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The Ohio State University, Ph.D., 1967
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RELATIONSHIP OF SELF-CONCEPT AND SELECTED
PERSONALITY VARIABLES TO ACHIEVEMENT IN
MUSIC STUDENT TEACHING

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the
Degree Doctor of Philosophy in the Graduate School of
The Ohio State University

By

Richard L. Wink, A.B., M.A.

* * * * *

The Ohio State University
1967

Approved by

Adviser
School of Music

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VITA

August 23, 1930 Born, Fairbury, Illinois

1952 A.B. Findlay College, Findlay, Ohio

1952-54 U.S. Army in Korea

1954-58 Public School Music Teacher, Wyandot County,
Ohio

1958-60 Public School Music Teacher, Arcadia High
School, Arcadia, Ohio

1960-61 Public School Music Teacher, Van Wert High
School, Van Wert, Ohio

1961-63 Public School Music Teacher, Worthington High
School, Worthington, Ohio

1961-63 Graduate Study at Indiana University,
Bloomington, Indiana

1963-66 Teaching Assistant, Division of Music
Education, The Ohio State University

1966-67 Instructor in Music, Mansfield Campus,
The Ohio State University

FIELDS OF STUDY

Major Field: Music Education. Professors Erwin H. Schneider and
Henry L. Cady

Studies in Music History. Professor Richard H. Hoppin

Studies in Higher Education. Professor Earl Anderson

Studies in Secondary Education. Professors Frederick R.
Cyphert and Jack R. Frymier

CONTENTS

	Page
ACKNOWLEDGMENTS	ii
VITA	iii
TABLES	vi
CHAPTER	
I. PROBLEM OF THE STUDY	1
Introduction	
The Perceptual Approach to Behavior	
Self-Concept: Definition and Development	
Self-Concept and Achievement	
Student Teachers in Music Education	
Significance of the Study	
The Problem	
The Purposes	
The Sub-purposes	
Hypotheses	
Sub-hypotheses	
Assumptions	
Definitions of Terms	
Delimitations	
II. RELATED LITERATURE	18
The Self-Concept	
The Self-Concept and Behavior	
Personal Adjustment	
The Effects of Self-Concept on Achievement	
The Effects of Personality on Teaching Behavior	
Teacher Characteristics	
Measuring the Self-Concept and Personality	
Variables	

CHAPTER	Page
III. PROCEDURES	37
The Sample	
Instrument Development and Selection	
The index of adjustment and values	
The self-concept of music teaching ability	
The Edwards Personal Preference Schedule	
The IPAT Anxiety Scale	
The Evaluation of Student Teaching	
Observation Scheduling	
Data Analysis	
Parametric vs. nonparametric techniques	
Parametric techniques	
Nonparametric techniques	
IV. PRESENTATION OF DATA AND FINDINGS	54
Results of the Tests of Hypotheses	
Results of the Tests of Sub-hypotheses	
Additional Findings	
Summary	
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER STUDY	139
The Problem	
Procedures	
Discussion of the Results	
Suggestions for Further Study	
APPENDIXES	154
BIBLIOGRAPHY	170

TABLES

Table		Page
1.	Mean Scores and Standard Deviations for the Self-Concept of Music Teaching Ability for the Experimental and Pilot Groups	42
2.	Significance of Difference Between Means of Experimental Group (OSU) and Pilot Groups	43
3.	Relationship of IAV Variables to Final Level of Achievement (Parametric Analysis)	55
4.	Relationship of IAV Variables to Final Level of Achievement (Nonparametric Analysis)	57
5.	Relationship of IAV Variables to Degree of Growth (Parametric Analysis)	59
6.	Relationship of IAV Variables to Degree of Growth (Nonparametric Analysis)	60
7.	Relationship of SCMTA Variables to Final Level of Achievement (Parametric Analysis)	61
8.	Relationship of SCMTA Variables to Final Level of Achievement (Nonparametric Analysis)	62
9.	Relationship of SCMTA Variables to Degree of Growth (Parametric Analysis)	64
10.	Relationship of SCMTA Variables to Degree of Growth (Nonparametric Analysis)	65
11.	Relationship of EPPS Variables to Final Level of Achievement (Parametric Analysis)	67
12.	Relationship of EPPS Variables to Final Level of Achievement (Nonparametric Analysis)	68
13.	Relationship of EPPS Variables to Degree of Growth (Parametric Analysis)	70

Table		Page
14.	Relationship of EPPS Variables to Degree of Growth (Nonparametric Analysis)	72
15.	Relationship of Anxiety Level to Final Level of Achievement and Degree of Growth (Parametric Analysis)	73
16.	Relationship of Anxiety Level to Final Level of Achievement and Degree of Growth (Nonparametric Analysis)	74
17.	Changes in the IAV Variables Between the Pre-Test and Post-Test (Parametric Analysis)	77
18.	Changes in the IAV Variables Between the Pre-Test and Post-Test (Nonparametric Analysis)	78
19.	Changes in the SCMTA Variables Between the Pre- Test and Post-Test (Parametric Analysis)	80
20.	Changes in the SCMTA Variables Between the Pre- Test and Post-Test (Nonparametric Analysis)	81
21.	Changes in the EPPS Variables Between the Pre- Test and Post-Test (Parametric Analysis)	83
22.	Changes in the EPPS Variables Between the Pre- Test and Post-Test (Nonparametric Analysis)	84
23.	Change in the IPAT Anxiety Scale Between the Pre- Test and Post-Test (Parametric Analysis)	86
24.	Change in the IPAT Anxiety Scale Between the Pre- Test and Post-Test (Nonparametric Analysis)	86
25.	Relationship of the Change in IAV Variables to Final Level of Achievement (Parametric Analysis) . . .	88
26.	Relationship of the Change in IAV Variables to Final Level of Achievement (Nonparametric Analysis)	89

Table		Page
27.	Relationship of the Change in IAV Variables to Degree of Growth (Parametric Analysis)	91
28.	Relationship of the Change in IAV Variables to Degree of Growth (Nonparametric Analysis)	92
29.	Relationship of the Change in SCMTA Variables to Final Level of Achievement (Parametric Analysis) . .	93
30.	Relationship of the Change in SCMTA Variables to Final Level of Achievement (Nonparametric Analysis) .	94
31.	Relationship of the Change in SCMTA Variables to Degree of Growth (Parametric Analysis)	95
32.	Relationship of the Change in SCMTA Variables to Degree of Growth (Nonparametric Analysis)	96
33.	Relationship of the Change in EPPS Variables to Final Level of Achievement (Parametric Analysis) . .	98
34.	Relationship of the Change in EPPS Variables to Final Level of Achievement (Nonparametric Analysis) .	99
35.	Relationship of the Change in EPPS Variables to Degree of Growth (Parametric Analysis)	101
36.	Relationship of the Change in EPPS Variables to Degree of Growth (Nonparametric Analysis)	102
37.	Relationship of the Change in Anxiety Level (IPAT) to Final Level of Achievement and Degree of Growth (Parametric Analysis)	104
38.	Relationship of the Change in Anxiety Level (IPAT) to Final Level of Achievement and Degree of Growth (Nonparametric Analysis)	105
39.	Relationship of the IAV and the SCMTA Before Student Teaching (Pre-Test)	108

Table		Page
40.	Relationship of the IAV and the SCMTA After Student Teaching (Post-Test)	109
41.	Relationship of the IAV and the EPPS Before Student Teaching (Pre-Test)	111
42.	Relationship of the IAV and the EPPS After Student Teaching (Post-Test)	113
43.	Relationship of the IAV and IPAT Anxiety Scale Before Student Teaching (Pre-Test)	115
44.	Relationship of the IAV and IPAT Anxiety Scale After Student Teaching (Post-Test)	116
45.	Relationship of the SCMTA and the EPPS Before Student Teaching	118
46.	Relationship of the SCMTA and the EPPS After Student Teaching (Post-Test)	120
47.	Relationship of the SCMTA and the IPAT Before Student Teaching (Pre-Test)	121
48.	Relationship of the SCMTA and the IPAT After Student Teaching (Post-Test)	122
49.	Relationship of the EPPS and the IPAT Before Student Teaching (Pre-Test)	124
50.	Relationship of the EPPS and the IPAT After Student Teaching (Post-Test)	126
51.	Relationship Between Experimental Group and Established Norms for the IAV	128
52.	Relationship Between Experimental Group and Established Norms for the EPPS	130
53.	Relationship Between Experimental Group and Established Norms for the IPAT Anxiety Scale	131

Table		Page
54.	Test for Skewness for the SCMTA	132
55.	Relationship of Final Level of Achievement to Degree of Growth	134
56.	Summary of Correlations for Hypotheses	137

CHAPTER I

PROBLEM OF THE STUDY

Introduction

The effects of personality on teaching effectiveness have become a concern to educators. Evidence is accumulating to support the belief that personality is an important factor in the achievement of teachers. Barr¹ reports more than 200 references to positive relationships between personality characteristics and some criterion of teaching success. Recent research also indicates the importance of teacher personality in teaching effectiveness.²

The Perceptual Approach to Behavior

The belief that self-perception is a factor in personality and social interaction has led to recent research in human behavior using the techniques developed by phenomenological psychologists.

¹A. S. Barr, "The Measurement and Prediction of Teaching Efficiency: A Summary of Investigations," Journal of Experimental Education, XVI (1948), pp. 203-83.

²Fred T. Tyler, The Prediction of Student-Teaching Success from Personality Inventories (Berkeley: University of California Press, 1954), p. 233; and Bruce J. Biddle and William J. Ellena (eds.), Contemporary Research on Teacher Effectiveness (New York: Holt, Rinehart and Winston, 1964).

Phenomenology is a school of philosophy which maintains that reality lies not in the event but rather in the individual's perception of that event. Behavior, then, is believed to be a function of an individual's perception of events.

Combs and Snygg³ call a person's universe as it is experienced by an individual his "perceptual field." They further state that "all behavior, without exception, is completely determined by, and pertinent to, the perceptual field of the behaving organism." The behavior of an individual at any given time depends not on objective facts, but rather on his perception of himself in relation to those facts. Rogers⁴ found that whenever changes occur in the perception of the self and in the perception of reality, changes occur in behavior.

Self-Concept: Definition and Development

In a recent publication, Rogers defines self-concept:

The self-concept or self-structure may be thought of as an organized configuration of perceptions of the self which are admissible to awareness. It is composed of such elements as the perceptions of one's characteristics and abilities; the percepts and concepts of the self in relation to others and to the environment; the value qualities which are

³Arthur W. Combs and Donald Snygg, Individual Behavior: A Perceptual Approach to Behavior (New York: Harper & Row, 1959), pp. 20-21.

⁴Carl R. Rogers, "The Organization of Personality," The American Psychologist, II (September, 1947), pp. 358-68.

perceived as associated with experiences and objects; goals and ideals which are perceived as having positive or negative valence.⁵

The self-concept, as Rogers and Dymond⁶ have stated, is defined as an organized, fluid but consistent, conceptual pattern of the characteristics of the "I" or "me."

Combs and Snygg⁷ describe the development of the phenomenal self:

The self is essentially a social product arising out of experience with people. Although some of the individual's experience of self may be achieved in isolation from other people, by far the greater portion of his self arises out of his relationships with others. Human personality is primarily a product of social interaction.

This implies that a teacher's personality develops to whatever extent teaching is considered to be social interaction. If the behavior of an individual depends mostly on his perception of his environment and social interaction, then it seems necessary to search further into the problem of teacher personality from the phenomenological point of view in order to understand more fully the entire teaching process and thereby devise means of educating teachers better.

Self-Concept and Achievement

Many authorities in education emphasize the significance of the concept of self in the learning situation.⁸ Several studies of the

⁵Carl R. Rogers, Client-Centered Therapy (Cambridge: Houghton-Mifflin, 1951), p. 110.

⁶Carl R. Rogers and C. Dymond (eds.), Psychotherapy and Personality Change (Chicago: University of Chicago Press, 1954), p. 55.

⁷Combs and Snygg, op. cit., p. 143.

⁸L. O. Andrews, Student Teaching (New York: Center for Applied Research in Education, 1964).

relationships of self-concept to achievement have been made which show that a positive concept of self has a positive relationship to achievement.⁹ These findings have led researchers to believe that self-concept may affect achievement, and that achievement may affect self-concept as well.⁹

In the education of teachers, achievement in the student teaching experience is generally accepted as one of the most important facets of the program. If this assumption is valid, it is necessary for those who are concerned with teacher education to know more fully the nature of the student teaching experience.

Student Teachers in Music Education

In an attempt to focus on the unique problems inherent to specialized areas of teaching, this investigator concentrated on the field of music. This involved not only the global self-concept but also the self-concept in terms of specialized abilities in music teaching.

Little is known concerning the relationship of a person's personality and his association with the arts. No conclusive evidence has been presented which can support the rather common notion that people in the arts have unusual personalities. Although no attempt was made in this study to prove or disprove this theory, there was an attempt made to study the self-concept of music student teachers and selected facets of their personalities. Of particular concern was the

⁹See Chapter II.

degree to which student teachers in music are comparable to established norms in selected personality variables and in personal adjustment.

Significance of the Study

The findings of this study have usable implications for those concerned with teacher education in the field of music. The previous discussion has shown that self-concept is an important factor in the degree of achievement attained in the student teaching experience. It will be seen that appropriate considerations for curricula, counseling, and additional professional activities can therefore be made, specifically for music student teachers.

Devices for predicting achievement in student teaching are generally not reliable. More knowledge is needed concerning the effects of personality on teaching behavior, the effects of teaching experience on personality, and the relationship of personality types to vocational preference and achievement. Michaelis¹⁰ reports negative results in his attempt to achieve a high level of accuracy in predicting achievement in student teaching from personality and attitude inventories. Predictive devices can be extremely valuable in the early stages of teacher education for guidance and counseling. Prospective teachers can be helped in making decisions concerning their

¹⁰J. Michaelis, The Prediction of Success in Teaching from Personality and Attitude Inventories (Berkeley: University of California Press, 1954).

career choice, in utilizing remedial techniques to improve teaching behavior, and in understanding themselves. If enough is known about the total personality and how it functions in differing conditions, teachers can come to know more about themselves with respect to basic human needs and how their own need system affects their own behavior. As more and more evidence accumulates concerning the importance of self-concept on achievement, educators can begin to utilize this body of knowledge to improve the quality of teaching.

The Problem

The specific problems investigated in this study may be stated in the following questions:

1. Do relationships appear to exist between the self-concept of music student teachers and their achievement in the student teaching experience?
2. Does the student teaching experience and its degree of achievement appear to have any effect on the music student teacher's self-concept?

The Purposes

The purposes of this study were:

1. To determine whether relationships occur between music student teachers' self-concept and their achievement in the student teaching experience.
2. To determine whether changes occur in the music student teachers' self-concept during the student teaching experience.

3. To determine whether relationships exist between changes in self-concept during the student teaching experience and achievement in student teaching.

The Sub-purposes

1. To determine whether relationships occur between the following factors:

- a. Self-concept in terms of personal adjustment.
- b. Self-concept of music teaching ability.
- c. Personality variables based on need system and anxiety level.

2. To determine whether music student teachers differ significantly from norms established for Bills' Index of Adjustment and Values, Edwards Personal Preference Schedule, and the IBAT Anxiety Scale.

3. To determine whether certain types of personality are associated with high and low achievers in music student teaching.

4. To measure student teachers in music with regard to the following:

- a. Each student teacher's self-concept in terms of personal adjustment.
- b. Each student teacher's self-concept of music teaching ability.
- c. Each student teacher's need system and anxiety level.

5. To evaluate achievement in the student teaching experience in two dimensions:

- a. Degree of growth.
- b. Final level of achievement.

Hypotheses

1. No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their final level of achievement in the student teaching experience.

2. No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their degree of growth in the student teaching experience.

3. No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their final level of achievement in the student teaching experience.

4. No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their degree of growth in the student teaching experience.

5. No relationship exists between certain personality variables of student teachers (EPPS) and their final level of achievement in the student teaching experience.

6. No relationship exists between certain personality variables of student teachers (EPPS) and their degree of growth in the student teaching experience.

7. No relationship exists between student teachers' anxiety level (IPAT) and their final level of achievement in the student teaching experience.

8. No relationship exists between student teachers' anxiety level (IPAT) and their degree of growth in the student teaching experience.

9. There is no significant difference between the scores obtained on the pre-test and post-test of the self-concept in terms of personal adjustment (IAV).

10. There is no significant difference between the scores obtained on the pre-test and post-test of the self-concept of music teaching ability (SCMTA).

11. There is no significant difference between the scores obtained on the pre-test and post-test of the Edwards Personal Preference Schedule (EPPS).

12. There is no significant difference between the scores obtained on the pre-test and post-test of the IPAT Anxiety Scale.

13. No relationship exists between the change in self-concept in terms of personal adjustment (IAV) and the final level of achievement in the student teaching experience.

14. No relationship exists between the change in self-concept in terms of personal adjustment (IAV) and the degree of growth in the student teaching experience.

15. No relationship exists between the change in self-concept of music teaching ability (SCMTA) and the final level of achievement in the student teaching experience.

16. No relationship exists between the change in self-concept of music teaching ability (SCMTA) and the degree of growth in the student teaching experience.

17. No relationship exists between the change in certain personality variables (EPPS) and the final level of achievement in the student teaching experience.

18. No relationship exists between the change in certain personality variables (EPPS) and the degree of growth in the student teaching experience.

19. No relationship exists between the change in anxiety level (IPAT) and the final level of achievement in the student teaching experience.

20. No relationship exists between the change in anxiety level (IPAT) and the degree of growth in the student teaching experience.

Sub-hypotheses

1. No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their self-concept of music teaching ability (SCMTA) before student teaching.

2. No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their self-concept of music teaching ability (SCMTA) after student teaching.

3. No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their personality need system (EPPS) before student teaching.

4. No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their personality need system (EPPS) after student teaching.

5. No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their anxiety level (IPAT) before student teaching.

6. No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their anxiety level (IPAT) after student teaching.

7. No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their personality need system (EPPS) before student teaching.

8. No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their personality need system (EPPS) after student teaching.

9. No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their anxiety level (IPAT) before student teaching.

10. No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their anxiety level (IPAT) after student teaching.

11. No relationship exists between student teachers' personality need system (EPPS) and their anxiety level (IPAT) before student teaching.

12. No relationship exists between student teachers' personality need system (EPPS) and their anxiety level (IPAT) after student teaching.

13. There is no significant difference between the scores obtained for each student teacher on the Bills Index of Adjustment and Values (IAV) and established norms.

14. There is no significant difference between the scores obtained for each student teacher on the Edwards Personal Preference Schedule (EPPS) and established norms.

15. There is no significant difference between the scores obtained for each student teacher on the IPAT Anxiety Scale and established norms.

Assumptions

1. It is possible to gain a significant indication of a subject's personal adjustment by use of the Bills Index of Adjustment and Values.

2. It is possible to gain a significant indication of a subject's self-concept of his ability to teach music by using the pencil and paper type of instrument designed for use in this study.

3. The Stanford Teacher Competence Appraisal Guide is an adequate device for the objectification of student teacher evaluation.

4. The Edwards Personal Preference Schedule is an adequately justified instrument in gaining insight as to personality needs among college students.

5. All of the student teachers in music for the academic year 1966-67 at The Ohio State University form a variety of personality types and a sufficient range of achievement levels in student teaching to draw conclusions concerning relationships.

6. There are an untold number of variables which are impossible to control at this time in ascertaining the reasons for or causes of success or failure in teaching. It is assumed that the variable known as self-concept can be isolated sufficiently for scientific investigation.

Definitions of Terms

Some of the terms used in this study may need clarification by definition. Where a definition was obtainable from the literature of a specialized field this was used.

1. "Self-concept"--the perceptual image a person holds of himself.¹¹

2. "Self-acceptance"--the extent to which a person is satisfied with his self-image.¹²

3. "Concept of the Ideal Self"--a person's view of himself as he wishes to be.¹²

4. "Personal adjustment"--the extent to which a person's self-concept is compatible with his self-acceptance and his concept of the

¹¹ Combs and Snygg, op. cit.

¹² Robert E. Bills, "Index of Adjustment and Values: Manual," Unpublished Manual, University of Alabama.

ideal self. Personal maladjustment exists when the discrepancy between the self-concept and the concept of the ideal self is sufficiently large as to cause unhappiness.¹²

5. "Personality Need System"--the fifteen personality variables which comprise the Edwards Personal Preference Schedule.¹³ (See Appendix C.)

6. "Anxiety Level"--the extent to which a person has integrated his personality with his surroundings. The anxiety level is an additional method of assessing adjustment; the lower the anxiety, the greater the extent to which a person is well-adjusted.¹⁴

7. "Achievement in Student Teaching"--the degree to which a student teacher has been judged by college supervisors and his co-operating teacher to be successful. This evaluation was rated objectively and expressed in two dimensions:

a. "Degree of Growth"--the extent to which the subject has shown an improvement from the first observation to the last as indicated by the Stanford Teacher Competence Appraisal Guide.

¹²Robert E. Bills, "Index of Adjustment and Values: Manual," Unpublished Manuscript, University of Alabama.

¹³Allen L. Edwards, Edwards Personal Preference Schedule: Manual (New York: The Psychological Corp., 1959).

¹⁴Raymond B. Cattell and I. H. Scheier, "IPAT Anxiety Scale: Manual," Western Psychological Services, 1963.

b. "Final Level of Achievement"--the degree of achievement attained in the student teaching experience, or the score obtained on the final observation as indicated by the Stanford Teacher Competence Appraisal Guide.

8. "Personality"--Rather than attempting a definition of personality, the writer prefers to establish a frame of reference which, in this case, is individual perception. Phenomenologists have asserted the theory that behavior is determined by an individual's perception of his environment. In that sense, the personality may be referred to as the "phenomenal self." If this frame of reference is accepted, the logic of a self-concept study is evident: (a) self-concept determines and controls perception, (b) perception determines behavior, (c) behavior can be analyzed through a study of self-concept.

The phenomenological view of personality is based on Carl Roger's theory:

The principal conceptual ingredients of Roger's theory are these: (1) the organism which is the total individual, (2) the phenomenal field which is the totality of experience, and (3) the self which is a differentiated portion of the phenomenal field and consists of a pattern of conscious perceptions and values of the "I" or "me." The organism possesses the following properties: (a) it reacts as an organized whole to the phenomenal field in order to satisfy its needs, (b) it has one basic motive, namely, to actualize, maintain, and enhance itself, and (c) it may symbolize its experiences so that they become conscious, or it may deny them symbolization so that they remain unconscious, or it may ignore its experiences.¹⁵

¹⁵Calvin S. Hall and Gardner Lindzey, Theories of Personality (New York: John Wiley & Sons, Inc., 1957), p. 478.

At the center of this theory is Roger's description of the self:

The self, which is the nuclear concept in Roger's theory of personality, has numerous properties some of which are these: (a) it develops out of the organism's interaction with the environment, (b) it may introject the values of other people and perceive them in a distorted fashion, (c) the self strives for consistency, (d) the organism behaves in ways that are consistent with the self, (e) experiences that are not consistent with the self-structure are perceived as threats, and (f) the self may change as a result of maturation and learning.¹⁶

For reference in this study, the definition of personality is more properly stated in terms of personality correlates, including emotional needs, adjustment, anxiety, and self-perception.

Delimitations

1. The student teaching experience of the subjects was limited to secondary school music.
2. The observation of student teachers was limited to two formal evaluations per student teacher by each supervisor and cooperating teacher, i.e. at the beginning and end of the quarter. Faculty load did not permit more extensive observation, and limited staff members during any given academic quarter did not allow for more observation by other supervisors. The observation schedule as established for this study was relatively extensive and considered to be optimal.

¹⁶Ibid., p. 478.

3. An attempt was made to compare the subjects involved in this study with established norms, but the data does not include individual consultations with a trained psychologist. Therefore, no substantial comparison can be made between the personalities of music teachers and the personalities of teachers in other disciplines.

CHAPTER II

RELATED LITERATURE

The literature including information related to this study is extensive. The following review presents information which is considered to be most closely relevant to the study. This information has been grouped for convenience as follows: (1) The Self-Concept, (2) The Self-Concept and Behavior, (3) Personal Adjustment, (4) The Effects of Self-Concept on Success, (5) The Effects of Personality on Teaching Behavior, (6) Teacher Characteristics, and (7) The Measurement of Self-Concept and Personality Variables. The objective of this review is to provide the general informational context within which the study was performed, the assumptions underlying it, and the direct sources used for information and materials.

The Self-Concept

There is a great deal of source material related to self-concept in various types of literature. Most of the research on self-concept is recent; Ruth Wylie,¹⁷ in a compendium of research, surveyed 493 studies related to the self-concept. The 1962 yearbook for The

¹⁷Ruth Wylie, The Self-Concept: A Critical Survey of Pertinent Research Literature (Lincoln: University of Nebraska Press, 1961).

Association for Supervision and Curriculum Development¹⁸ is comprised of writings by four outstanding authorities on perceptual psychology. This new frontier of knowledge is an aspect of existentialism and rose from the school of philosophy known as phenomenology.¹⁹

The self-concept seems to be an organized pattern of perceptions, the purpose of which is probably a system of defense mechanisms built up by an individual in order to maintain personal adjustment within his immediate environment:

It will be recalled that we have defined the perceptual field as the universe, including himself, as it appears to the individual at the moment. Although behavior is always determined by the total field, that portion which the individual regards as part of characteristic of himself influences almost all of his behavior. Since it is always the self which is perceived as behaving, behavior must always be appropriate to the phenomenal self. Aspects of the perceptual field having a specific reference to the self will, therefore, be of paramount importance in understanding the individual's field and, hence, his behavior.²⁰

Rogers has been partly responsible for advancing the theory of organization with regard to self-concept. He stated that the self-concept is an organized, fluid, but consistent, conceptual pattern of

¹⁸Arthur W. Combs (ed.), Perceiving, Behaving, and Becoming, Yearbook of The Association for Supervision and Curriculum Development (Washington, D. C., 1962).

¹⁹C. Gratton Kemp, "The Self," (from an unpublished monograph), p. 7.

²⁰Arthur Combs and Donald Snygg, Individual Behavior (rev. ed.; New York: Harper & Row, 1959), p. 44.

the characteristics of the "I" or "me."²¹ Rogers expanded this definition in a later publication:

The self-concept or self-structure may be thought of as an organized configuration of perceptions of the self which are admissible to awareness. It is composed of such elements as the perceptions of one's characteristics and abilities; the percepts and concepts of the self in relation to others and to the environment; the value qualities which are perceived as associated with experiences and objects; goals and ideals which are perceived as having positive or negative valence.²²

Self-concept is developed through experience with significant others, that is, other people who are significant to the perceiver.²³ An individual is subjected to thousands of attitudes, comments, opinions, and the like which take shape in his mind as his self. This image is developed slowly over a long period of time and is altered or reinforced as the result of meaningful experiences. This organized pattern of perceptions seems to be consistent. Alexander's²⁴ study of self-concept tended to support the holistic hypothesis of phenomenology; that is, the self-concept is a consistent whole rather than an aggregate of conflicting forces.

²¹Carl R. Rogers and C. Dymond (eds.), Psychotherapy and Personality Change (Chicago: University of Chicago Press, 1954).

²²Carl R. Rogers, Client-Centered Therapy (Cambridge: Houghton Mifflin, 1961), p. 110.

²³Combs and Snygg, op. cit., p. 134; and Wilbur Brookover and David Gottlieb, A Sociology of Education (New York: The American Book Co., 1964), Chapter 16.

²⁴Eugene Alexander, "The Relationship Between Self-Concept, Self-Acceptance, and School Marks," (unpublished doctoral dissertation, University of Michigan, 1962).

The Self-Concept and Behavior

The idea of self-concept places individual behavior in a new frame of reference. Snygg and Combs²⁵ discuss the observation of human behavior from two broad frames of reference: from the point of view of an outsider, or from the point of view of the behavior himself. The former view has been called the "objective" or "external" frame of reference while the latter view has been called the "perceptual," "personal," or "phenomenological" frame of reference. This internal frame of reference provides a different concept of behavior.

If we consistently studied each individual from an internal frame of reference of that individual from within his own perceptual field, it seems probable that we should find generalizations which could be made and principles that are operative, but we may be sure that they would be of a different order from those externally based judgements of individuals.²⁶

There seem to be two theories concerning the temporal stability of self-concept. Combs and Snygg²⁷ support the existence of both theories and find no conflict between them. One theory is that self-concept is stable; the individual tends to resist disruption of his organization or integration of those factors which comprise the phenomenal self.

²⁵Combs and Snygg, op. cit., p. 16.

²⁶Carl Rogers, Client-Centered Therapy (Cambridge: Houghton Mifflin, 1951), p. 110.

²⁷Combs and Snygg, op. cit., pp. 129-144.

Dependent upon the circumstances of his growth and the intensity and satisfaction of his experiences, the individual's phenomenal self becomes more or less permanently fixed. Two factors appear to contribute to this fixation. The first is the inertia of the organization itself. An organization once established, tends to resist disruption.

A second factor . . . is the selection imposed upon the individual's perceptions by the phenomenal self. Once the phenomenal self has become established, experience therefore can only be interpreted in terms of that self.²⁸

The second theory is that change in the self-concept occurs either gradually or traumatically throughout the lifetime of the individual; these changes happen as a result of the individual's perception of the reactions of others to himself.

To say that the phenomenal self resists change does not imply by any means that, once it is established, no further changes are possible. It is probable that throughout the lifetime of the individual change is constantly occurring in the phenomenal self as he perceives the reactions of others to himself.²⁹

Combs and Snygg relate the phenomenal self to basic human need:

From birth to death the defense of the phenomenal self is the most pressing, most crucial, if not the only task of existence. Moreover, since human beings are conscious of the future, their needs extend into the future as well, and they strive to preserve not only the self as it exists but to build it up and to strengthen it against the future of which they are aware. We might combine these two aspects into a formal definition of basic human need as: the preservation and enhancement of the phenomenal self.³⁰

²⁸Ibid., p. 131.

²⁹Ibid., p. 132.

³⁰Ibid., p. 45.

Rogers³¹ found that whenever changes occur in the perception of the self and in the perception of reality, changes occur in behavior. The importance of perception to behavior is supported by Combs and Snygg:

The phenomenal self is the most permanent part of the individual's phenomenal field and is the point of reference for his every behavior. The basic need of everyone is to preserve and enhance the phenomenal self, and the characteristics of all parts of the field are governed by this need. The phenomenal self is so important in the economy of the individual that it gives continuity and consistency to his behavior. When the phenomenal self is understood, various and diverse behavior become consistent, controllable, and predictable.³²

Four authorities, Earl Kelly,³³ Carl Rogers,³⁴ Abraham Maslow,³⁵ and Arthur Combs,³⁶ support the theory that behavior is a function of perception. The following excerpt illustrates the importance of immediacy on perception and behavior:

A person's behavior is . . . a result of his past experience, his life history. How he behaves right now,

³¹Carl R. Rogers, "The Organization of Personality," The American Psychologist, II (September, 1947), pp. 358-68.

³²Combs and Snygg, op. cit., p. 122.

³³Arthur W. Combs (ed.), Perceiving, Behaving, and Becoming, Yearbook of the Association for Supervision and Curriculum Development (Washington, D. C., 1962), p. 9.

³⁴Ibid., p. 21.

³⁵Ibid., p. 34.

³⁶Ibid., p. 50.

however, results from his ways of seeing, learned from his past experience, to be sure, but existing in his present perceptions at this time. The immediate view stresses that it is the way of seeing the situation at this moment, today, this instant, which produces the person's behavior at this instant. This means - if we can understand how a person is perceiving right now - we may be able to help him change his behavior even if we do not know how he got this way. That is, if human behavior is a function of perception and if perception exists in the present, then it should be possible to change behavior if we can change present perceptions.³⁷

Personal Adjustment

Horney³⁸ advances the theory that neurosis is a disparity between the "real self" and the "idealized image" of self. The "idealized image" - how a person sees himself as he should be, wants to be, and strives toward - creates problems when it is not amenable to correction from reality. It may become so firmly crystallized as a finished goal that it is relatively impervious to change. Under normal conditions, it serves as an integrating and guiding force in the individual's behavior.

This theory of adjustment is supported by Bills, Vance, and McLean.³⁹ They found that from the point of view of phenomenological psychology, maladjustment may be defined as any discrepancy between

³⁷Ibid., pp. 75-76.

³⁸Karen Horney, Neurosis and Human Growth (New York: W. W. Norton & Co., 1950).

³⁹Robert E. Bills, E. L. Vance, and O. S. McLean, "An Index of Adjustment and Values," Journal of Consulting Psychology, XV (1951), 257-61.

the concept of self and the concept of the ideal self. Wylie,⁴⁰ as well, relates self-concept with adjustment.

Despite the difficulties in defining "adjustment," either conceptually or operationally, it is generally conceded theoretically that a low degree of phenomenal self-regard could be indicative of, or an aspect of, or perhaps even a cause of "maladjustment."

Hanlen, Hofslaetter, and O'Connor⁴¹ conducted studies on patient change during successful psychotherapy. These case studies were based on personal adjustment and the congruence of self and ideal self. They concluded that the use of measures of self-ideal congruence in evaluating the extent of personal maladjustment appears justified.

Smith,⁴² in a study of self-concept discrepancy and instability, intercorrelated all selected self-concept variables, because he reasoned that they are all correlated with the common variable of adjustment. Hatfield⁴³ concluded that when the discrepancy between the self-concept and the ideal-self is large we may assume the individual holds

⁴⁰Ruth Wylie, op. cit., p. 203.

⁴¹T. Hanlen, P. Hofslaetter, and J. O'Conner, "The Congruence of Self and Ideal-Self in Relation to Personality Adjustment," Journal of Consulting Psychology, XVIII (June, 1954), 215-17.

⁴²Gene Smith, "Six Measures of Self-Concept Discrepancy and Instability: Their Reliability and Relation to Other Personality Measures," Journal of Consulting Psychology, XXII (April, 1958), 101-13.

⁴³Agnes Hatfield, "An Experimental Study of the Self-Concept of Student Teachers" (unpublished doctoral dissertation, The University of Denver, 1959).

himself in low-esteem, lacks self-confidence, and in general feels himself unworthy and unaccepted by his social group.

Witkin et al.⁴⁴ report that recent studies of perception-personality relationships demonstrate that an individual's perceptual capacities form part of the fund of resources he utilizes in the development and maintenance of his techniques for coping, and moreover, that the pattern of adjustment worked out by a person helps determine the nature of his perception, in the sense of producing characteristic ways of perceiving. Perception thus contributes to adjustment and in turn reflects that adjustment.

Brownfain⁴⁵ studied the stability of self-concept as a dimension of personality. His findings indicate that Ss with stable self-concepts are better adjusted than those with unstable self-concepts. More specifically, Brownfain found that Ss with a stable self-concept (1) have a higher level of self-esteem as manifested by a higher self-rating on the inventory item defining self-acceptance, (2) are freer of inferiority feelings and nervousness as measured by GAMIN, (3) are better liked and considered more popular by the group, (4) see themselves more as they believe other people see them, (5) know more people in the group and are better known by the group, indicating more

⁴⁴H. A. Witkin, M. Hertzman, K. Machover, P. Meissner, and S. Wapner, Personality Through Perception (New York: Harper, 1954), p. 491.

⁴⁵J. J. Brownfain, "The Stability of Self-Concept as a Dimension of Personality," Journal of Abnormal Social Psychology, IIII (July, 1952), 597.

active social participation, and (6) show less evidence of compensatory behavior of a defensive kind.

The Effects of Self-Concept on Achievement

Research on the self-concept shows that there appear to be relationships between a positive concept of self and achievement. Apparently, a person can do very little more than he thinks himself capable of doing. Brookover and Gottlieb⁴⁶ report that if a child perceives that he is unable to learn mathematics, for example, this self-concept of his ability becomes the functionally limiting factor of the child's school achievement.

These findings prompted a later study, the purpose of which was to explore ways of extending the limits of achievement which may be set by the students' self-concepts of ability. Three different methods of treatment were undertaken in three different experiments with samples of low achieving ninth grade students in an effort to enhance their self-concepts of ability and thereby result in raised levels of achievement. One of the experiments, the treatment involving parents, succeeded in inducing changes in self-concept of academic ability and academic achievement.⁴⁷

⁴⁶Wilbur B. Brookover and David Gottlieb, A Sociology of Education (2nd ed.; New York: The American Book Co., 1964), p. 469.

⁴⁷Wilbur B. Brookover, "Self-Concept of Ability and School Achievement," Final Report of Cooperative Research Project #1636, U.S. Office of Education (East Lansing: Bureau of Research and Publications, College of Education, Michigan State University, 1965).

Fink⁴⁸ studied the self-concept of high school freshmen boys and found that a relationship exists between adequacy of self-concept and level of academic achievement. Ball⁴⁹ found significant relationships between level of achievement and self-appraisal. Bowman⁵⁰ found correlations between self-concept and intelligence and self-concept and achievement for eighth-grade children. In a study of the relationships of early primary children to achievement in reading, Lowy⁵¹ found that the study of a child's perceptions give as good a prediction of reading achievement as do intelligence scores.

Moffett⁵² discovered that if a child has an unfavorable perception of himself, it is likely that this will adversely affect his achievement in reading. Conversely, a child who does not achieve in reading may, as a direct consequence, develop an unfavorable perception of himself.

⁴⁸Martin Fink, "Self-Concept as it Relates to Academic Under-achievement," California Journal of Educational Research, XIII (February, 1962), 57-62.

⁴⁹Robert L. Ball, "The Testing of Selected Hypotheses Concerning the Self-Concept as it Relates to the Ability, Academic Achievement, and Sex of High School Seniors," (unpublished doctoral dissertation, Florida State University, 1963).

⁵⁰Daniel O. Bowman, "A Longitudinal Study of Selected Facets of Children's Self-Concepts as Related to Achievement, Intelligence, and Interests" (unpublished doctoral dissertation, University of Georgia, 1963).

⁵¹Mary Lowy, "Relationship of Self-Perceptions of Early Primary Children to Achievement in Reading" (unpublished doctoral dissertation, University of Florida, 1962).

⁵²Eleanor W. Moffett, "A Study of the Relationship Between Perception of Self and Achievement in Reading" (unpublished doctoral dissertation, University of North Carolina, 1961).

Combs⁵³ studied the relationship between self-perception and achievement. He found that academically capable underachievers saw themselves as less adequate, less acceptable to others, saw their peers as less acceptable, saw adults as less acceptable, showed an inefficient and less effective approach to problems, and showed less freedom or adequacy of emotional restraint. Combs adds that "the basic thread running through this study relates to a larger hypothesis that persons can only function to the degree that they feel adequate to function." Relationships between self-concept and achievement were discovered in other studies including those by Combs and Soper;⁵⁴ Jones;⁵⁵ Shaw, Edson, and Bell;⁵⁶ and Wink.⁵⁷

⁵³Charles F. Combs, "A Study of the Relationship Between Certain Perceptions of Self and Scholastic Underachievement in Academically Capable High School Boys" (unpublished doctoral dissertation, Syracuse University, 1963).

⁵⁴A. W. Combs and D. W. Soper, "The Relationship of Child Perceptions to Achievement and Behavior in the Early School Years," U.S. Office of Education Project #814 (Gainesville, Florida: University of Florida, 1963).

⁵⁵Donald Jones, "Relationships Among Phenomenal Self-Concept, Phenomenal Ideal Self-Concept, and Perception of the Performance of Others" (unpublished doctoral dissertation, University of Tennessee, 1964).

⁵⁶Merville Shaw, Kenneth Edson, and Hugh Bell, "The Self-Concept of Bright Underachieving High School Students as Revealed by an Adjective Checklist," Personnel and Guidance Journal, XXXIX (November, 1960), 193-6.

⁵⁷Charles F. Wink, "Mental Retardation and Learning Under Symbolic Reinforcement in View of Self Acceptance" (unpublished doctoral dissertation, The Pennsylvania State University, 1962).

Wyllie⁵⁸ reviewed fifteen experiments which explored various relationships between self-regard and experimentally induced success or failure. It was concluded that, under certain conditions, changes do occur in self-evaluations after experimentally induced success or failure. These changes are most likely to involve self-ratings on the experimental task itself, and are least likely to involve reports of global self-regard.

The Effects of Personality on Teaching Behavior

A teacher's personality appears to be an important factor in his success or failure in the teaching profession. Barr⁵⁹ reports more than 200 references to positive relations between personality characteristics and some criterion of teaching success. Symonds⁶⁰ points out the importance of personality factors in teaching:

Evidence is accumulating to indicate that the essence of teaching is to be found in interpersonal relationships in the classroom. The role of the teacher depends more on personality than on specific methods or materials that he may use. A teacher's approach to teaching and his attitude toward his relationship to his pupils are a function of his attitude toward life in general. One is successful as a teacher to the extent that one is adjusted

⁵⁸Wyllie, op. cit., p. 198.

⁵⁹Barr, op. cit.

⁶⁰P. M. Symonds, "Improvement of Teaching Through Counseling of the Teacher," Journal of Teacher Education, VI (January, 1955), 122-27.

and adequate as an individual. Of course, methods are important, but the success or failure of a teacher depends principally on personality factors.

Tyler⁶¹ found that personal and social adjustments are important determiners of success in the teaching profession, especially in elementary and secondary schools. Rinehart,⁶² in a study designed to explore circumstances contributing to the decisions of music educators to leave the teaching profession, found very few structural or role conflicts which are crucial to withdrawal. Instead, a person's self-image and his perception appear to be more important criteria.

Del Popolo⁶³ found a relationship between personality and success in student teaching. His study showed that student teachers classified as authoritarian had difficulty establishing harmonious relations with students.

Researchers have attempted to discover or devise means of predicting teaching success through personality tests. Findings apparently aren't sufficient to yield a comprehensive predictive device.

⁶¹Fred Tyler, The Prediction of Student-Teaching Success from Personality Inventories (Berkeley: University of California Press, 1954).

⁶²Charles B. Rinehart, "Incidence and Causes of Withdrawal from Public School Music Teaching" (unpublished doctoral dissertation, Florida State University). As Reviewed by Howard G. White in Council for Research in Music Education, Bulletin No. 6, University of Illinois, 1965.

⁶³Joseph Del Popolo, "Authoritarian Trends in Personality as Related to Attitudinal and Behavior Traits of Student Teachers," Journal of Educational Research, LIII (March, 1960), 252-7.

Tyler,⁶⁴ Cole,⁶⁵ and Michaelis⁶⁶ found that, while certain single variables evidenced some significant correlations to teaching success, prediction on this basis would be spurious.

On the other hand, Biggerstaff⁶⁷ concluded that teaching effectiveness of secondary student teachers can be predicted from a self-concept test which measures self-actualizing tendencies. In addition, Anderson⁶⁸ found predictive value in four personality factors: objectivity, masculinity, music talent, and symbol reproduction.

At least one attempt has been made to study the relationships between self-concept and success in student teaching. The study, made by Hatfield,⁶⁹ was based on the assumption that when the discrepancy

⁶⁴Tyler, op. cit.

⁶⁵David L. Cole, "The Prediction of Teaching Performance," Journal of Educational Research, LIV (May, 1961), 345-8.

⁶⁶John U. Michaelis, The Prediction of Success in Student Teaching from Personality and Attitude Inventories (Berkeley: University of California Press, 1954).

⁶⁷Edwin Biggerstaff, "The Relationship of Socioempathic Ability, Self-Concept, Sociometric Status and Teaching Effectiveness of Student Teachers" (unpublished doctoral dissertation, North Texas State University, 1963).

⁶⁸John Anderson, "The Use of Musical Talent, Personality and Vocational Interest Factors in Predicting Success for Student Teachers" (unpublished doctoral dissertation, University of Southern California, 1965).

⁶⁹Hatfield, op. cit.

between the self-concept and the ideal self is large we may assume the individual holds himself in low-esteem, lacks self-confidence, and in general feels himself unworthy and unaccepted by his social group. Hatfield's study was designed to measure the concept which a student teacher has of himself as a member of a social group and to determine the relationship between his self-concept and successful performance in student teaching. Using a self-devised Q-sort of social behavior, a coefficient of correlation between the self-sort and the ideal-sort was determined. The student teachers were rated by four observers on a single dimension of successful-unsuccessful as an indication of over-all performance. Ss were divided according to their ratings into two groups of high and low achievement. The means of correlations between the two sorts for the two groups were found to be significantly different. Hatfield therefore concluded that a significant and positive relationship exists between a student's self-valuation and his success in student teaching.

Teacher Characteristics

Ryans⁷⁰ devised a method for determining the social and personal characteristics of effective teachers. He listed twenty-two bipolar dimensions of behavior such as patient-impatient, fair-unfair,

⁷⁰David G. Ryans, "The Investigation of Teacher Characteristics," Educational Record, XXXIV (October, 1953), 371-96.

cheerful-depressed. These were called critical behaviors of teachers. In a more recent publication, Ryans⁷¹ divided teacher behavior into three broad patterns and called them behavior syndromes: (1) understanding, friendly vs. aloof, egocentric, restricted teacher behavior, (2) responsible, businesslike, systematic vs. evading, unplanned, slipshod teacher behavior, (3) stimulating, imaginative, surgent or enthusiastic vs. dull, routine teacher behavior. Duda⁷² based his study of teacher behavior on these three dimensions and found that certain dimensions of teacher behavior are predictable. Subjects in Duda's study were student teachers in music education.

Jensen⁷³ determined a list of "critical requirements" which constitute any observable behavior which might make the difference between success and failure in teaching. Gray⁷⁴ and Baird⁷⁵ investigated teachers' changing concepts and attitudes utilizing instruments

⁷¹David G. Ryans, Characteristics of Teachers (Washington, D.C.: American Council on Education, 1960), p. 77.

⁷²Walter B. Duda, "The Prediction of Three Major Dimensions of Teacher Behavior for Student Teachers in Music Education" (unpublished doctoral dissertation, University of Illinois, 1961).

⁷³A. C. Jensen, "Determining Critical Requirements for Teachers," Journal of Experimental Education, XX (1951), 79-85.

⁷⁴Thomas L. Gray, "An Investigation of the Changes in Teaching Concepts of Student Teachers of Music" (unpublished doctoral dissertation, State University of Iowa, 1962).

⁷⁵Forrest J. Baird, "A Follow-up Inquiry of Secondary School Music Teachers" (unpublished doctoral dissertation, University of Stanford, Palo Alto, 1956).

which were comprised of music teacher characteristics. Actually, these characteristics constitute common behaviors and tasks in music teaching as well as personal habits and traits. In studies by Fenton,⁷⁶ Ardrey,⁷⁷ and Woerner⁷⁸ behaviors and competencies of effective music teachers were used in the investigation of effective music teaching.

Measuring the Self-Concept and Personality Variables

There is an apparent difference of opinion as to the validity of the self-report technique in determining self-concept. Combs, Soper, and Courson⁷⁹ discourage reliance on self-report. Their contention is based on a study in which no significant relations were found between children's self-reports and self-concept inferences made by trained observers.

⁷⁶W. L. Fenton, "Effectiveness of Music Teachers Identified Through Behavioral Criteria: A Basis for Redirection in Teacher Education" (unpublished doctoral dissertation, Wayne State University, 1957).

⁷⁷Eldon Ardrey, "The In-Service Needs of Arizona Primary Classroom Teachers to Teach Music" (unpublished doctoral dissertation, University of Colorado, 1959).

⁷⁸Gerald Woerner, "An Analysis of Certain Criteria of Musicianship as Recommended by the Teacher Training Curriculum Committee of the M.E.N.C." (unpublished doctoral dissertation, Pennsylvania State University, 1949).

⁷⁹A. W. Combs, Daniel Soper, and C. C. Courson, "The Measurement of Self-Concept, and Self-Report," Educational and Psychological Measurement, XXIII (1963), 493-500.

On the other hand, an overwhelming majority of investigators have found self-report to be of value in determining self-concept. Wylie⁸⁰ reports that most of the studies on self-concept were based on the Butler and Haigh instrument and the Bills Index of Adjustment and Values, both self-reporting instruments.

⁸⁰Wylie, op. cit.

CHAPTER III

PROCEDURES

This chapter presents a description of the procedures utilized in this study. This will include a discussion of the sample, the instruments used to measure self-concept and selected personality traits, the objective evaluation of student teachers, the problems of implementing a controlled schedule of observations, and a description of data analysis.

The Sample

The subjects selected for this study constituted the entire population of music student teachers at The Ohio State University for the academic year 1966-67. The total number of subjects in this sample was 42. Two subjects did not complete the student teaching experience due to personal problems. Six others were observed only by their respective supervisors and not by the team of supervisors for this project due to scheduling problems. The total number of subjects who completed the usual requirements for music student teaching and who completed all requirements specified for their inclusion in this study was 32.

In the analyses of data, selected parts of the sample were used depending upon the hypothesis to be tested. For example, in testing

hypotheses which were concerned with achievement and growth, only those 32 subjects who completed the student teaching experience and those who were evaluated by the team of supervisors could be included. Or, in testing a hypothesis dealing with changes between pre-tests and post-tests, all subjects who completed the student teaching experience were used. The scores of those subjects who did not complete the student teaching experience were utilized in the comparison of the experimental sample to established norms for the Bills Index of Adjustment and Values, the Edwards Personal Preference Schedule, and the IPAT Anxiety Scale.

All subjects experienced secondary level teaching either in instrumental or vocal and general music. The student teaching experience in elementary levels was not included in this study.

Instrument Development and Selection

One requisite of the study was some kind of measure of personality and adjustment factors which would provide criteria for determining phenomenological change in the subjects. A variety of sources as well as reports of experimental research in phenomenological psychology were examined for appropriate measures.⁸¹ Three measuring devices were found which were widely accepted as adequate

⁸¹Sources examined are reported in Chapter II.

instruments -- Bills Index of Adjustment and Values, the Edwards Personal Preference Schedule, and the IPAT Anxiety Scale. In addition a measure of the phenomenological aspects of the music student teaching experience was needed. Such a measure was constructed by the investigator.

The Index of Adjustment and Values

The theory underlying the Bills Index of Adjustment and Values (IAV) is that behavior is consistent with a behavior's perceptions about the world in which he lives. Personal maladjustment exists when a person's self-perception is not consistent with his self-ideal, or a concept of how he wishes to be.⁸²

This instrument was reported in Wylie's⁸³ compendium of research on self-concept as among the best instruments available and one of the most used in studies on self-concept. It was decided, therefore, that the IAV would be suitable for use in an investigation which was concerned with measuring self-concept in terms of personal adjustment. Split-half and test-retest reliability coefficients for the normal population of college students on the IAV were significantly different from zero at less than the .01 level. The 49 items on the Bills Index reflect the different traits in a person's value system. These 49 items are listed in Appendix A.

⁸²Robert E. Bills, "Index of Adjustment and Values" (unpublished manual, University of Alabama).

⁸³Wylie, op. cit.

The Self-Concept of Music Teaching Ability

An instrument was devised for this study by the investigator which would obtain from each subject an expression of his own feelings about his ability to perform the common behaviors of secondary school music teachers. Items for this inventory were taken from studies on music teacher competencies⁸⁴ and from suggestions offered by the faculty in the Division of Music Education at The Ohio State University. The form of the instrument was modelled after the Bills Index.

Item selection.--A list of 62 items was compiled and presented to a jury of 29 experts in music education for the purpose of selecting only those items considered important to successful secondary school music teaching. The experts in music education included the Music Education staff at The Ohio State University and experienced music teachers who were engaged in graduate study during the Summer Quarter of 1966. Items were given a numerical value according to the following scale:

- 0 ambiguous or irrelevant
- 0 very unimportant
- 1 unimportant
- 2 of average importance
- 3 important
- 4 very important

Because there were 29 judges, the highest possible score for any given item was 116, or 29 times the value of four. It was decided that any item receiving a rating of three or more by an expert was

⁸⁴Baird, op. cit.; and Gray, op. cit.

considered to be important. Therefore, any item with a total score of 87 or more was considered to be important; that is, 29 times the value of three. All items with a score of 87 or more were included, and all other items were discarded.

The final number of "important" items was 42, and these were listed in order of importance or scale value with three blank columns after each item. (It is interesting to note that performance ability was the least important of the 42 items included on the inventory.) Instructions for completing these items were formed in a manner similar to those found on the Bills Index of Adjustment and Values. Subjects were asked to react to each item according to their self-concept (column I), self-acceptance (column II), and self-ideal (column III).

Instrument pre-test.--In a pilot study, the instrument (see Appendix B) was submitted to several populations of seniors in music education in several institutions who were not to be used in the experiment and who had not yet experienced student teaching. These pilot groups supplied information necessary for revising the wording in several items.

Means and standard deviations for each factor on the SCMTA appear in Table 1. The Difference Score (D) in the last column of Table 1 indicates the sum of all item differences between self-concept and self-ideal. This D is an indication of the extent to which an individual's self-concept approaches his ideal-self. A low D indicates a well-adjusted person while a high D indicates a less well-adjusted person.

TABLE 1

MEAN SCORES AND STANDARD DEVIATIONS FOR THE SELF-CONCEPT OF MUSIC TEACHING
ABILITY FOR THE EXPERIMENTAL AND PILOT GROUPS

Group	N	Self-Concept (S.C.)		Self-Acceptance (S.A.)		Self-Ideal (S.I.)		Difference- Score (D)	
		$\bar{X}$	s	$\bar{X}$	s	$\bar{X}$	s	$\bar{X}$	s
Ohio State University	40	163.30	5.18	149.43	29.34	200.33	8.77	34.48	14.81
Institution A	5	163.40	5.16	146.40	22.42	188.00	25.17	39.40	7.86
Institution B	9	174.88	11.32	158.55	23.28	199.55	8.66	29.11	10.48
Institution C	29	169.27	15.33	155.68	20.76	196.75	9.39	30.58	13.92
Institution D	20	162.20	15.34	138.45	19.00	201.30	10.89	41.40	14.97

Pre-test data.--The data in Table 2 show the t ratio of the significance of difference between two means for independent samples. Each institution supplied its total population of student teachers for this pilot study. Only one variable from Institution A, one from Institution B, and one from Institution C showed a significant difference from The Ohio State University experimental group.

TABLE 2
SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS OF
EXPERIMENTAL GROUP (OSU) AND PILOT GROUPS

Pilot Groups	Self- Concept	Self- Acceptance	Self- Ideal	Difference Score	df
Institution A	0.01	0.25	2.16 ^a	0.08	43
Institution B	2.09 ^a	0.99	0.24	1.76	47
Institution C	1.51	1.10	1.60	2.21 ^a	67
Institution D	0.25	1.71	0.37	0.71	58

^aSignificant at .05 level.

The Edwards Personal Preference Schedule

Selecting a suitable instrument to measure dimensions of the personality other than personal adjustment was necessary in the preparational stages of this study. A study of the literature revealed a growing interest in the Edwards Personal Preference Schedule (EPPS) as a device to determine personality structure. Some of the research in

teaching using the EPPS includes a study by Jackson and Guba.⁸⁵ Sheldon, Coale, and Copple⁸⁶ also used the EPPS to study "warm teacher scales." Renzaglia, Henry, and Rybolt⁸⁷ used both the EPPS and the IAV in a study involving personality measurement.

The EPPS measures normal personality characteristics referred to as "personal preferences" or "psychological needs" which all individuals possess to a greater or lesser extent. The EPPS provides measures of 15 personality variables: Achievement (ach); Deference (def); Order (ord); Exhibition (exh); Autonomy (aut); Affiliation (aff); Intracception (int); Succorance (suc); Dominance (dom); Abasement (aba); Nurturance (nur); Change (chg); Endurance (end); Heterosexuality (het); Aggression (agg). A description of these personality variables may be found in Appendix C.

The EPPS test has acceptable estimates of reliability ranging from .74 on the Achievement and Exhibition scales to .88 on the Abasement scale. Anastasi⁸⁸ reviewed the EPPS quite favorably, and

⁸⁵P. W. Jackson and E. G. Guba, "The Need Structure of In-Service Teachers: An Occupational Analysis," School Review, LXV (1957), 176-92.

⁸⁶M. S. Sheldon, J. M. Coale, and R. Copple, "Current Validity of the 'Ward Teacher Scales,'" Journal of Educational Psychology, L (1959), 37-40.

⁸⁷G. Renzaglia, H. Henry, and G. Rybolt, "Estimation and Measurement of Personality Characteristics and Correlates of Their Congruence," Journal of Counseling Psychology, IX (1962), 71-78.

⁸⁸A. Anastasi, Psychological Testing (New York: MacMillan, 1961).

many recent research projects report the use of the instrument. The EPPS was selected for use in this study because it attempts to measure the individual's need system, an important dimension of the total personality.

The IPAT Anxiety Scale

The literature often relates a person's adjustment to his anxiety level. Because anxiety is a trait commonly associated with maladjustment, a test measuring anxiety level was considered necessary for use in this study. Because of its demonstrated reliability and efficiency, the IPAT Anxiety Scale was selected. Kania⁸⁹ demonstrated the power of the IPAT Anxiety Scale in a study utilizing the IAV, the EPPS, and the IPAT Anxiety Scale.

The IPAT Anxiety Scale consists of 40 questions among five anxiety-measuring factors from which expressions of anxiety are derived.⁹⁰ These five factors are (1) defective integration, lack of self sentiment; (2) ego weakness, lack of ego strength; (3) suspiciousness or paranoid insecurity; (4) guilt proneness; (5) frustrative tension or id pressure. It is recommended that the test be used primarily as a single measure of anxiety level rather than used as separate measures

⁸⁹Walter Kania, "An Investigation of the K Scale of The M.M.P.I. as a Measure of Defensiveness in Protestant Theological Seminary Students" (unpublished doctoral dissertation, Michigan State University, 1965).

⁹⁰R. B. Cattell and I. H. Scheier, Handbook for the IPAT Anxiety Scale Questionnaire (2nd ed.; Beverly Hills, California: Western Psychological Services, 1963), p. 6.

of the five factors listed above. The reliability coefficient is reported to be .93. While this is highly satisfactory, the coefficients drop for the shorter part-scores. For this reason, the authors recommend only the total 40-item score be used. Higher scores always mean more anxiety. The IPAT has demonstrated a remarkable power of validity⁹¹ for the size of the test; it requires only about ten minutes to complete.

The Evaluation of Student Teaching

In order to determine relationships between achievement in student teaching and personality factors, it was necessary to develop a method of evaluating the achievement of student teachers in music. Studies involving the evaluation of teaching effectiveness or achievement in student teaching report a variety of techniques. In addition, experience in the process of evaluation and discussions with professional educators proved that the achievement of student teachers is commonly evaluated in two dimensions -- (1) final level of achievement and (2) degree of growth. These dimensions of evaluation have been assessed more informally than formally, and grades are given to student teachers on the basis of supervisors' expressions of their achievement and growth. In order to utilize these two dimensions of evaluation, the investigator searched for an instrument by which student teaching evaluation could be objectified. The Stanford Teacher

⁹¹Kania, op. cit., p. 111.

Competence Appraisal Guide was selected as the evaluating instrument. This guide was developed at Stanford University in an attempt to quantify and appraise teacher effectiveness.

The Stanford instrument was based on the characteristic behaviors of the effective teacher as they relate to pupil behavior change. In 1959 an appraisal guide of 43 items was composed which denoted the six roles of a teacher as identified by Dr. Lawrence Kinney. After several revisions to eliminate the halo effect, to clarify semantic problems, and to make observation more efficient, the final instrument containing 17 items was completed. Studies on observer agreement showed high correlation coefficients indicating an acceptable degree of reliability. The 17 items which comprise the Guide may be found in Appendix D.

Observation Scheduling

The next step in the process of student teacher evaluation was to schedule a system of observations whereby the evaluation of student teaching achievement and growth could be determined. The problem of scheduling student teacher observations was solved first by deciding how often each student teacher must be observed, and then by deciding how many observers would be appropriate. In order to obtain a final level of achievement it was necessary to observe each student teacher in the final week of his student teaching experience. The resulting score provided a measure of his achievement. The degree of growth was determined by observing each student teacher at the beginning of his student teaching experience and obtaining a difference

score between the first and last observations. This score demonstrated the degree of improvement or growth between the initial days of student teaching and the final stages of the student teaching experience.

In order to increase the validity of the evaluations, it was decided that the number of observers should be as many as possible without creating a situation of threat for the student teachers. Also, the number of college supervisors available affected the final decision. The result of these considerations was that three college supervisors and the cooperating teacher would constitute the evaluation team. Permission to carry out this plan was obtained from the faculty of the Division of Music Education at The Ohio State University, and letters explaining the evaluation procedures, the Stanford Guide, and the purpose of the study were sent to all cooperating teachers.

Almost all subjects were observed by a team of three college supervisors and the cooperating teacher. No subject was evaluated by less than three observers at a single observation. Because two dimensions of evaluation were derived from each student teacher's experience -- degree of growth and final level of achievement -- each team was asked to make two observations: one at the beginning of a student's actual teaching duties, and one at the end. Other observations were made as part of the regular routine of student teaching supervision, but the first and last observations mentioned above were formalized with the completion of the Stanford Teacher Competence Appraisal Guide by the team of observers.

Data Analysis

Parametric vs. nonparametric techniques

There seem to be at least two schools of thought concerning the advisability of using nonparametric tests in analyzing data. While there is an increase in the use of nonparametric statistics among behavioral scientists, others refute present justifications for their use. The design of this particular study is not solidly fixed in either realm; arguments for both types of analyses appear to be valid. The original arguments for the use of nonparametric statistics were (1) the population does not constitute a random sample, (2) the population was not expected to be normally distributed, and (3) the method of collecting data in the behavioral sciences is not isomorphic to arithmetic; most of the measurements made by behavioral scientists culminate in ordinal scales.⁹²

On the other hand, it may be argued that the sample utilized in this study constituted an entire population at The Ohio State University for a period of one year, and that results are valid as long as inferences are not drawn to a total population of music student teachers everywhere. Secondly, the population is of sufficient size to gain normal distribution and, except in specific cases where the distribution is skewed, the parametric tests are valid. Finally, the relationship of psychological tests to arithmetic is largely a matter

⁹²Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Co., Inc., 1956), p. 26.

of opinion, because in fact many tests are isomorphic to arithmetic if certain basic assumptions concerning the purposes and validity of the tests are established.⁹³

Therefore, because the controversy exists, and because this study falls within an area of question, selected parts of the data are treated with both types of analyses; i.e., all hypotheses are tested with appropriate formulae in both statistical realms while the subhypotheses are analyzed by means of parametric statistics only.

Parametric techniques

The Pearson r correlation coefficient was used to show relationships between (1) self-concept and achievement in student teaching; (2) changes in self-analysis tests and achievement in student teaching; and (3) all self-analysis tests themselves. The data for these relationships were analyzed through the Statistics Laboratory of The Ohio State University utilizing the 7094 Digital Computer, Program Number MR 90.

The paired t test of significant difference was used to show differences obtained on pre-tests and post-tests of all self-analysis tests. These data were analyzed through the computer program as described above.

⁹³Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Co., Inc., 1956), pp. 19-20.

The normal test was used to show significant differences between scores obtained on the IAV, EPPS, and IPAT and established norms.

The formula⁹⁴ for this test is as follows:

$$z = \frac{\bar{X} - \mu_0}{\sigma / \sqrt{N}}$$

where $\bar{X}$ = mean of sample population,
 μ_0 = mean for established norms.

where σ = standard deviation
 N = number of subjects in the sample.

Nonparametric techniques

All hypotheses were treated with nonparametric tests. The Spearman rank correlation coefficient (r_s) was used to show relationships between self-concept and achievement in student teaching. The formula for the Spearman rank correlation coefficient is as follows:⁹⁵

$$r_s = 1 - \frac{6 \sum_{i=1}^N d_i^2}{N^3 - N}$$

where $\sum_{i=1}^N d_i^2$ = sum of squared differences of ranks,
 N = number of subjects in the sample.

Occasionally two or more subjects received the same score on the same variable. When a large proportion of ties occurred, a correction

⁹⁴ According to an interview with a supervisor at the Statistics Laboratory of The Ohio State University.

⁹⁵ Siegel, op. cit., p. 204.

factor was incorporated in the computation of r_s . The correction factor is T , the formula for which is:

$$T = \frac{t^3 - t}{12}$$

where t = the number of observations tied at a given rank. In order to use the formula corrected for ties, the values of the X variable and the Y variable must be recalculated to determine the values of $\sum x^2$ and $\sum y^2$. The formula for $\sum x^2$ or $\sum y^2$ corrected for ties is:

$$\sum x^2 = \frac{N^3 - N}{12} - \sum T$$

$\sum y^2$ is computed in the same manner. The formula for computing r_s ⁹⁶ when a considerable number of ties are present thus becomes:

$$r_s = \frac{\sum x^2 + \sum y^2 - \sum d^2}{2 \sqrt{\sum x^2 \sum y^2}}$$

Changes in all pre-tests and post-tests were treated with the Wilcoxon matched-pairs signed-ranks test. The formula for this test when N is larger than 25 is:⁹⁷

$$z = \frac{T - \mu_T}{\sigma_T} = \frac{T - \frac{N(N+1)}{4}}{\sqrt{\frac{N(N+1)(2N+1)}{24}}}$$

⁹⁶ Ibid., p. 207.

⁹⁷ Ibid., p. 79.

where T = the smaller sum of like-signed ranks,

μ_T = the mean,

and σ_T = the standard deviation.

Relationships between changes on all pre-tests and post-tests and achievement in student teaching were shown by using the X^2 and 2 X 2 contingency tables. The formula for this test with Yates correction for small expected cell frequencies is:

$$X^2 = \frac{N \left(|AD-BC| - \frac{N}{2} \right)^2}{(A+B)(C+D)(A+C)(B+D)} \quad df = 1$$

where N = the number of cases,

A , B , C , and D = the cell values in the contingency table.

In cases where expected cell frequencies fell below 5, or where the N was less than 20 the Fisher exact probabilities test was used. It was decided that significance levels rather than exact values of p calculated by the Fisher test would be used. This procedure eliminated the necessity for the tedious computation of factorials. The significance of an observed set of values in a 2 X 2 contingency table was determined directly from a table of critical values for the Fisher Test.⁹⁸

⁹⁸ Ibid., pp. 256-70.

CHAPTER IV

PRESENTATION OF DATA AND FINDINGS

This chapter will present the results of the study in the order of the hypotheses that were tested. Each hypothesis and sub-hypothesis will be summarized and will be accompanied by a table. Because each hypothesis was tested with both parametric and nonparametric statistics, each hypothesis will be accompanied by two tables and appropriate descriptions of procedure, results, and findings in each statistical realm. Results of the tests of hypotheses are presented followed by the results of the tests of sub-hypotheses. Finally, additional findings not included in the hypotheses are presented and a table summarizing the results of the tests of hypotheses is found at the end of the chapter.

Results of the Tests of Hypotheses

Hypothesis 1

No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their final level of achievement in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson correlation coefficient. The r was obtained for each factor of the IAV as

it related to final level of achievement. The correlation coefficients were obtained through the computer program described in Chapter III. The difference score (D) showed a negative direction of correlation because the relationship to achievement was reversed; that is, a low D score indicates a high level of adjustment while a high score for final level of achievement indicates a high level of achievement.⁹⁹

Results.--The data in Table 3 show the correlation coefficients (r) for each factor of the IAV, the direction of correlation, and the level of significance. All variables were positively correlated with final level of achievement. None of the correlations were significant at the .05 level.

TABLE 3
RELATIONSHIP OF IAV VARIABLES TO FINAL LEVEL
OF ACHIEVEMENT (PARAMETRIC ANALYSIS)

IAV Variables	r	Direction of Correlation	Level of Significance ^a
Self-concept	.3107	positive	-
Self-acceptance	.3205	positive	-
Self-ideal	.2735	positive	-
Difference-score	-.1522	negative	-

^aCritical values, df = 30: .05 level = .3610
.01 level = .4629

⁹⁹Hereafter, this explanation for the difference score will not be stated, but the principle will be implicit for all hypotheses dealing with the IAV and the SCMTA.

Nonparametric analysis

Procedure.--The hypothesis was tested with the Spearman rank correlation coefficient. The r_s was obtained for each factor of the IAV as it related to final level of achievement. The formula for the Spearman rank correlation coefficient is as follows:¹⁰⁰

$$r_s = 1 - \frac{6 \sum_{i=1}^N d_i^2}{N^3 - N}$$

where $\sum_{i=1}^N d_i^2$ = sum of squared difference of ranks,
 N = number of subjects in the sample.

In the case of the self-concept variable in Table 4, there were a considerable number of tied ranks. In computing the r_s for this case and many others where tied ranks occurred, the formula for r_s corrected for ties was used:¹⁰¹

$$r_s = \frac{\sum x^2 + \sum y^2 - \sum d^2}{2 \sqrt{\sum x^2 \sum y^2}}$$

¹⁰⁰ Hereafter, this formula will not be presented. The same procedure was used for all calculations of the Spearman rank correlation coefficient.

¹⁰¹ Hereafter, this formula will not be presented. The same procedure was used for all calculations of the Spearman rank correlation coefficient, in the case of ties.

Substituting values obtained from the tests, the formula for determining rank correlation between the self-concept variable and final level of achievement becomes:

$$r_s = \frac{2728 + 2715.5 - 4389.03}{2 \sqrt{2728 \times 2715.5}}$$

$$r_s = .223$$

TABLE 4

RELATIONSHIP OF IAV VARIABLES TO
FINAL LEVEL OF ACHIEVEMENT
(NONPARAMETRIC ANALYSIS)

IAV Variables	r_s	Direction of Correlation	Level of Significance ^a
Self-concept	.223	positive	-
Self-acceptance	.203	positive	-
Self-ideal	.196	positive	-
Difference-score	.120	negative	-

^aCritical values, N = 32: .05 = .296
.01 = .417

Results.--The data in Table 4 show the correlation coefficients (r_s) for each factor of the IAV, the direction of correlation, and the level of significance. All variables were positively correlated with final level of achievement. None of the correlations were significant at the .05 level.

Findings

No significant relationships at the .05 level were found by either parametric or nonparametric analytical techniques. It is possible that a relationship does exist between self-concept and achievement and between self-acceptance and achievement. The correlation coefficients for these two sets of variables approached the .05 level of significance beyond the .10 level. However, the null hypothesis must be accepted.

Hypothesis 2

No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their degree of growth in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the IAV as it related to degree of growth.

Results.--The data in Table 5 show the correlation coefficients (r) for each factor of the IAV, the direction of correlation, and the level of significance. All variables were positively correlated with degree of growth. None of the correlations were significant at the .05 level.

TABLE 5
RELATIONSHIP OF IAV VARIABLES TO DEGREE OF GROWTH
(PARAMETRIC ANALYSIS)

IAV Variables	r	Direction of Correlation	Level of Significance ^a
Self-concept	.3146	positive	-
Self-acceptance	.2752	positive	-
Self-ideal	.2940	positive	-
Difference-score	-.1587	negative	-

^aCritical values, df = 30: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the Spearman rank correlation coefficient. The r_s was obtained for each factor of the IAV as it related to degree of growth.

Results.--The data in Table 6 show the correlation coefficients (r_s) for each factor of the IAV, the direction of correlation, and the level of significance. All variables were positively correlated with final level of achievement. Two of the IAV variables-- self-concept and self-ideal-- showed a significant correlation with degree of growth at the .05 level.

TABLE 6
RELATIONSHIP OF IAV VARIABLES TO DEGREE OF GROWTH
(NONPARAMETRIC ANALYSIS)

IAV Variables	r_s	Direction of Correlation	Level of Significance ^a
Self-concept	.342	positive	.05
Self-acceptance	.215	positive	-
Self-ideal	.408	positive	.05
Difference-score	.150	negative	-

^aCritical values, N = 32: .05 level = .296
.01 level = .417

Findings

The parametric and nonparametric techniques revealed different results. While the parametric test revealed no significant relationships between IAV variables and degree of growth, the nonparametric test revealed significant relationships between IAV variables, self-concept and self-ideal and degree of growth. This apparent inconsistency could be attributed to the fact that the Spearman test is an ordinal level of measurement while the Pearson test is an interval level of measurement. However, the inconsistency was not large, and, as it will be seen in subsequent analyses, these two types of statistical tests yielded similar results in most cases.

It must be concluded, therefore, that there may be a significant correlation between two IAV variables-- self-concept and self-ideal--

and degree of growth in the student teaching experience. The null hypothesis was conditionally rejected.

Hypothesis 3

No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their final level of achievement in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the SCMTA as it related to final level of achievement.

Results.--The data in Table 7 show the correlation coefficients (r) for each factor of the SCMTA, the direction of correlation, and the level of significance. All variables were positively correlated with final level of achievement. The self-concept variable showed a significant correlation with final level of achievement at the .05 level.

TABLE 7
RELATIONSHIP OF SCMTA VARIABLES TO FINAL LEVEL
OF ACHIEVEMENT (PARAMETRIC ANALYSIS)

SCMTA Variables	r	Direction of Correlation	Level of Significance ^a
Self-concept	.3878	positive	.05
Self-acceptance	.2732	positive	-
Self-ideal	.3542	positive	-
Difference-score	-.1951	negative	-

^aCritical values, $df = 30$: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the Spearman rank correlation coefficient. The r_s was obtained for each factor of the SCMTA as it related to final level of achievement.

Results.--The data in Table 8 show the correlation coefficients (r_s) for each factor of the SCMTA, the direction of correlation, and the level of significance. All variables were positively correlated with the final level of achievement. The self-concept variable showed a significant correlation with final level of achievement at the .05 level.

TABLE 8
RELATIONSHIP OF SCMTA VARIABLES TO FINAL LEVEL
OF ACHIEVEMENT (NONPARAMETRIC ANALYSIS)

SCMTA Variables	r_s	Direction of Correlation	Level of Significance ^a
Self-concept	.309	positive	.05
Self-acceptance	.225	positive	-
Self-ideal	.132	positive	-
Difference-score	.221	negative	-

^aCritical values, N = 32: .05 level = .296
.01 level = .417

Findings

A significant relationship appears to exist between the SCMTA variable, self-concept, and final level of achievement. It is possible that a relationship does exist between all SCMTA variables and final level of achievement. The r of self-ideal, the r_s of self-acceptance, and the r_s of the difference score approached the .05 level of significance beyond the .10 level. The null hypothesis was rejected.

Hypothesis 4

No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their degree of growth in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the SCMTA as it related to degree of growth.

Results.--The data in Table 9 show the correlation coefficients (r) for each factor of the SCMTA, the direction of correlation, and the level of significance. All variables were positively correlated with degree of growth. None of the correlations were significant at the .05 level.

TABLE 9
RELATIONSHIP OF SCMTA VARIABLES TO DEGREE OF GROWTH
(PARAMETRIC ANALYSIS)

SCMTA Variables	r	Direction of Correlation	Level of Significance ^a
Self-concept	.3046	positive	-
Self-acceptance	.1744	positive	-
Self-ideal	.2920	positive	-
Difference-score	-.1156	negative	-

^aCritical values, df = 30: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the Spearman rank correlation coefficient. The r_s was obtained for each factor of the SCMTA as it related to degree of growth.

Results.--The data in Table 10 show the correlation coefficients (r_s) for each factor of the SCMTA, the direction of correlation, and the level of significance. All variables were positively correlated with degree of growth. None of the correlations were significant at the .05 level.

Findings

No significant relationships at the .05 level were found by either parametric or nonparametric analytical techniques. It is possible that a relationship does exist between self-concept and

degree of growth. The r_s for this variable approached the .05 level of significance beyond the .10 level. However, the null hypothesis must be accepted.

TABLE 10
RELATIONSHIP OF SCMTA VARIABLES TO DEGREE OF GROWTH
(NONPARAMETRIC ANALYSIS)

SCMTA Variables	r_s	Direction of Correlation	Level of Significance ^a
Self-concept	.292	positive	-
Self-acceptance	.212	positive	-
Self-ideal	.203	positive	-
Difference-score	.180	negative	-

^aCritical values, N = 32: .05 level = .296
.01 level = .417

Hypothesis 5

No relationship exists between certain personality variables of student teachers (EPFS) and their final level of achievement in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the EPFS as it related to final level of achievement.

Results.--The data in Table 11 show the correlation coefficients (r) for each factor of the EPPS, the direction of correlation, and the level of significance. Only one variable-- order-- showed a significant correlation in a positive direction at the .05 level.

Nonparametric analysis

Procedure.--The hypothesis was tested with the Spearman rank correlation coefficient. The r_s was obtained for each factor of the EPPS as it related to final level of achievement.

Results.--The data in Table 12 show the correlation coefficients (r_s) for each factor of the EPPS, the direction of correlation, and the level of significance. Three of the EPPS variables-- deference, order, and affiliation-- showed significant correlations in a positive direction at the .05 level. A fourth EPPS variable-- autonomy-- showed a significant correlation in a negative direction at the .05 level.

Findings

The parametric and nonparametric techniques revealed different results. While the parametric test revealed a significant relationship between order and achievement at the .05 level, the nonparametric test revealed significant relationships between four of the EPPS variables-- deference, order, autonomy, and affiliation-- and final level of achievement. This apparent inconsistency could be attributed to the fact that the Spearman test is an ordinal level of measurement while the Pearson test is an interval level of

TABLE 11
RELATIONSHIP OF EPFS VARIABLES TO FINAL LEVEL OF ACHIEVEMENT
(PARAMETRIC ANALYSIS)

EPFS Variables ^a	r	Direction of Correlation	Level of Significance ^b
ach	-.1823	negative	-
def	.3258	positive	-
ord	.3835	positive	.05
exh	-.1091	negative	-
aut	-.3195	negative	-
aff	.3169	positive	-
int	-.1285	negative	-
suc	.0927	positive	-
dom	-.2553	negative	-
aba	.1197	positive	-
nur	-.0673	negative	-
chg	-.0320	negative	-
end	.0862	positive	-
het	-.1649	negative	-
agg	-.1455	negative	-

^aFor explanation of these variables, see Appendix C.

^bCritical values, df = 30: .05 level = .3610
.01 level = .4629

TABLE 12
RELATIONSHIP OF EPPS VARIABLES TO FINAL LEVEL OF ACHIEVEMENT
(NONPARAMETRIC ANALYSIS)

EPPS Variables ^a	r_s	Direction of Correlation	Level of Significance ^b
ach	.129	negative	-
def	.324	positive	.05
ord	.368	positive	.05
exh	.123	negative	-
aut	.326	negative	.05
aff	.331	positive	.05
int	.148	negative	-
suc	.049	negative	-
dom	.192	negative	-
aba	.160	positive	-
nur	.080	negative	-
chg	.014	negative	-
end	.169	positive	-
het	.241	negative	-
agg	.176	negative	-

^aFor explanation of these variables, see Appendix C.

^bCritical values, N = 32: .05 level = .296
.01 level = .417

measurement. It is possible that these relationships do exist because the results of the nonparametric test and the parametric test both yielded correlations which approached the .05 level of significance beyond the .10 level.

The findings indicate, therefore, that the higher student teachers' level of achievement the higher their need for deference, order, and affiliation. The findings further indicate that the higher student teachers' level of achievement the lower their need for autonomy. On the basis of these findings the null hypothesis was rejected.

Hypothesis 6

No relationship exists between certain personality variables of student teachers (EPPS) and their degree of growth in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the EPPS as it related to degree of growth.

Results.--The data in Table 13 show the correlation coefficients (r) for each factor of the EPPS, the direction of correlation, and the level of significance. Two of the EPPS variables-- affiliation and dominance-- showed significant correlations at the .05 level. Affiliation was correlated in a positive direction while dominance was correlated in a negative direction.

TABLE 13
RELATIONSHIP OF EPPS VARIABLES TO DEGREE OF GROWTH
(PARAMETRIC ANALYSIS)

EPPS Variables ^a	r	Direction of Correlation	Level of Significance ^b
ach	-.1720	negative	-
def	.2404	positive	-
ord	.2518	positive	-
exh	-.0220	negative	-
aut	-.3463	negative	-
aff	.3823	positive	.05
int	-.0342	negative	-
suc	.1695	positive	-
dom	-.3647	negative	.05
aba	-.1077	negative	-
nur	-.0490	negative	-
chg	.1121	positive	-
end	.0700	positive	-
het	-.1269	negative	-
agg	-.0767	negative	-

^aFor explanation of these variables, see Appendix C.

^bCritical values, df = 30: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the Spearman rank correlation coefficient. The r_s was obtained for each factor of the EPPS as it related to degree of growth.

Results.--The data in Table 14 show the correlation coefficients (r_s) for each factor of the EPPS, the direction of correlation, and the level of significance. Two of the EPPS variables-- autonomy and affiliation-- showed significant correlations with degree of growth at the .05 level. Autonomy was correlated in a negative direction while affiliation was correlated in a positive direction.

Findings

The parametric and nonparametric techniques revealed slightly different results. While the parametric test revealed significant relationships between affiliation and dominance, the nonparametric test revealed significant relationships between autonomy and affiliation. In this case, the inconsistency between the two types of statistical techniques is very slight. Autonomy showed a correlation beyond the .10 level on the parametric test, and dominance showed a significant correlation beyond the .10 level on the nonparametric test. These results indicate the strong possibility that significant relationships may exist between all three EPPS variables-- autonomy, affiliation, and dominance-- and degree of growth.

The findings indicate, therefore, that the higher student teachers' degree of growth, the higher their need for affiliation. The findings further indicate that the higher student teachers' degree

TABLE 14
RELATIONSHIP OF EPPS VARIABLES TO DEGREE OF GROWTH
(NONPARAMETRIC ANALYSIS)

EPPS Variables ^a	r_s	Direction of Correlation	Level of Significance ^b
ach	.209	negative	-
def	.153	positive	-
ord	.186	positive	-
exh	.018	negative	-
aut	.317	negative	.05
aff	.385	positive	.05
int	.104	negative	-
suc	.125	positive	-
dom	.295	negative	-
aba	.144	negative	-
nur	.077	negative	-
chg	.196	positive	-
end	.257	positive	-
het	.161	negative	-
agg	.113	negative	-

^aFor explanation of these variables, see Appendix C.

^bCritical values, N = 32: .05 level = .296
.01 level = .417

of growth the lower their need for autonomy and dominance. On the basis of these findings the null hypothesis was rejected.

Hypothesis 7

No relationship exists between student teachers' anxiety level (IPAT) and their final level of achievement in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for the IPAT Anxiety Scale as it related to the final level of achievement.

Results.--The data in Table 15 show the correlation coefficients (r) for the IPAT, the direction of correlation, and the level of significance. The correlation was not significant.

TABLE 15

RELATIONSHIP OF ANXIETY LEVEL TO FINAL LEVEL
OF ACHIEVEMENT AND DEGREE OF GROWTH
(PARAMETRIC ANALYSIS)

Dimensions of Achievement	IPAT Anxiety Scale		
	r	Direction of Correlation	Level of Significance ^a
Final level of achievement	-.0241	negative	-
Degree of growth	.1329	positive	-

^aCritical values, df = 30: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the Spearman rank correlation coefficient. The r_s was obtained for the IBAT Anxiety Scale as it related to level of achievement.

Results.--The data in Table 16 show the correlation coefficients (r_s) for the IBAT, the direction of correlation, and the level of significance. The correlation was not significant.

TABLE 16
RELATIONSHIP OF ANXIETY LEVEL TO FINAL LEVEL
OF ACHIEVEMENT AND DEGREE OF GROWTH
(NONPARAMETRIC ANALYSIS)

Dimensions of Achievement	IBAT Anxiety Scale		
	r_s	Direction of Correlation	Level of Significance ^a
Final level of achievement	.088	positive	-
Degree of growth	.019	negative	-

^aCritical values, N = 32: .05 level = .296
.01 level = .417

Findings

No significant relationships between anxiety level and achievement were found by either the parametric or nonparametric analytical techniques. The null hypothesis was accepted.

Hypothesis 8

No relationship exists between student teachers' anxiety level (IPAT) and their degree of growth in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for the IPAT Anxiety Scale as it related to degree of growth.

Results.--The data in Table 15 show the correlation coefficient for the IPAT, the direction of correlation, and the level of significance. The correlation was not significant.

Nonparametric analysis

Procedure.--The hypothesis was tested with the Spearman rank correlation coefficient. The r_s was obtained for the IPAT Anxiety Scale as it related to degree of growth.

Results.--The data in Table 16 show the correlation coefficient (r_s) for the IPAT, the direction of correlation, and the level of significance. The correlation was not significant.

Findings

No significant relationships between anxiety level and degree of growth were found by either the parametric or the nonparametric analytical techniques. The null hypothesis was accepted.

Hypothesis 9

There is no significant difference between the scores obtained on the pre-test and post-test of the self-concept in terms of personal adjustment (IAV).

Parametric analysis

Procedure.--The hypothesis was tested with the paired t test. The t values were obtained for each factor of the IAV. The paired t test was computed by the computer operation described in Chapter III.¹⁰²

Results.--The data in Table 17 show the t values for each factor of the IAV, the direction of change, and the level of significance. The three IAV variables-- self-concept, self-acceptance, and self-ideal-- showed a significant change in a positive direction between the pre-test and post-test. The difference score changed in a negative direction but the change was not significant.

Nonparametric analysis

Procedure.--The hypothesis was tested with the Wilcoxon matched-pairs signed-ranks test.¹⁰³ The z scores were obtained for each

¹⁰²See Chapter III, p. 50 for the t test procedures. The same procedures are used in subsequent t test analyses.

¹⁰³See Chapter III, p. 52 for the Wilcoxon test procedures.

factor of the IAV. The formula for the Wilcoxon test is as follows:¹⁰⁴

$$z = \frac{T - \mu_T}{\sigma_T} = \frac{T - \frac{N(N+1)}{4}}{\sqrt{\frac{N(N+1)(2N+1)}{24}}}$$

Substituting values obtained from the pre-tests and post-tests, the formula for the self-concept variable of the IAV becomes:

$$z = \frac{165.5 - \frac{36 \times 37}{4}}{\sqrt{\frac{36 \times 37 \times 73}{24}}}$$

$$z = -2.63$$

TABLE 17

CHANGES IN THE IAV VARIABLES BETWEEN
THE PRE-TEST AND POST-TEST
(PARAMETRIC ANALYSIS)

IAV Variables	N	t	Direction of Change	Level of Significance ^a
Self-concept	37	-2.886	positive	.01
Self-acceptance	37	-2.684	positive	.05
Self-ideal	37	-2.873	positive	.01
Difference-score	37	1.553	negative	-

^aCritical values, df = 36: .05 level = 2.0281
.01 level = 2.7195

¹⁰⁴Hereafter, this formula will not be presented. The same procedure was used for all calculations of the Wilcoxon matched-pairs signed-ranks test.

Results.--The data in Table 18 show the z scores for each factor of the IAV, the direction of correlation, and the level of significance. The N differs for the IAV variables because some Ss indicated the same scores on the pre-test and post-test for a given variable. The Wilcoxon formula utilizes only difference scores in the computation of z.¹⁰⁵ The three IAV variables-- self-concept, self-acceptance, and self-ideal-- showed a significant change in a positive direction between the pre-test and post-test. The difference score changed in a negative direction but the change was not significant.

TABLE 18
CHANGES IN THE IAV VARIABLES BETWEEN
THE PRE-TEST AND POST-TEST
(NONPARAMETRIC ANALYSIS)

IAV Variables	N	z	Direction of Change	Level of Significance ^a
Self-concept	36	-2.63	positive	.01
Self-acceptance	37	-2.44	positive	.01
Self-ideal	36	-2.44	positive	.01
Difference-score	36	1.60	negative	-

^aCritical values for z: .05 level = 1.65
.01 level = 2.33

¹⁰⁵Siegel, op. cit., p. 82. Hereafter, this explanation for the N will not be stated, but the principle will be implicit for all hypotheses tested with the Wilcoxon test.

Findings

Significant differences were found between the scores obtained on the pre-test and post-test of IAV variables self-concept, self-acceptance, and self-ideal. These changes were in a positive direction indicating a significant rise in self-concept in terms of personal adjustment. The difference score dropped to some extent which indicates that subjects became more well-adjusted during the student teaching experience, but this change was not significant. The null hypothesis was rejected.

Hypothesis 10

There is no significant difference between the scores obtained on the pre-test and post-test of the self-concept of music teaching ability (SCMTA).

Parametric analysis

Procedure.--The hypothesis was tested with the paired t test. The t values were obtained for each factor of the SCMTA.

Results.--The data in Table 19 show the t values for each factor of the SCMTA, the direction of change, and the level of significance. Two of the SCMTA variables-- self-concept and self-acceptance-- showed a significant change in a positive direction between the pre-test and post-test. The difference score showed a significant change in a negative direction between the pre-test and the post-test.

TABLE 19
CHANGES IN THE SCMTA VARIABLES BETWEEN
THE PRE-TEST AND POST-TEST
(PARAMETRIC ANALYSIS)

SCMTA Variables	N	t	Direction of Change	Level of Significance ^a
Self-concept	37	-3.755	positive	.01
Self-acceptance	37	-3.305	positive	.01
Self-ideal	37	-0.591	positive	-
Difference-score	37	4.619	negative	.01

^aCritical values, df = 36: .05 level = 2.0281
.01 level = 2.7195

Nonparametric analysis

Procedure.--The hypothesis was tested with the Wilcoxon match-pairs signed-ranks test. The z scores were obtained for each factor of the SCMTA.

Results.--The data in Table 20 show the z scores for each factor of the SCMTA, the direction of change, and the level of significance. Two of the SCMTA variables-- self-concept and self-acceptance-- showed a significant change in a positive direction between the pre-test and the post-test. The difference score showed a significant change in a negative direction between the pre-test and the post-test.

TABLE 20
CHANGES IN THE SCMTA VARIABLES BETWEEN
THE PRE-TEST AND POST-TEST
(NONPARAMETRIC ANALYSIS)

SCMTA Variables	N	z	Direction of Change	Level of Significance ^a
Self-concept	35	-3.44	positive	.01
Self-acceptance	35	-3.15	positive	.01
Self-ideal	32	-1.01	positive	-
Difference-score	37	3.73	negative	.01

^aCritical values for z: .05 level = 1.65
.01 level = 2.33

Findings

Significant differences were found between the scores obtained on the pre-test and post-test of SCMTA variables, self-concept and self-acceptance. These changes were in a positive direction indicating a significant rise in self-concept of music teaching ability. The self-ideal factor showed a rise, but the change was not significant.

A significant difference was also found between the pre-test and post-test for the difference score. This change was in a negative direction indicating that subjects became significantly more well-adjusted to their self-ideal in terms of music teaching ability during the student teaching experience. The null hypothesis was rejected.

Hypothesis 11

There is no significant difference between the scores obtained on the pre-test and post-test of the Edwards Personal Preference Schedule (EPPS).

Parametric analysis

Procedure.--The hypothesis was tested with the paired t test. The t values were obtained for each factor of the EPPS.

Results.--The data in Table 21 show the t values for each factor of the EPPS, the direction of change, and the level of significance. None of the differences were significant at the .05 level.

Nonparametric analysis

Procedure.--The hypothesis was tested with the Wilcoxon matched-pairs signed-ranks test. The z scores were obtained for each factor of the EPPS.

Results.--The data in Table 22 show the z scores for each factor of the EPPS, the direction of change, and the level of significance. One of the EPPS variables-- abasement-- showed a significant change in a negative direction between the pre-test and the post-test.

Findings

The parametric and nonparametric tests revealed slightly different results. While the parametric test revealed no significant changes, the nonparametric test showed a significant difference between the pre-test and post-test for EPPS variable abasement. In this case, the inconsistency between the two types of statistical techniques is very slight. Abasement showed a difference beyond the

TABLE 21
CHANGES IN THE EPPS VARIABLES BETWEEN
THE PRE-TEST AND POST-TEST
(PARAMETRIC ANALYSIS)

EPPS Variables ^a	N	t	Direction of Change	Level of Significance ^b
ach	37	-1.038	positive	-
def	37	0.220	negative	-
ord	37	-0.655	positive	-
exh	37	-0.717	positive	-
aut	37	-0.966	positive	-
aff	37	0.808	negative	-
int	37	0.084	negative	-
suc	37	-0.344	positive	-
dom	37	-0.798	positive	-
aba	37	1.750	negative	-
nur	37	0.766	negative	-
chg	37	1.458	negative	-
end	37	-0.436	positive	-
het	37	-0.731	positive	-
agg	37	0.055	negative	-

^aFor explanation of these variables, see Appendix C.

^bCritical values, df = 36: .05 = 2.0281
.01 = 2.7195

TABLE 22
CHANGES IN THE EPPS VARIABLES BETWEEN
THE PRE-TEST AND POST-TEST
(NONPARAMETRIC ANALYSIS)

EPPS Variables ^a	N	z	Direction of Change	Level of Significance ^b
ach	33	-1.12	positive	-
def	35	-0.47	negative	-
ord	33	-0.14	positive	-
exh	30	-0.78	positive	-
aut	32	-1.41	positive	-
aff	36	-0.34	negative	-
int	30	-0.66	negative	-
suc	31	-0.27	positive	-
dom	31	-0.28	positive	-
aba	32	-1.87	negative	.05
nur	34	-0.68	negative	-
chg	33	-1.64	negative	-
end	33	-0.49	positive	-
het	29	-0.76	positive	-
agg	30	-0.42	negative	-

^aFor explanation of these variables, see Appendix C.

^bCritical values for z: .05 level = 1.65
.01 level = 2.33

.10 level on the parametric test. These results indicate the strong possibility that a significant difference between the pre-test and the post-test may have occurred for abasement.

The findings indicate, therefore, that the need for abasement may have decreased significantly during the student teaching experience. It is possible that significant differences may have occurred between the pre-test and post-test for EPPS variables autonomy and change. The z scores for these two variables on the nonparametric test approached the .05 level of significance beyond the .10 level. The null hypothesis was conditionally rejected.

Hypothesis 12

There is no significant difference between the scores obtained on the pre-test and post-test of the IPAT Anxiety Scale.

Parametric analysis

Procedure.--The hypothesis was tested with the paired t test. The t values were obtained for the IPAT Anxiety Scale.

Results.--The data in Table 23 show the t values for the IPAT, the direction of change, and the level of significance. The difference between the pre-test and the post-test was not significant.

TABLE 23
CHANGE IN THE IPAT ANXIETY SCALE BETWEEN
THE PRE-TEST AND POST-TEST
(PARAMETRIC ANALYSIS)

t	N	Direction of Change	Level of Significance ^a
.934	37	negative	-

^aCritical value, df = 36: .05 level = 2.0281
.01 level = 2.7195

Nonparametric analysis

Procedure.--The hypothesis was tested with the Wilcoxon matched-pairs signed-ranks test. The z scores were obtained for the IPAT Anxiety Scale.

Results.--The data in Table 24 show the t value for the IPAT, the direction of change, and the level of significance. The difference between the pre-test and the post-test was not significant.

TABLE 24
CHANGE IN THE IPAT ANXIETY SCALE BETWEEN
THE PRE-TEST AND POST-TEST
(NONPARAMETRIC ANALYSIS)

z	N	Direction of Change	Level of Significance ^a
-.99	33	negative	-

^aCritical values for z: .05 level = 1.65
.01 level = 2.33

Findings

No significant differences were found between the scores obtained on the pre-test and post-test of the IPAT Anxiety Scale. The direction of change was negative indicating a slight tendency for subjects to become less anxious during student teaching. However, the change was not significant and the null hypothesis must be accepted.

Hypothesis 13

No relationship exists between the change in self-concept in terms of personal adjustment (IAV) and the final level of achievement in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the IAV as it related to final level of achievement in terms of the changes of IAV factors between the pre-test and post-test.

Results.--The data in Table 25 show the correlation coefficients (r) for each factor of the IAV, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

TABLE 25
RELATIONSHIP OF THE CHANGE IN IAV VARIABLES
TO FINAL LEVEL OF ACHIEVEMENT
(PARAMETRIC ANALYSIS)

IAV Variables	r	Direction of Correlation	Level of Significance ^a
Self-concept	-.1604	negative	-
Self-acceptance	.0916	positive	-
Self-ideal	-.0886	negative	-
Difference-score	-.0239	negative	-

^aCritical values, df = 30: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the chi square test. The X^2 values were obtained for each factor of the IAV as it related to final level of achievement in terms of the changes of IAV factors between the pre-test and the post-test. The formula for the chi square test is as follows:¹⁰⁶

$$X^2 = \frac{N \left(\left| \begin{matrix} AD - BC \end{matrix} \right| - \frac{N}{2} \right)^2}{(A + B)(C + D)(A + C)(B + D)} \quad df = 1$$

¹⁰⁶ Hereafter, this formula will not be presented. The same procedure was used for all calculations of chi square.

Substituting values obtained from the tests, the formula for determining the X^2 value for the difference score of the IAV becomes:

$$X^2 = \frac{30 \left(\left| 8 \times 10 - 6 \times 6 \right| - \frac{30}{2} \right)^2}{(8 + 6)(10 + 6)(8 + 6)(6 + 10)}$$

$$X^2 = .503$$

Results.--The data in Table 26 show the chi square values (X^2) for each factor of the IAV, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

TABLE 26

RELATIONSHIP OF THE CHANGE IN IAV VARIABLES
TO FINAL LEVEL OF ACHIEVEMENT
(NONPARAMETRIC ANALYSIS)

IAV Variables	X^2	Direction of Correlation	Level of Significance ^a
Self-concept	b	negative	-
Self-acceptance	b	positive	-
Self-ideal	b	negative	-
Difference-score	.503	negative	-

^aCritical values, df = 1: .05 level = 3.84
.01 level = 6.64

^bFisher exact probabilities test used; significance levels were drawn directly from a table of critical values. (See Chapter III, p. 53, for explanation of procedures.)

Findings

No significant relationships were found between the changes in IAV variables and final level of achievement. The null hypothesis was accepted.

Hypothesis 14

No relationship exists between the change in self-concept in terms of personal adjustment (IAV) and degree of growth in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the IAV as it related to degree of growth in terms of the changes of IAV factors between the pre-test and post-test.

Results.--The data in Table 27 show the correlation coefficients (r) for each factor of the IAV, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

TABLE 27
RELATIONSHIP OF THE CHANGE IN IAV VARIABLES
TO DEGREE OF GROWTH (PARAMETRIC ANALYSIS)

IAV Variables	r	Direction of Correlation	Level of Significance ^a
Self-concept	-.1338	negative	-
Self-acceptance	.0535	positive	-
Self-ideal	-.1271	negative	-
Difference-score	-.0241	negative	-

^aCritical values, df = 30: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the chi square test. The X^2 values were obtained for each factor of the IAV as it related to degree of growth in terms of the changes of IAV factors between the pre-test and post-test.

Results.--The data in Table 28 show the chi square values (X^2) for each factor of the IAV, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

Findings

No significant relationships were found between the changes in IAV variables and degree of growth. The null hypothesis was accepted.

TABLE 28
RELATIONSHIP OF THE CHANGE IN IAV
VARIABLES TO DEGREE OF GROWTH
(NONPARAMETRIC ANALYSIS)

IAV Variables	χ^2	Direction of Correlation	Level of Significance ^a
Self-concept	.017	negative	-
Self-acceptance	.124	positive	-
Self-ideal	b	negative	-
Difference-score	.001	negative	-

^aCritical values, df = 1: .05 level = 3.84
.01 level = 6.64

^bFisher exact probabilities test used; significance levels were drawn directly from a table of critical values.

Hypothesis 15

No relationship exists between the change in self-concept of music teaching ability (SCMTA) and the final level of achievement in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the SCMTA as it related to final level of achievement in terms of the change of IAV factors between the pre-test and post-test.

Results.--The data in Table 29 show the correlation coefficients (r) for each factor of the SCMTA, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

TABLE 29
RELATIONSHIP OF THE CHANGE IN SCMTA VARIABLES
TO FINAL LEVEL OF ACHIEVEMENT
(PARAMETRIC ANALYSIS)

SCMTA Variables	r	Direction of Correlation	Level of Significance ^a
Self-concept	-.1642	negative	-
Self-acceptance	.0002	positive	-
Self-ideal	-.1449	negative	-
Difference-score	-.0770	negative	-

^aCritical values, df = 30: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the chi square test. The X^2 values were obtained for each factor of the SCMTA as it related to final level of achievement in terms of the changes of SCMTA factors between the pre-test and post-test.

Results.--The data in Table 30 show the chi square values (X^2) for each factor of the IAV, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

Findings

No significant relationships were found between the changes in SCMTA variables and final level of achievement. The null hypothesis was accepted.

TABLE 30
RELATIONSHIP OF THE CHANGE IN SCMTA VARIABLES
TO FINAL LEVEL OF ACHIEVEMENT
(NONPARAMETRIC ANALYSIS)

SCMTA Variables	X ²	Direction of Correlation	Level of Significance ^a
Self-concept	b	negative	-
Self-acceptance	b	positive	-
Self-ideal	b	negative	-
Difference-score	.090	negative	-

^aCritical values, df = 1: .05 level = 3.84
.01 level = 6.64

^bFisher exact probabilities test used; significance levels were drawn directly from a table of critical values.

Hypothesis 16

No relationship exists between the change in self-concept of music teaching ability (SCMTA) and the degree of growth in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the SCMTA as it related to degree of growth in terms of the changes of SCMTA factors between the pre-test and post-test.

Results.--The data in Table 31 show the correlation coefficients (r) for each factor of the SCMTA, the direction of correlation, and

the level of significance. None of the correlations were significant at the .05 level.

TABLE 31
RELATIONSHIP OF THE CHANGE IN SCMTA
VARIABLES TO DEGREE OF GROWTH
(PARAMETRIC ANALYSIS)

SCMTA Variables	r	Direction of Correlation	Level of Significance ^a
Self-concept	-.0030	negative	-
Self-acceptance	.1796	positive	-
Self-ideal	-.0077	negative	-
Difference-score	.0361	positive	-

^aCritical values, df = 30: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the chi square test. The X^2 values were obtained for each factor of the SCMTA as it related to degree of growth in terms of the changes of SCMTA factors between the pre-test and post-test.

Results.--The data in Table 32 show the chi square values (X^2) for each factor of the SCMTA, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

TABLE 32

RELATIONSHIP OF THE CHANGE IN SCMTA
VARIABLES TO DEGREE OF GROWTH
(NONPARAMETRIC ANALYSIS)

SCMTA Variables	χ^2	Direction of Correlation	Level of Significance ^a
Self-concept	.537	negative	-
Self-acceptance	b	positive	-
Self-ideal	b	negative	-
Difference-score	b	positive	-

^aCritical values, df = 1: .05 level = 3.84
.01 level = 6.64

^bFisher exact probabilities test used; significance levels were drawn directly from a table of critical values.

Findings

No significant relationships were found between the changes in SCMTA variables and degree of growth. The null hypothesis was accepted.

Hypothesis 17

No relationship exists between the change in certain personality variables (EPPS) and the final level of achievement in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the EPPS

as it related to the final level of achievement in terms of the change of EPPS variables between the pre-test and post-test.

Results.--The data in Table 33 show the correlation coefficients (r) for each factor of the EPPS, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

Nonparametric analysis

Procedure.--The hypothesis was tested with the chi square test. The X^2 values were obtained for each factor of the EPPS as it related to the final level of achievement in terms of the changes of EPPS factors between the pre-test and post-test.

Results.--The data in Table 34 show the chi square values (X^2) for each factor of the EPPS, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

Findings

No significant relationships were found between the changes in EPPS variables and final level of achievement. It is possible that a relationship does exist between the change in succorance and final level of achievement. The correlation coefficients for these variables approached the .05 level of significance beyond the .10 level. However, the null hypothesis must be accepted.

TABLE 33
RELATIONSHIP OF THE CHANGE IN EPPS VARIABLES
TO FINAL LEVEL OF ACHIEVEMENT
(PARAMETRIC ANALYSIS)

EPPS Variables ^a	r	Direction of Correlation	Level of Significance ^b
ach	-.0145	negative	-
def	.0165	positive	-
ord	-.0442	negative	-
exh	.1939	positive	-
aut	-.0733	negative	-
aff	.3053	positive	-
int	-.2077	negative	-
suc	-.3385	negative	-
dom	-.0523	negative	-
aba	.1030	positive	-
nur	-.1969	negative	-
chg	.1241	positive	-
end	.0444	positive	-
het	.0440	positive	-
agg	.0041	positive	-

^aFor explanation of these variables, see Appendix C.

^bCritical values, df = 30: .05 level = .3610
.01 level = .4629

TABLE 34
RELATIONSHIP OF THE CHANGE IN EPPS VARIABLES
TO FINAL LEVEL OF ACHIEVEMENT
(NONPARAMETRIC ANALYSIS)

EPPS Variables ^a	χ^2	Direction of Correlation	Level of Significance ^b
ach	c	negative	-
def	0.028	positive	-
ord	0.506	negative	-
exh	c	positive	-
aut	c	negative	-
aff	3.470	positive	-
int	c	negative	-
suc	0.672	negative	-
dom	0.287	negative	-
aba	c	positive	-
nur	0.128	negative	-
chg	0.013	positive	-
end	0.124	positive	-
het	0.043	positive	-
agg	0.968	positive	-

^aFor explanation of these variables, see Appendix C.

^bCritical values, df = 1: .05 level = 3.84
.01 level = 6.64

^cFisher exact probabilities test used; significance levels were drawn directly from a table of critical values.

Hypothesis 18

No relationship exists between the change in certain personality variables (EPPS) and the degree of growth in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the EPPS as it related to degree of growth in terms of the change of EPPS factors between the pre-test and post-test.

Results.--The data in Table 35 show the correlation coefficients (r) for each factor of the EPPS, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

Nonparametric analysis

Procedure.--The hypothesis was tested with the chi square test. The X^2 values were obtained for each factor of the EPPS as it related to degree of growth in terms of the change of EPPS factors between the pre-test and post-test.

Results.--The data in Table 36 show the chi square values (X^2) for each factor of the EPPS, the direction of correlation, and the level of significance. None of the correlations were significant at the .05 level.

TABLE 35
RELATIONSHIP OF THE CHANGE IN EPPS
VARIABLES TO DEGREE OF GROWTH
(PARAMETRIC ANALYSIS)

EPPS Variables ^a	r	Direction of Correlation	Level of Significance ^b
ach	-.0145	negative	-
def	.0165	positive	-
ord	-.0442	negative	-
exh	.1939	positive	-
aut	-.0733	negative	-
aff	.3053	positive	-
int	-.2077	negative	-
suc	-.3385	negative	-
dom	-.0523	negative	-
aba	.1030	positive	-
nur	-.1969	negative	-
chg	.1241	positive	-
end	.0444	positive	-
het	.0440	positive	-
agg	.0041	positive	-

^aFor explanation of these variables, see Appendix C.

^bCritical values, df = 30: .05 level = .3610
.01 level = .4629

TABLE 36
RELATIONSHIP OF THE CHANGE IN EPPS
VARIABLES TO DEGREE OF GROWTH
(NONPARAMETRIC ANALYSIS)

EPPS Variables ^a	χ^2	Direction of Correlation	Level of Significance ^b
ach	c	negative	-
def	0.028	positive	-
ord	0.124	negative	-
exh	c	positive	-
aut	c	negative	-
aff	3.470	positive	-
int	0.198	negative	-
suc	0.001	negative	-
dom	0.031	negative	-
aba	c	positive	-
nur	0.028	negative	-
chg	c	positive	-
end	0.124	positive	-
het	0.031	positive	-
agg	0.043	positive	-

^aFor explanation of these variables, see Appendix C.

^bCritical values, df = 1: .05 level = 3.84
.01 level = 6.64

^cFisher exact probabilities test used; significance levels were drawn directly from a table of critical values.

Findings

No significant relationships were found between the changes in EPPS variables and final level of achievement. It is possible that a relationship does exist between the change in affiliation and degree of growth. The correlation coefficients for these variables approached the .05 level of significance beyond the .10 level. However, the null hypothesis must be accepted.

Hypothesis 19

No relationship exists between the change in anxiety level (IPAT) and the final level of achievement in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for the IPAT Anxiety Scale as it related to final level of achievement in terms of the change of anxiety level between the pre-test and post-test.

Results.--The data in Table 37 show the correlation coefficient (r) for the IPAT, the direction of correlation, and the level of significance. The correlation was not significant at the .05 level.

TABLE 37

RELATIONSHIP OF THE CHANGE IN ANXIETY LEVEL
(IPAT) TO FINAL LEVEL OF ACHIEVEMENT AND
DEGREE OF GROWTH (PARAMETRIC ANALYSIS)

Dimensions of Achievement	IPAT Anxiety Scale		
	r	Direction of Correlation	Level of Significance ^a
Final level of achievement	.3380	negative	-
Degree of growth	.3821	negative	.05

^aCritical values, df = 30: .05 level = .3610
.01 level = .4629

Nonparametric analysis

Procedure.--The hypothesis was tested with the chi square test. The Fisher exact probabilities test was used in this case because the cell frequencies fell below 5.

Results.--The data in Table 38 show the significance level of the Fisher test and the direction of correlation for the IPAT. The correlation was significant at the .05 level.

Findings

A significant negative correlation was found between the change in anxiety level and the final level of achievement. These findings indicate that high achievers in music student teaching indicated significantly less anxiety at the end of the student teaching experience than low achievers.

The parametric and nonparametric analytical techniques revealed slightly different results. The parametric test yielded an r which approached the .05 level of significance beyond the .10 level. The null hypothesis was conditionally rejected on the basis of the findings of the nonparametric test.

TABLE 38

RELATIONSHIP OF THE CHANGE IN ANXIETY LEVEL (IBAT) TO
FINAL LEVEL OF ACHIEVEMENT AND DEGREE OF GROWTH
(NONPARAMETRIC ANALYSIS)

Dimensions of Achievement	IBAT Anxiety Scale		
	χ^2	Direction of Correlation	Level of Significance ^a
Final level of achievement	b	negative	.05
Degree of growth	1.33	negative	-

^aCritical values, $df = 1$: .05 level = 3.84
.01 level = 6.64

^bFisher exact probabilities test used; significance level was derived directly from a table of critical values.

Hypothesis 20

No relationship exists between the change in anxiety level (IBAT) and the degree of growth in the student teaching experience.

Parametric analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for the IBAT Anxiety Scale as

it related to degree of growth in terms of the change of anxiety level between the pre-test and post-test.

Results.--The data in Table 37 show the correlation coefficient (r) for the IPAT, the direction of correlation, and the level of significance. The correlation was significant at the .05 level.

Nonparametric analysis

Procedure.--The hypothesis was tested with the chi square test. The X^2 was obtained for the IPAT as it related to degree of growth in terms of the changes of anxiety level between the pre-test and post-test.

Results.--The data in Table 38 show the chi square value for the IPAT, the direction of correlation, and the level of significance. The correlation was not significant.

Findings

A significant negative correlation was found between the change in anxiety level and degree of growth. These findings indicate that high achievers in terms of growth in music student teaching indicated significantly less anxiety at the end of the student teaching experience.

The parametric and nonparametric analytical techniques revealed slightly different results. The parametric test revealed a significant correlation coefficient while the nonparametric test yielded no significant correlation. The null hypothesis was conditionally rejected on the basis of the findings of the parametric test.

Results of the Tests of Sub-hypotheses

Sub-hypothesis 1

No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their self-concept of music teaching ability (SCMTA) before student teaching.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the IAV as it related to each factor of the SCMTA in the pre-test.

Results.--The data in Table 39 show the correlation coefficients (r) for each factor of the IAV and the SCMTA, the direction of correlation, and the level of significance. All like factors of the IAV and the SCMTA showed significant correlations at better than the .01 level. Other significant correlations were noted between various factors of the IAV and the SCMTA. Fourteen out of sixteen possible correlations were significant beyond the .05 level.

Findings

Significant relationships beyond the .01 level were found for all like factors of the IAV and the SCMTA. Significant inter-correlations between almost all IAV and SCMTA variables indicate a significant relationship between these two pre-tests. The null hypothesis was rejected.

TABLE 39
RELATIONSHIP OF THE IAV AND THE SCMTA
BEFORE STUDENT TEACHING
(PRE-TEST)

IAV Variables	SCMTA Variables			
	Self- concept	Self- acceptance	Self- ideal	Difference- score
Self-concept	.6665 ^b	.5643 ^b	.2892	-.5257 ^b
Self-acceptance	.5708 ^b	.6606 ^b	.2616	-.4329 ^b
Self-ideal	.4896 ^b	.4572 ^b	.6376 ^b	-.1285
Difference-score	-.4567 ^b	-.3532 ^c	-.0059	.5508 ^b

^aCritical values, df = 38: .05 level = .3120
.01 level = .4026

^bSignificant at .01 level.

^cSignificant at .05 level.

Sub-hypothesis 2

No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their self-concept of music teaching ability (SCMTA) after student teaching.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the IAV as it related to each factor of the SCMTA in the post-test.

Results.--The data in Table 40 show the correlation coefficients (r) for each factor of the IAV and the SCMTA, the direction of correlation, and the level of significance. All like factors of the IAV

and the SCMTA showed significant correlations at better than the .01 level. Other significant correlations were noted between various factors of the IAV and the SCMTA. Twelve out of sixteen possible correlations were significant beyond the .05 level.

TABLE 40
RELATIONSHIP OF THE IAV AND THE SCMTA
AFTER STUDENT TEACHING
(POST-TEST)^a

IAV Variables	SCMTA Variables			
	Self-concept	Self-acceptance	Self-ideal	Difference-score
Self-concept	.8842 ^b	.4879 ^b	.4517 ^b	-.6701 ^b
Self-acceptance	.6105 ^b	.7013 ^b	.4682 ^b	-.3206
Self-ideal	.5224 ^b	.5194 ^b	.6787 ^b	-.1047
Difference-score	-.5555 ^b	-.0565	-.0473	.6539 ^b

^aCritical values, df = 35: .05 level = .3338
.01 level = .4296

^bSignificant at .01 level.

Findings

Significant relationships beyond the .01 level were found for all like factors of the IAV and the SCMTA. Significant inter-correlations between almost all IAV and SCMTA variables indicate a significant relationship between these two post-tests. The null hypothesis was rejected.

Sub-hypothesis 3

No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their personality need system (EPPS) before student teaching.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the IAV as it related to each factor of the EPPS in the pre-test.

Results.--The data in Table 41 show the correlation coefficients (r) for each factor of the IAV and the EPPS, the direction of correlation, and the level of significance. Significant positive correlations were found between: (1) self-concept and affiliation, and (2) difference score and aggression. Significant negative correlations were found between: (1) self-concept and autonomy, (2) self-concept and aggression, (3) self-acceptance and autonomy, (4) self-acceptance and aggression, (5) self-ideal and autonomy, and (6) difference score and exhibition.

Findings

Significant relationships beyond the .05 level were found for EPPS variables exhibition, autonomy, affiliation, and aggression. According to these results, the higher student teachers' self-concept the lower their need for autonomy and aggression and the higher their need for affiliation; the higher student teachers' self-acceptance the lower their need for autonomy and aggression; the higher student teachers' self-ideal the lower their need for autonomy; the more

TABLE 41
RELATIONSHIP OF THE IAV AND THE EPPS
BEFORE STUDENT TEACHING
(PRE-TEST)^a

EPPS Variables	IAV Variables			Difference- score
	Self- concept	Self- acceptance	Self- ideal	
ach	-.1989	-.1812	-.1564	.1208
def	.0888	-.0284	.0547	-.0153
ord	-.0164	.0721	-.0978	-.0418
exh	.1765	.0604	.0919	-.3130 ^b
aut	-.3455 ^b	-.3483 ^b	-.3751 ^b	.0428
aff	.3263 ^b	.2637	.2379	-.1902
int	.2175	.0824	-.0805	-.2986
suc	-.0497	-.1396	.0655	.2356
dom	-.0059	.0325	-.0231	.0288
aba	.2214	.1809	.2584	-.1423
nur	.0417	.1099	-.0751	-.0142
chg	.0893	.1502	.0515	-.1189
end	.0263	.0838	.1083	.1206
het	-.1621	.0181	.0132	.1336
agg	-.3459 ^b	-.3690 ^b	-.0545	.3506 ^b

^aCritical values, df = 38: .05 level = .3120
.01 level = .4026

^bSignificant at .01 level.

well-adjusted (difference score) student teachers are the higher their need for exhibition, and the more well-adjusted student teachers are the lower their need for aggression. It is possible that a relationship exists between intraception and difference score. The correlation coefficient for these two variables approached the .05 level of significance beyond the .10 level. The null hypothesis was rejected.

Sub-hypothesis 4

No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their personality need system (EPPS) after student teaching.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the IAV as it related to each factor of the EPPS in the post-test.

Results.--The data in Table 42 show the correlation coefficients (r) for each factor of the IAV and the EPPS, the direction of correlation, and the level of significance. Significant positive correlations were found between self-concept and exhibition and between difference score and aggression. A significant negative correlation was found between self-concept and aggression.

Findings

Significant relationships beyond the .05 level were found for EPPS variables exhibition and aggression. According to these results, the higher student teachers' self-concept, the higher their need for

TABLE 42
RELATIONSHIP OF THE IAV AND THE EPPS
AFTER STUDENT TEACHING
(POST-TEST)^a

EPPS Variables	IAV Variables			Difference-score
	Self-concept	Self-acceptance	Self-ideal	
ach	-.0638	-.2216	-.0257	.1069
def	-.0564	-.1239	.0203	.0283
ord	-.0364	.0545	.3044	.1931
exh	.3638 ^b	.0966	.1208	-.3035
aut	-.1520	-.2224	-.1004	.0156
aff	.1573	.0714	-.0527	-.1642
int	.2304	.2739	.0622	-.2396
suc	-.0663	-.0224	-.1464	.0392
dom	.1103	-.0169	-.0991	-.2782
aba	-.0047	.2242	.1408	.0818
nur	.1737	.2077	.0951	-.1201
chg	-.0043	-.2703	-.1688	-.1376
end	-.0573	.0108	-.0010	.1063
het	-.1421	-.0134	-.0233	.1875
agg	-.3348 ^b	-.0731	-.1123	.3331 ^b

^aCritical values, df = 35: .05 level = .3338
.01 level = .4296

^bSignificant at .05 level.

exhibition, and the higher student teachers' self-concept the lower their need for aggression; the more well-adjusted student teachers are the lower their need for aggression. It is possible that a relationship exists between order and self-ideal and between exhibition and adjustment. The correlation coefficients for these two sets of variables approached the .05 level of significance beyond the .10 level. The null hypothesis was rejected.

Sub-hypothesis 5

No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their anxiety level (IPAT) before student teaching.

Statistical analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the IAV as it related to the IPAT Anxiety Scale in the pre-test.

Results.--The data in Table 43 show the correlation coefficients (r) for each factor of the IAV as it related to the IPAT Anxiety Scale in the pre-test. A significant negative correlation was found between self-acceptance and anxiety level.

Findings

A significant relationship beyond the .05 level was found for the self-acceptance factor of the IAV. The correlation was negative which indicates that the higher student teachers' self-acceptance the lower their anxiety level. The other IAV variables-- self-concept, self-ideal, and difference score-- were negatively correlated which

indicates that there is a tendency for those student teachers with higher self-concept, higher self-ideal, and who are more well-adjusted to be less anxious. The null hypothesis was rejected.

TABLE 43
RELATIONSHIP OF THE IAV AND IPAT ANXIETY
SCALE BEFORE STUDENT TEACHING
(PRE-TEST)^a

IPAT	IAV Variables			
	Self- concept	Self- acceptance	Self- ideal	Difference- score
Pre-test	-.2065	-.3553 ^b	-.1499	.1436

^aCritical values, df = 37: .05 = .3120
.01 = .4026

^bSignificant at .05 level.

Sub-hypothesis 6

No relationship exists between student teachers' self-concept in terms of personal adjustment (IAV) and their anxiety level after student teaching.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the IAV as it related to the IPAT Anxiety Scale in the post-test.

Results.--The data in Table 44 show the correlation coefficients (r) for each factor of the IAV as it related to the IPAT Anxiety Scale in the post-test. Significant negative correlations were found

between IAV variables self-concept, self-acceptance, and difference score and the IPAT.

TABLE 44
RELATIONSHIP OF THE IAV AND IPAT ANXIETY
SCALE AFTER STUDENT TEACHING
(POST-TEST)^a

IPAT	IAV Variables			Difference-score
	Self-concept	Self-acceptance	Self-ideal	
Post-test	-.3346 ^b	-.3566 ^b	-.0608	.4197 ^b

^aCritical values, df = 35: .05 level = .3338
.01 level = .4296

^bSignificant at .05 level.

Findings

Significant relationships beyond the .05 level were found for self-concept, self-acceptance, and difference score. These correlations were negative which indicates that those student teachers with higher self-concept, higher self-ideal, and who are more well-adjusted appear to be less anxious. The null hypothesis was rejected.

Sub-hypothesis 7

No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their personality need system (EPPS) before student teaching.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the SCMTA as it related to each factor of the EPPS in the pre-test.

Results.--The data in Table 45 show the correlation coefficients (r) for each factor of the SCMTA as it related to each factor of the EPPS in the pre-test. A significant positive correlation was found between self-acceptance and affiliation at the .05 level.

Findings

A significant relationship beyond the .05 level was found between self-acceptance and affiliation. This relationship was positive which indicates that the higher student teachers' self-acceptance the higher their need for affiliation. It is possible that relationships exist between the difference score and affiliation, and between self-acceptance and aggression. The correlation coefficients for these two sets of variables approached the .05 level beyond the .10 level. On the basis of the one significant relationship, the null hypothesis was rejected.

Sub-hypothesis 8

No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their personality need system (EPPS) after student teaching.

TABLE 45
RELATIONSHIP OF THE SCMTA AND THE EPPS
BEFORE STUDENT TEACHING
(PRE-TEST)^a

EPPS Variables	SCMTA Variables			
	Self- concept	Self- acceptance	Self- ideal	Difference- score
ach	-.0128	-.0171	-.0805	-.0471
def	-.0670	-.1133	.1475	.1295
ord	.0405	.0073	.0007	-.0736
exh	.0615	.0231	.0843	-.1013
aut	-.1061	-.1725	.0485	.1097
aff	.2136	.3316 ^b	-.1241	-.2824
int	.1640	.0819	-.0166	-.2157
suc	-.1795	-.0072	-.0422	.2466
dom	.0329	-.2093	-.0781	-.0706
aba	-.0574	.1632	.1799	.1595
nur	.0795	.2296	-.1533	-.0924
chg	.1035	.1172	-.0432	-.1292
end	.0193	-.0596	.1653	.0826
het	-.1039	-.0677	-.0130	.1527
agg	-.1772	-.2858	-.0767	.0839

^aCritical values, df = 38: .05 = .3120
.01 = .4026

^bSignificant at .05 level.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the SCMTA as it related to each factor of the EPPS in the pre-test.

Results.--The data in Table 46 show the correlation coefficients (r) for each factor of the SCMTA as it related to each factor of the EPPS in the post-test. A significant positive correlation was found between self-acceptance and affiliation at the .05 level.

Findings

A significant relationship beyond the .05 level was found between self-acceptance and affiliation. These results are identical with those found in the pre-test. These results indicate that the higher student teachers' self-acceptance the higher their need for affiliation. It is possible that relationships exist between: (1) self-concept and exhibition, (2) self-concept and intraception, (3) self-concept and aggression, (4) self-acceptance and autonomy, and (5) self-ideal and order. The correlation coefficients for these sets of variables approached the .05 level of significance beyond the .10 level. On the basis of the one significant relationship, the null hypothesis was rejected.

Sub-hypothesis 9

No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their anxiety level (IPAT) before student teaching.

TABLE 46
RELATIONSHIP OF THE SCMEA AND THE EPPS
AFTER STUDENT TEACHING
(POST-TEST)^a

EPPS Variables	SCMEA Variables			
	Self- concept	Self- acceptance	Self- ideal	Difference- score
ach	-.0350	-.2104	.1943	.2181
def	-.0302	.0356	.0298	.0825
ord	.0844	.2541	.3043	.1001
exh	.3129	-.0153	.2429	-.1697
aut	-.1471	-.3147	-.1184	.0370
aff	.0684	.3620 ^b	-.1578	-.1640
int	.3041	.1074	.2645	-.1315
suc	-.1039	.1493	-.2801	-.0540
dom	.0594	-.1732	.0242	-.0630
aba	-.0031	.0724	.1006	.0458
nur	.0469	.3053 ^b	-.1013	-.1281
chg	-.0203	-.0093	-.0953	-.0467
end	.0672	-.0583	.1068	.0089
het	-.2193	-.2676	-.2796	.0313
agg	-.3186	-.2332	-.1494	.2227

^aCritical values, df = 35: .05 level = .3338
.01 level = .4296

^bSignificant at .05 level.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the SCMTA as it related to the IBAT Anxiety Scale in the pre-test.

Results.--The data in Table 47 show the correlation coefficients (r) for each factor of the SCMTA as it related to the IBAT in the pre-test. None of the correlations were significant at the .05 level.

TABLE 47
RELATIONSHIP OF THE SCMTA AND THE IBAT
BEFORE STUDENT TEACHING
(PRE-TEST)^a

IBAT	SCMTA Variables			
	Self- concept	Self- acceptance	Self- ideal	Difference- score
Pre-test	-.1195	.0068	-.0890	.0997

^aCritical values, $df = 37$: .05 level = .3120
.01 level = .4026

Findings

No significant relationships were found between the SCMTA and anxiety level for the pre-test. The null hypothesis was accepted.

Sub-hypothesis 10

No relationship exists between student teachers' self-concept of music teaching ability (SCMTA) and their anxiety level (IBAT) after student teaching.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the SCMTA as it related to the IPAT Anxiety Scale in the post-test.

Results.--The data in Table 48 show the correlation coefficients (r) for each factor of the SCMTA as it related to the IPAT in the post-test. Significant negative correlations were found between SCMTA variables self-ideal and difference score and the IPAT.

TABLE 48
RELATIONSHIP OF THE SCMTA AND THE IPAT
AFTER STUDENT TEACHING
(POST-TEST)^a

IPAT	SCMTA Variables			
	Self- concept	Self- acceptance	Self- ideal	Difference- score
Post-test	-.3082	-.1254	-.3616 ^c	.6539 ^b

^aCritical values, df = 35: .05 level = .3338
.01 level = .4296

^bSignificant at .01 level.

^cSignificant at .05 level.

Findings

Significant relationships beyond the .05 level were found for self-ideal and difference score. These relationships were negative which indicates that those student teachers with higher self-ideal

and who are more well-adjusted appear to be less anxious. The null hypothesis was rejected.

Sub-hypothesis 11

No relationship exists between student teachers' personality need system (EPPS) and their anxiety level (IPAT) before student teaching.

Statistical analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the EPPS as it related to the IPAT Anxiety Scale in the pre-test.

Results.--The data in Table 49 show the correlation coefficients (r) for each factor of the EPPS as it related to the IPAT in the pre-test. A significant positive correlation was found between succorance and anxiety level.

Findings

A significant relationship beyond the .01 level was found between succorance and anxiety level. This relationship was positive which indicates that student teachers with a high need for succorance are those with a high anxiety level. On the basis of the one significant relationship, the null hypothesis was rejected.

Sub-hypothesis 12

No relationship exists between student teachers' personality need system (EPPS) and their anxiety level (IPAT) after student teaching.

TABLE 49
RELATIONSHIP OF THE EPPS AND THE IEAT
BEFORE STUDENT TEACHING
(PRE-TEST)^a

EPPS Variables	IEAT, Pre-test N = 39
ach	-.0756
def	-.1388
ord	-.0718
exh	-.0281
aut	.0827
aff	.2769
int	-.0585
suc	.4236 ^b
dom	-.2405
aba	-.0690
nur	.0575
chg	-.0327
end	-.1582
het	-.0663
agg	.1333

^aCritical values, df = 37: .05 level = .3120
.01 level = .4026

^bSignificant at .01 level.

Statistical analysis

Procedure.--The hypothesis was tested with the Pearson r correlation coefficient. The r was obtained for each factor of the EPPS as it related to the IPAT Anxiety Scale in the post-test.

Results.--The data in Table 50 show the correlation coefficients (r) for each factor of the EPPS as it related to the IPAT in the post-test. No significant correlations were found between the EPPS and the IPAT Anxiety Scale.

Findings

No significant relationships at the .05 level were found between the EPPS and the IPAT in the post-test. It is possible that a relationship does exist between succorance and anxiety level after student teaching. The correlation coefficient for these variables approached the .05 level beyond the .10 level. However, the null hypothesis must be accepted.

Sub-hypothesis 13

There is no significant difference between the scores obtained for each student teacher on the Bills Index of Adjustment and Values and established norms.

TABLE 50
RELATIONSHIP OF THE EPPS AND THE IBAT
AFTER STUDENT TEACHING
(POST-TEST)^a

EPPS Variables	IBAT, Post-test N = 37
ach	.0113
def	.0375
ord	-.1345
exh	-.0670
aut	.0079
aff	.0488
int	-.2569
suc	.3297
dom	.0279
aba	-.2220
nur	.1309
chg	-.0618
end	-.0079
het	.1012
agg	.1066

^aCritical values, df = 35: .05 level = .3338
.01 level = .4296

Statistical analysis

Procedure.--The sub-hypothesis was tested with the normal test for significant difference between means. The z scores were obtained for each factor of the IAV. The formula for the normal test is as follows:¹⁰⁷

$$z = \frac{\bar{X} - \mu_o}{\sigma / \sqrt{N}}$$

where $\bar{X}$ = mean of the sample population
 μ_o = mean of established norms

where σ = standard deviation
 N = number of subjects in the sample.

Substituting values obtained from the tests and from established norms, the formula for determining significant difference between the self-concept variable and the established norm for the self-concept variable becomes:

$$z = \frac{194.52 - 185.79}{14.71 / \sqrt{40}}$$

$$z = 3.75$$

Results.--The data in Table 51 show the z scores for each factor of the IAV, the means for the sample population and the normal population, and the level of significance. Significant differences beyond the .01 level were found for self-concept, self-acceptance, and the difference score.

¹⁰⁷Hereafter, this formula will not be presented. The same procedure was used for all calculations of the normal test.

TABLE 51
RELATIONSHIP BETWEEN EXPERIMENTAL GROUP
AND ESTABLISHED NORMS FOR THE IAV

IAV Variables	Experimental Group Mean	Mean for Established Norms	z	Level of Significance ^a
Self-concept	194.52	185.79	3.75	.01
Self-acceptance	178.65	171.86	2.80	.01
Self-ideal	220.90	221.31	0.23	-
Difference-score	32.43	43.79	6.87	.01

^aCritical values for z, N = 40: .05 level = 1.65
.01 level = 2.33

Findings

Significant differences beyond the .01 level were found for self-concept, self-acceptance, and difference score. According to the means, the self-concept and self-acceptance of the sample were significantly higher than the normal population, and the difference score of the sample was significantly lower than the normal population. The null hypothesis was rejected.

Sub-hypothesis 14

There is no significant difference between the scores obtained for each student teacher on the Edwards Preference Schedule (EPPS) and established norms.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the normal test for significant difference between means. The z scores were obtained for each factor of the EPPS.

Results.--The data in Table 52 show the z scores for each factor of the EPPS, the means for the sample population and the normal population, and the level of significance. Significant differences beyond the .05 level were found for achievement, deference, order, affiliation, intraception, and nurturance.

Findings

Significant differences beyond the .05 level were found for achievement, deference, order, affiliation, intraception, and nurturance. According to the means, the sample indicated significantly higher means for achievement, deference, and order than the normal population; and the sample indicated significantly lower means for affiliation, intraception, and nurturance. The null hypothesis was rejected.

Sub-hypothesis 15

There is no significant difference between the scores obtained for each student teacher on the IPAT Anxiety Scale and established norms.

Statistical analysis

Procedure.--The sub-hypothesis was tested with the normal test for significant difference between means. The z scores were obtained for the IPAT Anxiety Scale.

TABLE 52
RELATIONSHIP BETWEEN EXPERIMENTAL GROUP
AND ESTABLISHED NORMS FOR THE EPPS

EPPS Variables	Experimental Group Mean	Mean for Established Norms	z	Level of Significance ^a
ach	15.58	14.38	1.91	-
def	13.53	11.80	2.28	.01
ord	12.05	10.24	2.05	.05
exh	14.45	14.34	0.22	-
aut	12.83	13.31	0.71	-
aff	14.28	16.19	3.28	.01
int	15.03	16.72	2.28	.05
suc	11.88	11.63	0.34	-
dom	15.70	15.83	0.21	-
aba	14.80	13.66	0.75	-
nur	14.15	15.22	1.84	.05
chg	15.45	16.35	1.07	-
end	12.55	12.65	0.14	-
het	15.40	16.01	0.67	-
agg	12.55	11.70	1.27	-

^aCritical values for z, N = 40: .05 level = 1.65
.01 level = 2.33

Results.--The data in Table 53 show the z score for the IPAT, the means for the sample population and the normal population, and the level of significance. A significant difference at the .05 level was found between the sample population and the normal population.

TABLE 53
RELATIONSHIP BETWEEN EXPERIMENTAL GROUP
AND ESTABLISHED NORMS FOR THE IPAT
ANXIETY SCALE

Experimental Group Mean	Mean for Established Norms	z	Level of Significance ^a
25.62	28.70	1.97	.05

^aCritical values for z, N = 39: .05 level = 1.65
.01 level = 2.33

Findings

A significant difference beyond the .05 level was found for the IPAT Anxiety Scale. According to the means, the sample indicated a significantly lower anxiety level than the normal population. The null hypothesis was rejected.

Additional Findings

In addition to those findings related to the hypotheses and sub-hypotheses, other pertinent findings deserve mention. The sample population was limited to 40 subjects, only 32 of which were observed by the team of college supervisors. There was some concern as to whether this sample of 32 subjects constituted a normally distributed

population. In partial answer to this question it was decided to run a test of skewness on the SCMTA test. Table 54 shows the results of a commonly used measure of skewness obtained from the second and third moments, the rationale being that when a distribution is symmetrical, the sum of cubes of deviations above the mean will balance the sum of cubes of deviations below the mean. The results indicate that all three self-concept factors of the SCMTA fall within the acceptable range of skewness, $\pm .500$, and therefore, the normal distribution can be assumed.

TABLE 54
TEST FOR SKEWNESS FOR THE SCMTA

SCMTA Variables	g_1	Direction of Skewness
Self-concept	.194	positive
Self-acceptance	.206	positive
Self-ideal	.296	positive

⁸¹Acceptable range of skewness = $\pm .500$

The formula for the skewness test is as follows:¹⁰⁸

$$g_1 = \frac{m_3}{m_2 \sqrt{m_2}}$$

where $m_3 = \frac{(X - \bar{X})^3}{N}$

$$m_2 = \frac{(X - \bar{X})^2}{N}$$

where X = individual scores,

$\bar{X}$ = mean,

and N = number of Ss.

Substituting values obtained from the SCMTA test for the self-concept variable, the formula for skewness becomes:

$$g_1 = \frac{867.69}{271.76 \sqrt{271.76}}$$

$$g_1 = .194$$

The same procedure was used on the remaining SCMTA variables.

A second additional finding was the relationship of the final level of achievement to the degree of growth in the student teaching experience. These factors constitute the two dimensions of evaluation for student teaching. One would properly assume that if student teachers were evaluated at the beginning of the student teaching experience and again at the end, the evaluation scores at the beginning would be closer to each other than those at the end. This assumption proved to be correct. According to the data in Table 45 those student teachers who achieved highest at the end of the student

¹⁰⁸Ferguson, op. cit., p. 64.

teaching experience were also those who scored highest in degree of growth. Both parametric (r) and nonparametric (r_s) measures are shown in the table; r represents the Pearson r correlation coefficient while r_s represents the Spearman rank correlation coefficient. The correlations are highly significant at better than the .01 level.

TABLE 55
RELATIONSHIP OF FINAL LEVEL OF ACHIEVEMENT
TO DEGREE OF GROWTH

Statistical Test	N	Correlation Coefficient	Level of Significance ^a
r	32	.8330	.01
r_s	32	.7296	.01

^aCritical values for r , $df = 30$: .05 level = .3610
.01 level = .4629

Critical values for r_s , $N = 32$: .05 level = .296
.01 level = .417

Summary

This chapter has presented the data and findings for the twenty hypotheses and fifteen sub-hypotheses listed in Chapter I. The hypotheses were tested with both parametric and nonparametric statistics. This testing produced a number of tables which may be difficult to read especially if one might wish to arrive at a synthesis of the findings. To facilitate the reading of the tables related to the hypotheses, Table 56 accompanies the following verbal summary of

findings and conclusions and lists a summary of the correlations for all hypotheses. All significant correlations beyond the .05 level are listed along with the direction of correlation and the type of statistical test used.

A summary of the findings and conclusions of this study are listed below:

1. There was a positive significant relationship between self-concept of music teaching ability and achievement in student teaching.
2. Significant changes occurred during the student teaching experience for the IAV and the SCMTA, but not for the EPPS or the IPAT.
3. Changes occurring during the student teaching experience for the IAV, SCMTA, and EPPS were not significantly related to achievement; but those who achieved higher in music student teaching indicated significantly less anxiety.
4. Music student teachers with a high self-concept were dependent, conforming, and gregarious.
5. There were high correlations between anxiety and adjustment--the more well adjusted Ss indicated less anxiety.
6. Ss in the experimental group were significantly higher in self-concept, deference, and order; they were significantly lower in affiliation, intraception, and anxiety.

7. High achievers in music student teaching indicated a high need for deference, order, and affiliation; they indicated a low need for autonomy. There was no difference between high and low achievers for anxiety level.

TABLE 56

SUMMARY OF CORRELATIONS FOR HYPOTHESES

Test Variables	Final Level of Achievement and Pre-test (r and r_s)	Degree of Growth and Pre-test (r and r_s)	Change Between Pre-tests and Post-tests (t and z)	Change and Final Level of Achievement (r and r_s)	Change and Degree of Growth (r and r_s)
Index of Adjustment and Values					
S.C.	-	+.05n	+.01pn	-	-
S.A.	-	-	+.01n (+.05p)	-	-
S.I.	-	+.05n	+.01pn	-	-
D.	-	-	-	-	-
Self-Concept of Music Teaching Ability					
S.C.	+.05pn	-	+.01pn	-	-
S.A.	-	-	+.01pn	-	-
S.I.	-	-	-	-	-
D.	-	-	-.01pn	-	-
IPAT Anxiety Scale					
IPAT	-	-	-	-.05n	-.05p

TABLE 56 (contd.)

Test Variables	Final Level of Achievement and Pre-test (r and r _s)	Degree of Growth and Pre-test (r and r _s)	Change Between Pre-tests and Post-tests (t and z)	Change and Final Level of Achievement (r and r _s)	Change and Degree of Growth (r and r _s)
ach	-	-	-	-	-
def	♦ .05n	-	-	-	-
ord	♦ .05pn	-	-	-	-
exh	-	-	-	-	-
aut	-.05n	-.05n	-	-	-
aff	♦ .05n	♦ .05pn	-	-	-
int	-	-	-	-	-
suc	-	-	-	-	-
dom	-	-.05p	-	-	-
aba	-	-	-.05n	-	-
nur	-	-	-	-	-
chg	-	-	-	-	-
end	-	-	-	-	-
het	-	-	-	-	-
agg	-	-	-	-	-

.05, .01 = level of significance
 p = parametric test
 n = nonparametric test

♦ = positive direction
 - = negative direction

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER STUDY

This chapter will present a review of the problem and a discussion of the results of the findings in Chapter IV. Conclusions drawn from these findings and recommendations for further study will constitute the remaining sections of the chapter.

The Problem

The problem of this study was to determine possible relationships between the self-concept, personality need system, and anxiety level of music student teachers and their achievement in the student teaching experience. Other problems which were related to the central problem of the study were also investigated. These included the following: (1) the possible effects of the student teaching experience on music student teachers' self-concept, personality need system, and anxiety level; (2) the relationship of changes in self-concept, personality need system, and anxiety level to achievement in music student teaching; and (3) the comparison of music student teachers with established norms for self-concept, personality need system, and anxiety level.

Hypotheses were formulated and grouped according to their pertinence to the stated problems of the study. Hypotheses 1 through 8 were concerned with the relationships between achievement in student teaching and the following variables: (1) self-concept in terms of personal adjustment as measured by the Bills Index of Adjustment and Values (IAV), (2) self-concept of music teaching ability as measured by the instrument devised by the investigator specifically for this study (SCMTA), (3) personality need system as measured by the Edwards Personal Preference Schedule (EPPS), and (4) anxiety level as measured by the IBAT Anxiety Level (IBAT).

Hypotheses 9 through 12 were concerned with the possible effects of the student teaching experience on self-concept, personality need system, and anxiety level. These effects were determined by studying the changes which occurred between the pre-tests and the post-tests according to the measuring instruments. Hypotheses 13 through 20 were concerned with the relationship of these changes to achievement in student teaching.

Several sub-hypotheses were formulated for the purpose of examining two additional phenomena: (1) sub-hypotheses 1 through 12 were concerned with the interrelationships of all measuring instruments, and (2) sub-hypotheses 13 through 15 were concerned with the comparison of the sample population to established norms for the IAV, the EPPS, and the IBAT.

Procedures

The sample.--Subjects selected for this study constitute the entire population of music student teachers at The Ohio State University for the academic year 1966-67. The total number of subjects completing the requirements for student teaching was forty.

The measuring instruments.--Three measuring instruments were thought to be appropriate for use in this study-- Bills Index of Adjustment and Values (IAV), Edwards Personal Preference Schedule (EPPS), IBAT Anxiety Level (IBAT). In addition, a measure of the phenomenological aspects of the music student teaching experience was constructed by the investigator. This instrument, modelled after the Bills Index, was called the Self-Concept of Music Teaching Ability (SCMTA). The IAV measures self-concept in terms of personal adjustment. The EPPS measures personal need structures and the IBAT measures anxiety level.

The evaluation of student teaching.--In order to determine relationships between achievement in student teaching and personality factors, it was necessary to develop a method of evaluating the achievement of student teachers in music. The Stanford Teacher Competence Appraisal Guide was selected as a means for objectifying the subjects' final level of achievement and their degree of growth.

In order to provide a valid standard of evaluation, a team of three college supervisors and the cooperating teacher was scheduled to observe the student teacher on two different occasions: (1) at the beginning of the student teacher's teaching duties and (2) during the final week of the student teaching experience. The final

observation score was used as the final level of achievement, and the difference between the first and last observations was used as the degree of growth.

Data analysis.--The data were treated with both parametric and nonparametric tests because of the nature of the study. The number of subjects which the hypotheses utilized was 32, a number lying within a region of doubt as to whether the sample is normally distributed.

The Pearson r correlation coefficient was used to show relationships between (1) self-concept and achievement in student teaching, (2) changes in self-analysis tests and achievement in student teaching, and (3) all self-analysis tests themselves. The paired t test of significant difference was used to show differences obtained on pre-tests and post-tests of all self-analysis tests. The normal test was used to show significant differences between scores obtained on the IAV, EPPS, and IPAT and established norms.

All hypotheses were treated with nonparametric tests. The Spearman rank correlation coefficient was used to show relationships between self-concept and achievement in student teaching. Changes in all pre-tests and post-tests were treated with the Wilcoxon matched-pairs signed-ranks test. Relationships between changes on all pre-tests and post-tests and achievement in student teaching were shown by using the chi square and 2×2 contingency tables.

Discussion of the Results

The problem of this study was to answer the questions posed in Chapter I: (1) Do relationships appear to exist between the self-concept of music student teachers and their achievement in the student teachers and their achievement in the student teaching experience, and (2) Does the student teaching experience appear to have any effect on the music student teachers' self-concept? The specific purposes of the study were delineated in order to answer the basic questions of the problem statement. Finally, the hypotheses were formulated according to those purposes.

Purpose 1.--The first purpose of the study was to determine whether relationships occur between music student teachers' self-concept and their achievement in the student teaching experience. In a sense, all tests administered to the sample may be considered "self-concept" scales because the responses are based on self-report. The evaluation of achievement in student teaching was accomplished in two separate but related dimensions: final level of achievement and degree of growth. Final level of achievement was derived from the score obtained for each student teacher on the last formal observation, and degree of growth was determined by a difference score between the first formal observation and the last formal observation.

Tests revealed a positive and significant correlation between final level of achievement and self-concept of music teaching ability, and positive significant correlations between degree of growth and two variables of the global self-concept-- self-concept and

self-ideal. These correlations support to a limited degree the findings of other self-concept studies, namely, that self-concept is positively related to achievement. Apparently, those with high self-concepts do tend to achieve more than those with lower self-concepts.

Purpose 2.--The second purpose was to determine whether changes occur in the music student teachers' self-concept during the student teaching experience. Subjects' global self-concept measured by the Index of Adjustment and Values and their specialized self-concept measured by the Self-Concept of Music Teaching Ability Test showed a significant change at the end of the student teaching experience in a positive direction. Apparently, the student teaching experience had some effect on student teachers' self-concept. Perhaps this professional level of activity has a tendency to develop confidence in student teachers. Having spent nearly four years in preparation for teaching music, prospective student teachers may regard the student teaching experience somewhat apprehensively, perhaps feeling inadequate or unequal to the task before them. Having successfully completed the task, however, may relieve apprehensive feelings and restore confidence in their ability to teach secondary school music.

Changes did not occur as dramatically in the Edwards Personal Preference Schedule or in the IPAT Anxiety Scale. Only one variable on the EPPS-- abasement-- reached a level of significance, and the change in the anxiety level was not significant. With the exception of the obvious conclusion that music student teachers have less need for abasement after student teaching than before, the need systems

and anxiety levels of music student teachers remain relatively unchanged throughout the student teaching experience. One may speculate further into the reasons for the stability of a need system and anxiety level. These personality traits develop over a period of many years and result from a vast number of experiences involving differing situations, various events, and other persons. It would seem illogical that such a system of needs and anxiety level could be changed significantly in the short span of ten weeks, no matter what the circumstances might be. This conclusion is supported by the fact that while self-concept, self-acceptance, and self-ideal as measured by the IAV were significantly changed, the adjustment level, as indicated by the differences score, was not significantly changed. This means that while the student teaching experience appeared to have significantly affected student teachers' self-concept, the student teaching experience had no significant effect on student teachers' level of adjustment.

Purpose 3.--The third purpose of the study was to determine whether relationships exist between changes in self-concept during the student teaching experience and achievement in student teaching. It was thought that if changes did occur in any of the tests administered before and after student teaching, these changes may be related to student teachers' level of achievement in student teaching. For example, an obvious assumption is that those student teachers whose self-concept of music teaching ability showed the highest improvement would be those who were the highest achievers. This

assumption proved to be false. No significant relationships occurred between the changes on the IAV, SCMTA, and EPPS tests and achievement in student teaching. Apparently, the level of achievement and the degree of growth have no effect on the changes that take place in self-concept or need system. The self-concept of low achievers changed to the same degree as those of high achievers. These findings were unexpected considering the studies discussed in Chapter II which report relationships between change in self-concept and achievement. The subjects in this study indicated changes in self-concept as a result of the student teaching experience regardless of achievement levels. These findings place the student teaching experience in a favorable position if student teachers' self-concept are improved as a result of the experience alone, whether they achieve in it or not. This study, along with many others, has shown that self-concept is related positively to achievement; it may be concluded, therefore, that if student teaching raises the self-concept level of student teachers, the student teaching experience alone offers a basic tool for achievement in professional teaching.

There was a significant relationship between the change in anxiety level and achievement in student teaching. Findings show that student teachers who achieved highest indicated a significantly lower anxiety level than the lower achievers. It may be concluded, therefore, that achievement in music student teaching may have an effect on lowering anxiety.

Sub-purpose 1.--Several sub-purposes were delineated in Chapter I which point out other significant and pertinent relationships. The first sub-purpose was to determine whether relationships occur between the various tests administered in this study. These relationships were tested with sub-hypotheses 1 through 12. The global self-concept and the self-concept of specialized abilities appear to be related. All coefficients for like variables on the IAV and the SCMTA were significant beyond the .01 level on both the pre-test and the post-test. Student teachers responded similarly on both types of self-concept scales, which offers some evidence that both scales could be measuring different aspects of the same phenomenon, the self-concept.

In determining relationships between the IAV and the EPPS variables, several significant correlations were found. EPPS variables related to the IAV were exhibition, autonomy, affiliation, and aggression. Conclusions were that (1) the higher the self-concept the lower the need for autonomy and aggression, and the higher the need for affiliation; (2) the higher the self-acceptance, the lower the need for autonomy and aggression; (3) the higher the self-ideal the lower the need for autonomy; (4) the more well-adjusted student teachers are, the higher their need for aggression. The apparent low need for autonomy and aggression among those subjects with high self-concepts is the central issue here. Autonomy and aggression are traits commonly associated with the independent, nonconforming type of personality. The conclusion is that those music student teachers

who indicated the higher self-concept in terms of personal adjustment have dependent, conforming, gregarious types of personalities. In the post-test, however, the relationship of IAV variables to autonomy disappeared. Because the EPPS variables remained relatively stable during student teaching, it appears that the significant rise in self-concept level caused this difference between the pre-test and the post-test.

In determining relationships between IAV variables and anxiety level, the pre-test showed a significant correlation with self-acceptance. This means that the higher student teachers' self-acceptance the lower their anxiety level. Three of the variables showed significant correlations on the post-test; they were self-concept, self-acceptance, and adjustment. Results indicated that the higher student teachers' self-concept and self-ideal, the lower their anxiety level; and the higher their level of adjustment, the lower their anxiety level. This was to be expected because the definition of anxiety as reported in Chapter I indicates a close relationship between a person's anxiety and his personal adjustment, and states that the lower a person's anxiety the greater the extent to which that person is well-adjusted.

The relationships between EPPS variables and self-concept of music teaching ability are, for the most part, not significant. On both the pre-test and post-test, the self-acceptance factor of the SCMTA showed a significant relationship to affiliation. This can be interpreted to mean that student teachers who are self-accepting

indicate a strong need for friendship, or are accepting of others as well.

No significant relationships were found between the self-concept of music teaching ability and anxiety level before student teaching. However, the post-test revealed significant relationships between anxiety level and self-ideal, and between anxiety level and adjustment. These relationships were expected; the higher student teachers' level of adjustment the lower their anxiety level. Anxiety and adjustment appear to be highly related personality traits; when anxiety is lowered the level of adjustment tends to be higher.

The relationships between EPPS variables and anxiety level are, for the most part, not significant. Only on the pre-test did a significant relationship appear. This significant relationship was between anxiety level and succorance. The obvious conclusion is that those student teachers who were most anxious before student teaching were those whose needs were high in succorance, a trait which demands aid, encouragement, and affection from other people. It is interesting to note that the relationship between anxiety level and succorance fell below significance level after student teaching. This could be attributed to the general rise in self-concept during the student teaching experience which could cause a person to develop more independence.

Sub-purpose 2.--The second sub-purpose of the study was to determine whether music student teachers differ significantly from norms established for the Bills Index of Adjustment and Values, the Edwards

Personal Preference Schedule, and the IPAT Anxiety Scale. The sample showed significant differences from established norms on all these tests. On the IAV, the sample showed a significantly higher self-concept, self-acceptance, and adjustment level. On the EPPS, subjects scored significantly higher on deference and order, and significantly lower on affiliation and intraception. On the IPAT Anxiety Scale subjects indicated a significantly lower anxiety level.

It is possible that these differences are due to the fact that the sample was constituted entirely of college seniors. It would be assumed that if the norms were established through the use of all four college grade levels, a sample of seniors would tend to have higher self-concepts and would tend to be more well-adjusted. The subjects' high need for deference and order could be traced to an inclination toward conformity on the part of the music student teachers. A certain amount of conformity is expected of all beginning student teachers because most of them must enter an established teaching situation and continue the plan of study already in progress. Jackson and Guba¹⁰⁹ found deference and order among the five needs of the EPPS which appear to be typical of teachers in general. In that respect, the subjects are normal. This study also noted those needs which are significantly lower than the normal population; namely, affiliation and intraception.

¹⁰⁹Jackson and Guba, op. cit., pp. 37-40.

Sub-purpose 3.--The third sub-purpose was to determine whether certain types of personality are associated with high and low achievers in music student teaching. High achievers indicated a high need for deference, order, and affiliation, and a low need for autonomy. Again, the conclusion may be drawn that music student teachers who achieve highest in student teaching reveal fairly strong tendencies toward conformity. The high need for deference infers the need to follow instruction, to conform, to avoid the unconventional, and to let others make decisions. The low need for autonomy strengthens this conclusion because it infers the opposite needs, such as the need for independence, to do the unconventional, and to avoid conformity. It is possible that the music teacher education program contributes to these tendencies toward conformity, in that certain degrees of conformity may be implicit and necessary under existing teacher education curricula and instruction.

The results of the IBAT Anxiety Scale revealed no significant differences between high and low achievers. This means that music student teachers who achieve highest are no different from those who achieve lowest in terms of anxiety. Apparently, anxiety level provides no indication as to whether or not student teachers will achieve in student teaching.

Sub-purposes 4 and 5.--The fourth and fifth sub-purposes of the study were to measure student teachers with regard to personal adjustment, self-concept of music teaching ability, personality need system, and anxiety level. In the administration of these tests it

was learned that an optimal length of time for testing exists, and that researchers must choose with care the number of tests to be used and the most appropriate schedule for administration. The most convenient schedule for a single administration of the four tests used in this study proved to be two testing periods, each consisting of one hour. This schedule proved to be much less taxing than attempting to complete the entire battery in a single session.

The objectified evaluation of music student teachers necessary for statistical treatment of the data was accomplished by use of the Stanford Teacher Competence Appraisal Guide. This device proved to be useful in the observation of student teachers, appropriate for the field of music even though the guide does not refer directly to specialized areas or duties, and easy to score. The guide is believed to offer one of the best means available for objectifying the evaluation of effective teaching.

Suggestions for Further Study

During the course of this investigation it was apparent that a larger sample of student teachers would have produced stronger results. Due to the difficulty of evaluation standards, a study of this type carried on in different universities would probably prove to be unreliable. However, it would be interesting to compare results of the Self-Concept of Music Teaching Ability Test with larger samples, and to compare changes occurring during the student teaching experience with those found in this study.

Another area of study opened by this investigation is a follow-up study of these same subjects as they move to the professional level of school music teaching. Areas of investigation could include the relationship of achievement in student teaching to achievement in in-service teaching; changes in self-concept, need system, and anxiety level; and the relationship of all these variables to those who stay in the teaching profession as opposed to those who leave the profession.

Still another possibility is the study of music student teachers using different types of personality measures such as the Rokeach Dogmatism Scale which measures open and closed mindedness, the Minnesota Teacher Attitude Inventory which measures teachers' attitudes toward the types of persons and events likely to be encountered in the teaching profession.

An investigation of the music teacher education programs, its curricula, methods of instruction, and even the instructional staff may reveal whether these variables are in any way responsible for the personality traits of music student teachers. Either certain personality types are drawn to music education, or the music teacher education program tends to develop certain personality traits. If the latter is true, the music education profession should be so informed.

APPENDIX A
THE 49 PERSONALITY TRAITS AS FOUND IN BILLS
INDEX OF ADJUSTMENT AND VALUES

a. academic	25. meddlesome
1. acceptable	26. merry
2. accurate	27. mature
3. alert	28. nervous
4. ambitious	29. normal
5. annoying	30. optimistic
6. busy	31. poised
7. calm	32. purposeful
8. charming	33. reasonable
9. clever	34. reckless
10. competent	35. responsible
11. confident	36. sarcastic
12. considerate	37. sincere
13. cruel	38. stable
14. democratic	39. studious
15. dependable	40. successful
16. economical	41. stubborn
17. efficient	42. tactful
18. fearful	43. teachable
19. friendly	44. useful
20. fashionable	45. worthy
21. helpful	46. broad-minded
22. intellectual	47. businesslike
23. kind	48. competitive
24. logical	49. fault-finding

APPENDIX B

THE WINK SELF-CONCEPT TEST OF MUSIC TEACHING ABILITY

INSTRUCTIONS FOR THE WINK SELF-CONCEPT TEST OF MUSIC TEACHING ABILITY

(As Adapted from the Bills Index of Adjustment and Values)

This device is a way of helping you to state some of your beliefs about your ability to teach secondary school music. It will have value only if you are careful to give an accurate description of yourself in terms of the 42 statements listed on the following pages.

You will be asked to answer three questions about yourself: (1) How often are you this sort of person, (2) How do you feel about being this way, and (3) How much of the time would you like this description to be characteristic of you?

PLEASE MAKE ALL THREE RATINGS FOR EACH DESCRIPTION BEFORE GOING ON TO THE NEXT DESCRIPTION.

STEP 1.: Take each description separately and apply it to yourself. Then decide HOW MUCH OF THE TIME this description is like you; that is, is typical or characteristic of you as an individual, and rate yourself on a scale from one to five according to the following key:

1. Seldom, is this like me.
2. Occasionally, this is like me.
3. About half the time, this is like me.
4. A good deal of the time, this is like me.
5. Most of the time, this is like me.

Select the number beside the phrase that tells how much of the time the description is like you and insert it in Column I on the answer sheet.

EXAMPLE: Beside the sentence A MUSIC TEACHER IS ACQUAINTED WITH ARTS OTHER THAN MUSIC, number 2 is inserted to indicate that "Occasionally, this is like me."

STEP 2: Now go to Column II. Use one of the statements given below to tell HOW YOU FEEL about yourself as described in Column I:

1. I dislike very much being as I am in this respect.
2. I dislike being as I am in this respect.
3. I neither dislike being as I am nor like being as I am in this respect.
4. I like being as I am in this respect.
5. I like very much being as I am in this respect.

You will select the number beside the statement that tells how you feel about the way you are and insert the number in Column II.

EXAMPLE: In Column II beside the sentence A MUSIC TEACHER IS ACQUAINTED WITH ARTS OTHER THAN MUSIC, number 1 is inserted to indicate that I dislike very much being as I am in this respect. Note that "being as I am" always refers to the way you described yourself in Column I.

STEP 3: Finally, go to Column III, using the same sentence, consider the following statement:

I would like to be this kind of person.

Then decide HOW MUCH OF THE TIME you would like this description to be characteristic of you and rate yourself on the following five-point scale:

1. Seldom, would I like this to be me.
2. Occasionally, I would like this to be me.
3. About half the time, I would like this to be me.
4. A good deal of the time, I would like this to be me.
5. Most of the time, I would like this to be me.

You will select the number beside the phrase that tells how much of the time you would like to be this kind of person and insert the number in Column III.

EXAMPLE: In Column III beside the sentence A MUSIC TEACHER IS ACQUAINTED WITH ARTS OTHER THAN MUSIC, number 5 is inserted to indicate that most of the time, I would like to be this kind of person.

Start with sentence number one and fill in Columns I, II, and III before going on to the next sentence. There is no time limit. Be honest with yourself so that your description will be a true measure of how you see yourself.

Column I: How often are you this sort of person?
 Column II: How do you feel about being this way?
 Column III: How often would you like to be this way?

<u>EXAMPLES</u>	I	II	III
a. A music teacher composes music.	_____	_____	_____
b. A music teacher is acquainted with arts other than music.	_____	_____	_____
<u>BEGIN HERE</u>			
1. A music teacher likes to work with young people.	_____	_____	_____
2. A music teacher selects materials appropriate to the performing groups.	_____	_____	_____
3. A music teacher is enthusiastic about teaching music.	_____	_____	_____
4. A music teacher gives directions clearly and thoroughly.	_____	_____	_____
5. A music teacher is keenly aware of musical errors of the class.	_____	_____	_____
6. A music teacher teaches music funda- mentals while teaching the music itself.	_____	_____	_____
7. A music teacher gives help willingly.	_____	_____	_____
8. A music teacher appreciates and has a strong interest in music literature.	_____	_____	_____
9. A music teacher provides the pupils with musically satisfying experiences.	_____	_____	_____
10. A music teacher discusses the music with the class in a stimulating manner.	_____	_____	_____
11. A music teacher corrects pupils' per- formance errors effectively.	_____	_____	_____
12. A music teacher disciplines in a firm and constructive manner.	_____	_____	_____

GO ON TO THE NEXT PAGE

	I	II	III
13. A music teacher shows self-control; meets disturbing situations calmly.	_____	_____	_____
14. A music teacher conducts music in a confident manner.	_____	_____	_____
15. A music teacher plans thoroughly for each class.	_____	_____	_____
16. A music teacher is kind in personal relations.	_____	_____	_____
17. A music teacher is on time for commitments.	_____	_____	_____
18. A music teacher is sensitive to the pupils' music expressiveness.	_____	_____	_____
19. A music teacher praises pupils' work when well done.	_____	_____	_____
20. A music teacher maintains control over the class proceedings.	_____	_____	_____
21. A music teacher speaks and acts intelligently.	_____	_____	_____
22. A music teacher has a warm and friendly manner of teaching.	_____	_____	_____
23. A music teacher is acquainted with music of various periods of history.	_____	_____	_____
24. A music teacher is a patient person.	_____	_____	_____
25. A music teacher understands appropriate vocal range and quality.	_____	_____	_____
26. A music teacher encourages pupils to express themselves.	_____	_____	_____
27. A music teacher selects and establishes appropriate tempo for musical performances.	_____	_____	_____
28. A music teacher is sympathetic toward learners.	_____	_____	_____

	I	I	III
29. A music teacher analyzes standard musical forms.	_____	_____	_____
30. A music teacher varies techniques of presentation.	_____	_____	_____
31. A music teacher willingly assumes responsibility.	_____	_____	_____
32. A music teacher displays an appropriate sense of humor.	_____	_____	_____
33. A music teacher has a great deal of energy.	_____	_____	_____
34. A music teacher reads vocally any part of a four-part hymn at sight.	_____	_____	_____
35. A music teacher asks pupils thought provoking questions.	_____	_____	_____
36. A music teacher enjoys meeting and talking with other staff members.	_____	_____	_____
37. A music teacher is able to train and conduct either changed or unchanged voices.	_____	_____	_____
38. A music teacher plays at sight simple piano accompaniments for vocal or instrumental music.	_____	_____	_____
39. A music teacher speaks fluently - at a moderate rate and with suitable volume.	_____	_____	_____
40. A music teacher is an outstanding organizer.	_____	_____	_____
41. A music teacher enjoys attending musical performances.	_____	_____	_____
42. A music teacher performs well in his own medium.	_____	_____	_____

APPENDIX C

DESCRIPTION OF THE PERSONALITY VARIABLES AS FOUND
IN EDWARDS PERSONAL PREFERENCE SCHEDULE

THE MANIFEST NEEDS ASSOCIATED WITH EACH OF
THE 15 EPPS VARIABLES ARE:¹¹⁰

1. ach Achievement: To do one's best, to be successful, accomplish tasks requiring skill and effort, to be a recognized authority, to accomplish something of great significance, to do a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a great novel or play.

2. def Deference: To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

3. ord Order: To have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have meals organized and a definite time for eating, to have things arranged so that they run smoothly without change.

4. exh Exhibition: To say witty and clever things, to tell amusing jokes and stories, to talk about personal adventures and experiences, to have others notice and comment upon one's appearance, to say things just to see what effect it will have on others, to talk about personal achievements, to be the center of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.

5. aut Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in positions of authority, to avoid responsibilities and obligations.

6. aff Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

¹¹⁰Allen L. Edwards, Edwards Personal Preference Schedule: Manual (New York: The Psychological Corporation, 1959), p. 11.

7. int Intraception: To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than by what they do, to analyze the behavior of others, to analyze the motives of others, to predict how others will act.

8. suc Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

9. dom Dominance: To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs.

10. aba Abasement: To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal pain and misery suffered does more good than harm, to feel the need for punishment for wrong doing, to feel better when giving in and avoiding a fight than when having one's own way, to feel the need for confession to errors, to feel depressed by inability to handle situations, to feel timid in the presence of superiors, to feel inferior to others in most respects.

11. nur Nurturance: To help friends when they are in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favors for others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection toward others, to have others confide in one about personal problems.

12. chg Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

13. end Endurance: To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work without distraction, to stick at a problem even though it may seem as if no progress is being made, to avoid being interrupted while at work.

14. het Heterosexuality: To go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex, to read books and plays involving sex, to listen to or to tell jokes involving sex, to become sexually excited.

15. agg Aggression: To attack contrary points of view, to tell others what one thinks about them, to criticize others publicly, to make fun of others, to tell others off when disagreeing with them, to get revenge for insults, to become angry, to blame others when things go wrong, to read newspaper accounts of violence.

APPENDIX D

CHARACTERISTIC BEHAVIORS OF EFFECTIVE TEACHERS

AS FOUND IN THE STANFORD TEACHER

COMPETENCE APPRAISAL GUIDE

STANFORD TEACHER COMPETENCE APPRAISAL GUIDE

AIMS

1. Clarity of aims.	The purposes of the lesson are clear.
2. Appropriateness of aims.	The aims are neither too easy nor too difficult for the pupils. They are appropriate, and are accepted by the pupils.

PLANNING

3. Organization of the lesson.	The individual parts of the lesson are clearly related to each other in an appropriate way. The total organization facilitates what is to be learned.
4. Selection of content.	The content is appropriate for the aims of the lesson, the level of the class, and the teaching method.
5. Selection of materials.	The specific instructional materials and human resources used are clearly related to the content of the lesson and complement the selected method of instruction.

PERFORMANCE

6. Beginning the lesson.	Pupils come quickly to attention. They direct themselves to the tasks to be accomplished.
7. Clarity of presentation.	The content of the lesson is presented so that it is understandable to the pupils. Different points of view and specific illustrations are used when appropriate.
8. Pacing of the lesson.	The movement from one part of the lesson to the next is governed by the pupils' achievement. The teacher "stays with the class" and adjusts the tempo accordingly.

PERFORMANCE (contd.)

9. Pupil participation and attention.	The class is attentive. When appropriate the pupils actively participate in the lesson.
10. Ending the lesson.	The lesson is ended when the pupils have achieved the aims of instruction. There is a deliberate attempt to tie together the planned and chance events of the lesson and relate them to the immediate and long range aims of instruction.
11. Teacher-pupil rapport.	The personal relationships between pupils and the teacher are harmonious.

EVALUATION

12. Variety of evaluative procedures.	The teacher devises and uses an adequate variety of procedures, both formal and informal, to evaluate progress in all the aims of instruction.
13. Use of evaluation to improve teaching and learning.	The results of evaluation are carefully reviewed by teacher and pupils for the purpose of improving teaching and learning.

COMMUNITY AND PROFESSIONAL

14. Concern for professional standards and growth.	The teacher helps, particularly in his specialty, to define and to enforce standards (1) for selecting, training, and licensing of teachers and (2) for working conditions, tools, and equipment necessary for efficient and effective practice.
15. Effectiveness in school staff relationships.	The teacher is respectful and considerate of his colleagues. He demonstrates awareness of their personal concerns and professional development.

COMMUNITY AND PROFESSIONAL
(contd.)

16. Concern for the total school program.

The teacher's concern is not simply for his courses and his students. He sees himself as part of the total school endeavor and actively works with other teachers, students, and administrators to bring about the success of the program.

17. Constructive participation in community affairs.

The teacher understands the particular community context in which he works and helps to translate the purposes of the school's program to the community. He is a responsible member of the community.

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