacher personality factors and teacher self concept?
2. Are there significant relationships between teacher personality factors and teacher creativity?
3. Are there significant relationships between teacher personality factors and teacher perception of the ideal pupil?

Organization of the Study

The remainder of this investigation is organized in the following manner: Chapter II contains a review of the literature related to personality traits, personality traits as related to self concept, and personality traits as related to creativity. Chapter III presents a description of the research population, instruments, and statistical treatment employed in this study. Chapter IV reports the findings of the study and the results of the statistical analysis. Chapter V is composed of a discussion of the conclusions which can be drawn from the study and their implications for future action.

CHAPTER II

REVIEW OF RELATED RESEARCH

A survey of related research and literature was undertaken to determine what had been theorized and investigated in the area of teacher personality, self concept, and creativity. Consideration was given to the following areas:

A. Personality
   1. The Personality of Teachers
   2. Teacher Personality Effects on Others
   3. Teacher Personality Correlates With Other Tests
   4. Teacher Personality and Teacher Rating
   5. Teacher Personality and Student Achievement
   6. Teacher Personality and School Climate
   7. Teacher Personality Variability

B. Self Concept
   1. The Self Concept of Teachers
   2. Teacher Self Concept Effects on Others

C. Creativity
   1. Teacher Creativity Effects on Others
   2. Teacher's Effect on the Creative Child

This writer has attempted to confine the research to investigations conducted in the elementary school except in occasional instances where the research was limited or a particular study appeared to have

merit as a possible area for study in the elementary school. Also, it should be noted that research and theory differed in quality; hence, the same degree of confidency could not be placed on all assertations and findings. An attempt was made to take this fact into consideration in the selection of material used in this review. Further, the material was grouped or notated to distinguish the theoretical writings from research findings.

Personality

Personality is defined by Cattell (1965, p. 25) as "that which tells what a man will do when placed in a given situation." Getzels and Jackson (1963, p. 507) adopted the following definition in their extensive research on the personality of teachers, "personality means the person as a psychological or unique whole, and refers to the dynamic organization of motives within the individual."

Insight into the development of this unique person is given by Wilson (1956, p. 216) as follows:

> Each human organism is conceived with a potential for becoming a complete human being - as a seed contains the potential for becoming a complete plant. But his becoming may be completed in an infinite variety of ways. What he becomes depends on the integration of his process at conception and then on his unique interaction with the environment (before and after birth) - the love (acceptance, respect, and genuine caring) he receives, the food he eats, the air he breathes, the experiences he has, the ideas he comes in contact with, and the way in which the aesthetic sense selects from, intensifies, and integrates all of this with his total process, including his unique growth pattern and structuring system.

The development of personality is further summarized by Lecky (1956, p. 91): "The personality develops as a result of actual contacts with the world, and incorporates into itself the meanings derived from

external contacts. Essentially, it is the organization of experience into an integrated whole."

The theoretical writings and research findings in the area of teacher effectiveness often refer to the personality of teachers. Fattu (1962, p. 24) states, " . . . research indicates that teacher performance is one of the most complex human phenomenons that we are privileged to study." Hearn (1956, p. 378) concludes that the factors associated with person-to-person relationships are closely allied with teaching competence, and "usually are the basic determinants of the degree of success which teachers achieve."

The Personality of Teachers

Ryans (1960a, p. 96) stresses the importance of a knowledge of the personality of teachers:

> Actually, the problem of how the personal and social characteristics manifested in the classroom behavior of the teacher are organized is important from both the theoretical and practical viewpoints. If education is going to be at all concerned with the components of teacher behavior it is imperative that something be learned of how these components are organized; or, if there is no discernable organization among them, this should be known. The problem cannot be ignored or begged.

Bernard (1970, p. 138), a writer concerned with the mental health of schools, states, "the best of facilities count for little if the teachers are inadequate in personality or preparation." Further, he (1970, p. 139) says, " . . . the most vital aspect of mental hygiene in the schools revolves about the personality of the teacher."

Ryan (1938, p. 23), an early writer, says, "little attention has been paid to selection of young men and women for teacher preparation in terms of wholesome personality."

Symonds (1954, p. 83) suggests that "teaching is essentially an expression of personality." A teacher adapts himself to teaching in a manner that is harmonious with his expressions toward life situations in general. What he learns in college may influence his teaching superficially but it does not determine the teacher-pupil relationship.

Combs (1970, p. 182) states:

> Recently, educators have begun to understand the importance of the teacher as a human being, not merely for the effect he has upon the mental health of the students he works with, but because his humanness vitally affects the success of even the teacher's traditional role as conveyor of learning.

Biddle believes that the study of teacher properties should be continued. He (1964, p. 11) states, "phenomenologists argue forcefully that more can be predicted about the behavior of someone by understanding how the world looks to him . . ."

List after list of teacher properties or teacher personality traits are available. As stated by Getzels and Jackson (1963, p. 574), the usual inventory tabulation lists that "good teachers are friendly, cheerful, sympathetic, and morally virtuous rather than cruel, depressed, unsympathetic, and morally depraved." These characteristics are self-evident and they call for research leading to the discovery of specific and distinctive features of teacher personality and of the effective teacher.

"Name a psychological 'good'," state Getzels and Jackson (1963, p. 550), "sociability, emotional stability, friendliness, good personal relations--and teachers seem to have 'more' of it than do non-teachers and effective teachers 'more' of it than ineffective teachers."

Barr (1958) lists twelve personal qualities of teachers found by analyzing experimental and psychological literature: resourcefulness,

intelligence, emotional stability, considerateness, buoyancy, objectivity, drive, dominance, attractiveness, refinement, cooperativeness, and reliability.

Hamachek (1969, p. 341) concludes:

> Effective teachers appear to be those who are, shall we say, "human" in the fullest sense of the word. They have a sense of humor, are fair, empathetic, more democratic than autocratic, and apparently are more able to relate easily and naturally to students on either a one-to-one or group basis.
> . . . . . .
> Ineffective teachers apparently lack a sense of humor, grow impatient easily, use cutting, ego-reducing comments in class, are less well integrated, are inclined to be somewhat authoritarian, and are generally less sensitive to the needs of their students.

Later in the same article, Hamachek (1969, p. 343) reduces his list to two--a good teacher is a good person and a good teacher is flexible.

Gage (1971) provides another list of desirable teacher behaviors--warmth, cognitive organization, orderliness, indirectness, and ability to solve instructional problems. In regard to teacher warmth, Gage (1971, p. 12) elaborates:

> Pupils realize that the warm teacher likes them, and they tend to like him in return. And when they like him, they tend to identify with him, to adopt his values more readily, and even to learn subject matter from him more effectively. Whatever it may lack in surprise value, the finding that teacher warmth is desirable must be considered to be fairly well established.

Symonds (1947) believes that teachers are inhibited both by the community and the school. He feels that teachers should be both permitted and encouraged to be more open and daring. He further believes that the greatest lift that could be given to education would be the improvement of the personalities of teachers.

Another writer, Biddle (1964, pp. 9-10), proposes that the behavior of teachers can be altered:

> A legion of psychological traits, motives, abilities, or attitudes are said to relate to the competence of teachers. Such properties have two features in common: they are hypothetical constructs in psychology, thus they are presumed to characterize the individual teacher in a consistent fashion, over time, and serve to explain her behavior in response to a variety of situations. It is also presumed, that such properties are laid "within" the teacher and are not amenable to direct observation in the same way that behavior can be observed. Contemporary American ideology stresses the alterability of teacher properties. We know that warmth, authoritarianism, hostility- and even intelligence and physical aptitudes are influenced by early learning and can be altered through appropriate educational experiences (including psychotherapy) in later life.

In the Morsh and Wilder (1954) study they reported that the results obtained with personality tests of teachers had, in general, shown wide variation when correlated with measures of teacher effectiveness and that this problem remained, yet, unsolved. They did, however believe that this approach had promise.

Tanner (1954) performed an item analysis on four personality measures administered to male and female student teachers. He found 146 items or parts of items that discriminated between the superior and inferior men student teachers and 263 items or parts of items that discriminated between the superior and inferior women student teachers at the .05 level of significance. The superior men student teachers were better adjusted, emotionally steady, made better social adjustments in their youth, were less argumentive and quarrelsome, had broad interest patterns, preferred belonging to many societies, frequently initiated activities, were at home participating or leading a discussion group, and were sought for advice by many. They definitely enjoyed leadership roles, preferred vocations which deal with people on a rather high professional level, and showed a greater scholarly interest than inferior men student teachers.

Superior women student teachers had a more desirable early home life, better personal relations with their families, were more congenial with their parents, and had too few brothers and sisters to satisfy themselves. They were socially well-adjusted and poised, participated in a greater number of school activities and were often leaders, belonged to a well-knit club or group, and possessed a greater breadth of interests including scholarly interests. They were more friendly, put greater stress on social and human values, were less hampered by fears, liked leadership activities, and preferred mental activities and detailed work. They were definitely irreligious, even agnostic, were light sleepers, had some difficulty with diarrhea and urinary functions and had engaged in some petty thievery in childhood.

Gowan and Gowan (1955) analyzed large samples of scores on personality tests (California Psychological Inventory and the Guilford-Zimmerman Temperament Survey) of teaching candidates and college students in general. They found that the two groups differed significantly in a number of ways. They (1955, p. 36) list the following results for teachers:

> The CPI results show they seem more likely to give good impressions of themselves, but less likely to dissemble, more responsible and tolerant, of higher socio-economic status, more dominant, more socially participating, less delinquent, more intellectually efficient, having characteristics which would produce higher grades in high school and in college, more poised and less lacking in self-discipline than general college students. The G-Z results show they are more restrained, more ascendent, more social, more emotionally secure, more objective, more friendly, and higher in good personal relations than general college students.

Gowan (1957) studied the personalities of the twenty highest rated teachers from an original group of several thousand. He (1957, p. 124) found that "the most significant group differences appeared in

parental teaching incidence and in responsibility, conformity, and social cooperativeness in the developing child." These findings were confirmed by significant deviations on inventory scales in the direction of better personal relations, emotional stability, and in lower clerical and computational interests.

Gage (1958) measured the accuracy of teachers' perception of cognitive aspects of pupils, teachers' sociometric perception, and teachers' perception of pupils' emotional adjustment. He found no significant relationship between teachers' understanding of the pupils and teacher effectiveness. He concluded that perhaps the individual differences in this area are not substantial enough and/or all teachers possess some degree of understanding.

Guba, Jackson and Bidwell (1959) found the personality needs most characteristic of 366 in service teachers (ave. age 34.9) to be high deference, order, and endurance and low heterosexuality, dominance, and exhibition (Edwards Personality Preference Schedule). In comparing these results with pre-service teachers from a variety of colleges and universities, only the results from a private teachers' college (about 20 per cent of the sample), without exception, produced the identical need pattern of the veteran teachers. In reanalyzing the data of the veteran teachers by the kind of college attended, a remarkably consistent pattern of needs, similar to the veteran teacher pattern occurred. Guba, Jackson and Bidwell (1959, p. 11) conclude, "Somehow, through educational experiences the initial personality differences of teachers coalesce into a common personality pattern." An hypotheses stating that the more nearly the teachers approximate the typical teacher-personality pattern, the less likely they will feel

satisfied, effective, and confident in the ability of their administrative officials, but the more likely is the administration to regard them as effective was supported beyond the .001 level of significance.

Ryans (1959, 1960a, 1963) observed that teachers that are rated high on teacher effectiveness tend to be extremely generous in their appraisals of the behavior and motives of others; to possess strong interests in reading and in literary affairs; to be interested in music, painting, and the arts in general; to participate in social groups; to enjoy pupil relationships; to prefer non-directive classroom procedures; to manifest superior verbal intelligence; and to be above average in emotional adjustment. In another study of twenty highly assessed women elementary teachers, Ryans (1960a, p. 365) commented:

> With regard to the personality inventory data, members of this group, as compared with norms data, gave responses which indicated them to be somewhat more restrained, objective, friendly, emotionally stable, cooperative and agreeable, tolerant, and interested in social service. Interestingly enough, they tended to give exaggeratedly good impressions of themselves. This may well have had some basis in the fact they were generous in their impressions of everyone, with virtually no expression of skepticism or criticism.

Ryans (1960a) reported a high correlation among elementary teachers of the characteristics warm, understanding; stimulating; and permissive. There was also a tendency for organized teacher behavior to be interrelated with favorable opinions on the part of the teachers regarding others.

Medley (1961, p. 156) reported that "the feelings of timidity and guilt and the inclination to criticize and blame others and to become angry . . ." were characteristics of the inconsistent teacher on the Edwards Personal Preference Scale.

Heil and Washburne (1961) found that the self-controlled teacher was the most effective as measured by the results of the Stanford Achievement Test and also growth in friendliness as measured by the Ohio Social Acceptance Scale when compared to teachers defined as self-accepting and as self-effacing. The self-controlled teacher is described as reasonably warm and empathic, and not fearful about how others feel about her. The most outstanding characteristic appears to be a leadership role coupled with work orientation. She is clearly self-severe, methodical, and sets high standards for herself and her pupils.

Rupiper (1962) concluded that experienced teachers were not essentially different from people in general. He found no dominant characteristic patterns from the results of standardized tests.

Walberg (1967) found that education students think about school teachers in terms of their general goodness and various forms of rigidity. However, when they rate themselves as potential teachers they describe the pupil-centered dimensions of empathy and comptence, though there are overtones of emotional reserve and intellectual caution found in the conventional stereotype of a teacher.

Teacher Personality Effects on Others

Ryan (1938) suggests that the teacher is second only to the parent in influencing the development and mental health of a child. Thompson (1952, p. 529) indicates that the teacher's behavior tends to establish the social climate in a classroom; that the teacher's "psychological needs, attitudes, prejudices, conflicts, and personal-social values are translated into behavior patterns which become potent influences on his pupils' social growth."

Anderson and Brewer (1945), Anderson and Brewer (1946), and Anderson, Brewer, and Reed (1946) investigated the effects of dominative and integrative behavior of teachers. Significant differences were found between child behavior in the classrooms which were consistent with the differences in the classroom personalities of the teachers. The teacher personality patterns persisted the following year; however, the child behavior, when the children were with a different teacher, adapted to the new teaching situation.

Sister Mary Amatora (1954) was interested in the similarities of 100 pupils' and 100 teachers' personalities. On her Child Personality Scale and its comparable adult form, similarity at the .01 level of significance was found on more than half the scales between pupils' and teachers' personality. On about one fourth additional scales these similarities were significant at the .05 level. She (1954, p. 49) states, "the most important finding of this experiment is the complete absence of all negative correlations. On every element of personality measured in this study there is a positive relationship between teacher and pupil personality." If this is generally true, she indicates it is of vital importance to the development of children that they have teachers who possess well-adjusted personalities.

In a later article, Amatora (1955, p. 693) theorizes:

> A person's personality can be an influential force not only in his own life, but also in the lives of all whom he contacts, whether it be in the home, in business, in social life, or in one's daily round of professional activities in the classroom.

Bush sees teaching as essentially a problem in human relationships. He (1954, p. 1) states, "It involves the dynamic interplay of

human personalities, the central ones being those of the teacher and the pupil."

Combs and Snygg (1959, p. 398) point out that "the efficient production of learning experiences for others depends upon the skill of the teacher in using his personality as an instrument for helping others learn." Combs and Snygg (1959, p. 392) further theorize:

> Teaching is a relationship, but there can be no relationship with a nonentity. The good teacher is not a shadow but an important and vital part of the learning situation. His personality, as it is experienced by his students, creates the atmosphere for learning. Teachers cannot abrogate their responsibilities by withdrawal and self effacement. Neither can they create an atmosphere conducive to learning by threat and coercion. The effective teacher is one who has learned how to use his own personality in establishing limits for learning that will be clear, reasonable, and maximally helpful in the encouragement of exploration and discovery of personal meaning.

The importance of the teachers' personality is further emphasized by Gillis (1964, p. 589) when he posits, "To the extent that children pattern their behavior on that of their teachers, or that teachers sanction behavior which is congruent with their own personality structure, they exert a significant influence on the personality development of future generations." This concept is further emphasized by Heil (1964, p. 12) when he observes:

> Studies during the past several years reveal that the personalities of the teacher and the learner are real determiners, not just basic variables, of the effectiveness of elementary school teachers. Personalities and their interaction affect the outcome of instruction more than the teacher's knowledge, either of the content being taught or of professional education.

Del Popolo (1965, p. 50) reemphasizes that " . . . the personality of a teacher and his attitude and understanding of children are of paramount importance for the total social and emotional growth and

adjustment of his pupils." Though the child derives the significant part of his personality from his parents and their child-rearing practices, Bernard (1972, p. 282) states that the school and teachers "have a measurable effect on the developing personality of the child."

Teacher Personality Correlates with Other Tests

Leeds (1956) correlated the scores of 300 men and women teachers on the Minnesota Teacher Attitude Inventory and the Guilford-Zimmerman Temperament Survey. The G-Z traits most closely associated with the MTAI were Personal Relations, Friendliness, Objectivity and Emotional Stability; Personal Relations showed the highest relationship (.52). He (1956, pp. 333-334) concludes:

> There is a definite indication then that teachers who get along well with pupils tend to be cooperative, friendly, objective, and emotionally stable, and, to a lesser degree, manifest sociability, social ascendancy, and masculinity in emotions and interests. Those who do not have high rapport with pupils, on the other hand, tend to be critical and intolerant, hostile and belligerent, hypersensitive, depressed, and emotionally unstable. To a lesser degree, they tend toward submissiveness, shyness, seclusiveness, and femininity.

Tanner (1954) examined a sample of forty-four superior teachers and twenty-two inferior teachers on five personality measures. He found only two scales among these tests which differentiated the superior men teachers from the inferior men teachers--the K scale on the MMPI and the interest-maturity scale on the SUIB. Tanner (1954, p. 272) explains:

> K indicates that the superior men teachers had a defensive test-taking attitude or a desire to put themselves in a good light to a greater degree than did inferior men teachers. The interest-maturity (I-M) results indicated that the superior men teachers had interests more like adult men than was true of the inferior men teachers.

Seven scales produced a significant difference between the superior women teachers and inferior women teachers--K scale, depression, and psychasthenia on the MMPI; YWCA Secretary on the SUIB; social service on the Kuder Preference; and the social and economic scales of the Study of Values. Tanner (1954, p. 273) states:

> The K means the same for women as men, i.e., the superior women teachers had a defensive test-taking attitude or desire to put themselves in a good light to a greater degree than did inferior women teachers. Inferior teachers were higher on depression (D) indicating they had more of a tendency to feel useless and to be pessimistic regarding the future. Both scores were well within the normal range with the inferior teachers' mean scores being closer to fifty than the superior teachers' mean score. The inferior teachers were significantly higher on psychasthenia (Pt) than the superior group indicating obsessive thoughts, compulsive behavior, and unreasonable fears. It is interesting in all these averages that the scores were perfectly acceptable within the normal range set by the authors of the MMPI, yet they may be used to differentiate the superior and inferior teacher groups.

Cook and Medley (1955) compared the MTAI to the MMPI. They found that teachers scoring high on the MTAI tend to have a higher K scale, and higher scores on the subtle items of the Hy, Pd, and Pa scales of the MMPI. Teachers scoring low on the MTAI tend to score higher on the depression key and on obvious items in general of the MMPI.

MacLean, Gowan, and Gowan (1955) found high K scores (from the MMPI) to be among the most salient characteristics of their education students. They (1955, p. 672) state, "Both men and women have high K scores, indicating defensiveness; perhaps this is a teacher characteristic and perhaps a function of the testing conditions.

Gowan (1955, p. 210) found the high K (on the MMPI) individual tends to be:

> . . . responsible, conscientious, conforming, controlled and friendly, with a strong ego and good performance in interpersonal relations. He thinks well of others, as he tends to see the best in everyone, himself included. Rather than pointing to an absence of basic problems, this delineation indicates some degree of social anxiety overlaid with a reaction formation in which emphasis is directed towards control of self and adaption to the needs and demands of others.

He further states (1955, p. 212) that "high K persons tend to be empathic, and to make good counselors and teachers" and that "this sign is a valid and widely reported test indicator of teaching potential."

Teacher Personality and Teacher Rating

Cook and Leeds (1947) measured teacher personality with an instrument called the Teacher-Pupil Inventory and related it to ratings by pupils, principals, and experts. They (1947, p. 409) found that "the attitude of individual teachers toward pupils is significantly related to the pupils' attitudes toward the teachers." They also found a significant relationship between the pupils', principal, and expert ratings.

Del Popolo (1960) investigated the relationship between an individual's personality structure and his opinions and attitudes toward pupil-teacher relationships (366 Sophomore and Junior student teachers) and his observable behavior traits in a classroom setting. Del Popolo (1960, pp. 252-253), whose investigation centered on authoritarian personality structure, summarized:

> The investigation lent support to the main hypothesis that a significant relationship exists between an individual's personality structure and his opinions and attitudes toward pupil-teacher relationships and his observable behavioral traits in a classroom setting.

> Authoritarian students tend to get significantly lower scores than equalitarian students on an inventory of attitudes and opinions about pupil-teacher relationships. These differences were interpreted in terms of the dissimilar psychological orientation of the two groups.
>
> . . . . . .
>
> Authoritarian students tend to display behavior traits during student teaching which imply an inability to establish harmonious pupil-teacher relationships. On the other hand, equalitarian students tend to display behavioral traits which are felt to be conducive toward the establishment of harmonious pupil-teacher relationships.

Dixon and Morse (1961) conducted a study of 97 student teachers and more than 2000 pupils. They (1961, p. 328) state, "Pupils and supervising teachers considered student teachers with 'good' empathy to be better teachers than those with 'poor' empathy." Freehill (1963, p. 311) also implies a relationship between teacher effectiveness and empathy. He states:

> This study uncovers a significant relationship between teaching success and an early measure of democratic attitudes. These attitudes may foretell a capacity for empathy, a willingness to act in the interests of children or ability in managing subject matter.

Symonds and Dudek (1956) used the Rorschach in predicting teacher effectiveness with a small sample of teachers relating it to the rankings of the first author. They are cautious in their report of significance for the two factors--organization and empathy--as their high and low groups contained only five teachers each. They (1956, p. 234) state, however, that "A person who both knows the Rorschach and also the qualities that make for successful teaching should undoubtedly be able to predict teaching success corresponding to a correlation of well over .60 [reported by the authors].

Goodenough (1957, p. 29) investigated the relationship of various traits with effectiveness of discipline. She observed that

"kindness, patience, cooperation, sympathy, and tact . . . were found to be more closely associated with effectiveness in discipline than self-confidence, frankness, independence, and modesty."

Ryans (1960a, p. 386) reports: "There was a tendency for elementary teachers who were judged to be warm and understanding in classroom behavior, and also those judged to be stimulating in their classes, to manifest superior emotional adjustment."

Durflinger (1963) used the California Psychological Inventory to predict the successful elementary school student teacher (n = 150). He found the student teacher to be as normal in most personality characteristics as the norms group. He is not different in dominance, social initiative, and capacity or desire for social status. He tends to display to a significant degree an outgoing, sociable and participative temperament. The successful student teacher, as indicated by student teaching grades, shows a lower degree of self-acceptance. The highest negative correlation with student teaching grades was the Psychological-Mindedness scale which indicates the degree to which the individual is interested in and responsive to the needs and motives and experiences of others.

Flanagan (1961) found correlation between outstanding teacher supervisory rating and scales from the MMPI showing lack of social problems and a good general adjustment. Moore and Cole (1957) believe the MMPI may be a useful instrument in predicting the degree of success in student teaching. The findings of their study suggest that a wide variety of maladjustments may be involved in poor student teacher performance.

Gates (1968) compared principals' ratings of 67 elementary school teachers with their scores on the MTAI, the EPPS, and the 16PF. He (1968, p. 3021a) summarizes:

> Rated effective teacher groups seemed to have a significantly higher need for heterosexuality, aggression, and intraception than did rated - ineffective teacher groups. At the same time they appeared to have a lesser need for achievement, deference, order, affiliation, change and endurance.
>
> Teacher groups rated effective also appeared to be more intelligent, outgoing, assertive, happy-go-lucky, and shrewd than those rated ineffective, but less experimenting and suspicious.
>
> With regard to attitude, rated effective teachers appeared to have a more positive attitude toward teaching and children than those rated ineffective.

Warburton, Butcher, and Forrest (1963) used the 16PF with about 100 student teachers. They (1963, p. 76) conclude, " . . . the personality variables are the best set of predictors for practical teaching, the theory examination and the final certificate award."

Davis and Satterly (1969) compared the factor scores of the 16PF to ratings by four experienced tutors of 149 student teachers placed, as a result, in high, intermediate, and low teaching ability groups. The student teachers, all female, were tested upon entry into college and later, just prior to student teaching. They suggest that particularly poor performances were encountered when tendermindedness, high insecurity, and tenseness were associated with a lack of conscientiousness. Four factors, conscientiousness, toughmindedness, confidence, and relaxed behavior significantly differentiated between the groups on both test occasions, and practicality on the first occasion.

Teacher Personality and
School Achievement

Christinsen (1960) found that the warmth of teachers was significantly related to vocabulary and arithmetic achievement. He (1960, p. 173) states, the "results support the contention that affective response of the teacher is more important for growth in achievement than permissiveness." He concludes that this is an interesting finding--that it has theoretical implications for the motivation of students and teacher training--if it can be substantiated by further research.

Solomon, Bezdek, and Rosenberg (1964) observed that the highest gains in comprehension were found in classes of teachers moderate on the permissiveness - control continuum and those at the energy and flamboyance poles of their evaluation device. They (1964, p. 29) state that "too much teacher control perhaps inhibits and stifles . . . participation, while too little may allow ephemeral and disconnected discussion and incomplete exploration of ideas." They also indicate that teacher clarity and expressiveness, and a tendency to lecture were related to gains in factual information. In their study, warmth was also found to relate to two student evaluation items--"overall evaluation of instructor" and "would like as a personal friend." Warmth was not related to students' evaluation of their own learning, therefore, the authors (1964, p. 30) conclude, " . . . this indicates that the teacher's warmth influenced students' perceptions and assessments of him as a person."

Reed (1961) collated the results of four studies relating teacher warmth to pupil change criteria. He (1961, p. 333)

generalizes, " . . . when the criteria are comprehensive and/or attitudinal in nature, the correlation will be significant, positive, and of moderate strength."

Teacher Personality and
School Climate

George (1969) surveyed 296 elementary school teachers with the Organizational Climate Description Questionnaire, the Sixteen Personality Factor Test, and an instrument described as the Structural Properties Questionnaire. The findings indicated that personality in interaction with perceived structure was related to the teacher's perception of the organizational climate more closely than either personality or perceived structure, taken separately. He (1969, p. 581A) states, "thus, the teacher's perception of organizational climate may be viewed as a function of the interplay between the teacher's personality and the structure of the organization in which the individual functions."

Murphy (1966) also found personality to be a function of the perceived climate. He used the OCDQ and the 16PF with 1,119 elementary teachers and 61 principals.

Anderson (1969) concluded that the Edwards Personal Preference Schedule measured personality attributes of teachers in schools possessing Open Organizational Climates (according to the OCDQ) that are not significantly different from those of teachers in schools with Closed Organizational Climates; however, when subscales were compared, teachers in Open Climate schools appear to possess significantly less intraception and abasement than do the teachers in the Closed Climate

schools. His study included 71 teachers from Open Climate schools and 55 from Closed Climate Schools.

Null (1971), using the 16PF and the OCDQ, found 22 significant correlations between ten of the sixteen personality variables and seven of the eight dimensions of Organizational Climate. Certain personality factors, particularly Factor I (Tough vs. Sensitive), Factor H (Timid vs. Adventurous), and Factor M (Conventional vs. Eccentric), were related to the perception of certain dimensions of Organizational Climate, especially Disengagement, Hindrance, and Esprit. Eight hundred forty-nine elementary teachers were included in the study.

Teacher Personality Variability

Symonds (1946) recommended that an assessing board be utilized to determine the extent of suitedness and placement of teachers. He declares the interview to be the best personality assessment for this purpose. He (1946, p. 33) states:

> It seems obvious that some persons would be more comfortable and more effective in work with nursery school or kindergarten children; others would be most effective in work with the lower elementary school; still others with early adolescents of the junior high school age; and some will prefer to work with older adolescents. Of course there are those who are ill at ease with children and would prefer to teach at the college level. In addition to guidance by level, the assessing board might also determine the extent to which the person appears suited for teaching, for supervisory work, for counseling, for extra-curricular and social activities.

Lamke (1951) investigated the relationship of teacher success and scores on the 16PF of 32 high school teachers. He concluded that the responses of good and poor teachers did not fall into two well-defined patterns but that several patterns existed for the good teachers, and probably for the poor teachers.

The difference between elementary teachers and secondary teachers was the focus of a study by Leiderman, Hilton, and Lewin (1957). They found elementary teacher trainees to have significantly higher service interests and substantially higher child-interest scores. The secondary school teacher trainees were higher in subject-matter interest.

Barr et al. (1953, pp. 641-642) recognized the possibility of different personality patterns for various teaching situations as follows:

> The study of teacher effectiveness must assume the possibility of different patterns of effectiveness for different kinds of teachers, pupils, educational programs, or situations, and the possibility of a variety of patterns of effective teaching for any given teacher-pupil educational program combination. We refer to this as the "multidimensional" concept of teacher effectiveness.

Morsh and Wilder (1954, p. 117), too, consider the variability of teacher personality:

> There are many conceivable kinds of effectiveness even for teachers of the same subject or grade level in the same kind of community and therefore there will probably be different patterns of teacher personality for such effectiveness.

This concept was reinforced by Soar (1964, p. 289) when he stated:

> Once a multidimensional view of the teaching-learning process is accepted, it seems likely that a teacher may do some things that are effective and some that are not; or even that a given act may be effective in working toward one goal but not another; or that an act may be effective in teaching one child and ineffective with another.

Ryans (1960) comments that even if effective teaching could be defined on a factual basis, there may still be variability among teachers of different grades and/or subject matter. In his work with the National Teacher Examination program, results of teachers of different grades and subject matters have shown dissimilar profiles with respect

to the amount of knowledge of various areas of professional educational information, levels of certain mental abilities and basic language skills, and the degree of understanding of general cultural materials. The study also suggests that the combination of personal and social characteristics is not identical for elementary and secondary school teachers.

Combs and Snygg (1959, p. 398) theorize:

> There is no kind of personality that all teachers should have. Good teaching seems, rather, to be a matter of effective use of the teachers' unique personality. There will be as many methods of teaching as there are kinds of teachers.

The Heil and Washburne (1961, 1962) studies and Heil (1964) found that different types of teachers had significantly different effects on the progress of different categories of children in regard to the various aspects of children's measured growth during the year. They describe three types of teachers--self-controlling, self-accepting, and self-effacing--and four types of pupil behavior. Heil and Washburne (1962) reported that the self-controlling type teacher obtained significantly more academic achievement than either of the two other types of teachers. Also the children with the self-controlling teacher became markedly and significantly more friendly toward each other than did children of either the self-accepting or the self-effacing teacher.

Dugan (1961, p. 337) provides a good summary of the above writings as he posits:

> Perhaps no one personality factor will ever be found to be predictive of success in teaching. Personality is complex and dynamic, and is more than a sum total of personality factors for each individual; it is also the organization of these factors and the effects of them on other people.

> Most likely, the answer to the effective teacher will be in the discovery of certain patterns of personality factors coupled with certain professional factors that best suit a teacher for a specific teaching job.

Self Concept

Self concept has been considered by many writers to be an important, perhaps the most important, aspect of personality. The function of self concept on or with personality is treated, therefore, differently by the various theorists and researchers.

Allport (1955, p. 55) sees self concept as follows:

> . . . all psychological functions commonly ascribed to a self or ego must be admitted as data in the scientific study of personality. These functions are not, however, coextensive with personality as a whole. They are rather the special aspect of personality that have to do with warmth, with unity, with a sense of personal importance.

Hayakawa (1963, p. 39) states, "The self concept, in a sense, creates for each of us a unique environment to which to react."

Combs (1965, p. 14) sees the individual's self as the center of his world, "the point of origin for all behavior. What he believes about himself affects every aspect of his life." In a later publication, Combs (1971, p. 400) elaborates:

> Highly free people, the studies seem to show, see themselves as liked, wanted, acceptable, able, dignified, and worthy. Feeling this way about themselves, moreover, they are likely to have a deep feeling of personal security which makes it much easier to confront the emergencies of life with far less fear and trembling than the rest of us. They feel about themselves that they are people of dignity and worth and they behave as though they were. Indeed, it is in this factor of how the individual sees himself that we are likely to find the most outstanding differences between well-adjusted and poorly adjusted people.

Rogers (1956, 1969) incorporates self concept into his theory of the fully-functioning person, as does Maslow (1956, 1959) in the self-actualizing person.

The Self Concept of Teachers

Rogers (1958) categorizes teachers as well as counselors and others who work with people in the role of helping relationships. " . . . The optimal helping relationship," states Rogers (1958, p. 15), "is the kind of relationship created by a person who is psychologically mature."

Coopersmith and Silverman (1969, p. 28) theorize about the importance of a good self concept to teachers: "A teacher who lacks some measure of self-esteem - who doesn't like himself - shouldn't be with children. He could do immense harm in the classroom, harm that might take years to remedy, if, indeed, it could be remedied."

In their early writing, Snygg and Combs (1949, p. 244) state, " . . . the effective teacher must be not a storehouse of knowledge nor a master technician, but a kind of person; a happy, intelligent, adequate personality." Ten years later they (Combs and Snygg, 1959, p. 399) emphasize more specifically the need for an adequate self concept: "Whether teachers are aware of it or not, their behavior and their effectiveness as teachers depend upon their perceptions about themselves and the situations within which they are involved; particularly upon their beliefs, values, and convictions."

Combs and Snygg (1959, p. 406) further state:

> Generally speaking, the characteristics of the adequate personality are also the characteristics likely to produce a mature, effective teacher. Such characteristics as seeing oneself positively, the capacity for acceptance of self and others, and a high degree of identification with others are just as much desirable qualities of effective teachers as they are of effective personalities. In very large measure, effective teaching is a process of sharing self with others. Inadequate personalities find this very difficult to do.

> The ability to involve and to share self with others is highly dependent upon the individual's own feelings of his personal adequacy.

Combs (1962) believes that we need teachers who have the courage to be--that it is a vital necessity for producing the kinds of people we need to produce. He (1965, p. 19) says, "Whether an individual will be an effective teacher depends upon the nature of his private world of perceptions." The effective teacher, he says, has learned to use himself effectively and efficiently. Combs (1965, pp. 70-71), among other tenets, further emphasizes: "Good teachers see themselves as worthy rather than unworthy. They see themselves as people of consequence, dignity, and integrity as opposed to feeling they matter little, can be overlooked and discounted."

Combs (1971) comments that in their research at the University of Florida they cannot tell the difference between good and poor teachers on the basis of teaching methods. One difference that does seem to exist has to do with sensitivity or understanding. Combs (1971, p. 406) observes:

> The kind of understanding we are talking about here is not a knowledge about, but a sensitivity to people. It is a kind of empathy, the ability to put oneself in another's shoes, to feel and see as he does. All of us have this ability to some extent, but good teachers have a lot of it.

"In the broadest sense of the word," states Hamachek (1969, p. 343, 1971, p. 199), "good teachers are more likely to see themselves as good people. Their self-perceptions are, for the most part, positive, tinged with an air of healthy self-acceptance." He continues:

> I dare say that self-perceptions of good teachers are not unlike the self-perceptions of any basically healthy person, whether he be a good bricklayer, a good manager, a good doctor, a good lawyer, a good experimental psychologist, or you

> name it. Clinical evidence has told us time and again that any person is more apt to be happier, more productive, and more effective when he is able to see himself as fundamentally and basically "enough."

Teacher Self Concept Effects
on Others

Bernard (1970) expresses the importance of enhancing the ego concept of pupils. He (1970, p. 142) states, "One must think well of himself to release his capacities for development." Purkey (1967) believes that there is considerable evidence to support the assumption that a psychologically safe and supportive learning situation encourages students to grow academically as well as in feelings of personal worth. Richardson (1968, pp. 112-113) states, "While the parent has influenced the child's self concept earlier, the teacher has a more powerful influence, especially in aspects of the self concept relating to intelligence and competencies."

Coopersmith and Silverman (1969) observe that a teacher can enhance a child's self-esteem by being interested in him and concerned about him as an individual. They (1969, p. 29) comment:

> This means providing a warm, supportive climate in the classroom by genuinely accepting children - emphasizing every success, letting a child who has been absent know that he was missed, and including each child equally, if possible, in classroom activities.

The learning environment of the student is important as indicated by Moustakas (1956, p. 11):

> The educational situation which most effectively promotes significant learning is one in which (a) the threat to the self of the learner is at a minimum while at the same time the uniqueness of the individual is regarded as worthwhile and is deeply respected, and (b) the person is free to explore the materials and resources which are available to him in the light of his own interests and potentiality.

Horney (1956) expresses that only the individual himself can develop his given potentialities but that he needs favorable conditions for this growth. He needs warmth, good will, and healthy friction to grow in accordance with his real self. Havighurst, Robinson, and Dorr (1946) also emphasized the influence of environment on a child's ideal self.

Combs (1962) concludes that adequate personalities have positive effects upon their fellows. He (1962, p. 116) states: "Some teachers have the kind of sensitivity and skill that helps young people develop positively to start with. They seem to have acquired it by a kind of 'osmosis' from their own living and growing."

Rogers (1971) talks about the qualities which facilitate learning. He indicates that they are realness or genuineness, caring for the learner, and empathic understanding.

Barr (1952) suggests that rather than look just for teacher qualities, teacher effectiveness may be a relationship between teachers, pupils, and others affected by limiting and facilitating aspects of the specific situation. Combs and Snygg (1959, p. 388) report, "Atmospheres provide the stage upon which learning occurs and arise out of the interaction of teacher and student." Hamachek (1969, p. 343) also expands this concept:

> It comes as no surprise that how we perceive others is highly dependent on how we perceive ourselves. If a potential teacher (or anyone else for that matter) likes himself, trusts himself, and has confidence in himself, he is likely to see others in somewhat this same light. Research is beginning to tell us what common sense has always told us; namely, people grow, flourish, and develop much more easily when in relationship with someone who projects an inherent trust and belief in their capacity to become what they have the potential to become.

Combs and Snygg (1959, p. 390) observe, "Modern research seems to indicate that acceptance of others is a function first of acceptance of self." They further maintain, "In order for a teacher to create an accepting atmosphere for students, then, it would appear he must first accept himself." An accepting atmosphere would be difficult to feign for any length of time. They recommend:

> To create a situation that is truly warm, understanding, and accepting, we are beginning to understand, requires a certain kind of person; not just someone who knows he should be these things. Good teaching requires that the teacher himself has discovered who he is and what he is and what he is trying to do, just as he is attempting to assist his students in discovering these things for themselves. It is only when people are able to accept themselves that they are able to engage with any degree of freedom in exploring themselves. To make this possible, those who teach the student must themselves be capable of acceptance.

Medley (1961) indicates that a picture of the self concept of the successful teacher as distinguished from the concept others have or her personality would be useful in understanding the dynamics of teacher-pupil relationships. In his study, examining student teachers and their rapport with pupils, he wondered why pupils prefer a teacher who feels aggressive but does not act that way as opposed to one who neither feels nor acts aggressive.

Morse (1964, p. 198) expresses a concern held by many writers, "Whatever else we have done, we have communicated a sense of personal failure to many of our pupils. In general, the longer we have them the less favorable things seem to be." Perhaps some of the following studies will provide some answers.

Ryans (1962) found, among other things, that outstandingly good teachers rated significantly higher than notably poor teachers in at least five different ways with respect to how they viewed others.

The good teachers had a more favorable opinion of students, a more favorable opinion of democratic classroom behavior, more favorable opinions of administrators and colleagues, a greater expressed liking for personal contacts with other people, and more favorable estimates of other people generally.

Dandes (1966) completed a statistical analysis based on 128 New York State teachers. The results of his study clearly indicate a significant relationship between measured psychological health and specified attitudes and values. He (1966, p. 304) concludes, " . . . the greater the psychological health, the greater the possession of attitudes and values characteristic of effective teaching." He finds that a large component of what makes an effective teacher seems to be "the degree to which he is psychologically healthy or self-actualizing or fulfilling his unique human potential."

Omwake (1954, p. 446), in his study, also supports this tenet:

> The results support the hypothesis in that there is a marked relation between the way an individual sees himself and the way he sees others; those who accept themselves tend to be acceptant of others and to perceive others as accepting themselves; those who reject themselves hold a correspondingly low opinion of others, and perceive others as being self-rejectant.

Davidson and Lang (1960) found a significant positive correlation between children's perception of their teachers' feeling toward them and the children's perception of themselves. They point out that this lends support to the view that a child's assessment of himself is related to the assessment significant others hold of him.

One of the findings of the Brookover, Thomas, and Paterson (1964) study was that self concept was significantly and positively correlated with the perceived evaluations that significant others

hold of the student, but, that it is the composite image rather than the images of specific others.

Edeburn (1973) discovered that the self concept of students was significantly related to the self-ideal self discrepancy self concept scores of teachers in the areas of family experience, in general, and in other dimensions of the test when viewed from the composite of scores.

Hatfield (1961) found a significant and positive relationship between student teacher's self-valuation and his success in student teaching. Lantz (1965), however, did not find that student teacher self concept alone was a predictor of classroom emotional climate. The student teacher's self concept in relationship to the student teacher's concept of most other elementary teachers and his concept of the ideal elementary teacher were useful in predicting classroom emotional climate.

Perkins (1958), however, found that teachers who are less accepting of self and others are more accurate and insightful in their perceptions of other's self concepts than teachers who are more accepting of self and others. His sample included about 56 teachers and 251 pupils in seven elementary schools. Perkins (1958, p. 216) explains:

> Teachers who are "less" accepting [of self] may well develop greater empathy with and insight into feelings of others because of their own heightened sensitivity in the area of interpersonal relationships. On the other hand, teachers who are "more" accepting of self and others may concentrate their energies on dealing with the problem or situation because for them acceptance emerges into figure less frequently. In short, they tend to accept children as they are without probing too deeply to discover how these youngsters see and feel about themselves.

Symonds (1954) studied nineteen teachers through observations, interviews and tests. He (1954, p. 81) concludes:

> One of the principal difficulties which render teachers ineffective is a feeling of inadequacy, insecurity, and inferiority. Feelings of inadequacy in the teacher affect his relationships with his pupils and tend to evoke aggressive responses from them. Teachers adjust to their feeling of personal weakness in various ways. A characteristic way is to become overaggressive, blunt, dictatorial, bossy, unfeeling, snappish. In other cases, the teacher who feels inadequate will use other tactics such as ingratiation, attempting to appeal to a pupil's honor or pride, attempting to make the work amusing or superficially interesting, cracking jokes, and employing other devices intended to buy pupils off. Such characteristics are not learned "methods"; they have antecedents in the teacher's personality structure.

Symonds (1954) believes that if feelings of inadequacy persist after the first few years, they are signs of personality weakness which will be a handicap to teaching effectiveness.

Bowers and Soar (1962) correlated data from MMPI with teacher effectiveness. They (1962, p. 311) point out that the teacher must be " . . . well enough adjusted that much of her energy is not drained off in dealing with her own interpersonal tensions. . . ." She must be able to care about others, perceive herself and others clearly, and be honest in her interactions with pupils.

Anderson (1939) examined the integrative-dominative continuum of teacher behavior by observing the individual contacts of a teacher in the classroom. The dominative teacher was described as inflexible, rigid, and deterministic. He (1939, p. 89) describes the more acceptable behavior below:

> The term integrative behavior was chosen to designate behavior leading to a oneness or commonness of purpose among differences. It is the behavior of a flexible growing person who is looking for new meanings, greater understandings in his contacts with others. It is non-coercive; it is the expression of one who attempts to understand others, who is open to new data.

Clark (1951) discovered that certain types of pupil behavior were more annoying to teachers with good mental health than to those with poor mental health. The reverse was also found to be true.

Seidman (1969) examined the self concept of 50 elementary student teachers with the Tennessee Self Concept Scale. She concludes that student teachers with high self concepts tend to talk less during a teaching act than those who have low self concepts. The high self concept student teachers tend to use more indirect teaching behavior than the low self concept student teachers.

In a study by Aspy (1969) positive relationships were found between high teacher self concept and student cognitive growth. Significant relationships were found between teacher self concept and student achievement gains on the total score and four sub-tests of the Stanford Achievement Test: Paragraph Meaning, Language, Word Meaning, and Word Study Skills. On the Spelling subtest, teacher self concept was related negatively to the test score gains, but the relationship was not statistically significant.

An interesting study of mothers and their sons may apply to this area of study. Coopersmith (1967, p. 241) concludes:

> Parents with high self-esteem are generally more accepting of others, decisive, inclined to lead active personal lives, and convinced of their powers. They presumably have less need to gain vicarious successes from the accomplishments of their children with a definite idea of what they expect and desire.

Coopersmith (1967, p. 236) describes three conditions for the development of self-esteem in children by their parents: " . . . total or nearly total acceptance of the children by their parents, clearly defined and enforced limits, and the respect and latitude for individual

action that exist within the defined limits." They suggest that parents with high self-esteem who have definite values, who have a clear idea of what they regard as appropriate behavior, and who are able and willing to present and enforce their belief--are more likely to rear children who value themselves highly.

Creativity

Creativity, according to the research, involves two (actually three) different definitions--doing, being, and a combination of the first two.

Lasswell (1959, p. 203) defines creativity to be "the disposition to make and recognize valuable innovations." Barron (1963, p. 396) describes creativity as "the ability to bring something new into existence." He believes that intelligence is necessary for unusual elegance and originality in creative acts but further observes that a person of average intelligence may be creative on their own terms.

MacKinnon (1961) characterizes creativity not only as uniqueness, originality, and statistically infrequent response, but also response that is adaptive to reality and includes an evaluation of the original insight together with a sustaining and developing of it to the full. He (1960, p. 375) also equates creativity to self concept:

> The truly creative individual has an image of himself as a responsible person and a sense of destiny about himself as a human being. This includes a degree of resoluteness and almost inevitably a measure of egotism. But over and above these there is a belief in the foregone certainty of the worth and validity of one's creative efforts.

MacKinnon (1960, p. 375) describes the truly original and creative person as deliberate, reserved, industrious and thorough, " . . .

closer . . . to the notion of professional responsibility than to the Greenwich Village Bohemian or the North Beach Beatnik." MacKinnon (1960, p. 378), in his studies of creative architects, concludes:

> To summarize what at this stage of our researches strikes me most forcibly about the creative persons whom we have assessed, it is their openness to experience, and the fact that they, more than most, are struggling with the opposites in their nature, striving ever for a more effective reconciliation of them, and seeking to tolerate and to find increasingly large quantities of tension as they strive for a creative solution to ever more difficult problems which are not set for them but which they set for themselves.

Anderson (1959, p. 119) describes a kind of creativity which he calls "psychological or social invention." He further elaborates:

> Creativity in human relations requires intelligence, sharp perceptions, subtle sensitivities, respect for the individual person, and a personal boldness to explain one's point of view and to stand for one's convictions. Creativity in human relations requires individual integrity and an ability to work with others.

Maslow (1959) talks about self-actualizing creativeness which stresses first the personality rather than its achievements. He (1959, p. 93) elaborates:

> It stresses characterological qualities like boldness, courage, freedom, spontaneity, perspicuity, integration, self-acceptance, which make possible the kind of generalized creativeness I have been talking about, which expresses itself in the creative life or the creative attitude or the creative person.

He believes that there are no exceptions to the rule that self-actualizing people are all creative in their own way. He (1971) feels that the concept of creativeness and the concept of the healthy, self-actualizing, fully-human person may turn out to be the same thing.

Rogers' (1959, p. 71) definition of the creative process is the emergence in action of a novel relational product, "growing out of the uniqueness of the individual on the one hand, and the materials, events,

people, or circumstances of his life on the other." The conditions for creativity within a person, says Rogers, are openness to experience, an internal locus of evaluation, and the ability to toy with elements and concepts. Creativity, to Rogers (1959, p. 72), is "man's tendency to actualize himself, to become his potentialities."

Fromm (1959, p. 54) sees "education for creativity as nothing short of education for living." The conditions for creativity are the understanding and cultivation of courage and faith. Cattell and Butcher (1968, p. 303) describes a similar approach to education for creativity when they state, "A great array of evidence . . . suggests that training for creativity is far more a personality than a cognitive matter. . . ."

When creativity is defined as actual life performance, Cattell (1971) observes that the necessary criterion, after intelligence, are personality factors.

Gough (1964) describes the creative person to be intuitive and empathic, perceptually "open," aesthetically sensitive, emotionally and socially sensitive, and to have a complex personality. Rees and Goldman (1961) found the creative college student to be characterized by more impulsiveness and lack of restraint, as well as, more aggressive, domineering, and ascendant.

Torrance has conducted extensive studies related to creativity in teachers. Despite the diversity found in his studies of personality patterns of creative teachers, he (1962, p. 195) reports the following generalizations:

> All of them are highly sensitive, resourceful, flexible, and willing to "get off the beaten track." Perhaps much of their secret lies in their very uniqueness or diversity. However, perhaps most important, is their capacity to form good relationships with their creative students. We find in their

behavior characteristics which would ordinarily alienate many students from them. These characteristics apparently become unimportant, since they have such great capacities for creative relationships with students.

Teacher Creativity Effects on Others

In a study by Torrance (1964b), pupils of teachers with strong creative motivations, as measured by the Personal - Social Motivations Inventory, showed significant gains in a three month experiment on creative writing. The pupils of the less strongly motivated teachers showed almost no gain in creative writing over the same period of time. The creatively motivated teachers also carried out a larger number of creative activities with their pupils than did the less creatively motivated teachers. The number of creative activities alone, however, did not produce significant growth.

In a study by Yamamoto (1963) 19 fifth grade teachers were dichotomized into the High Creative Group (10) and the Low Creative Group (9) and comparisons were made between them. The teachers had been administered tests of creative thinking, a personality inventory, an information form, a comment form (on the creativity tests), and a nomination form (of the creative pupils). Four hundred sixty-one pupils for whom complete sets of data were available were included in the study. At the beginning of the year, the pupils were administered tests of creative thinking, an intelligence test, an achievement battery, and a personality inventory. Five months later, the achievement battery and personality inventory were administered again.

Among other things, it was found that there was no significant difference between the two groups of teachers in background factors such as sex, marital status, age, educational attainment, and teaching

experience; the High Creative teachers show a significantly stronger theoretical orientation than that shown by the Low Creative teachers; on arithmetic skills, there was a significant interaction between teacher creativity and pupil creativity; on personal adjustment, there was a significant second-order interaction among teacher creativity, pupil creativity, and pupil sex; on social adjustment, there was a significant teacher creativity main effect; and on total (personal plus social) adjustment, there was also a significant teacher creativity main effect.

Zimmerman and Williams (1971) found that four of the dimensions of personality on the 16PF were significantly related to innovativeness. Innovators were significantly more imaginative, more assertive, more venturesome, and less tense than non-innovators. Though not statistically significant, they found that innovators tended to be more controlled, more self-sufficient, more experimenting, more emotionally stable, and less apprehensive than non-innovators on the dimensions of personality.

Teachers' Effect on the Creative Child

Feshback (1969), in a study of 240 student teachers, found strong support for her hypothesis--prospective teachers rate more favorably students exhibiting behaviors associated with control, caution, and conformity. Using a Situation Test specifically designed for this study, the student teachers were asked to rate the children in the situation on each of five dimensions; popularity, generosity, prefer child in class, intelligence, and grades. For the total score and three of the individual dimensions (popularity, generosity, and

preferred child in the classroom), teachers rated the students in the following order of preference: rigid, conforming, orderly; dependent, passive, acquiescent; flexible, nonconforming, untidy; and independent, active, assertive. The majority of these differences were significant at greater than the .01 level. Feshback (1969, p. 128) concluded that:

> In general, it appears that student teachers perceive most positively the rigid, conforming girl and secondly, the rigid, conforming boy. The third position in the preference order is occupied by the dependent, passive girl who is closely followed by her male counterpart. The flexible boy is fifth in the ordering while the flexible girl and the independent boy vie for sixth and seventh positions. The lowest ratings are given to the independent, assertive girl.

Teacher personality factors were found to be more effective in producing change in convergent and divergent thinking areas of gifted students than other variables examined in a study by McNary (1967, p. 2):

> In general, the teacher who appeared to have most significantly influenced growth in the divergent areas was emotionally mature (that is, not given to emotional outburst), energetic, persistent, friendly, and without a crystallized pattern for attaining social approval toward which one feels impelled to strive. In general, the teacher who appeared to have most significantly influenced growth in the convergent area was submissive, dependent, cheerful, alert, not a staunch guardian of morals and manners, and would have a natural warmth and liking for people.

Turner and Denny (1969) report results which suggest that teachers characterized as warm and spontaneous and teachers characterized as child-centered tend to obtain greater positive changes in pupil creativity. The conditions which seem to enhance pupil creativity are positive reinforcement of pupil responses, adaption of activities to pupils, attention to individuals, and variation in activities and materials by the teacher. Teachers having a high degree of organization were found to have a negative effect on pupil creativity.

Torrance (1963) tested 650 teachers in ten different states with his instrument, the Ideal Pupil Checklist. The ten characteristics most valued by these teachers were: being considerate of others, independence in thinking, determination, industrious, sense of humor, curiosity, sincere, courteous, promptness, and self-starters. The ten most frequently punished or discouraged characteristics were: regress occasionally, emotional, timid, critical of others, stubborn, negativisitic, self-satisfied, fault finding, domineering, and disturbing existing organization. Since all characteristics on the list are possible behavior traits of creative persons, Torrance recommends that all teachers examine their reasons for feeling the way they do, particularly if it is a negative feeling, about pupils with the above characteristics. Torrance (1965a, p. 89) states:

> It seems rather certain in the light of the concepts of giftedness . . . that teaching gifted children requires the most sensitive and alert kind of guidance and direction possible. It requires a most receptive type of listening, seeing, and feeling. The teacher of gifted children should himself be fully alive, well educated, curious and excited about learning, and free of hostility and the pathological need to punish.

Yamamoto (1969) administered the Ideal Pupil Checklist to elementary and secondary student teachers along with an instrument to determine dogmatism. The student teachers were divided into groups of high dogmatism and low dogmatism and the results compared with items checked on the IPC. All the high dogmatism subjects checked courteous and desire to excel as desirable, and more than 90 per cent also checked does work on time, obedient, considerate of others, industrious, and sincere. More than 80 per cent of the high dogmatism group checked unwilling to accept others, haughty, self-satisfied, disturbs class organization and negativisitic as undesirable characteristics.

In contrast, no adjective received unanimous choice as desirable by the low dogmatism group, however, more than 90 per cent chose does work on time, industrious, remembers well, and curious as desirable. No words concerning good social relations were found in this list. The low dogmatism group checked disturbs class organization unanimously and also selected unwilling to accept others, negativistic, and fault-finding as undesirable.

Coopersmith (1967, p. 238), in a study of mothers and their sons, found that individuals with high self-esteem who are reared under strongly structured conditions, "tend to be more, rather than less, independent and more creative . . . than persons reared under more open and permissive conditions." Heil (1964, p. 15) expands the understanding of the role of permissiveness:

> Also relevant are the misconceptions about permissiveness that have filtered through home and school alike. One concerns the failure to differentiate between the emotional and behavioral aspects - permissiveness is interpreted as accepting the child's behavior instead of accepting his feelings and guiding his behavior.
>
> A second misconception about permissiveness is that of regarding it as a "technique," as something one learns to do, like tying one's shoelaces, and using it when necessary. Genuine permissiveness flows from the individual's self-acceptance, self-understanding, and general good mental health.

CHAPTER III

DESIGN AND PROCEDURES

This chapter dealt with the description of the sample, with the procedures and instruments used in the collection of the data and with the statistical treatment of the data.

Research Population

The research population was selected from teachers attending inservice workshops in Great Falls, Montana during the 1971-72 and 1972-73 school years. These teachers were participating in a project designed to give teachers more help in guiding the efforts of the creative and talented child. At the time of this study the project had just completed its second year of operation of a three year program and had been funded during the years 1971-73 by the United States Office of Education under the Elementary and Secondary Education Act, Title III, Section 306, P.L. 89-10, as amended. The name of the project was the Program for Advanced Children's Education (PACE).

The stated overall project objectives of PACE were as follows (Findley, 1971):

1. a three-year longitudinal study of pilot and control groups of primary, intermediate and junior high school youngsters identified as having creative potential;
2. a three-year study of their teachers;
3. an effort to develop opportunities for the talented handicapped;

4. an emphasis on recognition and development of the individual child's potential in a wider variety of human abilities.

The first year's objectives were to:

1. develop identification procedures;
2. assess factors that inhibit individualization;
3. inaugurate parent education sessions;
4. develop a plan and schedule for communication.

The second year's objectives were to:

1. post - test the pilot grade children in the second, fifth and seventh grades of the pilot and control schools;
2. provide and evaluate in-service training for control teachers and teachers newly incorporated into the project;
3. evaluate changes occurring as a result of strategies developed to deal with administrative, structural and organization problems defined in the first year;
4. develop ten additional resource center rooms in the pilot schools during the fall quarter.

The third year's objectives were as follows:

> In the third year the program can begin expanding into non-pilot schools. By the end of the third year the program will be operating in all grades, one through twelve. Hopefully, it then will be extended throughout the district.

The director for the PACE project was Dr. W. L. Findley, the program coordinator was Dr. G. C. Camp, Jr., both from the Great Falls, Montana Public School system. Dr. Frank E. Williams served as consultant. The Bureau of Educational Research and Services, University of North Dakota served as auditors of the project.

The data used in the writer's study involved the instruments used to pre-test the pilot-study teachers participating in inservice workshops during the school years 1971-73. Data were available on 160 teachers who completed both the Sixteen Personality Factor Questionnaire (16PF) and the Tennessee Self Concept Scale (TSC). Of these 160 teachers, 136 completed the What Kind of Person Are You? Test (WKP), and 71 completed the Ideal Pupil Checklist (IPC). Teachers from grades one, three, and five participated in the inservice workshops in 1971-72

and teachers from grades two, four and six participated in the inservice workshops in 1972-73. Almost all the elementary school teachers participated in the inservice workshops.

Sources of Data

The sources of the data used in this study were the following:

1. Teachers participating in inservice workshops were pretested prior to each school year (1971-72, 1972-73) workshop.
2. Administration of the Sixteen Personality Factor Questionnaire to the workshop participants in the fall of 1971 and the fall of 1972.
3. Administration of the Tennessee Self Concept Scale to workshop participants in the fall of 1971 and the fall of 1972.
4. Administration of the What Kind of Person Are You? Test to workshop participants in the fall of 1971 and the fall of 1972.
5. Administration of the Ideal Pupil Checklist to workshop participants in the fall of 1972.

Instruments

The instruments used in this study were the Sixteen Personality Factor Questionnaire (16PF), the Tennessee Self Concept Scale (TSC), the What Kind of Person Are You? Test (WKP), and the Ideal Pupil Checklist (IPC).

The Sixteen Personality Factor Questionnaire (16PF) is a test especially designed to gather information about personality traits in a limited period of time. Form A of the 16PF measures 16 factors of

personality through responses to a 187 item questionnaire. Cattell, Eber, and Tatsuoka (1970, p. 13) describe the test as follows:

> . . . the 16PF is not a questionnaire composed of arbitrary scales, but consists of scales carefully oriented and groomed to basic concepts in human personality structure research. Its publication was undertaken to meet the demand of research psychologists for a personality - measuring instrument duly validated with respect to the primary personality factors, and rooted in basic concepts in general psychology.

Scoring procedures to secure the 16 sub-scores (primary personality traits) were used in this study. The symbols A, B, C, E, F, G, H, I, L, M, N, O, Q_1, Q_2, Q_3, and Q_4 are frequently used to refer to the 16 factors. The following descriptions are given by Cattell and Butcher (1968, p. 56) for the bi-polar factors (Table 1):

TABLE 1

LIST OF PERSONALITY TRAITS MEASURED BY THE 16PF TEST

Trait designation by letter	Title of Trait
A	Affectothymia versus Sizothymia
B	General Intelligence versus Mental Defect
C	Emotional Stability or Ego Strength versus Dissatisfied Emotionality
E	Dominance or Ascendance versus Submission
F	Surgency versus Desurgency ("Enthusiasm" versus "Melancholy")
G	Superego Strength versus Lack of Internal Standard
H	("Adventurous" versus "Timid"). Technical name: Parmia versus Threctia
I	Protected Emotional Sensitivity versus Tough Maturity. Technical name: Permsia versus Harria
L	Protension versus Alaxia ("Suspecting" versus "Accepting")
M	Autia (Autistic Temperament) versus Practical Concernedness
N	Sophistication versus Rough Simplicity (or "Shrewdness" versus "Naivete")
O	Guilt-Proneness versus Confident Adequacy ("Insecure" versus "Confident"
Q_1	Radicalism versus Conservatism
Q_2	Self-Sufficiency versus Lack of Resolution
Q_3	Strong Self - Sentiment versus Weak Self-Sentiment
Q_4	High Ergic Tension versus Low Ergic Tension

Cattell (1957) provides simpler, popularly descriptive labels for these technical terms (Table 2) as follows:

TABLE 2

POPULARLY DESCRIPTIVE LABELS FOR THE 16PF FACTORS

Traits (positive scores)	Factor	Traits (negative scores)
Reserved, detached, critical, cool	A	Outgoing, warmhearted, easy-going, participating
Less intelligent, concrete-thinking, lower scholastic mental capacity	B	More intelligent, abstract-thinking, bright, higher scholastic mental capacity
Affected by feelings, emotionally less stable, easily upset, lower ego strength	C	Emotionally stable, faces reality, calm, mature, higher ego strength
Humble, mild, accommodating, conforming, submissiveness	E	Assertive, independent, aggressive, stubborn, dominance
Sober, prudent, serious, taciturn, desurgency	F	Happy-go-lucky, impulsively lively, gay, enthusiastic, surgency
Expedient, evades rules, feels few obligations, weaker super-ego strength	G	Conscientious, persevering, staid, rule-bound, stronger super ego strength
Shy, restrained, diffident, timid	H	Venturesome, socially bold, uninhibited, spontaneous
Tough-minded, self-reliant, realistic, no-nonsense	I	Tender-minded, dependent, over-protected, sensitive
Trusting, adaptable, free of jealousy, easy to get on with	L	Suspicious, self-opinionated, hard to fool
Practical, careful conventional, regulated by external realities, proper	M	Imaginative, wrapped up in inner urgencies, careless of practical matters, Bohemian
Forthright, natural, artless, sentimental	N	Shrewd, calculating, worldly, penetrating

TABLE 2--Continued

Traits (positive scores)	Factor	Traits (negative scores)
Placid, self-assured, confident, serene, untroubled adequacy	N	Apprehensive, worrying, depressive, troubled, guilt proneness
Conservative, respecting established ideas, tolerant of traditional difficulties, conservatism	Q_1	Experimenting, critical, liberal, analytical, free-thinking, radicalism
Group-dependent, a "joiner" and sound follower, group adherence	Q_2	Self-sufficient, prefers own decisions, resourceful, self sufficiency
Undisciplined self-conflict, follows own urges, careless of protocol, low integration	Q_3	Controlled, socially-precise, following self-image, high self-concept control
Relaxed, tranquil, torpid, unfrustrated	Q_4	Tense, frustrated, driven, overwrought

Reliability coefficients were obtained by Cattell using a sample of 450 young male adults on the Forms A and B combined. Estimates of the values for the reliability coefficients for Form A only, which are summarized in Table 3, were obtained by applying the reductive Spearman-Brown formula to the results obtained by Cattell.

These reliability coefficients are supported by similar reports in the literature (Henjum, 1966). Fischer (1956) determined reliability for the factor measurements varying from .4 to .6 by determining equivalence correlation coefficients between forms A and B. He judged these to be higher than many of the instruments which clinicians are using confidently.

TABLE 3

ESTIMATES OF RELIABILITY COEFFICIENTS FOR THE FACTORS OF THE 16PF

16PF Factor	Split-Half Coefficients	16PF Factor	Split-Half Coefficients
A	.82	L	.63
B	.75	M	.79
C	.87	N	.65
E	.83	O	.74
F	.72	Q_1	.55
G	.74	Q_2	.65
H	.71	Q_3	.61
I	.61	Q_4	.79

The validity of the 16PF has been established by several methods. A method for establishing validity (construct validity) was reported (Cattell, 1957) from the known loadings of the items. Mean validity estimates for the A and B forms of the test are shown in Table 4 below.

TABLE 4

VALIDITIES ESTIMATED FROM FACTOR LOADINGS - 16PF FORMS A AND B COMBINED

16PF Factor	Split-Half Coefficients	16PF Factor	Split-Half Coefficients
A	.88	L	.89
B	.80	M	.74
C	.76	N	.73
E	.82	O	.91
F	.91	Q_1	.74
G	.85	Q_2	.81
H	.96	Q_3	.92
I	.84	Q_4	.96

Validity may also be calculated as the principal square root of the reliability coefficients if items have no relation to each other aside from their common factor. Validity loadings calculated by this method range from .74 to .94.

The nature of Cattell's test is such that it has been selected as the principal instrument for measuring personality characteristics in many studies. Fischer (1956) summarized the many reviews that have been written on the quality of the 16PF by describing it as the best test of personality thus far developed to meet the stringent requirements of psychologists. Getzels and Jackson (1963, pp. 553-554) describe the 16PF Test as follows:

> . . . The instrument has at least two specific advantages (aside from purely technical considerations). First, by providing scores on factors that are not purely evaluative (i.e., psychologically "good" or "bad"), the test encourages the use of hypotheses that are more sophisticated than those linking "adjustment - maladjustment" or some such dichotomous variable to the complex phenomena of teaching and of teaching effectiveness. Second, the instrument derives from an extensive program of both theoretical and empirical work carried out by Cattell and his associates over a number of years. . . . The resulting body of concepts and findings would seem of considerable heuristic value for investigators intending to use the 16PF Test for studies of teacher personality.

William H. Fitts began the developmental work on the Tennessee Self Concept Scale with the Tennessee Department of Mental Health in 1955. The original purpose was to develop a research instrument that might contribute to the difficult criterion problem in mental health research. In the original development of the scale the first step was to compile a large pool of self descriptive items. The original pool of items was derived from a number of other self concept measures. Items were derived also from written self descriptions of patients and nonpatients. After considerable study, a phenomenological system was

developed for classifying items on the basis of what they themselves were saying. This evolved into the two-dimensional, 3 x 5 scheme. The scale includes 100 self descriptive statements which the subject uses to portray his own picture of himself.

The subscales of the Tennessee Self Concept Scale used in this study are as follows (Fitts, 1965, pp. 2-3):

> The Self Criticism Score (SC). This scale is composed of 10 items [These items have been taken from the L-scale of the Minnesota Multiphasic Personality Inventory (1951), Copyright 1943, the University of Minnesota]. These are all mildly derogatory statements that most people admit as being true of them. Individuals who deny most of these statements most often are being defensive and making a deliberate effort to present a favorable picture of themselves. High scores generally indicate a normal, healthy openness and capacity for self-criticism. Extremely high scores (above the 99th percentile) indicate that the individual may be lacking in defenses and may in fact be pathologically undefended. Low scores indicate defensiveness, and suggest that the Positive Scores are probably artificially elevated by this defensiveness.
>
> Row 1 [Positive] Score - Identity. These are the "what I am" items. Here the individual is describing his basic identity - what he is as he sees himself.
>
> Row 2 [Positive] Score - Self Satisfaction. This score comes from those items where the individual describes how he feels about the self he perceives. In general this score reflects the level of self satisfaction or self acceptance. An individual may have very high scores on Row 1 and Row 3 yet still score low on Row 2 because of the very high standards and expectations for himself. Or vice versa, he may have a low opinion of himself as indicated by the Row 1 and Row 3 Scores yet still have a high Self Satisfaction Score on Row 2. The sub-scores are therefore best interpreted in comparison with each other and with the Total P Score.
>
> Row 3 [Positive] Score - Behavior. This score comes from those items that say "this is what I do, or this is the way I act." Thus this score measures the individual's perception of his own behavior or the way he functions.
>
> Column A - Physical Self. Here the individual is presenting his view of his body, his state of health, his physical appearance, skills, and sexuality.

Column B - Moral-Ethical Self. This score describes the self from a moral-ethical frame of reference--moral worth, relationship to God, feelings of being a "good" or "bad" person, and satisfaction with one's religion or lack of it.

Column C - Personal Self. This score reflects the individual's sense of personal worth, his feeling of adequacy as a person and his evaluation of his personality apart from his body or his relationships to others.

Column D - Family Self. This score reflects one's feelings of adequacy, worth, and value as a family member. It refers to the individual's perceptions of self in reference to his closest and most immediate circle of associates.

Column E - Social Self. This is another "self as perceived in relation to other" category but pertains to "others" in a more general way. It reflects the person's sense of adequacy and worth in his social interaction with other people in general.

Manual or computer scoring of the scale is available. Manual scoring is facilitated by carbon paper registering the responses directly on the score sheet.

> The response scale numbers for negative items have all been reversed on the Score Sheet in order to permit a simple, unified scoring system. By this system a person who says completely false to a negative item obtains a high score just as he does when he says completely true to a positive item. Thus high scores uniformly mean positive self description (Fitts, 1965, p. 6).

In regard to norms, Fitts (1965, p. 13) states:

> The standardization group from which the norms were developed was a broad sample of 626 people. The sample included people from various parts of the country, and age ranges from 12 to 68. There were approximately equal numbers of both sexes, both Negro and white subjects, representatives of all social, economic, and intellectual levels and educational levels from 6th grade through the Ph.D. degree. Subjects were obtained from high school and college classes, employers at state institutions and various other sources.

Fitts (1965, p. 14) reports the normative data for all major scores of both forms. Listed below are the means and standard deviations for the Counseling Form which was used in this study. The scores marked with an asterisk were considered in the statistical analysis of

data. The reliability data included in Table 5 were based on test-retest with 60 college students over a two-week period.

TABLE 5

MEANS, STANDARD DEVIATIONS, AND RELIABILITY COEFFICIENTS OF THE TENNESSEE SELF CONCEPT SCALE, COUNSELING FORM

Score	Mean	Standard Deviation	Reliability
*Self-Criticism	35.44	6.70	.75
Total Positive	345.57	30.70	.92
*Row 1	127.10	9.96	.91
*Row 2	103.67	13.79	.88
*Row 3	115.01	11.22	.88
*Column A	71.78	7.67	.87
*Column B	70.33	8.70	.80
*Column C	64.55	7.41	.85
*Column D	70.83	8.43	.89
*Column E	68.14	7.86	.90
Total Variability	48.53	12.42	.67
*Column Total V.	29.03	9.12	.73
*Row Total V.	19.60	5.76	.60
*D	120.44	24.19	.89

*Considered in the statistical analysis of the data

Fitts (1965) claims content validity in the 3 x 5 classification system of the Scale. An item was retained in the Scale only if there was unanimous agreement by the seven clinical psychologists employed as judges to classify the items. Fitts (1965, p. 17) states, "Thus we may assume that the categories used in the Scale are logically meaningful and publicly communicable."

The What Kind of Person Are You? Test was originally designed by Torrance (Torrance and Khatema, 1970a, p. 1) "to devise materials for a course on creative ways of teaching that would not only obtain personal student involvement but also aid in the communication of research

results, which made up the content of the course . . ." He was also interested "in developing for research purposes a brief, easily administered and scored test that could be used to classify adults for experimental groupings, and that would have relationship to measures of creative thinking abilities."

Torrance and Khatena (1970a, p. 2) state:

> . . . the What Kind of Person Are You? Test is based upon the rationale that the individual has a psychological self, whose structures have incorporated creative and non-creative ways of behaving, and it is the purpose of this test to present verbal stimuli to trigger those sub-selves that would suggest an index of the individual's disposition to function in creative ways.

The items for the test were derived from a survey made by Torrance (1962) of empirical studies on creative persons. This survey resulted in a listing of 84 characteristics that had been found in over fifty studies, purposed to differentiate between creative and less creative individuals in some field of endeavor. Later he reduced the list to 66 characteristics, using them in a variety of studies concerning the concepts of teachers and parents regarding what characteristics should be encouraged or discouraged in working with children and young people. These characteristics were rated by a panel of ten advanced research students of creative personality who ranked them from one to 66 (Torrance, 1965b).

Torrance and Khatena (1970a, pp. 2-3) state:

> Items for the What Kind of Person Are You? Test were then constructed by pairing characteristics of differing ranks and arranging them in a forced-choice format. In all, fifty such items were constructed for the instrument. . . . In some cases, the item calls for a choice between two socially undesirable characteristics. Similarly, there are items that call for choices between two characteristics that differentiate between creative and relatively non-creative people in a positive direction or in a negative direction.

Torrance and Khatena (1970a) and Torrance (1971) report a test re-test reliability coefficient of .91 after a one week interval between the first and second administration of the test. They also cite test re-test reliability derived in later testing. The reliability coefficients ranged from .97 to .71 with .97 for a re-test on the same day, .71 for a time interval of one week, and .73 for a time interval of one month between the first and second administration of the test.

Torrance and Khatena (1970a, 1970b) claim construct validity of the What Kind of Person Are You? Test when it is compared to high score patterns of Experimental Orientation, Intuitive Orientation, and Resistance to Social Pressure; and low scores on Rules Orientation, Planfulness (Need for Structure), and Passive Conformity of the Runner Studies of Attitude Patterns. The 48 students for whom results were available were divided into High, Moderate, and Low "Creative Orientations" on the basis of these criteria with mean scores on the What Kind of Person Are You? Test. An analysis of variance yielded an F-ratio of 9.47 ($p<.01$).

Another group of 101 students was divided into High, Moderate, and Low groups on the basis of scores on the What Kind of Person Are You? Test and compared on the basis of scores on each of the scales of the Runner Studies of Attitude Patterns. F-ratios exceeding $p<.01$ were found for the Scales Experimental; Rules, Tradition; and Plan, Structure. Torrance and Khatena (1970a, p. 6), conclude, "It would appear from these results that high Experimental, low Rules and Planfulness (need for structure) are most critical to the personality syndrome differentiated by the What Kind of Person Are You? Test.

Torrance used two tests of originality for the purpose of determining concurrent validity: Sounds and Images (Cunnington and Torrance, 1965), Onomatopoeia and Images (Khatena, 1969). Torrance and Khatena (1970a, pp. 7-8) state:

> One group of 41 St. Paul teachers enrolled in a workshop on creative teaching at the University of Minnesota was administered both the What Kind of Person Are You? Test and Form I of Sounds and Images. A product moment correlation coefficient of .75 ($p < .01$, two-tailed test) was found for the two measures. When the What Kind of Person Are You? Test and Form II of Sounds and Images were administered to a group of 58 Music Majors at East Carolina University in Greenville, North Carolina, a product-moment correlation coefficient of .26 ($p < .05$, two-tailed test) was obtained.
>
> A second group of subjects between 58 and 67 students drawn from several Educational Psychology classes at East Carolina University were given the What Kind of Person Are You? Test and Form I and II of Onomatopoeia and Images. Product-moment correlation coefficients of .48 and .37 ($p < .01$, two-tailed test) between the two measures were found.

Forty-seven students enrolled in a Group Dynamics class at the University of Minnesota were asked to write an imaginative and creative story (Torrance, 1964a) describing the interaction between three animate objects. The stories were scored for originality on a previously developed set of scales. Torrance and Khatena (1970a, p. 8) report, "A product-moment correlation coefficient of .73 ($p < .01$, two-tailed test) was computed between originality scores of the imaginative story and the What Kind of Person Are You? Test."

Scores of 123 graduate students enrolled in a class on Creative Ways of Teaching on the Provocative Questions Test and the What Kind of Person Are You? Test produced a validity coefficient of .60 ($p < .01$) (Torrance and Khatena, 1970a).

Norms for elementary school teachers were obtained in Bibb County (Macon), Georgia; Berkeley, California; St. Paul, Minnesota;

and Daytona Beach, Florida. The number of teachers, means, and standard deviations are listed in Table 6 (Torrance and Khatena, 1970a, p. 11).

TABLE 6

GROUP NORMS FOR WHAT KIND OF PERSON ARE YOU? TEST

Elementary School Teachers	Number	Means	S.D.
Bibb County (Macon), Georgia	418	21.6	6.68
Berkeley, Calif., U of Calif.	175	35.7	7.59
St. Paul, Minn.	40	33.3	7.09
Daytona Beach, Fla.	27	34.3	7.07

The Ideal Pupil Checklist by E. Paul Torrance (1967) is a checklist of child behavior characteristics which are encouraged or discouraged by teachers and parents. Torrance (1965b, p. 264) states that:

> The underlying theoretical rationale developed through work with the Ideal Pupil and Ideal Child Checklist supports the idea that creative people need creative handling, whether in the classroom, home, or factory. Executives who cannot tolerate the independent spirit should not try to supervise the work of creative people. Usually, they will create problems thereby rather than increase productive creativity. Similarly, the teacher who cannot tolerate the independent spirit in children will have difficulty in guiding the learning of the highly creative child.

In developing this instrument Torrance (1965b, 1967) used more than fifty empirical studies which identify highly creative and less creative individuals. In all of these studies, individuals identified as being highly creative on some criterion or creative behavior were contrasted with comparable individuals on personality measures derived from traditional tests such as the Thematic Apperception Test, the Minnesota Multiphasic Personality Inventory, the Rorschach Ink Blots, and others. The first checklist derived from these studies consisted

of eighty-four characteristics. The list was reduced to sixty characteristics and then "healthy" and "physically strong" were added for reference purposes. This basic checklist is included in both the Ideal Pupil Checklist and the Ideal Child Checklist and the instructions are essentially the same.

According to Torrance (1965b, p. 222) the general instructions for rating the characteristics on the checklist are:

> Check each of the characteristics listed on this page which would describe the kind of person you would like to see the children you teach become. Doublecheck the five characteristics which you consider undesirable and which should be discouraged or punished.

For any sample or subject, rankings can be obtained by weighting the responses of the subjects in the following manner:

1. Two points for each doublecheck (especially encourage)
2. One point for each single check (encourage)
3. Zero points for each unmarked response (neither encourage or discourage)
4. Minus one point for each line drawn through a response (discourage)

Later forms of the checklist, such as the one used in this study, permit an unlimited number of doublechecks. A Q-sort method can also be used with the later forms, but the preceding method has the advantage of being easy to administer in a short period of time to either an individual or a group.

In order to obtain at least a tentative standard against which sets of group ratings could be compared Torrance (1965b) compiled an "Expert Creative Personality Q-Sort." The statements in the Ideal Pupil Checklist were transformed into a Q-sort and rated by a panel of ten judges. All of the judges had had advanced graduate courses

in personality theory and all of them had been serious students of the creative personality for at least one year. The ratings of the ten experts were combined and converted into a composite Q-sort by adding the ratings received by each item, ranking the items on the basis of these values and then placing them into the original Q-sort distribution.

The checklist has subsequently been administered to teachers and parents in the United States and in several other countries. Several comparisons have been made among these groups and also with the original panel of judges. Torrance (1963, p. 221) reports:

> We have results from 650 teachers in ten different states (Minnesota, Wisconsin, Illinois, Michigan, California, Georgia, Florida, Mississippi, Nebraska, and Hawaii) and six countries outside the United States (Canada, Australia, Germany, Western Samoa, India, and the Philippines). The rank-order coefficients of correlation among the various localities within the United States is very high (around .95). This means that teachers in Minnesota have essentially the same concepts of the ideal pupil as their colleagues in Wisconsin, California, Georgia, and Mississippi.

Torrance (1965b) reported rank-order correlation coefficients with the original panel of .51 for 264 New York area teachers, .42 for 583 United States teachers, and .42 for 257 Minneapolis-St. Paul parents. He also reported correlations between .30 and .47 for teachers in the Philippines, Greece, India, and Germany when compared with the original panel of judges. The United States sample of 583 teachers from Wisconsin, Minnesota, Illinois, Michigan, California, Georgia, Florida, Nebraska, and Mississippi correlated .95 with the New York area sample and the subsamples correlated .93 or higher.

In a cooperative research project for the United States Office of Education, Torrance (1971) reported rank-order coefficients of correlation between the rankings of a comparison group of teachers and a

larger group of United States teachers. The comparison group was from a suburb of Minneapolis and correlated .96 with the 1,512 United States teachers. Similar relationships were also found between the comparison group of teachers and teachers in specified areas of the United States. For example, a rank-order coefficient of correlation of .94 was obtained when compared with a sample of teachers in Sacramento, California and .98 when compared with a sample of teachers in Georgia. Raina and Raina (1971) reported a rank-order coefficient of correlation between 100 teacher-educators in India and 1,512 United States teachers of .76.

The above findings suggest that there is a great deal of commonality between the values of teacher groups throughout the United States and a moderate amount with teachers in other countries. Torrance and others have used the checklist to make cross cultural comparisons of the pupil or child behavior characteristics desired by parents and teachers. As an outcome of these comparisons, he suggests that teachers examine critically their values and ask if the way they encourage and discourage various personality characteristics is in harmony with the development of the child's potentiality.

Statistical Treatment

Research question number one, teacher personality factors and teacher self concept dimensions, was treated statistically through the use of canonical and zero order correlations. The canonical correlation technique was used to determine the relationships of the factors in the Sixteen Personality Factor Questionnaire to the subscales of the Tennessee Self Concept Scale. Canonical correlation is a statistical technique used to determine the interrelationships between two

sets of variables; in this case, between the sixteen personality factors and twelve self concept subscales. Bemis and Cooper (1967, p. 74) pointed out:

> Canonical correlation, it should be recalled, is essentially two things combined: factor analysis and correlation. Factor analyses are made of the two sets of variables [in each situation]. These factors are selected so that the correlation coefficients between sets of factors are at a minimum. The regrouping of scores into the canonical factors is accompanied by weights for each score or factor, similar to the more familiar beta weights resulting from multiple correlation analysis. The interpretation is similar, too: high canonical coefficients attach to those variables which contribute more to the correlation, and low canonical coefficients suggest that a variable is not involved in the prediction.

Research questions two and three were treated statistically through the use of multiple regression analysis.

In reporting the results of the statistical analysis, the .05 level was noted; but where levels of significance were greater than .01, the .01 level was noted.

CHAPTER IV

ANALYSIS OF THE DATA

This study was undertaken to investigate the relationship of teacher personality factors and measures of teacher self concept and creativity. The findings were presented in the order of the research questions listed in Chapter I.

The subjects for this study were 160 elementary school teachers participating in in-service workshops sponsored by a "Program for Advanced Children's Education" (PACE) project funded by Title III during the school years 1971-72 and 1972-73.

The canonical correlation technique was used to analyze research question number one. Multiple regression analysis was used to treat research questions two and three. For the purpose of testing significance the .05 alpha was chosen *a priori*. The researcher also reported .01 significance levels.

Analysis of the Relationship Between Personality Factors and Self Concept of Teachers

The personality instrument, the *Sixteen Personality Factor Questionnaire* (16PF), and the corresponding self concept instrument, the *Tennessee Self Concept Scale* (TSC), were analyzed to determine possible relationships between personality factors and self concept dimensions of teachers.

A correlation matrix was provided for the personality factors and the self concept scores showing the inter-correlation of the

sixteen personality variables and the twelve self concept variables. The correlations were Pearson product-moment correlations obtained as part of the multivariate analysis.

The means and standard deviations of the personality factors derived from the Sixteen Personality Factor Questionnaire were found and reported (see Appendix A). The means and standard deviations of the sub-scores of the Tennessee Self Concept Scale were found and reported (see Appendix B).

To test the hypothesis of the relationship between the Sixteen Personality Factor Questionnaire and the Tennessee Self Concept Scale, canonical correlations between the sixteen personality factors (16PF) and the twelve self concept sub-scores (TSC) were computed. Prior to the canonical comparisons, Pearson product-moment correlations between the sixteen personality factors (16PF) were determined and reported (see Appendix C). Pearson product-moment correlations between the twelve self concept sub-scores (TSC) were determined and reported (see Appendix D).

Pearson product-moment correlations between the sixteen personality factor variables (16PF) and the twelve self concept variables (TSC) were determined and reported (see Appendix E). To test the significance of the relationship between the sixteen personality factors (16PF) and the twelve self concept dimensions (TSC), canonical correlations were calculated. The test of significance of the canonical roots was performed and presented in Table 7. As evidenced in the table, five canonical roots were significant, three at the .01 significance level ($p = <.001, <.001, .002$) and two at the .05 significance level ($p = .016, .023$). The canonical products of the

TABLE 7

TEST OF SIGNIFICANCE OF THE CANONICAL ROOTS - SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE AND THE TENNESSEE SELF CONCEPT SCALE (N=160)

	1	2	3	4	5	6	7	8	9	10	11	12
Roots	.644	.458	.283	.228	.205	.161	.099	.083	.034	.022	.017	.005
Chi Square	150.360	88.985	48.333	37.612	33.459	25.592	15.148	12.527	5.039	3.223	2.516	.686
Degree of Freedom	27.000	25.000	23.000	21.000	19.000	17.000	15.000	13.000	11.000	9.000	7.000	5.000
Probability	<.001	<.001	.002	.016	.023	.085	.442	.514	.929	.954	.925	.982

five significant canonical roots for the personality factors were determined and reported (see Appendix F).

The canonical products of the five significant canonical roots for the self-concept dimensions were determined and reported (see Appendix G).

To perform the analysis of the data, each significant personality factor canonical root was ranked with its corresponding significant self concept dimensions canonical root. Factor loadings exceeding $\pm$ .400 were interpreted as indicating a high relationship. Factor loadings exceeding $\pm$ .300 were interpreted as indicating a relationship, though to a lesser degree.

The first canonical root (Table 8) showed a high relationship between the personality factors of O-, Apprehensive (-.542); F, Sober (.497); and H, Shy (.443) (16PF) and high self concept scores on Behavior (.419) and Self Satisfaction (.540) (TSC). Other variables which appear to correlate, though to a lesser degree, were E-, Assertive (-.310) (16PF) and high Identity (.380) but low Moral - Ethical self concept (-.311) (TSC). This would indicate that the worrying desurgent, restrained, dominant teacher would be satisfied with how he sees himself, his behavior and his basic identity, but perhaps not satisfied with how he perceives his moral worth.

The second canonical root (Table 9) showed a high relationship between the personality factors F-, Happy-Go-Lucky (-.655) and C, Affected by Feeling (.447) (16PF) and the self concept subscore of low Self Satisfaction (-.510) (TSC). Other variables which appear to correlate, though to a lesser degree, are the personality factors Q_3, Undisciplined Self-Conflict (.304) and Q_1, Conservative (.325) (16PF)

TABLE 8

RANKED STANDARD CANONICAL PRODUCTS - FIRST CANONICAL ROOT

Personality Factors	Canonical Product	Self Concept	Canonical Product
O Self-Assured - Apprehensive	-.542		
E Submissive - Assertive	-.310	Moral - Ethical Self	-.311
Q_4 Relaxed - Tense	-.250	Personal Self	-.280
B Less Intelligent - More Intelligent	-.082	Physical Self	-.280
A Reserved - Warmhearted	-.077	Family Self	-.261
M Practical - Imaginative	-.047	Social Self	-.258
G Expedient - Conscientious	-.041	Column Variability	-.014
Q_1 Conservative - Experimenting	.022	Distribution	-.011
L Trusting - Suspicious	.040	Self Criticism	-.008
I Tough-Minded - Tender-Minded	.041	Row Variability	.002
N Forthright - Shrewd	.123		
Q_2 Group-Dependent - Self-Sufficient	.138		
C Affected by Feelings - Emotionally Stable	.155		
Q_3 Undisciplined Self-Conflict - Controlled	.158		
		Identity	.380
H Shy - Venturesome	.443	Behavior	.419
F Sober - Happy-Go-Lucky	.497	Self Satisfaction	.540

TABLE 9

RANKED STANDARD CANONICAL PRODUCTS - SECOND CANONICAL ROOT

Personality Factors	Canonical Product	Self Concept	Canonical Product
F Sober - Happy-Go-Lucky	-.655		
		Self Satisfaction	-.510
		Identity	-.378
E Submissive - Assertive	-.187	Behavior	-.240
H Shy - Venturesome	-.183	Social Self	-.178
G Expedient - Conscientious	-.159	Self Criticism	-.136
O Self-Assured - Apprehensive	-.086	Column Variability	-.072
B Less Intelligent - More Intelligent	-.080	Row Variability	.060
M Practical - Imaginative	-.052	Physical Self	.246
N Forthright - Shrewd	.014	Distribution	.287
Q_4 Relaxed - Tense	.020		
L Trusting - Suspicious	.072		
Q_2 Group-Dependent - Self-Sufficient	.077		
I Tough-Minded - Tender-Minded	.124		
A Reserved - Warmhearted	.190		
Q_3 Undisciplined Self Conflict - Controlled	.304	Family Self	.306
Q_1 Conservative - Experimenting	.325	Moral-Ethical Self	.320
		Personal Self	.376
C Affected by Feeling - Emotionally Stable	.447		

and the self concept subscores of low Identity (-.378) but reasonably high Family Self (.306), Moral - Ethical Self (.320) and Personal Self (.376) (TSC). It would appear that the surgent, emotionally less stable, less integrated teacher, though respecting established ideas, would not be satisfied with himself and have low feelings about his basic identity, yet, feel good about his personal worth, his relationships with others, his moral worth, and have feelings of adequacy as a family member.

The third canonical root (Table 10) showed a high relationship between the personality factors G-, Conscientious (-.612) and Q_3, Undisciplined Self-Conflict (.426) (16PF) and the self concept subscores of high Self Satisfaction (.560) and Behavior (.408) (TSC). Other variables which appear to correlate, though to a lesser degree, were the self concept subscores high Identity (.341) and low Social Self (-.315) and Moral - Ethical Self (-.305) (TSC). It would appear that the conscientious though low integrated teacher would be satisfied with his perception of himself, his basic identity, and the way he behaves. He would not be satisfied with his social interaction with other people nor his moral worth.

The fourth canonical root (Table 11) showed a high relationship between the personality factors O-, Apprehensive (-.528) and Q_4, Relaxed (.658) (16PF) and the self concept subscores of low Self-Satisfaction (-.581) and Behavior (-.400) (TSC). Another variable which appears to correlate, though to a lesser degree, was the self concept subscore of low Identity (-.326) (TSC). It would appear that the worrying though tranquil teacher has low self acceptance, does not like the way he functions and does not feel good about his basic identity.

TABLE 10

RANKED STANDARD CANONICAL PRODUCTS - THIRD CANONICAL ROOT

Personality Factors	Canonical Product	Self Concept	Canonical Product
G Expedient - Conscientious	-.612		
		Social Self	-.315
		Moral-Ethical Self	-.305
I Tough-Minded - Tender-Minded	-.226	Physical Self	-.278
H Shy - Venturesome	-.173	Personal Self	-.259
N Forthright - Shrewd	-.150	Family Self	-.255
L Trusting - Suspicious	-.134	Distribution	-.017
Q_2 Group-Dependent - Self-Sufficient	-.053	Row Variability	-.001
M Practical - Imaginative	.022	Column Variability	.019
A Reserved - Warmhearted	.033	Self Criticism	.031
Q_1 Conservative - Experimenting	.079		
F Sober - Happy-Go-Lucky	.114		
B Less Intelligent - More Intelligent	.160		
O Self-Assured - Apprehensive	.205		
E Submissive - Assertive	.254		
Q_4 Relaxed - Tense	.288		
C Affected by Feeling - Emotionally Stable	.289		
		Identity	.341
Q_3 Undisciplined Self-Conflict - Controlled	.426	Behavior	.408
		Self Satisfaction	.560

TABLE 11

RANKED STANDARD CANONICAL PRODUCTS - FOURTH CANONICAL ROOT

Personality Factors	Canonical Product	Self Concept	Canonical Product
O Self Assured - Apprehensive	-.528	Self Satisfaction	-.581
		Behavior	-.400
		Identity	-.326
M Practical - Imagination	-.218		
G Expedient - Conscientious	-.190		
E Submissive - Assertive	-.189		
N Forthright - Shrewd	-.082		
Q_1 Conservative - Experimenting	-.075	Column Variability	-.036
B Less Intelligent - More Intelligent	-.056	Row Variability	.004
H Shy - Venturesome	-.049	Self Criticism	.013
Q_2 Group-Dependent - Self-Sufficient	-.048	Distribution	.032
F Sober - Happy-Go-Lucky	.030	Physical Self	.269
Q_3 Undisciplined Self-Conflict - Controlled	.068	Family Self	.273
C Affected by Feeling - Emotionally Stable	.120	Personal Self	.277
A Reserved - Warmhearted	.143	Moral-Ethical Self	.290
L Trusting - Suspicious	.179	Social Self	.294
I Tough-Minded - Tender-Minded	.277		
Q_4 Relaxed - Tense	.658		

The fifth canonical root (Table 12) showed a high relationship between the personality factor B-, More Intelligent (-.411) and H, Shy (.506) (16PF) and the self concept subscores of low Behavior (-.494) and Identity (-.443) (TSC). Other variables which appear to correlate, though to a lesser degree, were the personality factors E-, Assertive (-.371) and I, Tough-Minded (.328) (16PF) and the self concept subscores of low Self-Satisfaction (-.341) and high Family Self (.352), Social Self (.346) and Moral - Ethical Self (.332) (TSC). It would appear that the brighter, restrained, independent and self-reliant teacher feels good about his moral worth, his social interaction with other people, and his value as a family member but is not pleased with his perception of how he functions, his basic identity, or his self acceptance.

Analysis of the Relationship Between Personality Factors and Creativity of Teachers

The personality instrument, the Sixteen Personality Factor Questionnaire (16PF), and a creativity test, the What Kind of Person Are You? Test (WKP), were analyzed to determine possible relationships between personality factors and creativity of teachers. A multiple regression analysis was employed to compare the personality factors to the creativity score.

The means and standard deviations of the personality factors derived from the Sixteen Personality Factor Questionnaire and the mean and standard deviation of the creativity dimension of the What Kind of Person Are You? Test were found and reported (see Appendix H).

Pearson product-moment correlations of the sixteen personality factors (16PF) and the creativity score (WKP) were reported in Table 13.

TABLE 12

RANKED STANDARD CANONICAL PRODUCTS - FIFTH CANONICAL ROOT

Personality Factors	Canonical Product	Self Concept	Canonical Product
		Behavior	-.494
B Less Intelligent - More Intelligent	-.411	Identity	-.443
E Submissive - Assertive	-.371	Self Satisfaction	-.341
G Expedient - Conscientious	-.273		
F Sober - Happy-Go-Lucky	-.163		
A Reserved - Warmhearted	-.132	Row Variability	-.106
N Forthright - Shrewd	-.100	Self Criticism	.009
Q_3 Undisciplined Self-Conflict - Controlled	-.091	Distribution	.093
Q_2 Group-Dependent - Self Sufficient	-.069	Column Variability	.100
C Affected by Feelings - Emotionally Stable	.001	Physical Self	.128
L Trusting - Suspicious	.098	Personal Self	.208
Q_4 Relaxed - Tense	.126		
Q_1 Conservative - Experimenting	.173		
O Self-Assured - Apprehensive	.227		
M Practical - Imaginative	.284		
I Tough-Minded - Tender-Minded	.328	Moral-Ethical Self	.332
		Social Self	.346
		Family Self	.352
H Shy - Venturesome	.506		

TABLE 13

CORRELATIONS BETWEEN PERSONALITY FACTORS (16PF) AND TEACHER CREATIVITY (WKP) (N=136)

Personality Factors	R
A Reserved - Warmhearted	-.073
B Less Intelligent - More Intelligent	.048
C Affected by Feelings - Emotionally Stable	.018
E Submissive - Assertive	.335[a]
F Sober - Happy-Go-Lucky	.055
G Expedient - Conscientious	-.238[b]
H Shy - Venturesome	.159
I Tough-Minded - Tender-Minded	-.000
L Trusting - Suspicious	.080
M Practical - Imaginative	.322[a]
N Forthright - Shrewd	-.239[b]
O Self-Assured - Apprehensive	-.233[b]
Q_1 Conservative - Experimenting	.445[a]
Q_2 Group-Dependent - Self-Sufficient	.245[a]
Q_3 Undisciplined Self-Conflict - Controlled	-.213[b]
Q_4 Relaxed - Tense	.000

[a]Significance level >.01

[b]Significance level >.05

The value of r needed for significance at the .05 level was .185. The value of r needed for significance at the .01 level was .242.

Eight personality factors (16PF) were found to be significantly related to teacher creativity (WKP). The personality factors G-, Conscientious; N-, Shrewd; O-, Apprehensive; and Q_3-, Controlled, produced Pearson product-moment correlations of -.238, -.239, -.233, and -.213, respectively, and were found to be significant at the .05 level. The personality factors E, Submissive; M, Practical; Q_1, Conservative; and Q_2, Group-Dependent, produced Pearson product-moment correlations of .335, .322, .445, and .245, respectively, and were found to be significant at the .01 level.

This would indicate that those teachers who score high on creative thinking abilities as measured by the What Kind of Person Are You? Test tend to be submissive rather than assertive, practical rather than imaginative, conservative rather than experimenting, and group-dependent rather than self-sufficient, as well as conscientious rather than expedient, shrewd rather than forthright, apprehensive rather than self-assured, and controlled rather than undisciplined when compared to their teacher peers.

Analysis of the Relationship Between Personality Factors and the Ideal Pupil Checklist

The personality instrument, the Sixteen Personality Factor Questionnaire (16PF), and the teacher's ideal pupil test, the Ideal Pupil Checklist (IPC), were analyzed to determine possible relationships between personality factors and the kind of pupil desired by teachers. A multiple regression analysis was employed to compare the personality factors to the ideal pupil score.

The means and standard deviations of the personality factors derived from the Sixteen Personality Factor Questionnaire and the mean and standard deviation of the ideal pupil scores from the Ideal Pupil Checklist were found and reported (see Appendix I).

Pearson product-moment correlations of the sixteen personality factors (16PF) and the ideal pupil score (IPC) were reported in Table 14. The value of r needed for significance at the .05 level was .229. Only one personality factor reached this level. The personality factor, Q_1, Conservative, produced a Pearson product moment correlation of .252. This would indicate that those teachers scoring high on teacher tolerance of the creative pupil would be significantly more conservative, rather than experimenting, than their teacher peers. No other personality factors (16PF) were significantly related to high scores on the ideal pupil test (IPC).

TABLE 14

CORRELATIONS BETWEEN PERSONALITY FACTORS (16PF) AND TEACHER PERCEPTION OF THE IDEAL CHILD (IPC) (N=71)

Personality Factors	R
A Reserved - Warmhearted	-.138
B Less Intelligent - More Intelligent	.012
C Affected by Feeling - Emotionally Stable	.061
E Submissive - Assertive	.104
F Sober - Happy-Go-Lucky	-.022
G Expedient - Conscientious	-.057
H Shy - Venturesome	-.059
I Tough-Minded - Tender-Minded	.040
L Trusting - Suspicious	-.057
M Practical - Imaginative	.074
N Forthright - Shrewd	-.013
O Self-Assured - Apprehensive	-.103
Q_1 Conservative - Experimenting	.252[a]
Q_2 Group-Dependent - Self-Sufficient	-.048
Q_3 Undisciplined Self-Conflict - Controlled	.018
Q_4 Relaxed - Tense	-.194

[a]Significance level >.05

CHAPTER V

SUMMARY, SYNTHESIS, AND RECOMMENDATIONS

Summary

The purpose of this study was to investigate the relationship of teacher personality factors and dimensions of teacher self concept and creativity. The related research also examined the effects of teacher personality, self concept, and creativity on students.

The study was conducted in the Great Falls, Montana Public Schools with teachers attending in-service workshops during the fall of the 1971-72 and the fall of the 1972-73 school years.

The following three research questions were proposed and tested in this study:

1. Are there significant relationships between teacher personality factors and teacher self concept?
2. Are there significant relationships between teacher personality factors and teacher creativity?
3. Are there significant relationships between teacher personality factors and teacher perception of the ideal pupil?

The subjects of the study included in the analysis of data consisted of 160 elementary school teachers.

Teacher personality was measured by Form A of the Sixteen Personality Factor Questionnaire (16PF). The 16PF, designed by Cattell, provides sixteen sub-scores (primary personality traits) as follows:

A, reserved - warmhearted; B, less intelligent - more intelligent; C, affected by feelings - emotionally stable; E, submissive - assertive; F, sober - happy-go-lucky; G, expedient - conscientious; H, shy - venturesome; I, tough-minded - tender-minded; L, trusting - suspicious; M, practical - imaginative; N, forthright - shrewd; O, self-assured - apprehensive; Q_1, conservative - experimenting; Q_2, group-dependent - self-sufficient; Q_3, undisciplined self-conflict - controlled; Q_4, relaxed - tense.

Teacher self concept was measured by the Tennessee Self Concept Scale developed by Fitts. The sub-scales used in this study included: self criticism, identity, self-satisfaction, behavior, physical self, moral-ethical self, personal self, family self, and social self, as well as variability and distribution scores.

Teacher creativity was measured with Torrance's What Kind of Person Are You? Test (WKP). The instrument provides a single score representing the degree of creative thinking abilities.

Teacher perception of the ideal pupil was measured by Torrance's Ideal Pupil Checklist (IPC). The instrument provides a single score representing the degree to which one can tolerate the independent spirit of creative children.

The statistical procedures used in this study included the canonical correlation technique and multiple correlation analysis. The .05 and .01 significance levels were used in the interpretation and evaluation of the findings.

1. Research question one, relating the sixteen personality factors of the 16PF to twelve sub-scores of the self concept measure (TSC), was treated statistically with the use of canonical correlation. Five

teacher personality-teacher self concept behavior patterns were identified, each of which could account for a different teacher personality. A summary of the results was reported below:

a. The apprehensive, sober, shy, and somewhat assertive teacher would be satisfied with how he sees himself, his behavior and his basic identity. He would not be satisfied with how he perceives his moral worth.

b. The happy-go-lucky, affected by feeling, less integrated, yet conservative teacher would not be satisfied with himself and have low feeling about his basic identity, yet, feel good about his personal worth, his relationships with others, his moral worth, and have feelings of adequacy as a family member.

c. The conscientious though less integrated teacher would be satisfied with his perception of himself, his basic identity, and the way he behaves, though not with his social interaction with other people and his moral worth.

d. The apprehensive though tranquil teacher has low self acceptance, does not like the way he functions and does not feel good about his basic identity.

e. The more intelligent, shy, assertive, and tough-minded teacher feels good about his moral worth, his social interaction with other people, and his value as a family member but is not pleased with his perception of how he functions, his basic identity, or self acceptance.

2. Research question two, relating the sixteen personality factors of the 16PF to the creative thinking abilities (WKP) of teachers,

was treated statistically with the use of multiple correlation analysis. A summary of the results was reported below:

a. It would appear that those teachers who score high on creative thinking abilities tend to be more submissive, practical, conservative, group-dependent, conscientious, shrewd, apprehensive, and controlled than their teacher peers.

3. Research question three, relating the sixteen personality factors of the 16PF to teacher perception of the ideal pupil (IPC), was treated statistically with the use of multiple correlation analysis. A summary of the results was reported below:

a. It would appear that those teachers who score high on teacher tolerance of the creative pupil would be more conservative than their teaching peers.

Relationship of Present Study to Research

Teacher Personality as Related to Teacher Self Concept. Nearly all theorists and researchers consider a high self concept to be an important personality aspect of teachers. Rogers (1958), Coopersmith and Silverman (1969), Snygg and Combs (1949), Combs and Snygg (1959), Combs (1962, 1965, 1971), Hamachek (1969), and others theorize about the importance of a good teacher self concept as a positive influence on students and/or the attitudinal climate of the classroom.

The similarities of teacher's and pupil's personalities as found by Amotora (1954), Gillis (1964), and others and the similarities of teacher's and pupil's self concept as reported by Omwake (1954),

Davidson and Lang (1960), Brookover, Thomas, and Paterson (1964), and Edeburn (1973), give reason to support the theorists' view.

Teachers with a high self concept were found to have a positive effect on student cognitive growth (Aspy, 1969), to tend to talk less and use more indirect teaching behavior (Seidman, 1969), and to have a higher success in student teaching (Hatfield, 1961).

The only study which may appear to contradict the above studies was done by Perkins (1958). He found that teachers who are less accepting of self and others are more accurate and insightful in their perceptions of others' self concepts than teachers who are more accepting of self and others. The meaning of the study is puzzling--perhaps it means nothing, as the research overwhelmingly supports the positive teacher self concept as a positive influence on pupils and learning.

Coopersmith (1967) observes that parents with high self-esteem who have definite values, and a clear idea of what they regard as appropriate behavior, and who are able and willing to present and enforce their belief--are more likely to rear children who value themselves highly.

How does theory and research relate to the personality-self concept patterns which emerged in the present study?

The apprehensive, sober, shy, and somewhat assertive teacher personality pattern found in the first canonical root does not fit theory or most research concepts of the effective teacher; however, the related self concept dimensions of satisfaction with how he sees himself, his behavior, and his basic identity, even though not satisfied with how he perceives his moral worth, appear to indicate an adequate self concept. The writer sees these individuals as the

stereotyped, traditional teachers who control all functions of the classroom but may effectively direct the learning of most students, particularly those who need a controlled atmosphere in which to work.

The happy-go-lucky, affected by feeling, less integrated, yet conservative teacher personality pattern found in the second canonical root appears to the writer to be a teacher who may have a less orderly room but appeals to students that are able to work on their own. This teacher feels good about his personal worth, his relationships with others, his moral worth, and adequacy as a family member. His dissatisfaction with himself and low feelings about his basic identity may reflect his inability to play the stereotyped role he sees of a teacher.

The conscientious though less integrated teacher personality pattern found in the third canonical root appears to the writer to be an individual who wants to do a good job but may not always feel in control of what he does. He appears, however, to be satisfied with himself, his basic identity, and the way he behaves. He is not pleased with his social interaction with others or his moral worth.

The apprehensive though tranquil teacher personality pattern found in the fourth canonical root appears to the writer to be a worried, perhaps depressed individual who does not do anything about his situation. These characteristics coupled with low self acceptance, dislike of the way he functions, and dislike of his basic identity would certainly not place him as an effective teacher according to any theory or research encountered by this writer in the literature.

The more intelligent, shy, assertive, and tough-minded teacher personality pattern found in the fifth canonical root appears to the

writer to be closer to (though not exactly) the theorist's and researcher's concept of the effective teacher than the other four patterns. This teacher is brighter, independent, self-reliant, though restrained. He is satisfied with his moral worth, social interactions with other people, and his value as a family member. He is not pleased with how he functions, his basic identity, or his self acceptance. This could be interpreted as a reaction to the high standards he sets for himself.

Teacher Personality as Related to Teacher Creativity. Theoretically, the creative teacher appears to fit better the definition of being a person than producing products. Maslow (1971) implies that the self-actualizing teacher may be the creative teacher. Rogers (1959) expresses the concept of the fully-functioning person as the creative person. Perhaps Anderson's (1959) description of creativity as creativity in human relations best summarizes the theoretical view of the creative teacher.

The extensive studies of Torrance (1962) indicate that creative teachers are highly sensitive, resourceful, flexible, and willing to get off the beaten track. Zimmerman and Williams (1971) found that innovative teachers were significantly more imaginative, more assertive, more venturesome, and less tense than non-innovative teachers. Though not statistically significant, they found that innovators tend to be more controlled, more self-sufficient, more experimenting, more emotionally stable, and less apprehensive than non-innovators.

Teachers with strong creative motivations were found by Torrance (1964b) to effect significant gains in their pupil's creative writing. Highly creative teachers studied by Yamamota (1963) significantly affected social adjustment and total adjustment of their pupils.

There was a significant interaction between teacher creativity and pupil creativity on arithmetic skills and also a second-order interaction among teacher creativity, pupil creativity, and pupil sex on personal adjustment.

Turner and Denny (1969) report that teachers characterized as warm, spontaneous and child-centered obtain greater positive changes in pupil creativity. Teachers having a high degree of organization were found to have a negative effect on pupil creativity.

A study by Coopersmith (1967), though done with mothers and sons, somewhat contradicts these findings. He states that individuals with high self-esteem who are reared under strongly structured conditions tend to be more independent and creative. Perhaps, as suggested earlier, the structure enhances the self concept, which in turn promotes creativity.

The personality factors (16PF) found in the present study which correlate significantly with creative thinking abilities of teachers (WKP) were Submissive, Practical, Conservative, Group-Dependent, Conscientious, Shrewd, Apprehensive, and Controlled. Though certainly not exactly, this personality pattern reminds the present writer of the self-controlled teacher found in the Heil (1964) and Heil and Washburne (1961, 1962) studies. They found that the self-controlled teacher produced significant growth in achievement and friendliness with the largest percentage of students as opposed to the self-accepting or self-effacing teacher. They described the self-accepting teacher, however, as the most creative, or perhaps, rather, as producing the most creative atmosphere in the classroom while the self-controlled teacher was

not particularly creative or found to produce creative results in his pupils.

Though the present research does not appear to be in concert with theory and research studies of the effective teacher of gifted students it does support a few research studies associated with teacher effectiveness in general.

Teacher Personality as Related to Teacher Perception of the Creative Pupil. Few research studies have been directed specifically to the problem of what kind of teacher works most effectively with creative children. McNary (1967) found that the teacher most effective in producing change in divergent thinking of gifted students was emotionally mature, energetic, persistent, friendly, and without a crystallized pattern for attaining social approval. The teacher who appeared to have most significantly influenced growth of gifted students in convergent thinking was submissive, dependent, cheerful, alert, not a staunch guardian of morals and manners, and had a natural warmth and liking for people. Similar results are reported in other studies.

A comparatively larger number of studies were addressed to the kind of student that teachers like to have in their classroom. For example, Torrance (1963a) found that the ten characteristics of pupils most valued by the teachers were: being considerate of others, independence in thinking, determination, industrious, sense of humor, curiosity, sincere, courteous, promptness, and self-starters. The ten most frequently punished or discouraged characteristics were: regresses occasionally, emotional, timid, critical of others, stubborn, negativistic, self-satisfied, fault finding, domineering, and disturbing existing organization. Since all 62 characteristics

listed in Torrance's Ideal Pupil Checklist (including the ten most frequently punished or discouraged characteristics) are possible behavior traits of creative persons, he feels that the teacher of gifted children should be fully alive, well educated, curious and excited about learning, and free of hostility and the pathological need to punish.

Feshback (1969) found that student teachers rate more highly students exhibiting behaviors associated with control, caution, and conformity. These characteristics are not likely to be on the usual list of the qualities of the creative pupil or person.

In the present study, the only teacher personality factor found to correlate significantly with high teacher tolerance of the creative child was the trait, Conservative. Cattell (1957) further describes this factor as respecting established ideas and tolerance of traditional difficulties. Though this finding does not support the literature surveyed for this study, perhaps it can be theorized that the conservative teacher realizes that her responsibility is to teach all children and can, at least on paper, report a tolerance for a wide variety of pupil behavior.

Synthesis

In this study three general, popular theories were examined. The literature strongly supports the theory that a teacher should be a good person; that whatever personality traits are normal or good for the general population, a teacher will exhibit more. Another theory relates to teacher self concept and its effect on students. A teacher with a good self concept should, theoretically, be more accepting of others and, therefore, be a more positive influence on

students. The third theory considered in this study was that in order for a teacher to accept and encourage a creative child, he, too, must be creative.

Another interesting question, directly or indirectly, explored in this study was teacher variability and the effects of varying teacher personality patterns on students. For 50 years or more the literature has proposed that this area of teacher effectiveness be researched more thoroughly.

The Theory of the Teacher as a Good Person

Theorists unanimously support the concept that a good teacher is a good person. Research studies indicate that a good teacher is usually warm, friendly, sociable, emotionally stable, cheerful, sympathetic, empathic, has a sense of humor, and so on. Study after study identified these as descriptors of teacher personality, particularly the elementary school level research surveyed in this study. The possibility of using a personality test or inventory as a screening device for prospective elementary teachers seems tenable; an accompanying counseling program appears in order, since personality is amenable to change and could be directed toward the traits discussed above.

The Theory of Teacher Self Concept Effects

Theorists support the premise that a high or healthy self concept is necessary in working with other people and, specifically, a good self concept is necessary for a teacher working with children. The significant relationship found in the few research studies in this area, between teacher and pupil self concept, support this theory. The

studies, though few in number, which find a significant relationship between teacher self concept and positive pupil growth or other measures of teacher effectiveness, also strengthen it.

The research in the present study does not relate directly to this theory, however, the identification of the five significant teacher personality - self concept patterns allows the writer to theorize that personality and self concept of teachers are interrelated. Perhaps further study with other populations will reveal that the personality traits of effective teachers proposed by theorists are significantly and positively related to high self concept.

The Theory that a Creative Teacher is Needed for the Creative Pupil

The concept that a creative teacher is needed for the creative pupil is firmly, even though sparsely, supported by theory and research. The problem appears to be in the definition of the creative teacher. Is the creative teacher someone who scores high on creative thinking abilities, or someone who possesses the personality qualities usually associated with a creative teacher, or some other definition? Is the creative teacher someone who is creative in his own right or someone who produces creativity in his pupils?

The present research suggests that the creative thinking teacher does not possess the personality traits usually theorized as belonging to the creative teacher. The personality factors of the creative thinking teacher are more nearly like MacKinnon's (1960) description of the truly original and creative person (deliberate, reserved, industrious, and thorough) than the personality traits (imaginative, assertive, venturesome, and relaxed) often theorized as necessary for a creative teacher or the teacher of creative children.

This study also found that the teacher most receptive of the qualities often associated with gifted children was more conservative than his teacher peers. This finding, too, more nearly supports MacKinnon's study of the creative person than teacher creativity theory.

It would appear to this writer that further study in this area is imperative. The exclusion of characteristics usually associated with creative teachers may be, after all, just a function of semantics or loose definitions.

Teacher Variability

Theoretically all teachers should have a good personality. Numerous research studies have shown, especially at the elementary school level, that certain personal qualities or personality traits are often found in effective teachers that are not found in ineffective teachers.

Although this study was not focused primarily on teacher variability, several teacher personality patterns relating to this topic were identified. The theoretical assumption was made that the teacher who scored high on a test of creative thinking abilities would be a more creative teacher. This writer found that the personality factors which correlated significantly with the creativity test suggested that the creative teacher was submissive, practical, conservative, group-dependent, conscientious, shrewd, apprehensive, and controlled. These qualities are quite different from the theoretical picture of the creative teacher. Nevertheless, it is a pattern that should be examined and further tested as a possible model for the selection of a creative teacher.

Another assumption was made that a teacher who is more tolerant of the wide variety of pupil behavior sometimes found in creative children would be the most effective teacher of creative pupils. The personality factor found to correlate significantly with tolerance for creative pupils was the trait, conservative. This is not in agreement with theory, either, but, if after further research, this relationship continues to be found, perhaps the teacher who works best with the widest variety of pupil behavior can better be identified.

Five significant teacher personality-self concept patterns were identified. The specific patterns themselves may not be as important as the fact that significant patterns did emerge in the study. Further investigation of the effect of various teacher personality-teacher self concept patterns are needed as well as investigation in other populations for other patterns.

Recommendations

Based on the findings of this study, relating teacher personality factors to dimensions of teacher self concept, teacher creativity, and teacher perception of the ideal child, this writer offers the following recommendations for further research:

1. Theorists unanimously support the concept of the self-actualizing, the fully functioning, the "good" personality as a prerequisite for the effective teacher. The research reviewed for this study generally supports this tenet, particularly in the elementary school. Continued research, along the line of the Heil and Washburne (1962) study, designed with a more theoretical and psychological construct, seems advisable. The question of teacher variability and its

effects is not yet completely answered; however, the evidence strongly supports the concept that some children learn more effectively from teachers with certain personality patterns.

2. The theoretical construct of the relationship between teacher self concept and pupil self concept should be further explored. The effect of the five significant teacher personality-teacher self concept patterns identified in this research should be examined. Other patterns may exist in other populations. Further statistical manipulation of the present writer's data may produce personality factor correlates with over-all high and/or low teacher self concept in a different research design.

3. Replication of this writer's research on the creative teacher appears to be in order. The findings of this study do not support the theoretical construct of the personality of creative teachers but tend to support research associated with creative persons in other fields. Nor does the study support the theoretical concept of the teacher who is more tolerant of creative pupils. The teacher most accepting of students was conservative. These conclusions require further confirmation on the basis of classroom observation. Exploration of these findings on the basis of new design and constructs is also recommended.

APPENDIX A

MEANS AND STANDARD DEVIATIONS - SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE

TABLE 15

MEANS AND STANDARD DEVIATIONS - SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE (N=160)

	Personality Factors	Mean	SD
A	Reserved - Warmhearted	10.338	3.280
B	Less Intelligent - More Intelligent	8.525	1.768
C	Affected by Feelings - Emotionally Stable	16.125	3.967
E	Submissive - Assertive	10.638	4.909
F	Sober - Happy-Go-Lucky	14.181	5.157
G	Expedient - Conscientious	13.156	3.370
H	Shy - Venturesome	12.544	6.219
I	Tough-Minded - Tender-Minded	12.838	3.478
L	Trusting - Suspicious	6.856	2.962
M	Practical - Imaginative	13.250	3.712
N	Forthright - Shrewd	10.119	3.057
O	Self-Assured - Apprehensive	10.388	3.431
Q_1	Conservative - Experimenting	7.663	3.417
Q_2	Group-Dependent - Self-Sufficient	10.081	3.929
Q_3	Undisciplined Self Conflict - Controlled	12.438	3.045
Q_4	Relaxed - Tense	14.488	4.451

APPENDIX B

MEANS AND STANDARD DEVIATIONS - TENNESSEE SELF CONCEPT SCALE

TABLE 16

MEANS AND STANDARD DEVIATIONS - TENNESSEE SELF CONCEPT SCALE
(N=160)

Personality Factors	Mean	SD
Self Criticism	36.581	5.743
Identity	130.800	8.818
Self Satisfaction	114.700	13.360
Behavior	118.681	9.885
Physical Self	71.625	6.877
Moral - Ethical Self	75.425	7.358
Personal Self	68.844	7.199
Family Self	76.256	6.477
Social Self	72.019	7.593
Column Variability	24.750	7.436
Row Variability	18.038	6.043
Distribution	128.169	22.485

APPENDIX C

CORRELATION MATRIX OF THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE COMPLETED BY SELECTED TEACHERS

TABLE 17

CORRELATION MATRIX OF THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE COMPLETED BY SELECTED TEACHERS (N=160)

	1 A	2 B	3 C	4 E	5 F	6 G	7 H	8 I	9 L	10 M	11 N	12 O	13 Q_1	14 Q_2	15 Q_3	16 Q_4
A Reserved - Warmhearted		-.037	.096	.175	.359	.077	.382	.264	.037	.125	-.054	-.110	.048	-.381	-.081	-.059
B Less Intelligent- More Intelligent			-.035	-.085	-.115	-.045	-.102	.144	-.051	.015	.098	-.014	-.119	.240	.096	.015
C Affected by Feeling - Emotionally Stable				.161	.155	-.073	.350	-.017	-.160	.149	-.000	-.440	.117	-.059	.171	-.499
E Submissive - Assertive					.403	-.203	.544	-.139	.403	.282	-.421	-.194	.467	-.052	-.324	.076
F Sober - Happy-Go-Lucky						-.051	.541	-.056	.158	.129	-.231	-.148	.196	-.352	-.046	-.039
G Expedient - Conscientious							.019	.047	.017	-.424	.158	.160	-.280	-.199	.392	.066
H Shy - Venturesome								-.071	.173	.150	-.209	-.372	.313	-.351	.008	-.293
I Tough-Minded - Tender-Minded									-.087	.061	.258	-.034	-.135	.036	.009	-.051
L Trusting - Suspicious										.032	-.265	.186	.130	.002	-.275	.306
M Practical - Imaginative											-.227	-.311	.463	.039	-.305	-.102
N Forthright - Shrewd												.043	-.328	.039	.220	-.092
O Self Assured - Apprehensive													-.207	.023	-.147	.462
Q_1 Conservative - Experimenting														-.037	-.360	-.079
Q_2 Group-Dependent - Self-Sufficient															.047	.053
Q_3 Undisciplined Self Conflict - Controlled																-.244
Q_4 Relaxed - Tense																

APPENDIX D

CORRELATION MATRIX OF THE TENNESSEE SELF CONCEPT SCALE FOR SELECTED TEACHERS

TABLE 18

CORRELATION MATRIX OF THE TENNESSEE SELF CONCEPT SCALE FOR SELECTED TEACHERS (N=160)

	1	2	3	4	5	6	7	8	9	10	11	12
Self Criticism		-.066	-.162	-.231	-.095	-.261	-.159	-.086	-.100	.256	.170	.081
Identity			.608	.671	.686	.573	.692	.708	.671	-.089	-.296	.627
Self Satisfaction				.654	.695	.728	.760	.761	.614	-.627	-.240	.605
Behavior					.684	.622	.732	.712	.708	-.377	-.261	.735
Physical Self						.418	.605	.600	.515	-.356	-.397	.521
Moral-Ethical Self							.553	.621	.355	-.391	-.054	.536
Personal Self								.597	.554	-.441	-.445	.550
Family Self									.525	-.386	-.051	.621
Social Self										-.249	-.230	.709
Column Variability											.373	-.071
Row Variability												-.008
Distribution												

APPENDIX E

CORRELATION MATRIX OF THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE AND THE TENNESSEE SELF CONCEPT SCALE FOR SELECTED TEACHERS

TABLE 19

CORRELATION MATRIX OF THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE AND THE TENNESSEE SELF CONCEPT SCALE FOR SELECTED TEACHERS

16PF	1 Self Crit.	2 Ident	3 Self Sat.	4 Be-havior	5 Phy. Self	6 Moral Self	7 Per. Self	8 Fam. Self	9 Soc. Self	10 Col. Var.	11 Row Var.	12 Dist.
A Reserved - Warmhearted	.017	.073	.082	.117	.062	.023	.025	.123	.174	-.138	-.070	.074
B Less Intelligent - More Intelligent	.065	-.046	-.061	-.014	.045	-.045	-.024	-.049	-.113	-.008	.079	-.103
C Affected by Feelings - Emotionally Stable	-.135	.451	.479	.499	.427	.381	.536	.441	.375	-.228	-.139	.425
E Submissive - Assertive	.200	.027	.079	-.044	.038	-.123	.066	-.006	.143	-.055	-.065	-.010
F Sober - Happy-Go-Lucky	.156	.330	.148	.158	.187	-.083	.187	.117	.484	-.017	-.222	.144
G Expedient - Conscientious	-.250	-.016	-.159	-.045	-.007	-.043	-.138	-.148	-.048	-.015	-.112	-.143
H Shy - Venturesome	-.042	.373	.361	.332	.282	.156	.332	.272	.550	-.209	-.252	.275
I Tough-Minded - Tender Minded	-.112	.065	.026	.039	-.040	.105	-.044	.132	.038	-.022	.118	.127
L Trusting - Suspicious	.180	-.110	-.116	-.198	-.136	-.114	-.198	-.146	-.041	.087	.109	-.077
M Practical - Imaginative	.094	.035	.265	.097	.121	.125	.138	.155	.142	-.170	-.061	.145
N Forthright - Shrewd	-.235	.120	.040	.068	.075	.131	.049	.076	-.007	-.021	.031	.032
O Self Assured - Apprehensive	.140	-.415	-.481	-.592	-.434	-.320	-.482	-.477	-.533	.402	.193	-.438
Q_1 Conservative - Experimenting	.039	.055	.225	.083	.052	.138	.168	.134	.115	-.131	-.072	.088
Q_2 Group-Dependent - Self-Sufficient	.015	-.059	.042	-.007	.055	.084	.006	.026	-.163	-.024	.144	-.009
Q_3 Undisciplined Self Conflict - Controlled	-.174	.287	.182	.335	.283	.202	.315	.226	.144	-.156	-.221	.161
Q_4 Relaxed - Tense	.394	-.325	-.457	-.490	-.356	-.346	-.458	-.353	-.423	.309	.167	-.299

APPENDIX F

STANDARD CANONICAL PRODUCTS FOR THE PERSONALITY FACTORS

TABLE 20

STANDARD CANONICAL PRODUCTS FOR THE PERSONALITY FACTORS

	Personality Factors	Canonical Products 1	2	3	4	5
A	Reserved - Warmhearted	-.077	.190	.033	.143	-.132
B	Less Intelligent - More Intelligent	-.087	-.080	.160	-.056	-.411
C	Affected by Feelings - Emotionally Stable	.155	.447	.289	.120	.000
E	Submissive - Assertive	-.310	-.187	.254	-.189	-.371
F	Sober - Happy-Go-Lucky	.497	-.655	.114	.030	-.163
G	Expedient - Conscientious	-.041	-.159	-.612	-.190	-.273
H	Shy - Venturesome	.443	-.183	-.173	-.049	.506
I	Tough-Minded - Tender-Minded	.041	.124	-.226	.277	.328
L	Trusting - Suspicious	.040	.072	-.134	.179	.098
M	Practical - Imaginative	-.047	-.052	.022	-.218	.284
N	Forthright - Shrewd	.123	.014	-.150	-.082	-.100
O	Self-Assured - Apprehensive	-.542	-.086	.205	-.528	.227
Q_1	Conservative - Experimenting	.022	.325	.079	-.075	.173
Q_2	Group-Dependent - Self-Sufficient	.138	.077	-.053	-.048	-.069
Q_3	Undisciplined Self Conflict - Controlled	.158	.304	.426	.068	-.091
Q_4	Relaxed - Tense	-.250	.020	.288	.658	.126

APPENDIX G

STANDARD CANONICAL PRODUCTS FOR THE SELF CONCEPT DIMENSIONS

TABLE 21

STANDARD CANONICAL PRODUCTS FOR THE SELF CONCEPT DIMENSIONS

Self Concept Dimensions	Canonical Products 1	2	3	4	5
Self Criticism	-.088	-.136	.031	.013	.009
Identity	.380	-.378	.341	-.326	-.443
Self Satisfaction	.540	-.510	.560	-.581	-.341
Behavior	.419	-.240	.408	-.400	-.494
Physical Self	-.280	.246	-.278	.269	.128
Moral - Ethical Self	-.311	.320	-.305	.290	.332
Personal Self	-.280	.376	-.259	.277	.208
Family Self	-.261	.306	-.255	.273	.352
Social Self	-.258	-.178	-.315	.294	.346
Column Variability	-.014	-.072	.019	-.036	.100
Row Variability	.002	.060	-.001	.004	-.106
Distribution	-.011	.287	-.017	.032	.093

APPENDIX H

MEANS AND STANDARD DEVIATIONS--SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE AND WHAT KIND OF PERSON ARE YOU? TEST

TABLE 22

MEANS AND STANDARD DEVIATIONS--SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE AND WHAT KIND OF A PERSON ARE YOU? TEST (N=136)

	Personality Factors	Mean	SD
A	Reserved - Warmhearted	10.191	3.198
B	Less Intelligent - More Intelligent	8.544	1.746
C	Affected by Feelings - Emotionally Stable	16.125	4.103
E	Submissive - Assertive	9.956	4.490
F	Sober - Happy-Go-Lucky	14.096	5.051
G	Expedient - Conscientious	13.272	3.201
H	Shy - Venturesome	12.015	6.059
I	Tough-Minded - Tender-Minded	13.243	3.265
L	Trusting - Suspicious	6.721	2.861
M	Practical - Imaginative	12.941	3.755
N	Forthright - Shrewd	10.404	3.029
O	Self-Assured - Apprehensive	10.588	3.518
Q_1	Conservative - Experimenting	7.154	3.270
Q_2	Group-Dependent - Self-Sufficient	10.154	4.035
Q_3	Undisciplined Self-Conflict - Controlled	12.566	2.890
Q_4	Relaxed - Tense	14.485	4.465
	Creativity Test		
	What Kind of Person Are You? Test	23.221	7.471

APPENDIX I

MEANS AND STANDARD DEVIATIONS--SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE AND THE IDEAL PUPIL CHECKLIST

TABLE 23

MEANS AND STANDARD DEVIATIONS--SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE AND THE IDEAL PUPIL CHECKLIST (N=71)

	Personality Factors	Mean	SD
A	Reserved - Warmhearted	10.099	3.108
B	Less Intelligent - More Intelligent	8.549	1.697
C	Affected by Feeling - Emotionally Stable	16.099	4.303
E	Submissive - Assertive	9.563	3.695
F	Sober - Happy-Go-Lucky	14.056	4.570
G	Expedient - Conscientious	14.169	2.580
H	Shy - Venturesome	12.634	5.795
I	Tough-Minded - Tender-Minded	13.423	3.170
L	Trusting - Suspicious	6.789	2.952
M	Practical - Imaginative	12.183	3.944
N	Forthright - Shrewd	10.549	2.650
O	Self-Assured - Apprehensive	11.141	3.432
Q_1	Conservative - Experimenting	7.197	3.258
Q_2	Group-Dependent - Self-Sufficient	9.282	3.851
Q_3	Undisciplined Self-Conflict - Controlled	12.817	2.973
Q_4	Relaxed - Tense	14.113	4.221
	Ideal Pupil		
	Ideal Pupil Checklist	57.775	13.804

REFERENCES

REFERENCES

Allport, G. Becoming. New Haven: Yale University Press, 1955.

Amatora, S. A. Similarity in teacher and pupil personality. Journal of Psychology, 1954, 37, 45-51.

Amatora, S. A. Highs and lows in the teacher personality. Journal of Educational Research, 1955, 48, 693-698.

Anderson, D. D. Personality attributes of teachers in organizational climates. Journal of Educational Research, 1969, 62, 441-443.

Anderson, H. H. Measurement of domination and of socially integrative behavior in teachers' contacts with children. Child Development, 1939, 10, 73-89.

Anderson, H. H. Creativity and its cultivation. New York: Harper and Row, 1959.

Anderson, H. H. and Brewer, H. M. Studies of teachers' classroom personalities, I. Dominance and socially integrative behavior of Kindergarten teachers. Applied Psychological Monographs, 1945, No. 6.

Anderson, H. H. and Brewer, J. E. Studies of teachers' classroom personalities, II. Effects of teachers' dominative and integrative behavior. Applied Psychological Monographs, 1946, No. 8.

Anderson, H. H., Brewer, J. E., and Reed, M. F. Studies of teachers' classroom personalities, III. Follow-up studies of the effects of dominative and integrative contacts on children's behavior. Applied Psychological Monographs, 1946, No. 11.

Aspy, D. N. The effect of teachers' inferred self concept upon student achievement, 1969, ERIC, ED 031 300.

Avila, D. L., Combs, A. W., and Purkey, W. W. (Eds.). The helping relationship sourcebook. Boston: Allyn and Bacon, 1971.

Barr, A. S. The measurement and prediction of teaching efficiency. Review of Educational Research, 1940, 10, 182-184.

Barr, A. S. The measurement and prediction of teaching efficiency. Review of Educational Research, 1943, 13, 218-223.

Barr, A. S. The measurement and prediction of teaching efficiency. Review of Educational Research, 1946, 16, 203-208.

Barr, A. S. The measurement and prediction of teaching efficiency: A summary of investigations. Journal of Experimental Education, 1948, 16, 203-283.

Barr, A. S. The measurement and prediction of teaching success. Review of Educational Research, 1949, 19, 185-190.

Barr, A. S. The measurement of teacher characteristics and prediction of teaching efficiency. Review of Educational Research, 1952, 22, 169-174.

Barr, A. S. Characteristics of successful teachers. Phi Delta Kappan, 1958, 39, 282-284.

Barr, A. S., Burley, V. B., Gage, N. L., Orleans, J. S., Pace, C. R., Remmers, H. H., and Ryans, D. G. Second report on the committee on criteria of teacher effectiveness. Journal of Educational Research, 1953, 46, 641-658.

Barr, A. S., Eustice, D. E., and Noe, E. J. The measurement and prediction of teaching efficiency. Review of Educational Research, 1955, 25, 261-269.

Barr, A. S., and Jones, R. E. The measurement and prediction of teacher efficiency. Review of Educational Research, 1958, 28, 256-264.

Barr, A. S., Worcester, D. A., Abell, A., Beecher, C., Jensen, L. E., Peronto, A. L., Ringness, T. A., and Schmid, J., Jr. The measurement and prediction of teacher effectiveness: A summary of investigations. Wisconsin: Dembar Publications, Inc., 1961.

Barron, F. Creativity. In Deutsch, A. (Ed.). The encyclopedia of mental health, Vol. II. New York: F. Watts, 1963.

Bemis, K. A. and Cooper, J. G. Teacher personality, teacher behavior and their effects upon pupil achievement. Final report. 1967, ERIC, ED 012 707.

Bernard, H. W. Mental health in the classroom. New York: McGraw-Hill Book Company, 1970.

Bernard, H. W. Psychology of learning and teaching. New York: McGraw-Hill Book Company, 1972.

Biddle, B. J. The integration of teacher effectiveness research. In Biddle, B. J. and Ellena, W. J. (Eds.). Contemporary research on teacher effectiveness. New York: Holt, Rinehart and Winston, 1964.

Biddle, B. J. and Ellena, W. J. (Eds.). Contemporary research on teacher effectiveness. New York: Holt, Rinehart and Winston, 1964.

Bowers, N. D. and Soar, R. S. The influence of teacher personality on classroom interaction. Journal of Experimental Education, 1962, 30, 309-311.

Brookover, W., Thomas, S., and Paterson, A. Self-concept of ability and school achievement. Sociology of Education, 1964, 3, 271-278.

Bush, R. N. The teacher-pupil relationship. New York: Prentice-Hall, 1954.

Castetter, D. D., Standlee, L. S., and Fattu, N. S. Teacher effectiveness: An annotated bibliography. Bloomington, Indiana: Institute of Educational Research, 1954.

Cattell, R. B. Personality: A systematic, theoretical, and factual study. New York: McGraw-Hill, 1950.

Cattell, R. B. Personality and motivation, structure and measurement. New York: World Book Company, 1957.

Cattell, R. B. Personality and social psychology. San Diego, Calif.: Robert R. Knapp, Publisher, 1964.

Cattell, R. B. The scientific analysis of personality. Chicago: Aldine Publishing Co., 1965.

Cattell, R. B. Abilities: Their structure, growth, and action. Boston: Houghton Mifflin, 1971.

Cattell, R. B. and Butcher, H. J. The prediction of achievement and creativity. Indianapolis, Ind.: Bobbs-Merrill Co., Inc., 1968.

Cattell, R. B., Eber, H. W., and Tatsuoka, M. M. Handbook for the Sixteen Personality Factor Questionnaire (16PF). Champaign, Illinois: Institute for Personality and Ability Testing, 1970.

Christinsen, C. M. Relationship between pupil achievement, pupil affect-need, teacher warmth, and teacher permissiveness. Journal of Educational Psychology, 1960, 51, 169-174.

Clark, E. J. Relationship between the personality traits of elementary school teachers and their evaluation of objective pupil behavior. Journal of Educational Research, 1951, 45, 61-66.

Combs, A. W. (Ed.). Perceiving, behaving, becoming. Washington, D.C.: Association for Supervision and Curriculum Development, 1962.

Combs, A. W. The professional education of teachers. Boston: Allyn and Bacon, Inc., 1965.

Combs, A. W. An educational imperative: The human dimension. In Scobey, M. M. and Graham, G. (Eds.). To nurture humaneness. Washington, D.C.: Association for Supervision and Curriculum Development, 1970.

Combs, A. W. What can man become? In Avila, D. L., Combs, A. W., and Purkey, W. W. The helping relationship sourcebook. Boston: Allyn and Bacon, Inc., 1971.

Combs, A. W., and Snygg, D. Individual behavior: A perceptual approach to behavior. New York: Harper and Row, 1959.

Cook, W. W. and Leeds, C. H. Measuring the teaching personality. Education and Psychological Measurement, 1947, 7, 399-410.

Cook, W. W. and Medley, D. M. The relationship between Minnesota Teacher Attitude Inventory scores and scores on certain scales of the Minnesota Multiphasic Personality Inventory. Journal of Applied Psychology, 1955, 39, 123-129.

Coopersmith, S. A. The antecedents of self-esteem. San Francisco: W. H. Freeman, 1967.

Coopersmith, S. A. and Silverman, J. How to enhance pupil self-esteem. Todays Education, 1969, 58, 28-29.

Cunnington, B. F. and Torrance, E. P. Sounds and Images. Boston: Ginn and Company, 1965.

Dandes, H. M. Psychological health and teaching effectiveness. Journal of Teacher Education, 1966, 17, 301-306.

Davidson, H. H. and Lang, G. Children's perceptions of their teachers' feelings toward them related to self-perception, school achievement, and behavior. Journal of Experimental Education, 1960, 29, 107-118.

Davis, T. N. and Satterly, D. J. Personality profiles and student teachers. British Journal of Educational Psychology, 1969, 39, 183-187.

Del Popolo, J. A. Authoritarian trends in personality as related to attitudinal and behavioral traits of student teachers. Journal of Educational Research, 1960, 53, 252-257.

Del Popolo, J. A. Teacher personality: A concern of teacher education. Peabody Journal of Education, 1965, 43, 50-55.

Deutsch, A. (Ed.). The encyclopedia of mental health, Vol. II. New York: F. Watts, 1963.

Dixon, W. R. and Morse, W. C. The prediction of teaching performance: Empathic potential. Journal of Teacher Education, 1961, 12, 322-329.

Domas, S. J. and Tiedman, D. V. Teacher competence: An annotated bibliography. Journal of Experimental Education, 1950, 19, 99-218.

Dugan, R. R. Personality and the effective teacher. Journal of Teacher Education, 1961, 12, 335-337.

Durflinger, G. M. Personality correlates of success in student teaching. Education and Psychological Measurements, 1963, 23, 383-390.

Edeburn, C. E. An analysis of self concept in two elementary schools in relation to sex, grade level, and teacher. Unpublished doctoral dissertation, University of North Dakota, 1973.

Fattu, N. A. Effectiveness - an elusive quality. Education Digest, 1962, 27, 24-26.

Feshback, N. D. Student teacher preferences for elementary school pupils varying in personality characteristics. Journal of Educational Psychology, 1969, 60, 126-132.

Findley, W. L. Program for advanced children's education (PACE). Great Falls, Montana: Great Falls Public Schools, 1971.

Fischer, R. P. The Cattell Sixteen Personality Factor Questionnaire. Journal of Clinical Psychology, 1956, 12, 408-411.

Fitts, W. H. Tennessee Self Concept Scale Manual. Nashville, Tennessee: Counselor Recordsings and Tests, 1965.

Flanagan, C. E. Study of the relationship of scores on the MMPI to success in teaching as indicated by supervisory ratings. Journal of Experimental Education, 1961, 29, 329-354.

Flanders, N. A. Teacher effectiveness. In Ebel, R. L. (Ed.). Encyclopedia of educational research. Fourth Edition. New York: Macmillan Co., 1969.

Freehill, M. F. The prediction of teaching competence. Journal of Experimental Education, 1963, 31, 307-311.

Fromm, E. The creative attitude. In Anderson, H. H. (Ed.). Creativity and its cultivation. New York: Harper and Row, 1959.

Gage, N. L. Explorations in teachers' perceptions of pupils. Journal of Teacher Education, 1958, 9, 97-101.

Gage, N. L. (Ed.). Handbook of research on teaching. Chicago: Rand McNally and Co., 1963.

Gage, N. L. Desirable behaviors of teachers. Urban Education, 1965, 1, 85-95.

Gage, N. L. Desirable behaviors of teachers. In Raths, J., Pancella, J. R., and VanNess, J. S. Studying teaching. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1971.

Gates, C. J. A study of attitude, need, and personality trait correlates of effective teaching in three selected school systems. Dissertation Abstracts, 1968, 29, 3021A.

George, J. R. Organizational structure, teacher personality characteristics and their relationship to organizational climate. Dissertation Abstracts, 1969, 31, 581A.

Getzels, J. W. and Jackson, P. W. The teacher's personality and characteristics. In Gage, N. L. (Ed.). Handbook of research on teaching. Chicago: Rand McNally, 1963.

Gillis, J. Personality needs of future teachers. Education and Psychological Measurement, 1964, 24, 589-600.

Goodenough, E. E. The forced-choice technique as a method for discovering effective teacher personality. Journal of Educational Research, 1957, 51, 25-31.

Gough, H. G. Identifying the creative man. Journal of Value Engineering, 1964, 2, 5-12.

Gowan, J. C. Relation of the "K" scale of the MMPI to the teaching personality. California Journal of Educational Research, 1955, 6, 208-212.

Gowan, J. C. A summary of the intensive study of twenty highly selected elementary women teachers. Journal of Experimental Education, 1957, 26, 115-124.

Gowan, J. C. and Gowan, M. S. The Guilford-Zimmerman and the California Psychological Inventory in the measurement of teaching candidates. California Journal of Educational Research, 1955, 6, 35-37.

Guba, E. G., Jackson, P. W., and Bidwell, C. E. Occupational choice and teaching career. Educational Research Bulletin, 1959, 38, 1-12, 27-28.

Hamachek, D. Characteristics of good teachers and implications for teacher education. Phi Delta Kappan, 1969, 50, 341-344.

Hamachek, D. Encounters with the self. New York: Holt, Rinehart, and Winston, 1971.

Harris, C. W. (Ed.). Encyclopedia of educational research. New York: Macmillan, 1960.

Hatfield, A. B. Experimental study of the self-concept of student teachers. Journal of Educational Research, 1961, 55, 87-89.

Havighurst, R. J., Robinson, M. Z., and Dorr, M. The development of the ideal self in childhood and adolescence. Journal of Educational Research, 1946, 40, 241-257.

Hayakawa, S. I. Symbol, status, and personality. New York: Harcourt, Brace and World, 1963.

Hearn, A. C. Case studies of successful teachers. Educational Administration and Supervision, 1952, 38, 376-379.

Heil, L. M. Personality variables; an important determinant in effective elementary-school instruction. Theory in Practice, 1964, 3, 12-15.

Heil, L. M. and Washburne, C. Characteristics of teachers related to children's progress. Journal of Teacher Education, 1961, 12, 401-406.

Heil, L. M. and Washburne, C. Brooklyn College research in teacher effectiveness. Journal of Educational Research, 1962, 55, 347-351.

Henjum, A. E. The relationships between certain personality characteristics of students teachers and success in student teaching. Dissertation Abstracts, 1966, 28, 516A.

Horney, K. The search for glory. In Moustakas, C. E. (Ed.). The self. New York: Harper and Brothers, 1956.

Khatena, J. Onomatopeia and Images: Examiner's Manual. Huntington, W.Va.: Marshall University, 1969.

Lamke, T. A. Personality and teaching success. Journal of Experimental Education, 1951, 20, 217-259.

Lantz, D. L. Relationship between classroom emotional climate and concepts of self, others, and ideal among elementary student teachers. Journal of Educational Research, 1965, 59, 80-83.

Lasswell, H. H. The social setting of creativity. In Anderson, H. H. (Ed.). Creativity and its cultivation. New York: Harper and Row, 1959.

Lecky, P. The personality. In Moustakas, C. E. (Ed.). The self. New York: Harper and Brothers, 1956.

Leeds, C. H. Teacher attitude and temperament as a measure of teacher-pupil rapport. Journal of Applied Psychology, 1956, 40, 333-337.

Leiderman, G. F., Hilton, T. L., and Lewin, H. Studies of teachers' behavior: A summary report. Journal of Teacher Education, 1957, 8, 433-437.

McNary, S. R. The relationships between certain teacher characteristics and achievement and creativity of gifted elementary school students. Final Report Summary. 1967, ERIC, ED 015 787.

MacKinnon, D. W. The highly effective individual. Teachers College Record, 1960, 61, 367-378.

MacKinnon, D. W. Characteristics of the creative person: Implications for the teacher-learning process. In Smith, G. K. (Ed.). Current issues in higher education. Washington, D.C.: Association for Higher Education, 1961.

MacLean, M. S., Gowan, M. S., and Gowan, J. C. A teacher selection and counseling service. Journal of Educational Research, 1955, 48, 669-677.

Maslow, A. H. Self-actualizing people: A study of psychological health. In Moustakas, C. E. (Ed.). The self. New York: Harper and Brothers, 1956.

Maslow, A. H. Creativity in self-actualizing people. In Anderson, H. H. (Ed.). Creativity and its cultivation. New York: Harper and Row, 1959.

Maslow, A. H. The creative attitude. In Avila, D. L., Combs, A. W., and Purkey, W. W. (Eds.). The helping relationship sourcebook. Boston: Allyn and Bacon, Inc., 1971.

Medley, D. M. Teacher personality and teacher-pupil rapport. Journal of Teacher Education, 1961, 12, 152-156.

Mitzel, H. E. Teacher effectiveness. In Harris, C. W. (Ed.). Encyclopedia of educational research, 3rd ed. New York: Macmillan, 1960.

Monroe, W. S. (Ed.). Encyclopedia of educational research. New York: Macmillan, 1950.

Moore, C. J. and Cole, D. The relation of MMPI scores to practice teaching ratings. Journal of Educational Research, 1957, 50, 711-716.

Morse, W. C. Self-concept in the school setting. Childhood Education, 1964, 41, 195-198.

Morsh, J. E. and Wilder, E. Identifying the effective instructor: A review of the quantitative studies, 1900-1952. Research Bulletin No. AFPTRC-TR-54-44. Chanute Air Foce Base, Illinois: United States Air Force Personnel and Training Research Center, 1954.

Moustakas, C. (Ed.). The self: Explorations in personal growth. New York: Harper and Row, 1956.

Murphy, J. A., Jr. An investigation into certain personality factors of elementary school teachers and principals with reference to the organizational climate of the school. Dissertation Abstracts, 1966, 27, 3670A.

Null, E. J. Relationships between personal variables of teachers and their perception of the behavior of school personnel. Journal of Educational Research, 1971, 64, 351-354.

Omwake, K. T. The relation between acceptance of self and acceptance of others shown by three personality inventories. Journal of Consulting Psychology, 1954, 18, 443-446.

Perkins, H. V. Teachers' and peers' perceptions of children's self-concepts. Child Development, 1958, 29, 203-220.

Purkey, W. W. The self and academic achievement: Research Bulletin V3 N1. Gainesville, Florida: Florida Educational Research and Development Council, College of Education, University of Florida, 1967, ERIC, ED 026 681.

Raina, T. N. and Raina, M. K. Perception of teacher-educators in India about the ideal child. Journal of Educational Research, 1971, 64, 303-306.

Raths, J. D., Pancella, J. R., and VanNess, J. S. Studying teaching. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1971.

Reed, H. B. The effects of teacher warmth. Journal of Teacher Education, 1961, 12, 330-334.

Rees, M. E. and Goldman, M. Some relationships between creativity and personality. Journal of General Psychology, 1961, 65, 145-161.

Richardson, S. The teacher's influence upon the learner's self concept. Claremont Reading Conference, 1968, 32, 108-113.

Rogers, C. R. What it means to become a person. In Moustakas, C. E. (Ed.). The self. New York: Harper and Brothers, 1956.

Rogers, C. R. The characteristics of a helping relationship. The Personnel and Guidance Journal, 1958, 37, 6-16.

Rogers, C. R. Toward a theory of creativity. In Anderson, H. H. (Ed.). Creativity and its cultivation. New York: Harper and Row, 1959.

Rogers, C. R. Freedom to learn. Columbus, Ohio: Charles E. Merrill, 1969.

Rogers, C. R. The interpersonal relationship in the facilitation of learning. In Avila, D. L., Combs, A. W., and Purkey, W. W. (Eds.). The helping relationship sourcebook. Boston: Allyn and Bacon, Inc., 1971.

Rupiper, O. J. Psychometric evaluation of experienced teachers. Journal of Educational Research, 1962, 55, 368-371.

Ryan, W. C. Mental health through education. New York: The Commonwealth Fund, Division of Publications, 1938.

Ryans, D. G. Some correlates of teacher behavior. Education and Psychological Measurement, 1959, 19, 3-12.

Ryans, D. G. Characteristics of teachers: Their description, comparison, and appraisal. Washington, D.C.: American Council on Education, 1960a.

Ryans, D. G. Prediction of teaching effectiveness. In Harris, C. W. (Ed.). Encyclopedia of educational research, 1960b.

Ryans, D. G. The characteristics of teachers. Washington, D.C.: The American Council of Education, 1962.

Ryans, D. G. Teacher behavior theory and research: Implications for teacher education. Journal of Teacher Education, 1963, 14, 274-293.

Sanford, C. W. and Trump, J. L. Preservice selection. In Monroe, W. S. (Ed.). Encyclopedia of educational research. New York: Macmillan, 1950.

Scobey, M. M. and Graham, G. (Eds.). To nurture humaneness. Washington, D.C.: Association for Supervision and Curriculum Development, 1970.

Seidman, S. K. The self-concept of elementary school student-teachers and its relationship to classroom verbal interaction. Dissertation Abstracts, 1969, 30, 3355A.

Smith, G. K. Current issues in higher education. Washington, D.C.: Association for Higher Education, 1961.

Snygg, D. and Combs, A. W. Individual behavior: A new frame of reference for psychology. New York: Harper and Brothers, 1949.

Soar, R. S. Methodological problems in predicting teacher effectiveness. Journal of Experimental Education, 1964, 32, 287-291.

Solomon, D., Bezdek, W. E., and Rosenberg, L. Teacher behavior and student learning. Journal of Educational Psychology, 1964, 55, 23-30.

Symonds, P. M. Evaluation of teacher personality. Teachers College Record, 1946, 48, 21-34.

Symonds, P. M. Personality of the teacher. Journal of Educational Research, 1947, 40, 652-661.

Symonds, P. M. Teaching as a function of the teacher's personality. Journal of Teacher Education, 1954, 5, 79-83.

Symonds, P. M. and Dudek, S. Use of the Rorschach in the diagnosis of teacher effectiveness. Journal of Projecting Techniques, 1956, 20, 227-234.

Tanner, W. C., Jr. Personality basis in teacher selection. Phi Delta Kappan, 1954, 35, 271-277.

Taylor, C. W. (Ed.). Widening horizons in creativity. New York: Wiley, 1964.

Thompson, G. G. Child psychology. New York: Houghton Mifflin Company, 1952.

Tomlinson, L. R. Pioneer studies in the evaluation of teaching. Educational Research Bulletin, 1955a, 34, 63-71.

Tomlinson, L. R. Recent studies in the evaluation of teaching. Educational Research Bulletin, 1955b, 34, 172-186.

Torrance, E. P. Guiding creative talent. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1962.

Torrance, E. P. The creative personality and the ideal pupil. Teachers College Record, 1963, 65, 220-226.

Torrance, E. P. Guide for scoring originality and interest. In Yamamoto, K. Revised guide for scoring Minnesota tests of creative thinking and writing. Kent, Ohio: Kent State University, 1964a.

Torrance, E. P. The Minnesota studies of creative thinking: 1959-62. In Taylor, C. W. (Ed.). Widening horizons in creativity. New York: John Wiley and Sons, Inc., 1964b.

Torrance, E. P. Gifted children in the classroom. New York: Macmillan, 1965a.

Torrance, E. P. Rewarding creative behavior. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965b.

Torrance, E. P. Ideal Pupil Checklist. Athens, Georgia: University of Georgia, Georgia Studies of Creative Behavior, 1967.

Torrance, E. P. Some validity studies of two brief screening devices for studying the creative personality. Journal of Creative Behavior, 1971, 5, 94-103.

Torrance, E. P. and Khatena, J. Technical - Norms Manual for "What Kind of Person Are You?" Athens, Georgia: University of Georgia, Georgia Studies of Creative Behavior, 1970a.

Torrance, E. P. and Khatena, J. What kind of a person are you? A brief screening device for identifying creatively gifted adolescents and adults. Gifted Child Quarterly, 1970b, 14, 71-75.

Turner, R. L. and Denny, D. A. Teacher characteristics, teacher behavior, and changes in pupil creativity. Elementary School Journal, 1969, 69, 265-270.

Walberg, B. Structure of self concepts in prospective teachers. Journal of Educational Research, 1967, 61, 84-86.

Warburton, F. W., Butcher, H. J., and Forrest, G. M. Predicting student performance in a university department of education. British Journal of Educational Psychology, 1963, 33, 68-79.

Watters, W. A. Annotated bibliography of publications related to teacher evaluation. Journal of Experimental Education, 1954, 22, 351-367.

Wilson, F. Human nature and aesthetic growth. In Moustakas, C. E. (Ed.). The self. New York: Harper and Brothers, 1956.

Yamamoto, K. Relationship between creative thinking abilities of teachers and achievement and adjustment of pupils. Journal of Experimental Education, 1963, 32, 2-25.

Yamamoto, K. Revised guide for scoring Minnesota test of creative thinking and writing. Kent, Ohio: Kent State University, 1964.

Yamamoto, K. Images of the ideal pupil. California Journal of Educational Research, 1969, 20, 221-233.

Zimmerman, R. E. and Williams, J. D. Personality characteristics of innovative and non-innovative teachers. Psychological Reports, 1971, 29, 343-346.