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ABSTRACT

The study's objectives were to: (1) study relationships between the selected measures of high school performance and self-concept, and (2) develop a general framework for a longitudinal study of the 1971 graduates of Intermountain School and their vocational success. Data were taken from school records for senior males and from a self-reference test administered during September and early October of 1970. Scored and usable test results were obtained for 194 senior males. Results indicated there was a positive and significant correlation between a student's self-definition and his grade point average. The same results occurred between teacher evaluations and self-definition. Results from the General Aptitude Test Battery for finger dexterity and the student's orientation in school were found to be positively and significantly correlated to the student's self-definition. Orientation for a business or academic program had a higher correlation than for vocational programs. Further research was suggested for the effects of individual schools on students facing the "Anglo" world. (FF)

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RELATIONSHIP OF THE SELF-CONCEPT TO SELECTED MEASURES
OF PERFORMANCE AMONG MALE NAVAJO STUDENTS

AT INTERMOUNTAIN SCHOOL

by

Melvorn Eugene Graham

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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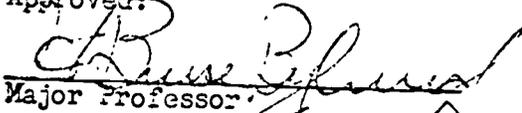
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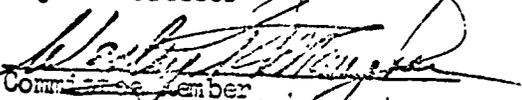
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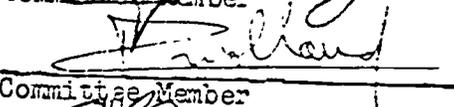
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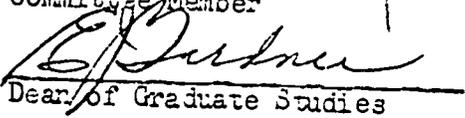
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Melvern E. Graham
Melvern E. Graham

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ABSTRACT

Relationship of the Self-Concept to Selected Measures
of Performance Among Male Navajo Students

At Intermountain School

by

Melvern E. Graham, Master of Science

Utah State University, 1971

Major Professor: Dr. H. Bruce Bylund
Department: Sociology

The relationship of various measures of high school performance and a measure of the self-concept were examined for the 1970-71 senior male students at Intermountain School, Brigham City, Utah. Some significant correlations were found.

Their junior year vocational training grade and grade point average were found to be significantly correlated to their self-definition score, as were all but one of the teachers' subjective evaluations.

General aptitude, reading ability, previous years at Intermountain, and class grouping were not found to show any significant correlation with the self-definition test score. Age was found to be correlated at the .01 level with the younger students having the higher self-definition scores.

(93 pages)

CHAPTER I
INTRODUCTION

Importance of the Study

The concern of our government has been increasing in the area of human rights in the last decade. The aim has been to make the equality of all men a reality.

One method used was called the "war on poverty." This peaceful war was declared by President L. B. Johnson when he signed the legislation creating the Office of Economic Opportunity.¹ Many government personnel seemingly considered poverty an economic problem for which money was the answer. If the potential earning power of minority and disadvantaged Americans was increased, then poverty would be reduced.

Some of the means used to increase this earning power were small business loans, community development, Head Start, Upward Bound, and V.I.S.T.A., to name a few. Of these programs, only two directly dealt with increasing the potential for greater education for those who will be the next generation poor. This in itself is strange in a country which puts such high value on formal education.

Two of these programs, Head Start and Upward Bound, dealt in developing pre-school childrens' backgrounds for better school achievement, and the other one was an attempt to stimulate underachievers in their last two or three years of high school. This would hopefully

¹John Donovan, The Politics of Poverty (New York: Pegaas, 1967), pp. 1-141.

increase these peoples' earning potential and reduce poverty in America.

The educational approach may be found lacking if this increased education does not lead to any permanent increase in the level of living. It became apparent to the author while he was in the Eskimo village of Shishmaref for a year that increased training or education is not the complete answer. In this village of approximately 250 people, there were many young men who preferred life on an island in the Arctic Ocean to any other form. Many young men were both skilled and semi-skilled, receiving their training from a multitude of government and private enterprises; but this education and training did not fulfill any purpose or seem to alter life patterns.

These men were skilled as heavy equipment operators, a baker, an apprentice carpenter, an electrical technician, and there were others whose training remained hidden to an outsider. Why did some of these men fail to adjust to the demands of the outside while others did not? The answer could be in how they define themselves or their self-definition.

An effort to answer some of this riddle was completed by Dr. H. Bruce Bylund for the U.S. Department of Labor in January of 1970. He made a study examining the vocational success of Navajo high school graduates in relation to social, cultural and educational factors.

The present study is designed for more exploration in this area. How is the self-concept or the total person related to educational factors? In studying this area it may be possible to gain insight into ways of increasing the productivity and assimilation of the Navajo people.

Purpose of the Study

This is an exploratory study developed and designed to examine how a Navajo student perceives himself and to examine his self-definition in relation to educational factors. This study will identify those educational factors which can most closely be shown to relate to the student's self-concept and his acceptance of self.

The study will also gather the required data to lead to a more conclusive longitudinal study between these students' self-concept and their vocational success after completion of high school. This suggested study should occur five years or more after their graduation from high school.

CHAPTER II
REVIEW OF THE LITERATURE

The purpose of this chapter is to present a review of the literature in understanding and developing this research. Those areas which are pertinent to this study are: (1) the self-concept; (2) symbolic interactionism; (3) Navajos, education, and acculturation; (4) the self and education.

The Self-Concept

To examine the self-concept of an individual in depth it would be necessary to observe and record every event in an individual's life from the beginning to the time of evaluation. Since the "self-concept was born with client centered therapy,"² it is possible to use this approach where a self-regarding attitude can be found in tests or in psychotherapy at a particular time. Another area which will add confusion to the use of this term in a study is that "various terms such as 'concept of self,' 'self-image,' 'self-concept,' and 'self-structure' are used to describe this personality trait."³ This "self-conception

²Marshall C. Lowe, "The Self-Concept Fact or Artifact," Psychological Bulletin, Vol. LVIII, No. 4 (1961), p. 325.

³Lawrence M. Brammer and Everett L. Shostrom, Therapeutic Psychology (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1960), p. 37.

consists of more than the mere delimitation of the body. It is a personification that places an individual within a social system."⁴

The beginning of an individual is in the birth of a child. Oscar W. Ritchie and Marvin R. Koller⁵ say that at birth a child is an organic-centered human infant. Responses are to be considered as primarily of an internal nature due to personal needs with external constraint. At birth an individual's self-concept would be non-existent and a sense of self can only be obtained when an individual has previous experiences in life which will affect his behavior.

Marian E. Breckenridge and Margaret Nesbitt Murphy⁶ add that the newborn infant has an absence of patterned emotions. The young child must develop these responses from an external source through experiences. This regularity of behavior among group members is passed on by one generation to another to keep society functioning. "The process by which they pass them on is called enculturation or socialization."⁷ This is then the method by which a human animal becomes a social being and the development of a response pattern occurs.

There are two main elements to be found in a person's self-conception which are the products of an attempt to answer two questions about one's self, according to John and Mavis Biesanz.⁸ The two elements are

⁴Tamotsu Shibutani, Society and Personality (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1961), p. 504.

⁵Oscar W. Ritchie and Marvin R. Koller, Sociology and Childhood (New York: Appleton-Century-Crofts, 1964), p. 130.

⁶Marian E. Breckenridge and Margaret Nesbitt Murphy, Growth and Development of the Young Child (Philadelphia, Pennsylvania, and London, England: W. B. Saunders Company, 1964), p. 485.

⁷John and Mavis Biesanz, Introduction to Sociology (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1959), p. 63.

⁸Ibid., p. 344.

identity and self-esteem, and the questions are "Who am I?" and "What am I worth?"⁹ These elements represent different viewpoints in examining a person's "actual" self-concept. Their interdependence and reciprocal nature does allow for an internal balance, but the separation is never really complete to allow objective analysis of either element. This results from the "who" defining a sub-element such as I am a man, but the "what" gives it value as to the society and its standards. These two elements cannot exist alone, much as individuals cause the formation of a society or community and then that society defines its members. It has also been stated as "the enlargement of the self is dependent upon and in turn supports the breath of community values."¹⁰ Then "ultimately, therefore, the self functions toward integrating into the group; and viewed collectively, it facilitates social control and promotes community consensus."¹¹

Allport brings a clear focus on the "evolving sense of self"¹² in his book. He states three reasons which make the problem difficult in defining a self, and he then counter-argues with three more reasons why it must be done. The negative propositions are that the term "self" can be replaced by "ego" since the boundaries are not clear or consistent, and it is impossible to establish boundaries, and there are philosophical dimensions to his problem. The counter argument is it is necessary to accept the existence of a self. That the identity is within the sense

⁹Ibid.

¹⁰Leonard Broom and Philip Selznick, Sociology (New York: Harper and Row, Publishers, 1955), p. 109.

¹¹Ritchie and Koller, op. cit., p. 129.

¹²Gordon W. Allport, Pattern and Growth in Personality (New York: Holt, Rinehart, and Winston, Inc., 1937), Chapter 6.

of a self; what is self-relevant must be defined in theory construction, and by understanding how the self evolves, gives philosophical assistance in understanding the terms "soul," "freedom," and "immortality."¹³

Allport¹⁴ goes on to say that self-consciousness is gradually acquired by the time the child is five or six years old. The most important time is when language is developed in the second year. Spitz,¹⁵ who has worked extensively with babies, would place awareness at or around fifteen months in support of the theory of its developing in conjunction with learning a language.

Allport's¹⁶ second stage, from the age of six to twelve, is the entrance into school where the peer group drives in a sense of inner self. This acute awareness of the self is caused by such means as nicknames. The next stage is adolescence and with it the need to find a new identity. The end product of adolescence is an adult, but only after being a half-man and half-child for what may seem like an eternity.

Erickson believes "an individual never has a personality, he is always re-developing his personality."¹⁷ His consideration of maturation continues through adolescence in a process he would refer to as the growth of the ego. Jean Piaget¹⁸ believes that a person at the age of fourteen or fifteen finds his equilibrium. This is in reference to

¹³Ibid., p. 111.

¹⁴Ibid., pp. 111-112.

¹⁵R. A. Spitz, No and Yes: on the Genesis of Human Understanding (New York: Int. Univ. Press, 1957), Chapter 117-150.

¹⁶Allport, op. cit., pp. 123-217.

¹⁷Henry W. Maier, Rev. Ed., Three Theories of Child Development (New York, Evanston, Ill., and London: Harper & Row, Publishers, 1965), p. 29.

¹⁸Ibid., p. 153.

"himself and his environment."¹⁹ This is the point of the establishment of basic patterns, but Spitz²⁰ seems to disregard the importance of adolescence in shaping and revising the self concept of an individual. Robert R. Sears²¹ views child development as a function of learning.

Carl R. Rogers²² has nineteen propositions for a theory of personality and behavior. The eighth proposition is the most important here, since it states, "a portion of the total perceptual field gradually becomes differentiated as the self."²³ The term self here is defined as the "awareness of being, of functioning."²⁴ The idea of awareness of being cannot be placed into one small statement of what is the self, but rather it must be used as it is, an abstraction for the realization of one's own existence.

A definition which goes with the last statement is that the self-concept "is an abstraction of the essential and distinguishing characteristics of the self that differentiate an individual's 'self-hood' from the environment and from other selves."²⁵ While another source states "the self, then, is the set of attitudes that a person has toward his own behavior."²⁶ With some idea as to the complexities in the

¹⁹Ibid., p. 95.

²⁰Spitz, op. cit., pp. 117-150.

²¹Ibid., p. 197.

²²Carl R. Rogers, Client-Centered Therapy (Boston, Mass.: Houghton-Mifflin Company, 1951), Chapter 11.

²³Ibid., p. 497.

²⁴Ibid., p. 498.

²⁵David P. Ausubel, Theory and Problems of Child Development (New York: Grune & Stratton, 1958), p. 273.

²⁶Hubert Bonner, Psychology of Personality (New York: The Ronald Press Company, 1961), p. 463.

development and conception of the self concept, the need arises for a workable definition.

"The most popular type of definition assumed that the self concept can be defined in terms of the attitudes toward the self."²⁷ This is present in Carl R. Rogers' definition that "the self concept or self structure may be thought of as an organized configuration of perception of the self which are admissible to awareness."²⁸ To phrase it in a more concise manner, the self is "as the individual who is known to himself."²⁹

This self or self-concept of an individual is learned from others around himself, and from this, is the image he projects to the community.

These concepts when applied or dealt with in sociology are generally most conclusively treated by the theoretical branch called symbolic interactionism.

Symbolic Interactionism

There are five types of sociological theory under one type of classification system. These are positivistic organicism, conflict theory, formalism, social behaviorism, and sociological functionalism.³⁰

²⁷Lowe, op. cit., p. 326.

²⁸Ruth C. Wylie, The Self Concept (Lincoln, Nebraska: University of Nebraska Press, 1961), p. 7.

²⁹Ibid., p. 1.

³⁰Don Martindale, The Nature and Types of Sociological Theory (Boston, Massachusetts: Houghton-Mifflin Company, 1960), pp. 51-501.

The fourth type is that of social behaviorism. Within this theoretical orientation is the branch known as "symbolic interactionism." This area of theory is concerned with attitudes and meaning. "Symbolic interactionism found its point of gravity in the self or personality."³¹

This approach had its beginning in the works of William James, Charles Horton Cooley, William Isaac Thomas, George Herbert Mead, Ernest Cassier, Jean Piaget, Hans Gerth and C. Wright Mills. Their concern is on the individual and his self concept and how these are manipulated and limited in interaction with others. The first two men to be mentioned, "Charles H. Cooley and William I. Thomas, were the foremost exponents and most significant contributors to psychological sociology"³² in the United States. This branch of theory is defined as symbolic interactionism.

Cooley said that primary groups can be defined as "those characterized by face to face association and cooperation."³³ He goes on to say that primary groups are fundamental in "forming the social nature and ideas of the individual."³⁴ Another point of importance was that "awareness of society is inseparable from self-consciousness."³⁵

With his use of primary groups and his psychological orientation and organic theory, he believed the "'self' develops within a context

³¹Nicholas S. Timaskeff, Sociological Theory (New York: Random House, 1967), p. 143.

³²Martindale, op. cit., p. 339.

³³Charles Horton Cooley, Social Organization (New York: Schocken Books, 1962), p. 23.

³⁴Ibid.

³⁵Ibid., p. 5.

of social relationships."³⁶ In Human Nature and Social Order, he presented his concept of the "looking-glass self." This had three major elements: "The imagination of our appearance to the other person; the imagination of his judgment of that appearance; and some sort of self-feeling, such as pride or mortification."³⁷

From Cooley, it can be seen that the primary group is that agent which takes care of socialization of the individual. A person must be aware of others to be aware of himself, and self-conceptualization occurs by a process he called the "looking-glass self."

The next theorist to add to the importance of the self concept was Thomas. In using a situational approach, his "definition of the situation" offers extreme insight. This is expanded by Merton's "reconceptualization of 'definition of the situation' as self-fulfilling prophecies."³⁸ This is the tendency of a primary group's pre-conceptions of and practices toward an individual becoming internalized and acted out by that individual. Primary groups are a "spontaneous institution found in all societies, in all classes, on all stages of cultural development."³⁹ While all definitions of situations are both a process and a product, "they occur in socialization; individuals learn how to behave properly by having situations defined for them"⁴⁰ and

³⁶Timasheff, op. cit., p. 146.

³⁷Charles H. Cooley, Human Nature and the Social Order (New York: Charles Scribner's Sons, 1902), p. 152.

³⁸Martindale, op. cit., p. 426.

³⁹William Issac Thomas, On Social Organization and Social Personality (Chicago, Illinois, and London: University of Chicago Press, 1966), p. 57.

⁴⁰Edmund H. Volkart, Ed., Social Behavior and Personality (New York: Social Science Research Council, 1957), p. 226.

"definitions are embodied in social codes, the norms of behavior."⁴¹

From this, we realize that society and individuals define what role a person shall function in; this definition is internalized, not because it was a valid judgment at first, but once others believe something, it is projected to the individual and internalized. This happens whether it is a high or a low status evaluation.

The third theorist to be mentioned is Mead. An important point of focus in his works is his concept of the "generalized other." This is defined as "the organized community or social group which gives to the individual his unity of self."⁴² This phenomenon is the concensus of the feelings of the entire community, and after socialization has occurred, the physical presence is not needed for continuing conformity. The child lacks the realization of this other form because he has no definite character, no definite personality.⁴³ Then at some time the "generalized other" becomes operative, and it becomes a major factor in determining an individual's membership in society as either present or absent. This is then a normative means in that it influences the individual behavior, and as well, it keeps all members of that society in a balance of behavior.

Gerth and Mills suggest that "the self-image develops and changes as the person, through his social experiences, becomes aware of the

⁴¹Ibid.

⁴²George Herbert Mead, Mind, Self, and Society (Chicago, Illinois: University of Chicago Press, 1946), p. 154.

⁴³Anselm Strauss, George Herbert Mead on Social Psychology (Chicago, Illinois, and London: University of Chicago Press, 1956), p. 223.

expectations and appraisals of others."⁴⁴ This then suggests that the individual is always under the pressure of the group in all stages of life.

Cooley brings out two points of interest. His use of the primary groups such as "the family, the play group of children, and the neighborhood or community group of elders,"⁴⁵ shows those people who help to form a person's self-concept. The notion of the "looking glass self" is the means that this influence is projected to and internalized by the individual. Thomas presents the idea of a "self-fulfilling prophecy," which extends what Cooley has presented in that if the "looking glass self" projects a negative image, this negative aspect will be incorporated into the individual's self. Whether this negative image is real or imagined is not important after it becomes part of an individual's self-concept.

Mead strengthens the power of the primary group with his "generalized other." This is the agent which gives a general conformity of actions and behavior to members of a community and a society as a whole. Gerth and Mills add one further bit of information which enhances the "generalized other" by introducing the importance of community approval during the life of an individual. They state that a change in a person's self-concept can occur due to new experiences with no reservation as to any time, but only to the "expectation and appraisals of others."⁴⁶

⁴⁴Hans Gerth and C. Wright Mills, Character and Social Structure (New York: Harcourt, Brace, World, Inc., 1953), p. 84.

⁴⁵Cooley, op. cit., p. 24.

⁴⁶Gerth and Mills, op. cit., p. 84.

Navajos, Education and Acculturation

Navajo education has developed with "the establishment of the first schools about 1870,"⁴⁷ and the "Navajos soon observed that their children, after many years in boarding schools far from home, emerged fitted neither to live as white men nor to return to their place in the tribe."⁴⁸

A brief history of schools⁴⁹ starts with a day school being the first recorded institution. The first boarding school was built at Fort Defiance in 1883. The main principle of the school was to remove the young from Indian influence and train them to enter the white society. The greater the distance the better, and it was not unusual to send a child to as far away as California or Pennsylvania. This attempt resulted in 95 percent of the students returning to the reservation where they found themselves handicapped in the mainstream of Navajo life because of their lack of knowledge of the necessary customs and techniques of the people.

At distant boarding schools, the children were not allowed to speak their native language, and the discipline was of a military nature, quite unlike discipline on the reservation. The graduates of these types of institutions are today some of the greatest Indian critics living on the reservation.

Since 1933 a change has occurred in school philosophy and curriculum. The idea now is to bring the education to the Navajo. The

⁴⁷Clyde Kluckhohn and Dorothea Leighton, The Navajo (New York: Doubleday and Company, Inc., Rev. Ed., 1962), p. 42.

⁴⁸Ibid.

⁴⁹Ibid., pp. 141-144.

curriculum has been geared now more to Navajo culture and the needs of these people. This method of education can be placed in a more favorable setting and method for better adjustment of the students. "The American Indian tribes have different cultures,"⁵⁰ and to make education more meaningful, this change in school philosophy was important for increased educational benefits.

The use of schools near the reservation helps to reduce the problem of not being able to fit into either culture, since "education is an important part of the integration, or lack of integration, of Indians into the American life."⁵¹ The use of schools near the reservation is also important for the informal education they give to help make the Navajos more able to fit into the native environment. When the student goes to school away from the home environment, this informal education is lost. Informal education is especially important if the transition is not successful among the students entering white society. It must also be remembered that relatives "are the focal points of the Navajo's"⁵² life and most important as models in his life style.

The actual problem is one of acculturation of these people by educational means. This can be viewed as a psychological problem "to determine the depth of commitment to certain shared patterns and

⁵⁰Robert J. Havighurst, "Education Among American Indians: Individual and Cultural Aspects," The Annals of The American Academy of Political and Social Science, CCXXI (1957), p. 105.

⁵¹Edward P. Dozier, George E. Simpson, and Milton J. Yinger, "The Integration of Americans of Indian Descent," The Annals of The American Academy of Political and Social Science, CCXXI (1957), p. 103.

⁵²Dorothea Leighton and Clyde Kluckhohn, Children of the People (Cambridge, Massachusetts: Harvard University Press, 1948), p. 95.

values."⁵³ This is also a psychological adaptation in acculturation, and "men have a greater access to the goals associated with western identification and more opportunity to base their new identification on firmer foundations."⁵⁴ Louise and George Spindler⁵⁵ also feel that males adapt easier due to a greater psychological commitment of women to pass on traditional cultural patterns.

The fact still remains that "education has been an effective tool in reconciling cultural differences."⁵⁶ The only problem is "with individuals and groups who for one reason or another have not had educational opportunities."⁵⁷ These opportunities are not just being able to go to classes, but opportunities to learn about these cultural differences. Intelligence and achievement as measured by the standards of the Anglo society can and do vary "to the degree of acculturation."⁵⁸

The Self and Education

Research in education has shown the following importance of the self-concept:

- 1) There is a significant and positive correlation between self-concept and performance in an academic role;

⁵³H. G. Barnett, "Acculturation: An Exploratory Formulation," American Anthropologist, LVI (1954), p. 993.

⁵⁴Norman Chance, "Acculturation, Self-Identification, and Personality Adjustment," American Anthropologist, LXVII (1965), p. 387.

⁵⁵Louise and George Spindler, "Male and Female Adaptation in Cultural Change," American Anthropologist, LX (April, 1958), p. 231.

⁵⁶Hildegard Thompson, "Education Among American Indians: Institutional Aspects," The Annals of The American Academy of Political and Social Science, CCCXI (1957), p. 104.

⁵⁷Ibid., p. 164.

⁵⁸Robert A. Roessel, Jr., Hand Book for Indian Education (Los Angeles, California: Amerindian Publishing Company, 1965?), p. 66.

this relationship is substantial even when measured I.Q. is controlled.

2) There are specific self-concepts of ability related to specific areas of academic role performance, which differ from the general self-concept of ability.

3) Self-concept is significantly and positively correlated with the composite image rather than the images of specific others that appear to be more closely correlated with the students' self-concept in specific subjects.⁵⁹

This states some of the importance of the self-concept to school performance.

The failings of Indian students, as conceptualized by Hoyt,⁶⁰ were attributed to their not knowing all the white man's "rules," their need of family contact, and their handicap of the lack of full acceptance into the white society.

From another source, "the largest group of Indians on the reservations were believed to be young people who had been frustrated in one way or another in their adaptation to the world of whites and who may have been not strongly motivated to adapt in the first place."⁶¹

The "intelligence and achievement of Indians varies not only between tribes, but also within tribes."⁶² The child's own feelings are of great importance because the way he "feels colors his approach to

⁵⁹Wilbur B. Brookover, Shailer Thomas, and Ann Patterson, "Self-Concept and School Achievement," Sociology of Education, XXXVII, No. 3 (Spring, 1964), p. 278.

⁶⁰Elizabeth E. Hoyt, "Some Lights on the Adjustment of Indian Children," Journal of Indian Education, IV, No. 2 (January, 1965), p. 28.

⁶¹Elizabeth E. Hoyt, "An Approach to the Mind of the Young Indian," Journal of Indian Education, I, No. 1 (June, 1961), p. 22.

⁶²Roessel, op. cit., p. 660.

life; confidence and happiness bring an interest to learning, while insecurity, rejection or a feeling of inadequacy may bring hostility or withdrawal."⁶³

Hypotheses

From the review of the literature the following hypotheses were developed:

1. There is a positive correlation between the students' self-concept and their grades.
2. There is a positive correlation between the students' self-concept and their teacher evaluations.
3. There is a positive correlation between the students' self-concept and their general aptitude.
4. There is a positive correlation between the students' self-concept and their class groupings. (See page 21.)

The first hypothesis is an effort to test the findings of a previous study (Brookover, Thomas, and Patterson, 1964). This study found a correlation between self-concept and academic performance.

The second hypothesis takes into consideration the role of an instructor as a significant other. This person defines the student by evaluations and then grades the student. The teacher may be acting out a self-fulfilling prophecy if there is a correlation between grades and teacher evaluations.

The third hypothesis relates to the first by the substitution of general aptitude. Since general aptitude influences a student's placement in a vocational program, this can guarantee a certain amount of

⁶³Ibid., p. 43.

academic achievement. If this does occur, then a student's self-concept will be correlated to his general aptitude.

The fourth hypothesis is also linked to the first and third hypotheses. The class groupings represent an ability grouping and it may become a primary group. If this is the case, class groups will also be correlated to the self-concept of a student.

CHAPTER III

METHODOLOGY

This is to a large degree an exploratory study. The data from school records were obtained during the summer of 1970 and the Q-sort was administered during the first quarter of the school's fall semester.

The Sample

The sample for this study consisted of 190 or 90 percent of the senior males attending Intermountain School, Brigham City, Utah, in the fall of the 1970-71 school year. This school at the present time offers a compensatory educational program with a studentbody of about 2,100. There are both male and female students in a non-graded elementary program and an accredited high school which is oriented toward vocational training.

Students are enrolled on the basis of the following criteria by Navajo area educational officials. They must be one quarter or more of Indian blood; they must be on the Navajo Tribal Census rolls; they must be three years or more retarded academically; they must be twelve years or older; and they must come from areas where public or federal day schools are unavailable, or be referred by a welfare agency, or they must be found to be neglected or semi-delinquent by a court.

These students may have had from 0 to 12 years of school at various intervals of time. This previous attendance could have been at public, mission, and Bureau of Indian Affairs schools if they attended

at all. Some seniors have attended as many as nine different schools including Intermountain School. As a result of their past histories, they fail to really understand the education system or its programs, and they generally lack the motivation to be good students.⁶⁴

The Data

School records

With permission and cooperation from the Intermountain School administrators, the researcher copied all information considered pertinent for this study from various school records. These copied records were kept in complete confidence.

There were four sources of information for this study. There were the school's official records, guidance records, counseling records, and the senior advisors' records. This information was copied and interpreted as necessary for it to be coded and key punched on computer cards for analysis.

There were three measures of achievement and ability used. These were junior grades, California Reading Test, and the G.A.T.B. (General Aptitude Test Battery). There was one set of evaluations used. This was the teacher evaluation of the students for "conduct," "effort," "dependability," "initiative," "social attitude," and "self control." A total average for all evaluations was also obtained. The last grouping of data consisted of such items as "age," "previous years at I.S.," vocational or business/academic orientation, and "junior" and "senior" class grouping. The latter are ability groupings based on the

⁶⁴Andrew Sorensen, "Intermountain School and Student Background," Unpublished paper, 1969.

California Reading Test, G.A.T.B. results, and previous year school performances.

This information was collected for all the possible returnees who would be senior males during fall semester, 1970. The size of the sample at this time was 269 individuals or the approximate potential of the size of the senior class. The number of senior male students who were enrolled at the time of testing was 220. Ten of these students were excluded from the sample because they were in special education, transfer students, or re-returnees. This meant there was a possible sample size after testing of 210.

Self-reference test

The Q-sort for self-definition was given on three consecutive days. During this time approximately 145 students were tested. The following week, one day was used for make-up testing when approximately 60 more students were administered the test. All senior males were scheduled during these times to take the test.

At the end of testing, there were 194 individuals with test results which could be scored and were usable. Of this number there were two transfer or new students and two re-returnees whose records were comprised of inconsistent school attendance and were impossible to use.

This left a usable sample of 190 individuals who comprised over 90 percent of those senior male students who could have been included in this sample. This sample, from its beginning, had purposely excluded those seniors in special education from being administered the test due to their lack of ability in the use of English as demonstrated by their scores for the California Reading Test.

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Stephenson Q-Technique and Theory⁶⁵

The use of Q-method allows for the study of a few or a single individual "in factor terms."⁶⁶ These factors are represented in the "actual" or "ideal" self. If "actual" or "ideal" were tested for on a forced sort, then the greater the degree of difference in scores between the "actual" and "ideal" selves would be an indication of greater personality maladjustment. The testing of a group on their "actual" selves would result with a score for comparison purposes of those tested.

These types of test instruments are referred to as possible measures of self-regard by Ruth C. Wylie.⁶⁷ This seems to correspond with the idea that a self-concept is an abstraction as defined by David B. Ausubel.⁶⁸

The use of the Q-sort has been demonstrated in the work of S. Gabe Paxton in an article published in Indian Education.⁶⁹ In this case the raw scores referred to the self-concept. The possible range of scores from these fifty card sorts was from 25 to 225. Paxton's scaling for raw score intervals was 211-225 (high), 183-210 (above average), 136-182 (average), 92-135 (below average). This seems questionable due to the fact that a score of 125 or below indicated a

⁶⁵William Stephenson, The Study of Behavior (Chicago, Illinois: University of Chicago Press, 1953), pp. 1-361.

⁶⁶S. Gabe Paxton, "A Study of the Self-Concept of the Navajo Indian Adolescent," unpublished M.S. Thesis (Arizona State College, Flagstaff, Arizona, 1963), p. 9.

⁶⁷Wylie, op. cit., p. 40.

⁶⁸Ausubel, op. cit., p. 273.

⁶⁹L. Madison Coombs, ed., "A Study of the Composite Self-Concept of the Southwestern Indian Adolescent," Indian Education, Supplement Issue 429-s (February 15, 1966), pp. 1-32.

person who has a more negative self-concept or self-regard, and a score of 126 or above indicated a person who has a more positive self-concept or self-regard.

The advantages of this type of testing instrument far outweigh the disadvantages in application because there is no need for a national scale, trained persons are not needed to interpret the test results, and this is usable with one person or a group of persons.

Application of this test to an individual is as follows:

. . . A large number of personality-descriptive items are sorted by S into nine piles which are arranged on a continuum according to the degree to which they are characteristic of S's self. S is forced by the instructions to place specified numbers of items on each pile so as to yield a quasi-normal distribution of items . . . Each item in the self-description may be assigned a value from one to nine, according to the pile in which S has chosen to put it.⁷⁰

The person can "be asked" to sort for his "ideal" or "actual" self as well as for his self as others perceive him or a specific other, such as his mother, father, teacher, best friend, etc.

This type of test can be used on the single individual or a homogeneous group for comparison and correlation. This is possible since the resulting score is derived from how a person perceives himself in relation to his own environment. The test result is dependent for consistency on the set of instructions to sort for one's "actual" self and on consistent administration patterns of the test to numerous groups or individuals of the same population.

Within this test it was possible to develop two other tests. These two tests and their scores will not be allowed as complete a freedom as is found in giving a second test due to their scores being

⁷⁰Wylie, op. cit., p. 41.

a part of the larger scores. Yet these sub-tests measure very important aspects of an individual's self-reference as defined in a forced sort.

These two other categories were "feelings toward self" and "perception of how others feel toward self." They were developed from eight self-acceptance cards and six self-acceptance in other cards within the self-reference test of fifty cards. (See Appendix A.)

Statistical Method

Pearson's correlation analysis was used to compare four groups of variables to the results of the Q-sort. (See page 26.) This resulted from a computer run consisting of the intercorrelation between all variables with the result being given in both a value for (r) and a significance level based on the values. These correlations were calculated for those cases without missing data in either of the two variables. The result was a variation in N (the number of cases correlated) for different pairs of variables.

CHAPTER IV
PRESENTATION OF THE DATA

An exploratory study generally results in having some difficulties or limitations in interpreting the data. This study is no exception as it deals with "Anglo" measures and abstractions of the male Navajo student achievement in comparison to his self-concept. These problems were realized and accepted by the researcher when this study was proposed.

Nature of the Data

In Chapter III there were four groupings of variables mentioned. These were teacher evaluations, grades, standardized tests, and single variables. In this section, the weaknesses of the variables will be explored as well as the strengths or importances of this study.

Some of the data used in comparison to the testing results were evaluations made by individual instructors. Some of these were student evaluations of traits like "conduct" or "effort." In these cases each term's meaning was defined by the teacher as were the corresponding values they placed within that particular category. The teacher had to then apply this to the student when the evaluation was made. Academic grades also have their limitations due to possible variations in their determination. There could be some extraneous influences which vary from instructor to instructor causing the grades to reflect the teacher's attitude as well as the student's ability.

The scores from standardized tests may also suffer from culturally bound weaknesses. An example of this would be the results of the California Reading Test, which is based on a second language and culture for Navajo students. Another example is the General Aptitude Test Battery (G.A.T.B.), which is positively correlated to the California Reading Test total (see Table 21 in Appendix C).

In the last category of variables, age and the number of previous years at Intermountain School are not evaluations of any kind. The only way an evaluation was made concerning the first two was in the decision that a student be sent to Intermountain School. The orientation of a student's training is based in part on the G.A.T.B. and the California Reading Test, as is his class ability grouping. Both tests and some possible limitations have already been mentioned.

These weaknesses in the data do not detract from the study because these data are representative of the school and its system. The purpose of this study is not to draw any final conclusions, even after the acceptance or rejection of the initial hypotheses. In an exploratory study such as this, precise information is not always available because the researcher is moving away from known research methods into unknown areas.

The goal of this study is to gain new insights about the Navajo student and his self-definition in relation to school measures of performance.

With both the limitations and the potentials of this study surveyed, the remainder of this chapter will be divided into two sections. The first section presents the data and its statistical analysis. This will be used to find any tendencies or relationships between variables and to test the hypotheses derived from the literature. The second

section will deal with the meaning of the relationship between scores derived from the self-definition test (S-D) (see Appendix A). These scores are for "feelings toward self" (F.T.S.) and "perception of how others feel toward self" (P.O.F.T.S.).

Statistical Analysis

The exploratory nature of this study is put to its best use if as many variables as possible are examined. The best method for accomplishing this was to have a Pearson's correlation computed on all quantitative variables with the results representing (r) and a significance level. From these results and the review of the literature, these variables were examined in relation to the scores which resulted from the students' taking the self-definition test. In this analysis it is important that a reader understand that a significance level does not imply any more than the existence of a correlation or relationship between two variables. It does not imply any causal relationship or the clarification of any relationship as to whether it is a reciprocal, asymmetrical, or symmetrical relationship.⁷¹ Causation cannot be determined from the correlations used in this study and analysis.

Self-definition scores and junior grade point averages

The first hypothesis stated that there was a positive correlation between grades and a student's self-concept. This was tested by using these students' junior year grades which were the last completed set of grades, and by correlating them to the self-definition scores.

⁷¹Morris Rosenberg, The Logic of Survey Analysis (New York: Basic Books, Inc., 1968), pp. 3-22.

The correlation between self-definition (self-concept) and junior grades is positive in all areas except humanities (see Table 1).

Table 1. Simple correlations (r) between the three Q-sort results: (1) self-definition, (2) feelings toward self, and (3) perception of how others feel toward self, and junior year grades

TEST AREAS	N	S-D (r)	F.T.S. (r)	P.O.F.T.S. (r)
Biological and Physical Sciences	44	.1857	.0177	.2035
Social Sciences	189	.0766	.0524	.1303*
Vocational Training	172	.1662*	.0417	.0608
Arts and Crafts	99	.1480	.1000	.0751
Humanities	198	-.0399	-.0439	-.0217
Navajo Mythology and/or History	23	.0399	.0517	.3468(a)
Grade Point Average	190	.1407*	.0465	.0916

N represents the number in the sample. (a) represents that the correlation is approaching the .05 level of significance .075 to .051. *Significant at the .05 level. This is the point where correlation is termed significant (95 percent confident $r \neq 0$). Margaret Jarmen Hagood and Daniel O. Price, Statistics for Sociologists (New York: Henry Hold and Company, 1952), p. 424, and Table C, p. 559.

There was no significant correlation between the biological sciences, arts and crafts, and humanities and the scores resulting from the self-definition test. The single negative correlation was of a minimum amount and could be a spurious relationship.

The first area of significant correlation was between the grade received in vocational training and the self-definition score. Since

this was generally a three credit class, it was the single most important part of determining the total G.P.A. This correlation becomes almost necessary at this point if hypothesis number one, the assumption that there is a correlation between G.P.A. and a person's self-concept, is to be supported. This hypothesis is further supported by the third correlation in Table 1.

Information in Table 1 is the correlation between total G.P.A. and the self-concept score, and it supports the first hypothesis which was derived from the review of the literature, since it is significant at the .05 level. In this support of the first hypothesis, it must be realized that the correlation in vocational training carried this to the significance level needed to support the hypothesis. In all but one area there was a positive correlation. This vocational factor will be examined again in a different context in this chapter.

The scores for feelings toward self, F.T.S., were found not to be significantly correlated in any areas. The minimum values for (r) also suggest that school performance does not relate to this area of the self-definition.

The score for perception of how others feel toward self, P.O.F.T.S., was found to be correlated significantly at the .05 level with the grade received in social sciences. The implication of this is not apparent at this time, but it should be noted.

The results of the perception of how others feel toward self score, or P.O.F.T.S., and the grade or grades received in Navajo mythology and/or history were close to the .05 level of significance. This signifies a couple of alternative explanations to the author. These possible explanations are (1) the students who take these classes have a higher peer group (Navajo youth) sense of identification, or (2) those who

take these classes feel greater acceptance among some significant other, such as their Navajo peers.

Self-definition scores and teacher evaluation

The second hypothesis to be tested is the possibility of a positive correlation between the students' self-concept and their teacher evaluations.

The teacher evaluations are of a very subjective nature, but they seem to help produce the desired insights into some very interesting relationships (see Table 2). The self-definition scores (S-D) were the only scores from the self-reference test which had significant correlations, and all correlations were positive. This tends to support the general theory that a person will perceive himself as he feels others perceive him.

The lack of significant correlation between the teacher evaluations and feelings toward self (F.T.S.), suggest to the researcher that a teacher is not an important significant other. This is further shown with the lack of correlation to perception of how others feel toward self, P.O.F.T.S., and the further dropping of the (r) value. This implies that the P.O.F.T.S. may not be a valid test, but if it is, the teacher is not a significant other, or a larger group of significant others.

Effort was not correlated at the significant level of any magnitude, but the correlation with initiative was approaching the .05 level of significance. At the .05 level were dependability, social attitude, and conduct. Self-control was significant at the .01 level, and the total average was significant at the .05 level.

Table 2. Simple correlations (r) between the three Q-sort results: (1) S-D, (2) F.T.S., and (3) P.O.F.T.S. and teacher evaluations of personal traits

Test Areas	N	S-D (r)	F.T.S. (r)	P.O.F.T.S. (r)
Conduct	190	.1566*	.0799	-.0149
Effort	190	.0778	.0056	-.0488
Dependability	190	.1208*	.0264	-.0401
Initiative	190	.1167(a)	.0518	-.0465
Social Attitude	190	.1387*	.0734	.0243
Self-Control	190	.1759**	.0751	.0745
Total Average	190	.1555*	.0744	.0154

(a) Approaching the .05 level. *Significant at the .05 level.
 **Significant at the .01 level.

From this rating of the least amount of relationship to the most significant, we can conclude that these variables become more important to the self-definition as the reader moves down the list. It appears in this instance that the defining element is the Navajo culture rather than the Anglo culture because effort and initiative have less correlation to an individual who has a higher self-concept.

1. Effort
2. Initiative
3. Dependability
4. Social attitude
5. Conduct
6. Self-control

These are all Anglo standards of judgment, but those which pertain to others and oneself seem more significant than those which pertain to motivation. This area should be pursued more in future studies. Also of interest would be an instructors' rating on students' traits considered to be of greatest importance to the Navajo.

The lowest two criteria represent motivation or getting ahead, the middle two deal with conformity to group interaction and standards, and the last two emphasize the individual and his maintaining himself among others in relation to his behavior. These are only assumptions by the author, and the reader is invited to develop his own alternative justification for this type of relationship of the variables.

The significance level of .05 for the teacher evaluation total average and the self-definition score supports the second hypothesis. This is possibly a result of the teacher's being the most significant adult form the student has to interact with during nine months of the year, as well as the teacher's defining his expectation of the students while they are in his or her classroom. If the teacher is not a significant other as an adult form, then the teacher may be viewing these characteristics in a realistic manner, and internalization of these values is occurring in the students. Teacher evaluations are also correlated to all breakdowns of grades used in this study from the .05 to the .001 significance levels. Therefore, it would seem that the teacher, either by subconscious or conscious acts, is defining the situation the student is using to define his own self-concept.

Self-definition and teacher evaluations for social studies

This section is a further examination of teacher evaluations, those in a particular class and any ramifications when dealing in

specific classes. The question here is whether the general hypothesis can be applied to the specific case.

In examining the evaluation for a single orientation, it is apparent that more Anglo traits of importance, such as the drive to get ahead, are lower than those qualities which promote or are more important to group cohesion.

1. Effort
2. Dependability
3. Conduct
4. Initiative
5. Self-control
6. Social attitude

Even with the shifts from the listing for the significance level from the total, there are still two of the previous lower three in the bottom half and two of the previous three still in the top half. Also the least significant and the most significant factors did not change from the total breakdown to this individual breakdown. The value most important by correlation to self-concept is social attitude, and the value least important is effort.

In further examining teacher evaluations in the social studies (see Table 3) it would be important to go back to the general theoretical orientation as presented in Symbolic Interactionism in Chapter III. The teacher is defining the student as to those characteristics used in the teacher evaluation. If this theoretical orientation seems justifiable, it would be expected that the "definition of the situation" that the student has to operate in, would correlate with his grades in that class. These "self-fulfilling prophecies" would come into being when the total average for teacher evaluation in social studies is found to

be correlated with the grade for social studies at the .05 level. This evaluation by the teacher is made before the student receives a grade for the class. In this case there are fewer cases reaching the .05 level so the possibility of another group having a considerably higher significance level is not an improbability. If only conjecture, the researcher believes that this may be vocational training where the grade was significant at the .05 level to the self-concept score.

Table 3. Simple correlations (r) between the three Q-sort results: (1) S-D, (2) F.T.S., and (3) P.O.F.T.S. and teacher evaluation of personal traits for social studies

Test Areas	N	S-D (r)	F.T.S.	P.O.F.T.S.
Conduct	177	.1039	.0565	-.0025
Effort	177	.0593	-.0324	.0168
Dependability	177	.0617	-.0366	.0911
Initiative	177	.1131 (a)	-.0340	.0754
Social Attitude	177	.1608*	.0092	.1008
Self-Control	176	.1141 (a)	-.0021	.0522
Total Average	177	.1393*	-.0084	.0841

(a) Approaching the .05 level. *Significant at the .05 level.

The total average for teacher evaluations is also correlated to the grade in social studies at the .001 level (see Appendix B, Table 7). The explanation is that the classroom situation is defined and holds constant for all measures of the student. This could be a self-fulfilling prophecy in action at Intermountain School.

Self-definition scores and
the G.A.T.B. scores

The third hypothesis is that there is a positive correlation between the General Aptitude Test Battery results and the self-definition scores.

The only significant correlation (see Table 4) was at the .05 level between finger dexterity (f) and the self-definition score in the G.A.T.B. The reason for this correlation or any ramifications can be left to the reader. In one other area, clerical perception (O), the correlation did approach the .05 level but the reasons for this and the other correlation at the .05 level cannot be explained at this time. Yet this could be a result of the G.A.T.B. and its scores being culturally bound to the "Anglo" society (see Table 21, p. 85). With finger dexterity not being hindered by the lack of English ability, these are measures of traits needed for the success in an "Anglo" occupation. These traits then are bound to "Anglo" society in general and the test does not allow for any other cultural strength to be shown in its measure. It is of interest to remember that finger dexterity was the only G.A.T.B. score which was not correlated at a significant level to the California Reading Test score.

The third hypothesis is rejected since the correlation between self-concept and general aptitude is significant in only one area. In four other areas it was negative and not significant. However, the reader is reminded that there is some indication that this test is measuring some of the same qualities as the California Reading Test. The G.A.T.B. may be invalid since it has this high correlation to a factor which is not supposed to be even measured in its analysis.

Table 4. Simple correlations (r) between the three Q-sort results: (1) S-D, (2) F.T.S., and (3) P.O.F.T.S. and the General Aptitude Test Battery (G.A.T.B.)

Test Areas	N	S-D (r)	F.T.S. (r)	P.O.F.T.S. (r)
G General Learning Ability	160	.0492	-.0091	-.0187
V Verbal Aptitude	160	.0288	-.0023	-.0779
N Numerical Aptitude	160	.0777	.0198	-.530
S Spatial Aptitude	160	.0834	.0286	.0122
P Form Perception	160	-.0044	-.0879	-.0208
O Clerical Perception	160	.1195(a)	-.0426	.0582
K Motor Coordination	150	-.0511	-.0784	-.0849
F Finger Dexterity	160	.1393*	.1234(a)	.0483
M Manual Dexterity	159	-.0903	-.0130	-.0534

(a) Approaching the .05 level of significance. *Significant at the .05 level.

Self-definition scores and other variables

This section represents those variables which are closely related to those previously mentioned and form an expansion of this study. Included are also the variables concerned with class grouping and the hypothesis that there is a positive correlation between class grouping and the student's self-definition.

In these variables (see Table 5), age was found to be negatively correlated to self-definition and to P.O.F.T.S. Therefore, the younger the student, the higher his self-concept score tends to be. Age also is important in that the correlation between the younger student, and how he felt P.O.F.T.S. was negatively correlated. Then the younger students seem to feel better group or other acceptance than did the older students.

Table 5. Simple correlations (r) between the three Q-sort results: (1) S-D, (2) F.T.S., and (3) P.O.F.T.S. and other variables

Test Areas	N	S-D (r)	F.T.S. (r)	P.O.F.T.S. (r)
Age	190	-.2096**	-.0787	-.1764**
Years at Intermountain School	190	-.0302	-.1033	-.0627
Vocational or Business/ Academic Program	190	.1924**	.0717	.1195*
Senior Class Grouping	190	(-).0488	(-).0358	().0210
Junior Class Grouping	190	(-).0820	(-).0620	().0101
California Reading Test	157	.0157	-.1322*	.0924

*Significant at the .05 level. **Significant at the .01 level.

The number of years a student had been at Intermountain School was found to be correlated with age at the .01 level of significance, but it was not found to have a significant correlation with the self-definition scores which suggests the possibility of an extraneous variable. This could result in the older students feeling left out socially

as well as academically at Intermountain School. But the actual amount of time they had been students at the school did not correlate to their self-reference. Some other variable may distort any correlation which occurs here.

Another variable which is correlated at a high significance level and positively to two self-reference scores was whether the student was in a vocational program or in either a business or academic program. This was correlated both to the general self-concept and to the self-acceptance in others. The correlations were at the one percent and five percent levels, respectively, for this variable. This then implies that those students who have a business or academic orientation seem to have a higher self-concept of themselves, and others tend to react favorably to this. This related to the self-definition scores in these two areas, but it did not seem to affect the individual's feelings toward self, except that it was a positive correlation at a non-significant level.

It would be of interest to expand this to see what the different vocational orientations are correlated to the self-definition scores. The possibility of a positive correlation occurring seems to be evident with just two breakdowns between vocational and business/academic programs (see Table 5).

The class ability grouping, whether for students' junior or senior years, did not have a significant correlation to the self-definition scores, but any correlation was positive in that the higher the group, the higher the self-concept score. This was also true for the self-acceptance scores. Junior class grouping also seemed to have a little higher correlation than senior class grouping. In self-acceptance in others, the inverse of both cases occurred. Junior grouping had

a higher correlation in the higher groups, or in lower numbers, there would be a tendency for a higher score. It should be remembered that in these scores the level of significance and the correlation were low.

The fourth hypothesis must also be rejected at this time, since class ranking and the self-definition scores did not have correlation at a high significance level; but the correlation was a positive one.

The relationship between the self-definition scores and the results of the California Reading Test were significant in only one area (see Table 5). This was a negative correlation between the reading test and F.T.S. If this is not a spurious correlation, one possible explanation is that with a higher degree of ability in English, the greater the degree the Indian student feels inadequate with himself. His marginal feelings manifest this feeling in his own self-feelings.

Interrelationships of the two Sub-Scores
from the Self-Definition Test

The testing instrument was a Q-sort as explained in Chapter III. The first score is for a person's self-definition and it is derived from the placement of all fifty cards. The second and third scores resulted from the placement of eight and six cards respectively within the total fifty cards (see Appendix A). This was for the measurement of two facets within a person's total self-definition. These facets were a person's feelings toward self (F.T.S.) and his perception of how others feel toward self (P.O.F.T.S.).

This type of dual testing has its limitations when using the results because it must always be remembered that part of the final score is a direct result of these individual scores. Therefore, at the extreme high and low scores for self-concept, the other scores are

acting accordingly. The cards themselves must be placed in either a positive or a negative position in the self-definition.

This major weakness of the sub-scores is offset by the fact that the results showed different levels of significance and correlation from the self-definition scores to the test variables. Therefore, the sub-scores correlated to different aspects of the dependent variables. This type of difference could be caused if this particular variable was more important to the group or to the individual in self-feelings.

Table 6. Simple correlation (r) between feelings toward self (F.T.S.) and perception of how others feel toward self (P.O.F.T.S.)

Test Areas	N	F.T.S. (r)
P.O.F.T.S.	190	.3194***

***Significant at the .001 level.

The F.T.S. score came from the placement of eight or 16 percent of the total number of cards, and the self-acceptance score was based on six or 12 percent of the total number of cards. There were no common cards (see Appendix A) in either set to obtain these scores.

The face validity of the correlation suggests that how a person feels toward himself is significantly and positively correlated to his perception of how others feel toward him.

This then brings the topic of discussion back to Cooley and his "looking-glass self." The individual sees himself as a reflection from

those around him. This then is not a "looking-glass self," but rather it is a "multi-mirrored self."

A person feels a certain way toward himself because he perceives others feel toward him a certain way. Others act toward him a certain way and he attains certain levels of achievement to contribute to self feelings; there could be possible influence on his self-feelings.

If this is the case, then Cooley's conception is not a single looking-glass, but a multi-mirror reflection. The individual is surrounded on all sides, so that he can be defined as a total person and not only one linear plane or by many mirrors, one at a time, but many mirrors at one time.

CHAPTER V

SUMMARY

Purpose

The purpose of this research was to explore the relationship between the self-concept and educational factors among male Navajo students. The study's specific objectives were: (1) to study the relationships between the selected measures of high school adaptations and self-concept, and (2) to develop a general framework or orientation to be developed into a longitudinal study of the 1971 graduates of Intermountain School and their vocational success.

Methodology

The data used for this study was taken from information copied from various school records and from the administration of a self-reference test. This was accomplished during September and early October of 1970.

The data for this study were taken from the school records for the senior males at Intermountain School, Brigham City, Utah. Scored and usable test results were obtained for 194 senior males. Of this number, four had to be eliminated from the study; two because they were new students and two because they were re-returnees. Usable results accounted for approximately 90 percent of the senior males enrolled in the fall.

The data for this study were taken from records of courses and grades, teacher evaluation forms, reports of test scores, official

school transcripts, and the results of the Q-sort measure of their self-definition (S-D), feelings toward self (F.T.S.), and perception of how others feel toward self (P.O.F.T.S.) (see Appendix A).

This selected information was then tested by making a simple correlation between all selected factors in order for an analysis of the data to be undertaken.

Findings

There was a significant and positive relationship between the students' G.P.A. for their junior year and the results from the Q-sort for self-concept. The major component of the G.P.A. was the grade for vocational training which was also correlated at a significant level. Perception of how others feel toward self (P.O.F.T.S.) was also significantly related to the grade in social sciences. These findings were then in general support of findings in previous studies.

Positive correlations were found between teacher evaluations and a student's self-concept. This then is supportive of both previous studies concerning academic roles and self-concept and symbolic interactionism. The teacher's definition of the student was positively correlated to the student's perceived-self. Further research is indicated into these "Anglo" judgments of traits as well as why particular traits had a higher correlation than others. Teacher evaluations should also be examined by classes for all breakdowns in course work. This was done for the social sciences; the results were not as significant. It is felt that further study should closely examine the teacher evaluation in the vocational classes as well as in all types of classes and periods of these classes.

Standardized tests such as the G.A.T.B. scores were found to be of no significance. This could be a cultural barrier where finger dexterity was the only sub-division to reach a significant positive relationship to self-concept. These "Anglo" measurements for success in "Anglo" occupations should be further examined in future studies. This was a rejection of the findings to the third hypothesis.

The other variables indicated relationships which were significant at the .01 level. Age was found to be negatively correlated to the self-definition scores. This could be a result of the student's being aware of the reasons for his being at Intermountain School or some other factor. Further examination is indicated here also.

The number of previous years at the school, as well as the junior and senior class groupings, showed no significant correlations as had been expected in the latter two cases.

The student orientation was found to be a positive relationship and significant at the .01 level to self-concept. This should be examined further since it indicates those with a business or academic orientation tend to have higher self-reference scores. This could be a result of many factors; possibly it deals with students' or instructors' perception of the different orientations.

The relationship of the three self-reference scores indicates that further research should be done in the area of self-acceptance. This should be done even with the relationships of these scores always being significant at the .001 level.

These school measures and information give the researcher some assistance in developing a general orientation which could indicate a student having a high self-concept.

Conclusions

This study and its findings are not conclusive, but rather provide information and indications for future research in this area. The researcher should realize the limitations of the data available, and with this in mind he should be cautious in the interpretations of any significant relationships.

Nevertheless, the results of this study indicate there is a positive and significant correlation between a student's self-definition (self-concept) and his grade point average. The same results occurred between teacher evaluations and self-definition.

The results from the G.A.T.B. test area for finger dexterity and the student's orientation in school were also found to be positively and significantly correlated to the student's self-definition. The student's orientation for a business or academic program had a higher correlation than did the student whose program was vocational.

The school and its programs are in effect defining the situation the students have to act within for nine months of the year. The teacher's role is significant, whether it is to provide a grade or to evaluate a student in some area of self-definition. There is then, the "looking-glass self" the student partially uses for developing or modifying his own self-concept. The degree of internalization or effect on students by the teacher is unknown.

Further research is necessary in this area for better understanding of the Navajo student. The evidence is not complete, but there is some to suggest that the individual student's school may shape his self-concept and the manner in which he faces the "Anglo" world.

The following are some selected questions which became apparent in this study and which should be examined in further research:

1. How significant are the different vocational orientations to the self-concept of the students?
2. What are the meanings of the different teacher evaluations and which are more culturally similar and different from Navajo cultural traits?
3. Do the teachers with grades and evaluations modify the student's self-concept for greater or lesser assimilation into the American way of life?
4. Is the G.A.T.B. measuring different aptitudes or is it measuring the student's ability to demonstrate these traits or aptitudes in the English language?
5. Is the G.A.T.B. measuring "Anglo" traits for "Anglo" occupations while being culturally locked against the Navajo students?

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APPENDIXES

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Appendix ATesting of the Self-Definition

When administering this test, the researcher was aware that his presence and the testing environment could influence the results. The policy he adapted was to remain as neutral as possible by wearing non-descript clothing. The testing was conducted in the school library where most testing is conducted.

There is no way to estimate the effect of the image of the testor on the students. A future researcher should be aware of any possible implications this brings about and adjust accordingly for his study.

The fifty self-definition statements used in this study

1. I am happy.
2. I am sad.
3. I am smart.
4. I am afraid.
5. I like myself.
6. I hate myself.
7. I am important.
8. I run away from my problems.
9. I am good.
10. I am bad.
11. I like people.
12. I am lazy.
13. I feel people like me.
14. I want to be somebody else.
15. I am glad I am an Indian.

16. I don't like my body.
17. I like to go to a party.
18. I don't like to make a speech.
19. I want to improve myself.
20. I wish I were not born.
21. I do things without being told.
22. I don't get a chance to do what I want to do.
23. I feel all right.
24. Being on time is a good habit.
25. I can depend on myself.
26. I obey rules because other people make me.
27. I believe in the rules made by other people.
28. I can't keep myself from doing wrong things.
29. I like the way I am.
30. I am angry.
31. I like to go to church.
32. I don't think my teachers like me.
33. I feel the other person likes me when I am on a date.
34. I can't make up my mind what to do.
35. I know what my problems are.
36. I don't understand myself.
37. I feel my family likes me.
38. I think my friends get me into trouble.
39. I think boys like me.
40. I don't like school.
41. I think girls like me.
42. I do bad things.
43. I am a good worker.

44. I worry about the things I do.
45. I like my body.
46. I have trouble with people.
47. I think everything is going to be all right.
48. I don't like to eat when people watch me.
49. I look on the bright side of life.
50. I am sorry for the things I do.

The eight statements for "Feelings
Toward Self"

5. I like myself.
6. I hate myself.
14. I want to be somebody else.
15. I am glad I am an Indian.
16. I don't like my body.
20. I wish I were not born.
29. I like the way I am.
45. I like my body.

The six statements for the "Perception of
How Others Feel Toward Self"

13. I feel people like me.
32. I don't think my teachers like me.
33. I feel the other person likes me when I am on a date.
37. I feel my family likes me.
39. I think boys like me.
41. I think girls like me.

Directions for placing cards

You will be given 50 small cards. Each card tells what a person thinks about himself (or herself). Some of the statements will be like you.

You will also be given 9 sheets of paper. You are asked to choose which cards go on the sheets of paper.

1. Place 2 cards on the paper marked NEVER LIKE ME.
2. Place 3 cards on the paper marked NOT LIKE ME MOST OF THE TIME.
3. Place 6 cards on the paper marked NOT LIKE ME MUCH OF THE TIME.
4. Place 9 cards on the paper marked NOT LIKE ME.
5. Place 10 cards on the paper marked SOMETIMES LIKE ME.
6. Place 9 cards on the paper marked like me.
7. Place 6 cards on the paper marked LIKE ME MUCH OF THE TIME.
8. Place 3 cards on the paper marked LIKE ME MOST OF THE TIME.
9. Place 2 cards on the paper marked LIKE ME ALL THE TIME.

Notice that there are four sheets of paper on the Like Me side.

There are four sheets of paper on the Not Like Me side.

In the middle is a sheet of paper marked Sometimes Like Me.

You may go as slowly as you wish. There is no right or wrong answer. Just answer the way you feel about yourself. Be sure it is the way you really feel.

Let me know when you have the right number of cards on the 9 sheets of paper. Are there any questions? You may begin.

Appendix B
Additional Tables

Table 7. Simple correlation (r) between junior grades in social sciences and all dependent variables

Test Area	Grade in S.S.		Test Area	Grade in S.S.	
	N	r		N	r
Age	189	-.1079(a)	J.G. for Vocational Training	171	.2129**
Previous years at Intermountain	189	-.0918	J.G. for Arts and Crafts	98	.0272
Teacher Evaluation for conduct	189	.0204(a)	J.G. for Humanities	187	.2412***
Teacher Evaluation for effort	189	.1145(a)	Junior Year G.P.A.	189	.4885***
Teacher Evaluation for dependability	189	.1967**	School Training	189	.1601*
Teacher Evaluation for initiative	189	.1870**	Senior class group	189	-.3636***
Teacher Evaluation for social attitude	189	.0853	California Reading Test	156	.3294***
Teacher Evaluation for self-control	189	.1065(a)	Navajo Mythology and/or History	23	.4243*
Teacher Evaluation for total average	189	.1036*	Junior class group	189	-.3852***
Teacher Evaluation in S.S. for conduct	177	.0411	General learning ability	159	.2767***
Teacher Evaluation in S.S. for effort	177	.1921**	Verbal aptitude	159	.2941***
Teacher Evaluation in S.S. for dependability	177	.2182***	Numerical aptitude	159	.2898***
Teacher Evaluation in S.S. for initiative	177	.2694***	Spatial aptitude	159	.0401
Teacher Evaluation in S.S. for social attitude	177	.1555*	Form perception	159	.1431*

Table 7. Continued

Test Area	Grade in S.S.		Test Area	Grade in S.S.	
	N	r		N	r
Teacher Evaluation in S.S. for self-control	176	.1607*	Clerical perception	159	.2191*
Teacher Evaluation in S.S. for total average	177	.2447***	Motor coordination	149	.1329(a)
Junior Grade for Biological and Physical Science	143	.3251*	Finger dexterity	159	-.0305
			Manual dexterity	158	.0672

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 8. Simple correlation (r) between junior grades in vocational training and all dependent variables

Test Area	Grade in V.T.		Test Area	Grade in V.T.	
	N	r		N	r
Age	172	-.1205(a)			
Previous years at Intermountain	172	.1440*	J.G. for Arts and Crafts	88	.1441
Teacher Evaluation for conduct	172	.3103***	J.G. for Humanities	170	.1267*
Teacher Evaluation for effort	172	.3116***	Junior year G.P.A.	172	.8504***
Teacher Evaluation for dependability	172	.3402***	School training	172	.0269
Teacher Evaluation for initiative	172	.3435***	Senior class group	172	-.1402*
Teacher Evaluation for social attitude	172	.3345***	California Reading Test	143	.1924*
Teacher Evaluation for self-control	172	.3646***	Navajo Mythology and/or History	18	.1223
Teacher Evaluation for total average	172	.3800***	Junior class group	172	-.1567*
Teacher Evaluation in S.S. for conduct	160	.0929	General learning ability	144	.2286**
Teacher Evaluation in S.S. for effort	160	.1228(a)	Verbal aptitude	144	.1851*

Table 8. Continued

Test Area	Grade in V.T.		Test Area	Grade in V.T.	
	N	r		N	r
Teacher Evaluation in S.S. for dependability	160	.0566	Numerical aptitude	144	.2450**
Teacher Evaluation in S.S. for initiative	160	.1450*	Spatial aptitude	144	.3075***
Teacher Evaluation in S.S. for social attitude	160	.1351*	Form perception	144	.1216(a)
Teacher Evaluation in S.S. for self-control	160	.1602*	Clerical perception	144	.2478***
Teacher Evaluation in S.S. for total average	160	.1514*	Motor coordination	138	.0593
Junior Grade for Biological and Physical Science	40	.5101***	Finger dexterity	144	.1217(a)
J.G. for Social Sciences	171	.2129**	Manual dexterity	143	.1333(a)

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 9. Simple correlation (r) between G.P.A. for junior year and all dependent variables

Test Area	Junior Year G.P.A.		Test Area	Junior Year G.P.A.	
	N	r		N	r
Age	190	-.1140(a)	J.G. for vocational training	172	.8504***
Previous years at Intermountain	190	.0486	J.G. for arts and crafts	99	.4004***
Teacher Evaluation for conduct	190	.2735***	J.G. for humanities	188	.4142***
Teacher Evaluation for effort	190	.3932***	School training	190	.0927
Teacher Evaluation for dependability	190	.4123***	Senior class group	190	-.2457***
Teacher Evaluation for initiative	190	.4372***	California Reading Test	157	.3082***
Teacher Evaluation for social attitude	190	.3729***	Navajo Mythology and/or History	23	.3166(a)
Teacher Evaluation for self-control	190	.4200***	Junior class group	190	-.2804***
Teacher Evaluation for total average	177	.0276	General learning ability	160	.3305***
Teacher Evaluation in S.S. for conduct	177	.1243*	Verbal aptitude	160	.2758***

Table 9. Continued

Test Area	Junior Year G.P.A.		Test Area	Junior Year G.P.A.	
	N	r		N	r
Teacher Evaluation in S.S. for dependability	177	.1140(a)	Numerical aptitude	160	.3600***
Teacher Evaluation in S.S. for initiative	177	.1984**	Spatial aptitude	160	.2981***
Teacher Evaluation in S.S. for social attitude	177	.1697*	Form perception	160	.2310**
Teacher Evaluation in S.S. for self-control	176	.1686*	Clerical perception	160	.2743***
Teacher Evaluation in S.S. for total average	177	.1865**	Motor coordination	150	.1637*
Junior Grade for Biological and Physical Science	44	.6347***	Finger dexterity	160	.1085
J.G. for Social Sciences	189	.4885***	Manual dexterity	159	.1947**

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 10. Simple correlation (r) between teacher evaluation for conduct and all dependent variables

Test Area	Teacher Evaluation for conduct		Teacher Evaluation for conduct	
	N	r	Test Area	N
Age	190	-.0318	J.G. for vocational training	172
Previous years at Intermountain	190	.0402	J.G. for arts and crafts	99
Teacher Evaluation for effort	190	.6014***	J.G. for humanities	188
Teacher Evaluation for dependability	190	.6480***	Junior year G.P.A.	190
Teacher Evaluation for initiative	190	.5093***	School training	190
Teacher Evaluation for social attitude	190	.7275***	Senior class group	190
Teacher Evaluation for self-control	190	.7546***	California Reading Test	157
Teacher Evaluation for total average	190	.7993***	Navajo Mythology and/or History	23
Teacher Evaluation in S.S. for conduct	177	.5216***	Junior class group	190
			General learning ability	160

Table 10. Continued

Test Area	Teacher Evaluation for conduct		Test Area	Teacher Evaluation for conduct	
	N	r		N	r
Teacher Evaluation in S.S. for effort	177	.2203**	Verbal aptitude	160	-.1083
Teacher Evaluation in S.S. for dependability	177	.2036**	Numerical aptitude	160	.0145
Teacher Evaluation in S.S. for initiative	177	.2000**	Spatial aptitude	160	-.1067
Teacher Evaluation in S.S. for social attitude	177	.3298***	Form perception	160	-.0826
Teacher Evaluation in S.S. for self-control	176	.3911***	Clerical perception	160	.0548
Teacher Evaluation in S.S. for total average	177	.4008***	Motor coordination	150	-.0421
Junior Grade for Biological and Physical Sciences	44	.2027	Finger dexterity	160	-.0232
J.G. for Social Sciences	189	.0204	Manual dexterity	159	-.0128

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 11. Simple correlation (r) between teacher evaluation for dependability and all other dependent variables

Test Area	Teacher Evaluation for dependability		Test Area	Teacher Evaluation for dependability	
	N	r		N	r
Age	190	-.0237	J.G. for vocational training	172	.3402***
Previous years at Inter-mountain	190	.1299*	J.G. for arts and crafts	99	.1596(a)
Teacher Evaluation for conduct	190	.6480***	J.G. for humanities	188	.2281***
Teacher Evaluation for effort	190	.7289***	Junior year G.P.A.	.90	.4123***
Teacher Evaluation for initiative	190	.6719***	School training	190	.1164***
Teacher Evaluation for social attitude	190	.6345***	Senior class group	190	-.0741
Teacher Evaluation for self-control	190	.6493***	California Reading Test	157	.0577
Teacher Evaluation total average	190	.8060***	Navajo Mythology and/or History	23	.1225
Teacher Evaluation in S.S. for conduct	177	.2431***	Junior class group	190	-.0825
Teacher Evaluation in S.S. for effort	177	.3233***	General learning ability	160	.0947
Teacher Evaluation in S.S. for dependability	177	.4376***	Verbal aptitude	160	.0431
Teacher Evaluation in S.S. for initiative	177	.3949***	Numerical aptitude	160	.0955
			Spatial aptitude	160	.0238

Table 11. Continued

Test Area	Teacher Evaluation for dependability		Test Area	Teacher Evaluation for dependability	
	N	r		N	r
Teacher Evaluation in S.S. for social attitude	177	.3157***	Form perception	160	.0316
Teacher Evaluation in S.S. for self-control	176	.3277***	Clerical perception	160	.0925
Teacher Evaluation in S.S. total average	171	.4632***	Motor coordination	150	.0072
Junior Grade for Biological and Physical Science	144	.2265(a)	Finger dexterity	160	-.0966
J.G. for Social Sciences	189	.1967**	Manual dexterity	159	.0762

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 12. Simple correlation (r) between teacher evaluation for social attitude and all dependent variables

Test Area	Teacher Evaluation for social attitude		Test Area	Teacher Evaluation for social attitude	
	N	r		N	r
Age	190	-.0125	J.G. for vocational training	172	.3345***
Previous years at Inter-mountain	190	.0748	J.G. for arts and crafts	99	.1206
Teacher Evaluation for conduct	190	.7275***	J.G. for humanities	188	.1980**
Teacher Evaluation for effort	190	.6383***	Junior year G.P.A.	190	.3729***
Teacher Evaluation for dependability	190	.6345***	School training	190	.0385
Teacher Evaluation for initiative	190	.5888***	Senior class group	190	-.0864
Teacher Evaluation for self-control	190	.8257***	California Reading Test	157	.0098
Teacher Evaluation total average	190	.8597***	Navajo Mythology and/or History	23	.2579
Teacher Evaluation in S.S. for conduct	177	.3268***	Junior class group	190	-.0986
Teacher Evaluation in S.S. for effort	177	.1968**	General learning ability	160	-.0018
Teacher Evaluation in S.S. for dependability	177	.2208**	Verbal aptitude	160	.0133
Teacher Evaluation in S.S. for initiative	177	.2213**	Numerical aptitude	160	.1294(a)
			Spatial aptitude	160	.0531

Table 12. Continued

Test Area	Teacher Evaluation for social attitude		Test Area	Teacher Evaluation for social attitude	
	N	r		N	r
Teacher Evaluation in S.S. for social attitude	177	.4867***	Form perception	160	.1068
Teacher Evaluation in S.S. for self-control	176	.4797***	Clerical perception	160	.1686*
Teacher Evaluation in S.S. total average	177	.4303***	Motor coordination	150	.0943
Junior Grade for Biological and Physical Science	114	.2268(a)	Finger dexterity	160	.0583
J.G. for Social Sciences	189	.0853	Manual dexterity	159	.1595*

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 13. Simple correlation (r) between teacher evaluation for self-control and all dependent variables

Test Area	Teacher Evaluation for self-control		Test Area	Teacher Evaluation for self-control	
	N	r		N	r
Age	190	-.0358	J.G. for vocational training	172	.3646***
Previous years at Inter-mountain	190	.0761	J.G. for arts and crafts	99	.1403
Teacher Evaluation for conduct	190	.7546***	J.G. for humanities	188	.1133(a)
Teacher Evaluation for effort	190	.5807***	Junior year G.P.A.	190	.3782***
Teacher Evaluation for dependability	190	.6493***	School training	190	.0785
Teacher Evaluation for initiative	190	.5419***	Senior class group	190	-.0901
Teacher Evaluation for social attitude	190	.8257***	California Reading Test	157	.0087
Teacher Evaluation total average	190	.8467***	Navajo Mythology and/or History	23	.5243**
Teacher Evaluation in S.S. for conduct	177	.3613***	Junior class group	190	-.1035
Teacher Evaluation in S.S. for effort	177	.1597**	General learning ability	160	.0226
Teacher Evaluation in S.S. for dependability	177	.2214**	Verbal aptitude	160	.0107
Teacher Evaluation in S.S. for initiative	177	.2509***	Numerical aptitude	160	.1424*
			Spatial aptitude	160	.0687

Table 13. Continued

Test Area	Teacher Evaluation for self-control		Test Area	Teacher Evaluation for self-control	
	N	r		N	r
Teacher Evaluation in S.S. for social attitude	177	.4672***	Form perception	160	.1076
Teacher Evaluation in S.S. for self-control	176	.5691***	Clerical perception	160	.1453*
Teacher Evaluation in S.S. total average	177	.4556***	Motor coordination	150	.0464
Junior Grade for Biological and Physical Science	141	.1901	Finger dexterity	160	.0520
J.G. for Social Sciences	189	.1065(a)	Manual dexterity	159	.0844

(a) Approaching the .05 significance level. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 14. Simple correlation (r) between teacher evaluation total average and all dependent variables

Test Area	Teacher Evaluation		Test Area	Teacher Evaluation	
	Total Average	r		Total Average	r
Age	190	.0359	J.G. for vocational training	172	.3800***
Previous years at Inter-mountain	190	.0726	J.G. for arts and crafts	99	.1859*
Teacher Evaluation for conduct	190	.7993***	J.G. for humanities	188	.2332***
Teacher Evaluation for effort	190	.8101***	Junior year G.P.A.	190	.4200***
Teacher Evaluation for dependability	190	.8060***	School training	190	.1204*
Teacher Evaluation for initiative	190	.8155***	Senior class group	190	-.1170(a)
Teacher Evaluation for social attitude	190	.8597***	California Reading Test	157	.0358
Teacher Evaluation for self-control	190	.8467***	Navajo Mythology and/or History	23	.3954*
Teacher Evaluation in S.S. for conduct	177	.3344***	Junior class group	190	-.1043
Teacher Evaluation in S.S. for effort	177	.3223***	General learning ability	160	.0721
Teacher Evaluation in S.S. for dependability	177	.3046***	Verbal aptitude	160	.0732
Teacher Evaluation in S.S. for initiative	177	.3647***	Numerical aptitude	160	.1330*
			Spatial aptitude	160	.0687



Table 14. Continued

Test Area	Teacher Evaluation		Test Area	Teacher Evaluation	
	Total N	Average r		Total N	Average r
Teacher Evaluation in S.S. for social attitude	177	.4162***	Form perception	160	.0611
Teacher Evaluation in S.S. for self-control	176	.4191***	Clerical perception	160	.1717*
Teacher Evaluation in S.S. total average	177	.4899***	Motor coordination	150	.0744
Junior Grade for Biological and Physical Science	144	.2753*	Finger dexterity	160	-.0010
J.G. for Social Sciences	189	.1306*	Manual dexterity	159	.1565**

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 15. Simple correlation (r) between teacher evaluation in social sciences for social attitude and all other dependent variables

Test Area	Teacher Evaluation for Social Attitude		Test Area	Teacher Evaluation for Social Attitude	
	N	r		N	r
Age	190	-.1141 (a)	J.G. for vocational training	160	.1351*
Previous years at Inter-mountain	177	.0244	J.G. for arts and crafts	92	.1056
Teacher Evaluation for conduct	177	.3298***	J.G. for humanities	175	.0893
Teacher Evaluation for effort	177	.2028**	Junior year G.P.A.	177	.1697*
Teacher Evaluation for dependability	177	.3157***	School training	177	.0079
Teacher Evaluation for initiative	177	.2168**	Senior class group	177	.1043
Teacher Evaluation for social attitude	177	.4867***	California Reading Test	145	.0167
Teacher Evaluation for self-control	177	.4672***	Navajo Mythology and/or History	22	-.0624
Teacher Evaluation total average	177	.4162***	Junior class group	177	.0664
Teacher Evaluation in S.S. for conduct	177	.5594***	General learning ability	148	-.0670
Teacher Evaluation in S.S. for effort	177	.2959***	Verbal aptitude	148	.0145
Teacher Evaluation in S.S. for dependability	177	.3863***	Numerical aptitude	148	-.0022
Teacher Evaluation in S.S. for initiative	177	.4492***	Spatial aptitude	148	.0431
			Form perception	148	.0844

Table 15. Continued

Test Area	Teacher Evaluation for Social Attitude		Test Area	Teacher Evaluation for Social Attitude	
	N	r		N	r
Teacher Evaluation in S.S. for self-control	176	.7882***	Clerical perception	148	.0214
Teacher Evaluation in S.S. total average	177	.7767***	Motor coordination	138	-.0068
Junior Grado for Biological and Physical Science	38	.1602	Finger dexterity	148	-.0556
J.G. for Social Science	177	.1555*	Manual dexterity	148	.0229

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 16. Simple correlation (r) between teacher evaluation in social sciences total average and all dependent variables

Test Area	Teacher Evaluation in S.S. total average		Test Area	Teacher Evaluation in S.S. total average	
	N	r		N	r
Age	177	-.0823	J.G. for vocational training	160	.1544*
Previous years at Inter-mountain	177	.0079	J.G. for arts and crafts	92	.1149
Teacher Evaluation for conduct	177	.4008***	J.G. for humanities	175	.0616
Teacher Evaluation for effort	177	.3852***	Junior year G.P.A.	177	.1865***
Teacher Evaluation for dependability	177	.4632***	School training	177	-.0271
Teacher Evaluation for initiative	177	.3608***	Senior class group	177	.1209(a)
Teacher Evaluation for social attitude	177	.4303***	California Reading Test	145	.0005
Teacher Evaluation for self-control	177	.4556***	Navajo Mythology and/or History	22	.1645
Teacher Evaluation total average	177	.4899***	Junior class group	177	.0516
Teacher Evaluation in S.S. for conduct	177	.6846***	General learning ability	148	-.0061
Teacher Evaluation in S.S. for effort	177	.7057***	Verbal aptitude	148	.0465
Teacher Evaluation in S.S. for dependability	177	.7604***	Numerical aptitude	148	.0138
Teacher Evaluation in S.S. for initiative	177	.7525***	Spatial aptitude	148	.0371

Table 16. Continued

Test Area	Teacher Evaluation in S.S. total average		Test Area	Teacher Evaluation in S.S. total average	
	N	r		N	r
Teacher Evaluation in S.S. for social attitude	177	.7767***	Form perception	148	-.1108
Teacher Evaluation in S.S. for self-control	176	.7789***	Clerical perception	148	.0265
			Motor coordination	138	.0114
Junior Grade for Biological and Physical Science	38	.1508	Finger dexterity	148	-.0734
Junior Grade for Social Sciences	177	.2447***	Manual dexterity	148	.0764

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 17. Simple correlation (r) between finger dexterity and all dependent variables

Test Area	Finger Dexterity		Test Area	Finger Dexterity	
	N	r		N	r
Age	160	-.0210	J.G. for vocational training	160	.1217(a)
Previous years at Inter-mountain	160	.0925	J.G. for arts and crafts	81	.2171*
Teacher Evaluation for conduct	160	-.0232	J.G. for humanities	158	-.0380
Teacher Evaluation for effort	160	-.0090	Junior year G.P.A.	160	.1085
Teacher Evaluation for dependability	160	-.0966	School training	160	.0477
Teacher Evaluation for initiative	160	-.0260	Senior class group	160	-.0759
Teacher Evaluation for social attitude	160	.0583	California Reading Test	131	.1080
Teacher Evaluation for self-control	160	.0525	Navajo Mythology and/or History	19	.2033
Teacher Evaluation total average	160	-.0010	Junior class group	160	-.2045**
Teacher Evaluation in S.S. for conduct	148	-.0460	General learning ability	160	.2080**
Teacher Evaluation in S.S. for effort	148	-.1128	Verbal aptitude	160	.1001
Teacher Evaluation in S.S. for dependability	148	-.0529	Numerical aptitude	160	.1648*
Teacher Evaluation in S.S. for initiative	148	-.0453	Spatial aptitude	160	.3062***

Table 1. Continued

Test Area	Finger Dexterity		Test Area	Finger Dexterity	
	N	r		N	r
Teacher Evaluation in S.S. for social attitude	148	-.0556	Form perception	160	.4251***
Teacher Evaluation in S.S. for self-control	148	.0062	Clerical perception	160	.3643***
Teacher Evaluation in S.S. total average	148	-.0734	Motor coordination	150	.3403***
Junior Grade for Biological and Physical Science	38				
J.G. for Social Science	159	-.0305	Manual dexterity	159	.3493***

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 18. Simple correlation (r) between the California Reading Test total and all dependent variables

Test Area	California Reading Test		Test Area	California Reading Test	
	N	r		N	r
Age	157	-.2515***	J.G. for vocational training	143	.1924*
Previous years at Inter-mountain	157	-.1086	J.G. for arts and crafts	83	.1196
Teacher Evaluation for conduct	157	.0309	J.G. for humanities	156	.1559*
Teacher Evaluation for effort	157	-.0102	Junior year G.P.A.	157	.3082***
Teacher Evaluation for dependability	157	.0577	School training	157	-.1435*
Teacher Evaluation for initiative	157	.0842	Senior class group	157	-.4003***
Teacher Evaluation for social attitude	157	.0098			
Teacher Evaluation for self-control	157	.0087	Navajo Mythology and/or History	18	.2461
Teacher Evaluation total average	157	.0348	Junior class group	157	-.5115***
Teacher Evaluation in S.S. for conduct	145	-.0348	General learning ability	131	.6102***
Teacher Evaluation in S.S. for effort	145	-.0224	Verbal aptitude	131	.6225***
Teacher Evaluation in S.S. for dependability	145	-.0278	Numerical aptitude	131	.6812***
Teacher Evaluation in S.S. for initiative	145	.0677	Spatial aptitude	131	.2447**

Table 18. Continued

Test Area	California		Test Area	California	
	Reading Test N	r		Reading Test N	r
Teacher Evaluation in S.S. for social attitude	145	.0167	Form perception	131	.4976***
Teacher Evaluation in S.S. for self-control	145	-.0081	Clerical perception	131	.4632***
Teacher Evaluation in S.S. for total average	145	.0005	Motor coordination	122	.3779***
Junior Grade for Biological and Physical Science	38	.3236*	Finger dexterity	131	.1080
J.G. for Social Sciences	156	.3294***	Manual dexterity	130	.1993

*Significant at the .05 level.
Level.

Significant at the .01 level. *Significant at the .001 level.

Table 19. Simple correlation (r) between age and all dependent variables

Test Area	Age		Test Area	Age	
	N	r		N	r
Previous years at Inter-mountain	190	.1996**	J.G. for vocational training	172	-.1205(a)
Teacher Evaluation for conduct	190	-.0318	J.G. for arts and crafts	99	.0490
Teacher Evaluation for effort	190	.0096	J.G. for humanities	188	-.0354
Teacher Evaluation for dependability	190	-.0237	Junior year G.P.A.	190	-.1140(a)
Teacher Evaluation for initiative	190	-.1119(a)	School training	190	-.1161(a)
Teacher Evaluation for social attitude	190	-.0125	Senior class group	190	.1508*
Teacher Evaluation for self-control	190	-.0359	California Reading Test	157	-.2545***
Teacher Evaluation total average	190	-.0359	Navajo Mythology and/or History	23	-.3037
Teacher Evaluation in S.S. for conduct	177	-.0623	Junior class group	190	.1308*
Teacher Evaluation in S.S. for effort	177	-.0723	General learning ability	160	-.0245
Teacher Evaluation in S.S. for dependability	177	.0054	Verbal aptitude	160	-.0212
Teacher Evaluation in S.S. for initiative	177	-.0620	Numerical aptitude	160	-.0108
Teacher Evaluation in S.S. for social attitude	177	-.1141(a)	Spatial aptitude	160	-.0813
			Form perception	160	.0827

Table 19. Continued

Test Area	Age		Test Area	
	N	r	N	r
Teacher Evaluation in S.S. for self-control	176	-.0460	160	-.1146(a)
Teacher Evaluation in S.S. total average	177	-.0823	150	-.0303
Junior Grades for Biological and Physical Science	44	-.4185**	160	-.0210
J.G. for Social Sciences	189	-.1079(a)	159	-.0246

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 20. Simple correlation (r) between school training and all dependent variables

Test Area	School Training		Test Area	School Training	
	N	r		N	r
Age	190	-.1161(a)	J.G. for vocational training	172	.0269
Previous years at Inter-mountain	190	.0914	J.G. for arts and crafts	99	.1077
Teacher Evaluation for conduct	190	.0825	J.G. for humanities	188	.1396*
Teacher Evaluation for effort	190	.1117(a)	Junior year G.P.A.	190	.0927
Teacher Evaluation for dependability	190	.1164(a)			
Teacher Evaluation for initiative	190	.1733**	Senior class group	190	-.3997***
Teacher Evaluation for social attitude	190	.0385	California Reading Test	157	.1435*
Teacher Evaluation for self-control	190	.0785	Navajo Mythology and/or History	23	.4541*
Teacher Evaluation total average	190	.1204*	Junior class group	190	-.4051***
Teacher Evaluation in S.S. for conduct	177	-.0786	General learning ability	160	.2375***
Teacher Evaluation in S.S. for effort	177	.0311	Verbal aptitude	160	.2236**
Teacher Evaluation in S.S. for dependability	177	-.0522	Numerical aptitude	160	.2587***
Teacher Evaluation in S.S. for initiative	177	.0431	Spatial aptitude	160	.1231(a)
Teacher Evaluation in S.S. for social attitude	177	.0079	Form perception	160	.1344*

Table 20. Continued

Test Area	School Training		Test Area	School Training	
	N	r		N	r
Teacher Evaluation in S.S. for self-control	176	-.0816	Clerical perception	160	.2837***
Teacher Evaluation in S.S. total average	177	-.0271	Motor coordination	150	.0572
Junior Grade for Biological and Physical Science	144	.1081	Finger dexterity	160	.0477
J.G. for Social Sciences	189	.1601*	Manual dexterity	159	.0239

(a) Approaching the .05 level of significance. *Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

Table 21. Simple correlation (r) between the California Reading Test and the General Aptitude Test Battery (G.A.T.B.)

Test Areas	California Reading Test (N)	(r)
G--General Learning Ability	131	.6102***
V--Verbal Aptitude	131	.6225***
N--Numerical Aptitude	131	.6812***
S--Spatial Aptitude	131	.2447**
P--Form Perception	131	.4976***
O--Clerical Perception	131	.4632***
K--Motor Coordination	122	.3779***
F--Finger Dexterity	131	.1080
M--Manual Dexterity	130	.1993*

*Significant at the .05 level. **Significant at the .01 level. ***Significant at the .001 level.

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