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Andrews University
School of Graduate Studies

VALUES AND LEADERSHIP CHARACTERISTICS OF SEVENTH-DAY
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IN MICHIGAN

A Dissertation
Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
David Siew-Fee Wong

June 1979

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ABSTRACT

VALUES AND LEADERSHIP CHARACTERISTICS OF SEVENTH-DAY
ADVENTIST ACADEMY TEACHERS
IN MICHIGAN

by

David Siew-Fee Wong

Chairperson: Rudolf E. Klimes

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

Department of Education

Title: VALUES AND LEADERSHIP CHARACTERISTICS OF SEVENTH-DAY

ADVENTIST ACADEMY TEACHERS IN MICHIGAN

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Date completed: June 1979

Problem

Two important aspects in the life and work of teachers are their values and leadership styles. The values they hold affect the influence they exert and the knowledge they impart, and the leadership styles they practise determine in part their effectiveness in transmitting their knowledge and values to the students. Moreover, teachers' values are often considered to be closely related to their leadership styles. The purpose of the present study was to determine the relationships between the values and leadership styles of Seventh-day Adventist (SDA) academy teachers in Michigan. The study also aimed to provide a description of both the values and leadership characteristics of the teachers and to determine if there were any

significant differences in their values and leadership styles as related to such selected independent variables as major area of teaching, sex, age, highest academic degree held, years of teaching experience, and years of schooling in SDA institutions.

Method

Two instruments were used to collect data on the values and leadership styles of teachers for this study. The Allport-Vernon-Lindzey Study of Values (SOV) was employed to assess the dominance of six value interests: theoretical, economic, aesthetic, social, political, and religious. The Leader Behavior Description Questionnaire (LBDQ) was used to investigate two independent dimensions of leadership behavior: consideration and initiating structure.

It was hypothesized that teachers' self-expressed values would correlate with their leadership styles as perceived by their students. It was also hypothesized that significant differences exist among teachers classified according to the six selected independent variables mentioned above.

The study involved 72 teachers and 694 students of six SDA academies in Michigan. These teachers and students were administered with the SOV and the LBDQ, respectively.

To analyze the data collected, three major statistical methods were used. One-way multivariate and one-way univariate analysis of variance were employed to treat the data on the teachers' values and leadership styles, respectively. Stepwise multiple regression analysis was applied to examine the relationships between the values and leadership styles of teachers.

Results

Significant differences were found on the six value scores of teachers classified according to their major area of teaching, sex, and years of schooling in SDA institutions. However, no significant differences were obtained on the two dimensions of leadership behavior of teachers except for comparisons on the consideration scale in relation to two independent variables: highest academic degree held and years of schooling in SDA institutions.

The major findings suggested that no significant relationships existed between teachers' self-expressed values and their leadership styles as perceived by their students.

Conclusions

On the basis of the findings in this study, the following conclusions were drawn:

1. The combination of the six value scores is not effective in predicting the consideration and initiating structure leadership behavior. Thus teachers' self-expressed values do not correlate significantly with their leadership styles as perceived by their students.
2. Bible, humanities, science, and vocational teachers exhibit significant differences in their values. Science teachers hold higher theoretical but lower aesthetic values than the other teachers.
3. Female teachers express significantly higher aesthetic and social but lower theoretical and political values than male teachers.

4. The values of teachers are significantly related to the length of time they spent in SDA institutions for their formal education. Teachers with six years or less of schooling in SDA institutions express higher political and social but lower religious values than those teachers with seven years or more of SDA education.

5. Teachers with Bachelor's degrees and teachers with six years or less of schooling in SDA institutions have higher consideration mean scores than those teachers with Master's degrees and teachers with seven years or more of SDA education.

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CHAPTER I

INTRODUCTION

Teachers have great influence in shaping the character of young people. As has been pointed out by White (1882),

Whether or not our youth who have received wise instruction and training from godly parents, will continue to be sanctified through the truth, depends largely upon the influence that, after leaving their homes, they meet among those to whom they look for Christian instruction. (p. 226)

Teachers are often looked upon as the spiritual leaders of a school. Not only do they teach, but by their lives they, to a great extent, set the spiritual tone of the school and help shape the attitudes, behavior, and characters of the students. The success or failure of their work may affect the destiny of the youth and the future of the church.

Students are constantly being buffeted by many problems and perplexities of the current era. Whether these problems and perplexities become a stepping stone or an obstacle in their growth and advancement is partly dependent upon those who have been given the responsibility to guide and to nurture these youth to Christian maturity. Together with parents, pastors, and others, Christian teachers play an important role in this respect.

Leading students to Christian maturity and preparing them to face life adequately is a challenging task. It requires an exemplary life and great skills in leadership.

Two of the important but often neglected aspects in the person of Christian teachers being investigated in this research are the values they hold and the leadership styles they practice. Their values may color the influence they exert and the knowledge they impart. The leadership styles they practice may determine, to a certain extent, their effectiveness in imparting knowledge and values to the students.

Teachers are often considered as value objects for children. As Saltzberg (1949) observes: "no matter what the subject taught, the teacher teaches his true self, even when he has no awareness that he is so doing" (p. 8). Impressions of a teacher's attitudes and values conveyed through his words or actions remain in the minds of young pupils years afterwards.

Teachers' behavior affects the academic achievement and personality growth of students. Directive, demanding and deprecating behavior of a teacher tends to elicit hostility and produce aggression, apathy, withdrawal, and even emotional disintegration on the part of the pupils. However, supportive behavior of a teacher decreases interpersonal anxiety and elicits integration and emotional adjustment on the part of the pupils.

Statement of the Problem

Seventh-day Adventists are concerned about the transmission of Christian values to their younger generation. They conduct their own schools, elementary through university, in order to pass on their own ideas, beliefs, attitudes, values, habits, and customs to their children. In the realm of values, besides the Summum Bonum,

the highest good from which all other values stem, they recognize the importance of teaching the students material, intellectual, aesthetic, social, moral, and religious values. In fact, these values are fundamental to the aims of Adventist education. One of the ways of transmitting these values to students is through the influence of example in the lives of teachers. (see General Conference of Seventh-day Adventists, 1952, 1973.)

According to Simon, Howe, and Kirschenbaum (1972), the imparting of values can be best achieved when there is complete consistency regarding what the basic "desirable" values are. However, this consistency seems to be greatly lacking today. They assert:

But consider the youth of today. Parents offer one set of shoulds and should nots, the church often suggests another. The peer groups offer a third view of values. Hollywood and the popular magazines, a fourth. The first grade teacher, a fifth. The seventh grade teacher, a sixth. The president of the United States, a seventh. The spokesman for the New Left and the counterculture, an eighth; and on and on. (p. 16)

With such conflicts and inconsistencies regarding the basic values found in society, educators and parents are understandably concerned over the values of teachers who have charge of the education and development of the youth, for their values will influence the character development of their students. This inevitably leads to such questions as the following: What are the characteristics of the values of teachers? Are there differences in the values among Seventh-day Adventist academy teachers?

Teachers play an important role in educational institutions. They are the key figures in the teaching/learning situations. Being the formal leaders in the classrooms, the teaching styles of

teachers are often considered as leadership styles. These teaching styles can be identified through the observation of teachers' classroom behavior. It has been suggested that there are behavioral differences in leadership styles and that these styles can, in turn, be related to productivity and improvement of group performances.

Since values are often conceived as the foundation on which a man builds his behavior (Walker, 1969) and since values also guide and determine actions and fashion attitudes toward objects and situations (Rokeach, 1973), some of the following questions are being posed: What are the leadership characteristics of Seventh-day Adventist academy teachers? Are there relationships between the values teachers hold and the leadership styles they demonstrate?

At the time of the present study, there is no clear understanding of the values held and the leadership styles demonstrated by the Seventh-day Adventist academy teachers. Furthermore, it is uncertain if teachers holding certain values tend toward a particular leadership style.

To provide answers to the above questions the present study is undertaken to investigate the values and leadership characteristics of Seventh-day Adventist academy teachers in Michigan.

Purpose of the Study

The purpose of the present study is to examine if there are any relationships between the values and leadership styles of Seventh-day Adventist academy teachers, as measured by the Allport-Vernon-Lindzey Study of Values: A Scale for Measuring the Dominant Interests in Personality (1960) and the Hemphill and Coons Leader

Behavior Description Questionnaire (1957)

The corollary purposes are:

1. To describe the self-perceived values of Seventh-day Adventist academy teachers.
2. To describe the leadership styles of Seventh-day Adventist academy teachers, as perceived by their students.
3. To determine if there are any significant differences in the values held by the Seventh-day Adventist academy Bible, humanities, science, and vocational teachers.
4. To determine if there are any significant differences in the values of Seventh-day Adventist academy teachers classified according to sex, age, highest academic degree held, years of teaching experience, and years of schooling in Seventh-day Adventist institutions.
5. To determine if there are any significant differences in the leadership styles of Seventh-day Adventist academy Bible, humanities, science, and vocational teachers.
6. To determine if there are any significant differences in the leadership styles of Seventh-day Adventist academy teachers classified according to sex, age, highest academic degree held, years of teaching experience, and years of schooling in Seventh-day Adventist institutions.

Importance of the Study

Studies on values and leadership styles are receiving increased attention in recent years (Baier & Rescher, 1969; Doll, 1972; Feather, 1975; Fleishman & Hunt, 1973; Inslow, 1972; Stogdill,

1974; Turner, 1977). In the realm of values, the literature strongly indicates that many of the studies undertaken focused on the role of values in education (Harmin, Kirschenbaum, & Simon, 1973; National Education Association, 1976). As Purpel and Ryan (1976) observe, "Education is simply not value-free" (p. 7). They assert that teachers as "moral educators" must deal with their commitment to both their own personal moral behavior and their role as moral educators. Because "modeling is a powerful technique for moral education and that young people often take their cues from what adults do more than from what they say," teachers must be therefore aware of their own "moral commitments" (p. 73).

The present study on values will shed light on the values patterns of Seventh-day Adventist teachers in Michigan. Moreover, this study on teachers' values in relation to their leadership styles will contribute to the knowledge and understanding of the influence of values on behavior.

Leadership plays an important role in the life and work of an institution. As Stromberg (1966) has observed, "political, military, industrial, civic, and religious organizations place the responsibility for their success or failure upon the persons in leadership positions" (p. 1). The need for the effective study of leadership has also been emphasized.

The demand for effective leadership has been intensified in our society in recent years. Training and research programs developed during the war to improve quality of military leadership have been continued and expanded. Industries have instituted programs to improve the effectiveness of supervisors, and in international as well as domestic affairs the call for leadership of high caliber has been abundantly expressed. (Morris & Seeman, 1950, p. 149)

In the field of education, extensive studies have been undertaken on the leadership of school principals, superintendents, deans, and other school administrators. However, the study of teachers' leadership has not been emphasized. This is partly because the traditional role of a teacher as an imparter or purveyor of knowledge has been overly emphasized, and the leadership aspect of teaching greatly neglected (Gagne, 1965). But the recent recognition accorded them as leaders entails further studies on their leadership styles.

The review of the literature reveals that a comparison of values and leadership styles of Seventh-day Adventist academy teachers has not been attempted. Moreover, relationships between the values and leadership styles of teachers have not been established. Therefore, the following aspects will contribute to the significance of the study:

1. The study will contribute to the Seventh-day Adventist educational system by investigating an aspect that has never been studied before: the values and leadership characteristics of academy teachers.

2. The attempt to establish the relationship between values and leadership styles of teachers in the Seventh-day Adventist educational system will contribute to the better understanding of the influence of values on behavior.

3. The results of the study may provide useful information for the planning and development of training programs in values and leadership for teachers in the Seventh-day Adventist educational system.

4. The findings of the study may provide teachers with important feedback concerning differences which may exist between Bible, humanities, science, and vocational teachers.

5. The findings of the study may help in the placement of teachers in the Seventh-day Adventist educational system. For instance, teachers of a particular leadership style may be placed among students who learn best under that particular leadership style.

Assumptions

This study is based on the following assumptions:

1. All teachers have values and individual predominant leadership styles.
2. Because of the varied backgrounds in education, upbringing, and other factors, teachers differ in their values and leadership styles.
3. Teachers are considered as leaders because of their positions and roles in educational institutions.
4. The Allport-Vernon-Lindzey Study of Values measures the self-perceived values of teachers.
5. The Hemphill and Coons Leader Behavior Description Questionnaire measures the predominant leadership styles of teachers as perceived by their students.
6. The values and leadership styles of teachers furnish an insight into the programs of educational institutions.

Theoretical Framework

The behavioral approach to leadership studies has gained

wide acceptance in the recent years. As opposed to the trait approach which emphasizes the personality traits or innate qualities of a leader, behavioral approach considers leadership in terms of the behavior of the leader. Proponents of the behavioral approach believed that leaders can be best described and classified by their leadership styles or behavioral patterns. This approach to leadership focuses on what the leader does and how he behaves in carrying out his leadership role.

The leadership studies undertaken by the Bureau of Business Research at Ohio State University since 1945 attempted to identify various dimensions of leadership behavior. The researchers succeeded in narrowing the description of leader behavior to two dimensions: Consideration and Initiating Structure. Defining leadership styles in behavioral terms is considered to be functional and advantageous, for "it permits the experimenter to define with considerable exactness the particular acts he considers to be signs of leadership" (Carter, 1953, p. 263).

Studying leadership in terms of a leader's behavior inevitably also leads an investigator to consider the values of the leader. Values, which have often been perceived as "powerful determinants of behavior" (Lipham & Hoeh, 1974, p. 395), act not only "to direct behavior, but to drive it as well" (Tisdale, 1961, p. 64). Thus leadership behavior is often considered as a function of a leader's values.

England (1967) has developed a theoretical model of the relationship of values to behavior. This model indicates two primary ways in which values can influence behavior: behavior channeling and

perceptual screening. Behavior channeling represents the direct influence of values on behavior. This can be illustrated by the behavior of a person who places a high value on honesty and integrity when he is approached with a proposition which involves deception and questionable ethics, "his behavior would be channeled away from the questionable proposition as a direct result of his operative values" (p. 55).

On the other hand, perceptual screening represents the indirect influence of values on behavior and is manifested in the power of personal values to select, filter, and influence interpretation of what one "sees" and "hears". Examples of perceptual screening underlies such common expressions as: "he sees what he wants to see," "he hears only what he already agrees with," or "you can't teach an old dog new tricks" (England, 1967, p. 55).

In his model of values-behavior relationship, England (1967) cautions that the impact of values on behavior must be considered in relation to other "environment influences and constraints" and that "values are part of the story, but not the whole story" (p. 55).

Some studies have been conducted for the purpose of investigating the relationship between values and leadership behavior (Dermine, 1969; Hefty, 1971; Stromberg, 1966; Vaughan, 1959). Milton (1970) identified two extreme leadership styles; namely, (1) the entrepreneur, characterized as initiating, impulsive, innovative, power-oriented, future-oriented, and non-reciprocating, and (2) the administrator, characterized as responsive, logical, compliant, accommodating, here-and-now-oriented, and reciprocating.

The differences between the two leadership styles can be explained by the "differences in individual value systems" (Milton, 1970, p. 53).

The present study, in an attempt to establish the relationship between values and leadership behavior or styles, employs the Consideration and Initiating Structure dimensions of leadership styles and the six values--Theoretical, Economic, Aesthetic, Social, Political, and Religious--identified by Spranger (1928). The Consideration and Initiating Structure are separate and distinct dimensions. A high score on one dimension does not lower the score on the other. A leader's behavior can be described as any combinations of the two dimensions. However, the six values are interrelated. The scores on the six values are interdependent; that is, a high score on one value necessitates offsetting low scores on the others. Moreover, a given man does not belong exclusively to one or another of these types of values.

An examination of the two dimensions of leadership styles and the six values reveals a close association between them in terms of their definitions. For instance, perceiving Consideration as the leadership style that is indicative of "friendship, mutual trust, respect, and warmth in relationship between the leader and members of the group" (Halpin, 1957, p. 1) makes it evident that it is closely related to the Social values. On the other hand, Initiating Structure, a leadership style that emphasizes the concern for defining and structuring the leader's role and those of subordinates toward goal attainment, is closely related to the Theoretical values. Though the other four values do not relate to the two leadership

styles as closely as the Social and Theoretical values, Religious and Aesthetic values tend to be more connected to Consideration than Initiating Structure. Likewise, the Economic and Political values have the tendency to relate more to Initiating Structure than Consideration. These relationships between the Consideration and Initiating Structure dimensions of leadership and the six values further illustrate the empirical observation that "an individual's values, or what he feels he ought to be and do and think, cannot help but affect his behavior in his association with his fellow" (Prince, 1959, p. 305).

Thus, in examining the values and leadership styles of teachers, the rationale for the study is that teachers' values influence their leadership styles. The relationship between values and leadership styles seems to indicate the plausibility of predicting teachers' leadership styles from their self-perceived values.

Hypotheses

In accordance with the purpose of the study, the values and leadership styles of Seventh-day Adventist academy teachers are to be investigated. Six hypotheses have been advanced for statistical testing. The list of hypotheses are arranged for the purpose of a logical sequence in data analysis and presentation of the findings. They are stated as research hypotheses, that is, they are stated in the form which the data are expected to support. The first four hypotheses are related to the corollary purposes, and the last two are related to the primary purpose.

1. There is a significant difference among the centroids

of Seventh-day Adventist academy Bible, humanities, science, and vocational teachers on the Theoretical, Economic, Aesthetic, Social, Political, and Religious values as measured by the Study of Values scale.

2. There is a significant difference among the centroids of Seventh-day Adventist academy teachers on their values, as measured by the Study of Values scale, based on the independent variables of sex, age, highest academic degree held, years of teaching experience, and years of schooling in Seventh-day Adventist institutions.

3. There is a significant difference among the means of Seventh-day Adventist academy Bible, humanities, science, and vocational teachers on their leadership styles, as measured by the Leader Behavior Description Questionnaire scale.

4. There is a significant difference among the means of Seventh-day Adventist academy teachers on their leadership styles, as measured by the Leader Behavior Description Questionnaire scale, based on the independent variables of sex, age, highest academic degree held, years of teaching experience, and years of schooling in Seventh-day Adventist institutions.

5. There is a linear combination of the six value scores which yields a significant multiple correlation with the Consideration score over the complete group of subjects.

6. There is a linear combination of the six value scores which yields a significant multiple correlation with the Initiating Structure score over the complete group of subjects.

Definition of Terms

The following is a description of the terms as they are understood in the context of the present study.

Values. As used in the present study, the term values refers to any of the six basic interests or motives in personality; namely, Theoretical, Economic, Aesthetic, Social, Political, and Religious, as measured by the Allport-Vernon-Lindzey Study of Values. This concept of values is based on Spranger's theory that the "personalities of men are best known through a study of their values or evaluative attitudes" (Allport, Vernon, & Lindzey, 1960, p. 3). In the test manual, the six values used in the instrument are briefly described (Allport, Vernon, & Lindzey, 1960, pp. 4-5). They can be summarized as follows:

1. The Theoretical. The dominant interest of the theoretical man is the discovery of truth. His chief aim in life is to order and systematize his knowledge. He is an intellectualist, scientist and philosopher, interested in the empirical, critical, and the rational.

2. The Economic. The economic man is primarily interested in that which is useful. Being thoroughly practical, he wants education to be practical, regarding unapplied knowledge as waste. However, his desire to have everything be practical often leads to conflict with other values. The economic man is interested in wealth and the possession of it. He is often regarded as one who makes his religion the worship of mammon, and one who considers the traditional God as the giver of good gifts, of wealth, prosperity, and other tangible blessings.

3. The Aesthetic. For the aesthetic man, form and harmony are regarded as the highest values. Each experience is judged from the standpoint of grace, symmetry, or fitness. The aesthetic man tends toward individualism and self-sufficiency. Though he often likes the beautiful insignia of pomp and power, he opposes political activity when it makes for the repression of individuality.

4. The Social. The social man esteems love of people, in the altruistic or philanthropic sense, as the highest value and therefore prizes other persons as ends. He is kind, sympathetic, and unselfish. He regards love itself as the only suitable form of human relationship. Like religious attitude, social interest in its purest form is selfless.

5. The Political. Regardless of his vocation, power, which is often perceived as the most universal and most fundamental of motives, is the primary concern of the political man. He desires to have and to hold direct authority for personal influence and renown.

6. The Religious. The highest value of the religious man is called unity. He is mystical. He seeks to comprehend the cosmos as a whole and to relate himself to its embracing totality. There are two types of religious man. The "immanent mystic," seeing something divine in every event, finds his religious experience in the affirmation of life and in active participation therein. The "transcendental mystic," seeking to unite himself with a higher reality through self-denial and meditation, tends to withdraw from life.

Leadership styles. Generally, leadership styles refer to the conduct or the particular pattern of behavior of the individual in the group given the task and the authority of directing group activities toward the formulation and achievement of shared goals. More specifically, they refer to the two dimensions of leadership behavior indentified as the Consideration and Initiating Structure.

1. Consideration. Consideration alludes to the dimension of leadership style that emphasizes the concern for establishing and maintaining good interpersonal relations, high morale, and work satisfaction. The leader's relation with his subordinates is often characterized by mutual trust, "respect for their ideas, consideration of their feelings, and a concern warmth between the individual and them" (Fleishman, 1969, p. 1).

2. Initiating Structure. Initiating structure is a leadership style that stresses the concern for defining and structuring the leader's role and those of subordinates toward goal attainment. A leader scoring high on this dimension is characterized by his active role in directing group activities through "planning, communicating information, scheduling, criticizing, trying out new ideas, and so forth" (Fleishman, 1969, p. 1).

Academy. Academy is a term generally used for a Seventh-day Adventist denominational high school or secondary school in the United States and Canada. This is a school division following the primary or elementary school. As differentiated from a junior academy which generally offers grades one to ten, an academy offers grades nine to twelve. This four-year institution is operated as either a coeducational day or boarding school.

Michigan Conference. Michigan Conference is an organizational unit of the Seventh-day Adventist Church. It is composed of the local churches within the state of Michigan. The Conference headquarters is located at 320 W. St. Joseph, Lansing, Michigan.

Bible teachers. Bible teachers are faculty members of the academies who have the responsibility of providing formal religious instruction for their students. They teach such Bible-based religious subjects as Breakthrough with God (God and the individual), Breakthrough with God's Church (privileges of church fellowship), Breakthrough with God's Word (Bible doctrines), and Breakthrough with God's World (facing the world about us).

Humanities teachers. Teachers of such subjects as languages, literature, fine arts, and history in the academies are classified as humanities teachers. Geography teachers are also included in this category for the present study.

Science teachers. Faculty members of the academies who teach such subjects as biology, zoology, botany, chemistry, and physics are categorized as science teachers. Included in this category for the present study are also teachers of mathematics.

Vocational teachers. Vocational teachers are those teachers in the academies that provide training for the students in such practical courses as carpentry and auto repairs. For the purpose of the present study, this category also includes teachers of such subjects as typing, shorthand, bookkeeping, home economics, and physical education.

Centroid. A centroid is the multivariate equivalent of center of gravity, that is, the central point of a distribution on

several dimensions. The centroid of a group on a number of variables is the point in space defined by the mean score of the group on each of these variables (dimensions).

Delimitations

This study seeks to determine the relationship between the values and leadership styles of academy teachers. However, whatever the findings may be, no cause and effect relationships are adduced from these correlations, and no implications are suggested as to what effect these correlations have on the teachers, students, and the institutions as a whole.

The study is limited geographically to the state of Michigan. The population is drawn only from the teachers and students of the sophomore, junior, and senior classes of those academies that are owned and operated by the Seventh-day Adventist Church.

Organization of the Study

Chapter I states the problem, nature, and purpose of the study and provides a rationale for the approach used in investigating the relationships between teachers' values and leadership styles. Included in the chapter are also the six hypotheses, definition of terms, and delimitation of the study.

Chapter II contains a review of related literature in values and leadership. Literature on values and leadership behavior specifically related to teachers is also reviewed.

Contained in chapter III is a description of the methods and procedures used in the study. This chapter describes the subjects, the instruments used, the collection of data, and the statistical

analyses employed in the present study.

The results of the analysis of data concerning the six hypotheses are presented in chapter IV. The analysis and presentation of data on values, leadership styles, and the relationship between values and leadership styles make up the three main sections in this chapter.

The last chapter contains the summary, conclusions, and implications for further research.

CHAPTER II

REVIEW OF THE LITERATURE

The study of values and leadership behavior is receiving increasing attention in the field of education. With the greater emphasis placed on the teaching of values in school and the leadership effectiveness of school personnel, an extensive amount of literature on values and leadership behavior has been written. This chapter seeks to examine those studies that are relevant to the purpose and hypothesis of the present study under the following headings: (1) values, (2) leadership, and (3) studies on values and leadership behavior. In this review emphasis is placed on the historical perspective of the approaches in the study of values and leadership and the relationships between the values and leadership behavior of teachers.

Values

Values are an integral part of man. As Rich (1968) puts it, "Values set the tone and give meaning in the life of an individual" (p. 159). Though the term has been widely employed in literature of various fields and disciplines, its meaning has not been always clear. It means different things to different people.

Definition of Values

Henry (1963) perceives values as something that man considers good, such as "love, kindness, quietness, contentment, fun, honesty,

decency, relaxation, simplicity" (p. 14). Hawley and Hawley (1975) view values in a similar way. They consider "love, cooperation, trust, acceptance, joy, dignity, respect for individual differences, compromise, truth, understanding, and reverence" as values (p. 13).

Values are also viewed as needs or need satisfaction. Proponents of this view like Maslow (1954), Brickner (1944), Mace (1953), and White (1944) emphasize that values are biologically rooted and hierarchially organized.

Many values theorists define values in terms of choice and preference. Using the term values in its gerund form, Rogers (1969) writes that "valuing is the tendency of a person to show preference" (p. 241). Likewise, Benne (1950) conceives values as meaning a "validated preference" in a situation that requires choice (p. 181). Among other researchers who view values as a matter of choice, Lippitt (1964) is representative. He defines values as:

A criterion of judgment being used by an individual or group to choose between alternatives in decision and action situations or used by the participants to explain the reason for making a particular choice. (p. 34)

Morris' (1956) typology on values helps to clarify the foregoing definitions by classifying values into three categories: (1) operative value--what people actually choose; (2) conceived value--what people conceive as desirable or preferable; and (3) object value--what is preferable regardless of whether it is preferred or conceived of as preferable. It is to be noted that though the term values is used in three different contexts, all of them are concerned with the matter of choice.

Rokeach (1968) views value as belief of what is desirable.

He asserts that "once a value is internalized it becomes, consciously or unconsciously, a standard or criterion for guiding action" (p. 160).

Allport, one of the authors of the Study of Values, has not made a formal declaration as to the definition of values. However, Tisdale (1961), having studied his work on values, hypothesized that Allport might have defined values as "an individual, generalized disposition which is easily aroused and acts not only to direct behavior, but to drive it as well" (p. 64).

Kluckhohn (1951), Walker (1969), and Williams (1967) view values as concepts or conceptions, the bases for behavior. The definition that is most representative of this group is the one given by Kluckhohn (1951).

A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means, and ends of action. (p. 395; italics in original)

Kluckhohn's definition of values has gained wide acceptance. Levitin (1969) asserts that Kluckhohn has indeed made one of the "most complete and sophisticated attempts to arrive at adequate conceptual definitions and integration" (p. 409). Encompassed in this definition are the three components or elements that are essential to Kluckhohn's notion of values: cognitive ("conception"), affective ("desirable"), and conative ("selection"). In elaborating his definition, Kluckhohn emphasizes (1) the primary place of the cognitive component; that is, a value is a conception; (2) the distinction between the preferred and the preferrable, or the desired

and the desirable; and (3) the notion that a value does in fact influence behavior.

Kluckhohn's view on the three elements of his definition of values concurs with that of Rokeach's. In an analysis of Rokeach's definition of values, Feather (1975) observes that a value

involves some knowledge about the means or ends considered to be desirable; it involves some degree of affect or feeling, because values are not neutral but are held with personal feeling and generate affect when challenged; and it involves a behavioral component, because a value that is activated may lead to action. (p. 5)

From the foregoing definitions of values, it is evident that many writers on values perceived the close relationship between values and behavior. Values, conceived as the foundation on which man formulates his behavior, appear to guide and determine behavior, though not in a deterministic sense (Rokeach, 1973; Walker, 1969). Rescher (1969) asserts that "a value represents a slogan for the rationalization of action" (p. 9), and it orients itself "in two directions: both that of discourse and that of overt action" (1967, p. 13). Prince (1959) sums it up well when he says that "an individual's values, or what he feels he ought to be and do and think, cannot help but affect his behavior in his associations with his fellows" (p. 305).

Approaches and Instruments in Value Study

From the foregoing pages, it is obvious that different value theorists employ different elements in defining the term values. These varying definitions have given rise to the many differing theoretical frameworks that have been used as the bases for a variety of types of studies on values. It is therefore appropriate here to

trace the rise of values study, its approaches and instruments in order to exemplify the different definitions and theoretical frameworks utilized in value research.

The empirical investigation of values proliferated with the appearance of Spranger's Types of Men (1928) and the Allport-Vernon Study of Values (1931). As noted by Cantril and Allport (1933), Duffy (1940), and Duke (1955), in their reviews of studies on values, the Allport-Vernon Study of Values has received widespread usage, and the Types of Men has become the standard reference work for the construction of tests on values.

Spranger, the German psychologist, classified people according to the major values they held. In his book, Types of Men, Spranger argued for the existence of six major human values: the Theoretical, Economic, Aesthetic, Social, Political, and Religious. With the construction of the Study of Values, Allport and Vernon (1931) implemented the ideas of Spranger, thus making his theoretical notions operational.

Toward the end of the 1930s several other scales appeared in the literature. Noteworthy is the work of Lurie (1937) who carried out a factor analysis of items based on Spranger's (1928) work and obtained factors that are different from those of Allport and Vernon. He found four basic factors: social, Philistine, theoretical, and religious. Three other less important factors were also discovered; namely, open-mindedness, practicality, and aesthetic. In 1939, Van Dusen, Wimberly, and Mosier (1939) constructed a Likert-type inventory based on the five evaluation attitudes derived from Lurie's analysis of Spranger's value-types. In the same year,

Maller and Glasser (1939) designed an Interest-Values Inventory for the measurement of interest values. Their work is partly based on the four value-types found by Thurstone (1931) in his factor analysis of the Strong Vocational Interest Blank, and partly on the earlier works of Allport and Vernon and of Lurie. They proposed four value categories; namely, social, economic, theoretical, and aesthetic.

At the turn of the next decade, Wickert (1940) constructed a test to assess personal goal-values. He first surveyed all the available lists of goal-values, and then he classified them into nine values as follows: freedom, helpfulness, new experience, power, recognition, response, security, submission, and workmanship. A year after Wickert's publication of his work, Harding (1941) developed two other assessment instruments of value-types. They are called Value-Type Problemnaire and Value-Type Generalization Test.

All the value scales mentioned above have been influenced directly or indirectly by Spranger who contended that the various types of men could be identified by their dominant values or interests; thus most of the authors of these instruments perceive values as personal goals or interests rather than moral imperatives.

Woodruff (1941), defining value as "any object, idea, condition or activity consciously or unconsciously believed by an individual to have an effect on his well-being or self-realization" (p. 24), constructed a test on personal values. These values are related to the problems of choosing a vocation, a social group, and a place to live (p. 29). The values considered in the test are as follows: money, social position, political power, social service, home life, comfort, religion, security, personal attractiveness,

excitement, friends, intellectual activity. Woodruff's test, the Study of Choice, allows a respondent to react to a series of functional situations and to interpret his own actions in terms of the consequences he would normally secure as a result of his choices.

Woodruff's work has far-reaching influence. His attempt at the ranking of personal values provided in the test is considered to be first in the study of values. Rokeach's Value Survey (1967), to be discussed later in this chapter, is somewhat similar to the Study of Choice.

During the next two decades (1950s and 1960s), a great deal of research was undertaken to upset the generally held thought that because values were based on irrational or inexpressible feelings, they could not be possibly measured by the then available psychometric techniques. However, Thurstone (1954, 1959) believed that it was possible to develop a subjective metric for measuring values, although he admitted that establishing such a metric was not without a problem. He explained:

One of the main requirements of a truly subjective metric is that it shall be entirely independent of all physical measurement. In freeing ourselves completely from physical measurement, we are also free to experiment with esthetic objects and with many other types of stimuli to which there does not correspond any known physical measurement. (1954, p. 47)

In his search for a subjective metric that was "entirely independent of all physical measurement, he failed to clearly differentiate the "subjective" from the "overt behavior". As Handy (1970) has pointed out, in Thurstone's examples of "subjective" measurement, what he actually investigated was "overt behavior" (pp. 49-50). Though Thurstone did not give an accurate description of what he was

actually doing, the method he used for the development of the subjective metric "shows one way of assigning numbers to things that may turn out to be quite useful in predicting certain types of behavior" (Handy, 1970, p. 53).

While Thurstone was attempting to establish the subjective metric, Catton (1954) in challenging the assumption that values are not quantitatively measurable attempted to develop techniques that could be used for measuring human values. Consequently, he devised three methods: choosing between paired alternatives, selecting the most infinite value, and rating values according to their importance, that is, to elicit the ultimate values. His methods were found workable and useful.

Despite these breakthroughs, many psychologists were still tempted to avoid the study of values because they were conceived as deep and irrational forces. They were resistant to manipulation in laboratory experiments and thus could not be empirically investigated (Robinson and Shaver, 1969). However, this problem was resolved to a great extent by the recent work of Rokeach (1968).

In his book Beliefs, Attitudes, and Values (1968), Rokeach indicates deep dissatisfaction with conventional social psychology because he feels that a great number of experimental findings on attitude change actually have little to do with attitude change. He thus proposed to shift the main focus in social psychology from the study of attitude change to value organization and change. He makes clear-cut conceptional distinction between attitude and value (see Rokeach, 1968, pp. 159-160). He defines values as enduring beliefs (1973, p. 5). Though he differentiates values from attitudes, he

nevertheless emphasizes that beliefs, attitudes, and values form a functionally integrated cognitive system (1968, p. xii).

Rokeach (1968) points out that beliefs as values may refer either to means (modes of conduct) or to ends (end-states of existence). He therefore distinguishes between instrumental values (values referring to modes of conduct) and terminal values (values referring to end-states of existence). Instrumental values encompass such concepts as love, courage, obedience and honesty, and terminal values include such concepts as equality, freedom, happiness and salvation.

In the Value Survey (1967) developed by Rokeach, there are eighteen instrumental values and eighteen terminal values. Respondents are to arrange the two sets of values in the order of their importance as guiding principles for their lives. Then the values are ranked, and information concerning their relative importance can be provided by comparing them to a standard set of other values. It should be noted that the values in the test are "ipsative", that is, the importance of each value is expressed in relation to the importance of the other values on the list. Thus a value ranked low on the list does not mean that it is unimportant, but less important than the other values on the list (Feather, 1975, p. 21).

The conceptualization of values poses another problem for the study of values. As it has been noted earlier, values mean different things to different people. This term is inclusive of anything from utilities in decision theory (Becker & McClintock, 1967) to preferred ways of life (Morris, 1956). In their attempts to define the term "values", many theorists endeavor to make distinction

between values and other psychological constructs. Williams (1968) and Kluckhohn (1951) attempt to distinguish values from needs and drives; Fishbein (1968), Rokeach (1968), and Kluckhohn (1951), attitudes; Williams (1968), motives and norms. Attempts have also been made to distinguish values from beliefs (Kluckhohn, 1951). However, it is difficult to draw any distinction between the two constructs because many value theorists like Rokeach (1968) and Harvey (1970), perceive both values and beliefs as having the three basic components: the cognitive, affective, and conative. Even with the distinctions made between values and other constructs, ambiguity and overlapping are common.

Though many definitions have been provided, the ambiguous meaning of values continues to pose a problem. However, this problem was partly surmounted by Adler (1956) who outlined four approaches in defining values: (1) values as absolute or eternal ideas; (2) values as the objects that can satisfy needs and desires; (3) values as the preference held by people; and (4) values as revealed by the action or the behavior of people.

In addition to the conceptual and theoretical work on values cited above, other value theorists have suggested differentiating between instrumental and terminal values (Rokeach, 1974); implicit and explicit values (Kluckhohn, 1951); operative, conceived, and objective values (Morris, 1956; Rogers, 1974); intrinsic and extrinsic values (Baier, 1969; Greenstein, 1972; Rescher, 1969); and traditional and emergent values (Spindler, 1955).

These different approaches in classifying values have broad implications for the measuring of values. Most of the instruments

developed during the 1950s and 1960s can be categorized into three major groups.

1. Instruments that measure values as what is desired. For example: Study of Values (Allport, Vernon, & Lindzey, 1960); Survey of Interpersonal Values (Gordon, 1960); and Test of Value Activities (Shorr, 1953).

2. Instruments that measure values as what ought to be desired. For example: Personal Value Scales (Scott, 1965); Value Profile (Bales & Couch, 1969); Changes in Moral Values (Retting & Pasamanick, 1959); and Inventory of Values (Ewell, 1954).

3. Instruments that are based on a mixed conception of values. For example: Value Survey (Rokeach, 1968); Way to Live (Morris, 1956); and Variations in Value Orientations (Kluckhohn & Strodtbeck, 1961).

Though the instruments vary, most of them are constructed around the six different kinds of values or interests in personality proposed by Spranger (1928), and the most widely used instrument for the study of values has been the Allport-Vernon-Lindzey Study of Values. It is this instrument that has been adopted for the present study.

Values and Behavior of Teachers

From the literature reviewed thus far, it is evident that though the term values has been variously defined and the study of values has been approached differently, it is generally recognized that the behavior of an individual is influenced by his values (Kluckhohn, 1951; Raths, Harmin, & Simon, 1966; Rescher, 1967;

Rokeach, 1968; Sjogren, England, & Meltzer, 1969; Superka, 1974; and Williams, 1967). Walker (1969) has even conceived values as "the foundation and framework on which man builds his behavior" (p. 25).

Though values influence behavior, studies have not revealed the extent to which behavior is "caused" by values, and the kind of behavior that is most indicative of one's values. The relationship between values and behavior is both intricate and inconclusive. In the study of values as they are manifested in behavior, Lee (1959) observes that, "we can speak about human values, but we cannot know them directly. We infer them through their expression in behavior" (p. 165). And Williams (1967), recognizing that not all behavior is caused by values, cautions that "values are manifest in human behavior, but not all behavior shows forth values" (p. 23).

There is no paucity as to the studies that have been conducted to investigate the relationship between values and behavior. However, for the purpose of the present study, only those researches conducted on teachers by using the Study of Values are reviewed. Exceptions to this stipulation are the works of Duffy (1940) and Dukes (1955) which review the investigations employing the Study of Values between 1933 and 1940, 1941 and 1954, respectively.

In Duffy's (1940) review, it is pointed out that persons of different sex and in different occupations possess different values. Men hold higher Theoretical, Economic, and Political values, while women hold higher Aesthetic, Social, and Religious values. Individuals in the sciences have higher Theoretical values; those in artistic fields, higher Aesthetic values; and those in business, higher Economic values. Dukes' review fifteen years later confirmed the

above general conclusions.

Data which resulted from later studies tend to support, though in varying degrees, the conclusions of the above reviews. Scamell's (1974) study on the personality characteristics and value interests of elementary art teachers indicated that though the personality characteristics of elementary art teachers are similar to those of elementary classroom teachers, they are different, however, in their values. Art teachers showed higher Aesthetic values than classroom teachers in general.

Schutte (1967) examined the values, needs, and personality traits of in-service typewriting and shorthand teachers. One of the purposes of her study was to determine if personality differences exist between teachers when their personal factors such sex, age, and highest degree earned are considered. Her study showed that male teachers had higher Economic and Political values than female teachers, while female teachers possessed higher Aesthetic values than male teachers. Teachers that were forty-one years or younger held higher values in Economic and Political than the older teachers (41 and over), who in turn held higher Religious values than the younger teachers. While teachers with Bachelor's degrees held higher Economic values than teachers with Master's degrees, teachers with Master's degrees held higher Religious values than teachers with Bachelor's degrees.

In his study of 261 randomly chosen home-economics teachers from the state of Pennsylvania, Murray (1968) attempted to determine if teachers' level of self-actualization and social values would affect students' perception of the teachers' concern. The findings revealed that self-actualizing teachers and teachers with high Social

values were perceived by their students as more concerned than non-self-actualizing teachers and teachers with low Social values. However, such factors as the age and years of experience of teachers were not related to self-actualization, Social values, and student perception of teachers.

Using the Study of Values and other instruments, Bridgman (1967) investigated teacher characteristics and their relationships with behavioral patterns and teaching effectiveness. His findings indicated that authoritarian teachers held high Economic and low Aesthetic values and were rated low on performance. While secondary male teachers expressed high Theoretical value, very young and older female teachers held high Aesthetic values. Generally, female teachers hold higher Social values and male teachers expressed higher Political values.

In a study on teachers' values and their behavioral patterns, Briggs (1966) found that there was a relationship between teaching behavior styles and dominant personality interests expressed as values. The findings revealed that women who demonstrated an understanding, friendly pattern of teacher behavior scored significantly higher on the Social scale of the Study of Values than women who showed a systematic, achievement-oriented pattern of teacher behavior.

Bowie (1957), in his research on the relationship between teachers' personal values and their verbal behavior, concluded that there were significant differences in verbal response among teachers having different value patterns. His findings revealed that teachers with a high Religious-value pattern tended to make more supportive statements than teachers with a high Political-value pattern.

Teachers with a high Social-value pattern tended to emphasize school rules and regulations and social expectations to a greater degree than teachers with a high Economic-value pattern and teachers with a high Political-value pattern, respectively.

Nichols (1969) studied the personal values of teachers in relation to their success. Though it was found that values generally had no significant relationship to the ratings of teacher success, teachers with high Aesthetic values were distinguished by their verbal competence and effective communication in the classroom and were viewed by their supervisors as possessing personal traits and qualities desirable for good and competent teachers. The study also indicated that secondary classroom teachers were essentially alike in their values despite their differences in academic achievements and years of teaching experience.

According to the studies reviewed in relation to values and behavior, it was found that teacher behavior is related to teachers' values. Teachers who had high Religious and Social values were perceived to be supportive and interested in their students. They tended to demonstrate an understanding and friendly pattern of behavior. Though values, as measured by the Study of Values scale, were generally unrelated to the rating of teacher effectiveness, teachers with high Aesthetic values excelled in verbal competence and effective communication in the classrooms.

Leadership

In reviewing the literature on leadership, it is apparent that "there are nearly as many definitions of leadership as there are

leadership theories--almost as many as there are theorists" (Fiedler & Chemers, 1974, p. 362). Current literature refers to a variety of different concepts when the terms "leadership" and "leader" are used. Their meanings can range from the exercise of authority and the making of decision (Dubin, 1951, p. 195) to "the process of influencing group activities toward goal setting and goal achievement" (Stogdill, 1948, p. 35). The term "leader" can refer to someone "who succeeds in getting others to follow him" (Cowley, 1928, p. 154) or an "individual in the group who has the task of directing and coordinating task-relevant group activities" (Fiedler & Chemers, 1974, p. 363). Doll (1972) points out that there are three elements that contributed to the differences and confusions in the meaning of leadership. They include: "(1) a continuing investigation of its meaning; (2) the varying perceptions of leadership and leaders which people hold; and (3) different leadership styles which appear in practice" (p. 17).

According to Jennings (1960), the word "leadership" has been derived from the verb "to act" (p. 3). It can be traced to the Greek verbs archein, meaning to begin, to lead, and to rule, and prattein, meaning to pass through, to achieve, and to finish. These two terms correspond to the Latin verbs agere and gerere which mean to set into motion and to bear, respectively. Therefore, the act of leadership is divided into two parts: (1) the beginning, made by a single person, and (2) the achievement, performed by others who "bearing" and "finishing" the enterprise, see it through.

Though the terms "leader" and "leadership" have many definitions, the approaches to their study are relatively few. As Lipham

stated, "Major themes in the study of leadership may be traced historically according to the great man, traitist, situational, and behavioral approaches" (Cited in Cunningham & Gehart, 1973, p. 2). In the present review of the literature, the above approaches are followed.

The Great Man Theory

The great man theory is the parent of leadership studies (Jennings, 1960, p. 3). As Lipham has pointed out, "much of the early literature on leadership was characterized by analysis of the lives of great man" (Cited in Cunningham & Gehart, 1973, p. 2). For this theory, the study of leadership was based on the leader as a person. It stressed the values of studying and emulating the lives of past leaders. For centuries it was thought that leaders were born, not made; and leadership was a monopoly of the aristocracy (Ross & Hendry, 1957, p. 18). As Gouldner (1950) observed, "the conditions which permitted an individual to become or remain a leader were often assumed to be qualities of the individual" (p. 21). Thus, the core of the great man theory was the belief that "it was men of a distinctive stamp, predestined by their possession on unusual traits, who led events and molded situation" (Ross & Hendry, 1957, p. 18).

One of the earliest writers on the great man theory was Woods (1913) who, having been influenced by Galton's (1870) study of the hereditary background of great men, attempted to explain leadership on the basis of inheritance. His studies covered fourteen nations over a period of five to ten centuries. It was found that the ruler's capabilities determined the conditions of his reign. Even the king's

brothers tended to become men of power and influence as a result of their natural endowment. Woods (1913) concluded that nations are made and shaped according to their rulers' capabilities.

Wiggam (1931), following the principle of the survival of the fittest, proposed that the intermarriage between the fittests would produce a biologically superior class of aristocrats. He saw the possibility of supplying sufficient able leaders through high birth rate among the superior classes. Dowd (1936), who rejected the idea of leadership by the masses, identified the unique qualities of leaders as intelligence, energy, and moral force.

The Trait Theory

The traitist approach to the study of leadership grew out of the great man theory. It was based on the assumption that "if the leader is endowed with superior qualities that differentiate him from his followers, it should be possible to identify these qualities" (Stogdill, 1974, p. 17). Thus, to discover "personality traits uniquely and invariably associated with leadership" was the main thrust of this approach.

According to Gouldner (1950) it was the qualities of a person that permitted him to become or remain a leader and these qualities were believed to be located in the leader. Therefore, leadership could be explained in terms of the traits possessed by the leader. Most of the studies undertaken under the banner of this school of thought were attempts to characterize leader's traits or personality. As Ross and Hendry (1957) had observed,

Some sought a unitary leadership trait capable of characterizing leaders wherever found. Others looked for a constellation of traits constituting general leadership capacity.

Still others hoped to uncover traits whether of temperament, disposition, or aptitude that would prove invariably to be associated with certain occupations involving leadership functions. (p. 18)

Some of the earlier works on trait theory were done by army psychologists in World War I. Miller (1920) maintained that the outstanding military leaders had a personality structure that were characterized by self-control, assiduity, common sense, justice, enthusiasm, judgment, tact, perserverance, courage, faith, loyalty, etc. Munson's (1921) list of general leadership traits included personality, manner, use of language, tact, cheerfulness, courtesy, justice, and discipline. Though the trait lists of Miller and Munson were far from exhaustive, the work done in the development of selection and classification tests paved the way for further research on the traits of leaders.

One of the earliest surveys of literature on leadership traits was made by Bird in 1940. Among the seventy-nine traits mentioned in twenty different studies he analyzed, Bird (1940) found that only four (5%) of the traits (extroverted, humor, intelligent, and initiative) appeared in four or more investigations. Jenkins (1947) reviewed seventy-four studies connected with recent developments in leadership methodology as related to military situations. His findings showed that patterns of leadership traits differed with the situations, and there was little agreement as to the special traits that characterized leaders. However, leaders did show some superiority over followers in one or more of a wide variety of abilities.

The most comprehensive surveys of literature on the trait theory were made by Stogdill in 1948 and 1970. Among the most commonly identified leadership traits reported by Stogdill were the

following: (1) physical characteristics--energy, age, appearance, and height; (2) social background--education and social status; (3) intelligence; (4) personality--dominance, emotional balance, originality, and self-confidence; (5) task-related characteristics--achievement drive, desire to excel, drive for responsibility, and responsible in pursuit of objectives; and (6) social characteristics--administrative ability, sociability, interpersonal skills, and social participation (1974, pp. 72-82).

In comparing his survey of 1948 with that of 1970, Stogdill (1974) concluded that the clusters of characteristics listed above differentiate "(1) leaders from followers, (2) effective from ineffective leaders, and (3) higher echelon from lower echelon leaders" (p. 81). However, he cautioned that these characteristics, considered singly, "hold little diagnostic or predictive significance"; but "in combination, it would appear that they interact to generate personality dynamics advantages to the person seeking the responsibilities of leadership" (pp. 81-82).

The traitist approach to leadership study has been criticized for its inadequacies. Gibb (1968) observed that even the most discerning study of the relation between personality traits and leadership failed to find any consistent pattern of traits that characterized leaders specifically. He attributed this failure to the deficiencies in research methodology--inadequate personality description and measurement, the failure to study on a large sample of similar groups, the inability to control situational factors which may sometimes override personality factors, and the failure to focus on particular leadership role (pp. 227-228). Gouldner (1958) has

summarized the problem of the traitist theory as follows:

That a leader is involved in a network of relationships with other individuals who, together with him, comprise a group, is a consideration that full implications of which elude these trait-analysts. (p. 76)

Thus, from the studies relating personality traits to leadership, the most important finding was that the correlation between personalities and leadership was too small to be practicable in utilizing any of these measures as predictors of leadership (Mann, 1959; Stogdill, 1948, 1974), and the most important single conclusion was that "the leader's abilities and aptitudes or his background tended to be related to the particular and specific goals the group was trying to achieve" (Fiedler & Chemer, 1974, pp. 365-366).

The Situational Theory

The failure of the traitist approach in the study of leadership gave rise to a new set of researchers who came to the realization that leaders do not function in a vacuum. They asserted that what leaders do is influenced greatly by the situation in which they function. As Hemphill (1949) has clearly stated in his important situational study:

The study stems from a common observation, namely, that what an individual actually does when acting as a leader is in large part dependent upon characteristics of the situation in which he functions. (p. v)

Early situational theorists held that the emergence of a leader was a result of time, place, and circumstance (Hocking, 1924; Mumford, 1909). Underlying this approach to leadership study was the assumption that situational study can provide a way for leaders to become more effective by predicting their behavior (Jones, 1974,

p. 147). Bogardus (1958) has pointed out that situations possess predictable factors which can be studied and controlled as long as they repeat themselves (pp. 62-63). Thus this approach showed how leadership involves both analysis or study and skill or control.

Gibb (1968, vol. 4, p. 246) identified four categories of behavioral determinants in the situational approach: (1) the structure of interpersonal relations within a group; (2) group characteristics; (3) characteristics of the total culture in which the group exists and from which group members have been drawn; and (4) the physical conditions and the task with which the group is confronted.

Many methods have been employed in an attempt to discover both the situational factors that affect leadership and the way they affect it. According to most situational theorists, "leadership is always relative to the situation" (Gibb, 1968, vol. 4, p. 246). Thus leadership which succeeds in one situation may not necessarily be successful in another. For example, Flanagan's (1949) study found that naval officers rated highly at sea are not always given good efficiency ratings ashore; and officer trainees judged good while in school are not necessarily judged favorably in combat. Doll (1972, p. 16) summarized the reasons for the relativity of leadership to situation: (1) each situation has in it a particular structure of interpersonal relations; (2) the organization within which the leader works is special and different; (3) tasks to be performed are peculiar or particularized; and (4) the whole culture within which the work is to be done has its own characteristics.

Case (1933) maintained that leadership is the production of the conjuncture of (1) the personality traits of the leader; (2) the

nature of the group and of its members; and (3) the events or situation confronting the group. However, "given a stable set of leadership traits, the traits would have to 'bend' to meet differences in situations" (Doll, 1972, p. 16). But, how could this be done?

This raises the question that confronts situational theorists: "What kind of leadership is required for what kind of situation?" In an effort to solve this problem, a "contingency model" in leadership study emerged. This model attempts to deal with the problem by (1) classifying personality traits of the leader; (2) classifying leadership situations; and (3) matching a particular style of leadership to a particular leadership situation (Fiedler & Chemers, 1974, p. 373).

The contingency model was developed by Fiedler (1967) who believes that the adaptive leadership style is a more realistic approach to the study of leadership. This model suggests that the performance of a group is contingent upon "the appropriate matching of leadership style and the degree of favorableness of the group situation for the leader" and, therefore, can be improved either by "modifying the leader's style or by modifying the group-task situation" (Fiedler, 1967, p. 151).

There are two basic leadership styles in this model: a relations-oriented and a task-oriented approach. In attempting to determine what style of leadership would be most effective, Fiedler (1972) discriminates between the permissive leaders who tend to be considerate and foster good interpersonal relationship among group members, and the directive leaders who tend to be controlling, being more oriented toward the task than toward people (pp. 391-412).

Having spent more than two decades in his research which

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involved hundreds of groups, Fiedler was able to predict the kind of leadership styles that would work most effectively in most situations (Hellriegel & Slocum, 1974, p. 343). The model was tested in the studies of Hunt (1967), Hill (1969), Fiedler, O'Brien, and Ilgen (1969). Results showed that the theory has high predictability. Other experiments and controlled field studies conducted by Mitchell (1970), Chemers and Skrzypek (1972) further tested the model and found it valid.

However, there have been reported findings that are inconsistent with those obtained by Fiedler (Hellriegel & Slocum, 1974, p. 345). While some researchers have criticized Fiedler's research methodology and his interpretation of the LPC (Least Preferred Co-worker) score (Graen, Orvis, & Alvares, 1971), the situation defined by Fiedler is not independent of the leader's style (Stinson & Tracy, 1972). It is possible for the leader to change the task's structure for his followers and to moderate the leader-followers relationships through a particular leadership style. Therefore, the situation must not be interpreted as a fixed environment in which the leader must work, but, the leader, to some extent, can develop the situation in which his style of leadership is most effective (Hellriegel & Slocum, 1974, p. 345).

In the contingency model, Fiedler has presented a theory of leadership which takes into consideration the leader's personality, the task to be done, as well as the behavioral characteristics of the group which the leader must influence, and thus provided a conceptual foundation for research in leadership style (see Gibson, Ivancevich, & Donnelly, Jr., 1973). Having conducted numerous studies

over two decades, he arrived at the following conclusions concerning situational factors and their influence on leadership.

1. Group effectiveness is contingent on the appropriateness of the leader's style for the situation

2. The appropriateness of the leader's style depends on the degree to which the group situation allows the leader to exert an influence

3. Because leadership style is difficult to change, it is better to change the work situational variables. (See Lashbrook & Lashbrook, 1972, p. 6.)

It is evident that these conclusions emphasized the importance of leader behavior which is influenced by the situation in which the leader finds himself and one in which he must function. Thus, from the situational theory, there grew out another widely accepted theory in the study of leadership--that of leader behavior.

The Behavioral Theory

Since the behavior of leaders is influenced by situational factors, it is logical that the study of leader behavior should occupy a prominent part in leadership research. As Halpin (1969) has stated:

We will greatly increase our understanding of leadership phenomena if we abandon the notion of leadership as trait and concentrate instead upon an analysis of the behavior of leader. (p. 287)

The behavioral approach to the study of leadership focuses on what a leader does and how he does it; in other words, his action and style. Theories of leadership in this approach are based on the thesis that behavior patterns make up leadership. A number of

empirical approaches have been used to describe leadership behavior.

Preston (1948) used Flanagan's (1949) technique to identify "critical requirements" of successful leaders. In his studies, 640 air force officers whose ranks and jobs differed widely were interviewed and asked to describe "critical incidents" for the purpose of showing their leadership behavior in various circumstances. By classifying these incidents, six categories of leadership behavior were identified:

1. Supervising personnel
2. Planning, initiating, and directing action
3. Handling administrative details
4. Accepting personal responsibility
5. Showing group cohesion and loyalty to the organization
6. Performing professional or technical speciality (Fiedler & Chemers, 1974, p. 368.)

Carter's (1953, p. 16) study identified three main factors of leadership behavior: (1) group goal facilitation--efficiency, insight, and cooperation; (2) individual prominence--influence, aggressiveness, leadership, initiative, confidence; and (3) group sociability--striving for group acceptance, cooperation, and adaptability.

Two different methods are generally employed to classify leadership styles, using leadership behavior as the focus. The first method is based on the assumption that the most important factor in the leader-follower relations is how the leader uses his authority or position power. The second method approaches leadership in terms of the concern of the leader for people or for productivity (Carlisle, 1976, p. 472).

Leadership styles are based on the use of authority. In 1939 Lewin, Lippitt, and White conducted leadership studies based on three different styles. They labelled the leadership styles as autocratic, democratic, and laissez faire. (See Stogdill, 1974, pp. 63-64; White & Lippitt, 1967, pp. 318-336.) The autocratic leader provides direction, determines all policy, dictates the methods and stages of goal attainment, seeks obedience, and relies on authority to get work done. The democratic leader encourages group members to be involved in determining policy, seeks ideas and suggestions from members that will foster goal attainment, and gives members the freedom to initiate their own tasks and interactions. The laissez-faire leader usually provides no direction but gives group members complete freedom of action (Stogdill, 1974, pp. 63-64).

According to Lippitt's (1940) reports on the above studies, the groups under autocratic leadership were submissive to the leader, demanding attention and approval. The groups led by a democratic leader tended to increase the freedom of action of members. Consequently, they exhibited less tension and hostility and more cohesiveness and endurance than the autocratic groups. The groups under laissez-faire leadership were found to be less well organized, less efficient, and members were less satisfied than the groups that were led by democratic leaders.

Subsequent researches by Foa (1957), Ley (1966), and Vroom and Mann (1960) further clarified the characteristics of autocratic, democratic, and laissez-faire leadership styles, and their findings were summarized by Stodgill (1974, p. 370): (1) democratic leadership style does not surpass autocratic style in productivity but in member

satisfaction, and (2) satisfaction with leadership varies with the size and composition of the group. Democratic leadership engenders high satisfaction in small, interaction-oriented groups and autocratic in large, task-oriented groups.

The review of selected leadership studies indicated that leadership concepts tend to fall into two categories: concern for people and concern for tasks or production. However, these concepts have been labelled differently by various theorists. For example: benevolent autocrat and democrat (McMurry, 1958), boss-centered and subordinate-centered (Tannenbaum & Schmidt, 1958), concern for production and concern for people (Blake & Mouton, 1964), job-centered and employee-centered (Likert, 1961), consideration and initiating structure (Hemphill, 1950), group maintenance functions and goal achievement functions (Cartwright & Zander, 1960), and employee orientation and production orientation (Katz, Maccoby, & Morse, 1950).

Many studies on leadership behavior have been conducted in the last three decades. The most prominent centers for this scientific investigation are situated at the University of Michigan and Ohio State University campuses.

Beginning 1947, Likert and his associates at the Institute for Social Research at the University of Michigan conducted empirical studies of leadership behavior in industry, hospitals, and government (Likert, 1961). Leaders involved in the investigations were classified as being either job-centered or employee-centered. According to Likert (1961), job-centered leader structures the work of his subordinates, supervises the performance of assigned tasks, utilizes incentives to encourage higher production. Conversely, an

employee-centered leader emphasizes the human aspects of the subordinates, aims to establish favorable interpersonal relations, and builds work group with high performance goals.

The findings of Likert's studies showed that leadership styles influence such end-result variables as production, absenteeism, turnover, and attitudes. Based on these findings, he has concluded that employee-centered leadership fosters more favorable end-results. He therefore recommended that supportive employee-centered leadership be utilized wherever and whenever possible.

The most extensive investigations on leadership leading to the identification of two dimensions of leadership behavior--"Consideration" and "Initiating Structure"--were conducted at Ohio State University beginning in 1945. (See Stogdill & Coons, 1957; Fleishman & Hunt, 1973.) The identification of the two variables was the result of a major research effort in which Hemphill (1950) obtained ratings of leadership behavior on over 1,800 items. An analysis of these description items isolated two factors--Consideration and Initiating Structure--that accounted for most of the variance in leader behavior. Fleishman (1969) explained the two factors as follows:

Consideration. Reflects the extent to which an individual is likely to have job relations with subordinates characterized by mutual trust, respect for their ideas, consideration of their feelings, and a certain warmth between the individual and them.

Structure. Reflects the extent to which an individual is likely to define and structure his or her own role and those of subordinates toward goal attainment. (p. 1)

These two dimensions of leadership behavior have been widely used by behavioral science researchers in their investigations of leadership. Hemphill (1955), Hastings (1964), Hemphill, Seigel, and

Westie (1951), and Christner and Hemphill (1955) reported in their studies that both Consideration and Structure were positively related to group cohesiveness. Gekoski (1952) and Halpin (1954) found that Structure, but not Consideration, was significantly related to group effectiveness and productivity.

Other studies conducted by Fleishman (1957), Halpin (1957a), and Stogdill (1965) seemed to indicate that while group productivity was more highly related to Structure, member satisfaction was more highly related to Consideration. Group cohesiveness was about equally often related to Consideration and Structure. "The most effective leaders tend to be described high on both scales" (Stogdill, 1974, p. 397).

For the present study the Consideration versus Initiating Structure approach to the study of leadership styles was adopted.

Educational Studies on Leadership Styles of Teachers

Though few in number, teacher leadership styles have also been researched. Besides using the Consideration versus Initiating Structure approach, some of the studies have been conducted under such theories as directive versus non-directive teaching, student-centered versus teacher-centered, and democratic versus authoritarian teaching. All these approaches in the study of teacher leadership styles were basically the same in idea but varied considerably in their operational definitions. For instance, Initiating Structure is similar to teacher-centered instruction, just as Consideration is to student-centered teaching.

In general, teacher-centered leadership in a classroom was

characterized by a teacher who has sole control of class activities, who does most, if not all, of the planning, communicating, organizing, and evaluating in the course. On the other hand, student-centered leadership endeavored to focus all activities on the needs, interests, and problems of students. It encouraged students to participate actively in all aspects of learning activities.

Several studies have been conducted to investigate the effects of teacher-centered and student-centered teaching styles in classroom settings. Asch (1951) studied the effect of teacher leadership styles on intellectual, social, and emotional growth of students. In the experiment, students of four sections in general psychology course were divided into experimental and control groups. Students of both groups were matched according to their intelligence and previous grade average. While non-directive teaching style was used for the experimental group, directive teaching style was applied to the control group. While students of the directive class achieved superior results on the final examination, students of the non-directive class showed significant improvement in emotional growth. However, there was no significant difference in social attitudes between the two groups. Asch's (1951) interpretation of the findings was "that the non-directive class gained a better understanding of the unity of man's behavior and that the control group learned more unrelated details" (p. 21).

A similar study to that of Asch's was conducted by Haigh and Schmidt (1956) who used the student-centered and teacher-centered approach in their experiment. However, in this experiment students were allowed to choose the method of instruction. The control group

of fifty-five students was taught by a teacher using a teacher-centered style of instruction. An equal number of students in the experimental group was taught by one instructor and two graduate assistants using the student-centered style of instruction. These two groups of students displayed no significant differences with respect to age, sex, aptitude, academic achievement, or knowledge in psychology. At the end of the experiment, the standardized Horrocks-Troyer Test was administered to the students. The results indicated that no significant difference was found between the two groups in learning subject matter in Child and Adolescent Psychology.

Besides such factors as grading systems and the use of graduate assistants, the discrepancies between the findings of Asch (1951) and Haigh and Schmidt (1956) are attributed to the fact that the "advantage of the teacher-centered method is nullified when students are permitted to choose the type of method they prefer" (Haigh & Schmidt, 1956, p. 295).

Rasmussen (1956) conducted a study similar to that of Haigh and Schmidt (1956). The purpose of his study was to investigate the effectiveness of the student-centered and instructor-centered approaches in terms of acquisition as well as application of knowledge. Thirteen classes of students in Child Psychology were involved in the study. Students of each class made the decision on the kind of instructional methods used. Both the student- and instructor-centered classes were taught by the same instructor.

To measure the effectiveness in the acquisition of knowledge, an objective test was mailed to the students six months after the termination of the course. No significant difference was found in

the achievement scores of the two groups. The application of knowledge aspect was measured by using subjective questionnaires administered to the two groups of students, both at the end of the course and six months later. The student-centered classes showed significant gain in attitude change, class attendance, interest, and morale.

The superiority of student-centered teaching was supported in an experiment conducted by Rehage (1951). He worked with students of two eighth-grade social studies classes at the University of Chicago Laboratory School over a period of thirty weeks. In the experimental group in which student-centered teaching style was employed, students and teachers worked out the objectives and the means to achieve them.

The results of the experiment indicated that the student-centered group was superior to the teacher-centered group in their ability to discriminate between reasons that supported their choices of action and those that did not, in their working relationships, and in their developing of an interest in cooperative work.

Jabs (1969) studied forty-three students for the purpose of comparing the effects of Initiating Structure and Consideration leadership on the educational growth of college students in a Child Growth and Development course at Valparaiso University. He found that Initiating Structure was a superior leadership style in teaching subject matter, while Consideration was more effective in fostering personality growth. His findings concur with that of Asch (1951)

Dawson (1970) studied groups of college psychology students. They were taught under four different styles: (1) high Consideration, (2) high Structure, (3) high Consideration and low Structure, and (4) high Structure and low Consideration. It was found that those

students under high Consideration performed best, followed by those who were under high Structure. The poorest performance came from the group that was under low Consideration and high Structure.

In an earlier study conducted in Canada, Greenfield and Andrews (1961), using the Leader Behavior Description Questionnaire, found that both Consideration and Structure of teachers as described by students were positively and significantly related to students' scores on province-wide examinations on academic subjects. Commenting on the study of Greenfield and Andrews, Stogdill (1974) stated that "they produce convincing evidence that the leader behavior of teachers have direct impact on their students' academic achievement" (p. 133).

Studies on Values and Leadership Behavior

Relatively few studies have been conducted in an attempt to determine the relationship between values and leadership behavior. Vaughan (1959) studied the personal values of a class of high school students for the purpose of determining the relationship between values and leadership, values and scholarship, and values and vocational choice. The findings strongly indicated that there was a significant difference between the value area scores of students leaders and the value area scores of those students not elected or appointed to positions of leadership in school activities.

Using the Study of Values and other standardized instruments, Bridgman (1967) investigated teacher characteristics and their relationships with behavior patterns and teaching effectiveness. His findings indicated that Authoritarian teachers held high Economic

and low Aesthetic values and were rated low on performance. Teachers that were less authoritarian had low Economic and Theoretical values. They were found to be more creative and were rated high on performance. It was also found that teachers from church-related schools were the least authoritarian.

In his attempt to determine the relationships between the value orientations, leader behavior, and effectiveness of secondary school principals in middle-size school systems in southern Wisconsin, Hefty (1971) collected the necessary data from thirty-three principals and 311 teachers in thirty-three secondary schools. Principals' value orientations and leader behavior were measured by the Differential Value Inventory and the Leader Behavior Description Questionnaire-Form XII, respectively. He found that principals with more traditional value orientation were perceived by the teachers as (1) having less cordial relations with superiors, (2) being less able to influence superiors, (3) being less motivated to strive for higher position, and (4) being less able to tolerate uncertainty and postponement without anxiety or upset.

Stromberg (1966) explored the relationship between a leader's values and his leader behavior and found that principals with an emergent value orientation were perceived by teachers to be higher both in Structure dimension than principals with a traditional value orientation and in the Consideration dimension than principals with a traditional value orientation. The findings also revealed that the leadership behavior of principals has a stronger relationship with their value orientations than the variables of school organizational level, school size, community type, or the principals' age.

Summary

An overview of the literature that is relevant to the present study has been presented in this chapter. The review was divided into two major sections--values and leadership.

In exploring the related literature on values, it was found that one of the most perplexing problems in studying values was the numerous definitions of the term. What values actually meant was not always clear.

Values were perceived by some writers as something man considered good and desirable, need or need satisfaction, or choice and preference. Others viewed values in terms of beliefs, concepts, or conceptions. Though the term values had been variedly perceived, most value theorists agreed that values influence behavior.

The varying definitions of the term "values" gave rise to many theoretical frameworks that were employed as the bases for different kinds of studies on values. One of the earliest empirical studies on values was conducted by Allport and Vernon. Based on Spranger's concepts of the six major human values--Theoretical, Economic, Aesthetic, Social, Political, and Religious--Allport and Vernon constructed the now widely used instrument, the Study of Values. With the appearance of the Study of Values, other instruments such as the Interest-Values Inventory, Value-Type Problemnaire, Study of Choice, Personal Value Scale, and Value Study have also been developed.

From the many studies on values conducted, it was generally recognized that the behavior of an individual is influenced by his values. However, the relationship between values and behavior is inconclusive. It is not certain as to the extent to which behavior

is "caused" by values or the kind of behavior that is most indicative of one's values. It has been cautioned, however, that though values manifest themselves in human behavior, not all behavior is caused by values.

Many studies have been conducted in an attempt to establish the relationship between values and behavior. Those investigations that employed the Study of Values revealed findings which indicated that teachers' behavioral patterns varied with the values they held. It was found that teachers who held higher Religious and Social values were perceived by their students to be more supportive and more concerned than teachers with lower Religious and Social values. Teachers with high Aesthetic values were marked by their verbal competence and effective communication in the classroom.

A review of the literature on leadership revealed that the term leadership, like values, has many definitions. Its meanings ranged from the exercise of authority to the process of influencing group activities for the setting and achieving of goals.

Though the term leadership has been variously defined, the approaches to its study are relatively few. Among the most common ones are the following: the great man theory, the trait theory, the situational theory, and the behavioral theory.

The great man approach to the study of leadership was the earliest employed. It was characterized by its analysis of the lives of great man. Underlying this great man theory was the belief that it was men with unusual qualities and traits that distinguished them as leaders.

The traitist theory was developed from the great man theory.

Assuming that it is possible to identify the superior qualities that differentiate the leader from his followers, the main thrust of this approach to the study of leadership is to discover the personality traits that are uniquely associated with leadership. However, this approach has been criticized for its inadequacies in research methodology and its failure to find any consistent pattern of traits that characterized leaders specifically.

The failure of the traitist approach gave rise to the situational theory of leadership study. This theory was built on the thesis that the emergence of a leader is the result of time, place, and circumstance. Thus leadership is always relative to the situation. In response to the question, "What kind of leadership is required for what kind of situation," the contingency model was developed. It deals with the problem by classifying leader's personality traits and leadership situation, and by matching a particular style of leadership to a particular leadership situation.

Out of the situational theory emerged the behavioral approach to the study of leadership. This approach focuses on both the words and action of a leader. It is based on the thesis that behavior patterns make up leadership. These behavior patterns can be classified into two categories: concern for people and concern for tasks or production.

The most extensive investigations on leadership, using the behavioral approach, was conducted at Ohio State University. These investigations led to the identification of two dimensions of leadership behavior; namely, Consideration and Initiating Structure. While Consideration leadership style is people-centered, Initiating

Structure is goal-centered.

Many educational studies on leadership styles, using the Consideration and Initiating Structure dimensions, have been conducted. The findings generally indicate that Consideration leadership is effective in promoting personality growth, and Initiating Structure is a superior leadership style in teaching subject matters. It is concluded that the most effective leaders, or teachers, tend to be described high on both the Consideration and Initiating Structure leadership dimensions.

CHAPTER III

METHODOLOGY AND PROCEDURES

Research Design

The present study has been conducted with the purpose of investigating the values and leadership styles of Seventh-day Adventist academy teachers and ascertaining if there is a relationship between them.

There were two sets of dependent variables in this study. The first set consisted of the personal values of the subjects, classified according to the Allport-Vernon-Lindzey Study of Values. They were the Theoretical, Economic, Aesthetic, Social, Political, and Religious values. The second set of dependent variables consisted of the two leadership dimensions, classified by Fleishman as Consideration and Initiating Structure. These value and leadership variables were studied in relation to such independent variables as major area of teaching, sex, age, formal education, teaching experience, and the number of years of schooling in Seventh-day Adventist institutions.

Null Hypotheses

The six hypotheses are restated here in null form for the purpose of statistical analysis.

Hypothesis 1. There is no significant difference among the centroids of Seventh-day Adventist academy Bible, humanities, science, and vocational teachers on the Theoretical, Economic, Aesthetic,

Social, Political, and Religious values as measured by the Study of Values scale.

Hypothesis 2. There is no significant difference among the centroids of Seventh-day Adventist academy teachers on their values, as measured by the Study of Values scale, based on the independent variables of sex, age, highest academic degree held, years of teaching experience, and years of schooling in Seventh-day Adventist institutions.

Hypothesis 3. There is no significant difference among the means of Seventh-day Adventist academy Bible, humanities, science, and vocational teachers on their leadership styles, as measured by the Leader Behavior Description Questionnaire scale.

Hypothesis 4. There is no significant difference among the means of Seventh-day adventist academy teachers on their leadership styles, as measured by the Leader Behavior Description Questionnaire scale, based on the independent variables of sex, age, highest academic degree held, years of teaching experience, and years of schooling in Seventh-day Adventist institutions.

Hypothesis 5. There is no linear combination of the six value scores which yields a significant multiple correlation with the Consideration score over the complete group of subjects.

Hypothesis 6. There is no linear combination of the six value scores which yields a significant multiple correlation with the Initiating Structure score over the complete group of subjects.

Selection of Subjects

For the purpose of this study two groups of subjects were selected. The first group consisted of the teachers of all six

Seventh-day Adventist academies in the state of Michigan. The second group was made up of the students of these academies. The academies included in the study and their locations are as follows:

Adelphian Academy in Holly

Andrews University Academy in Berrien Springs

Battle Creek Academy in Battle Creek

Cedar Lake Academy in Cedar Lake

Frank L. Peterson School in Inkster

Grand Ledge Academy in Grand Ledge

There were four basic categories in the teacher group: (1) Bible teachers, (2) humanities teachers, (3) science teachers, and (4) vocational and other teachers. Teachers that were selected for the study met two requirements. First, they had to be full time teachers in one of the six Seventh-day Adventist academies in Michigan. Second, they had to have taught for at least three months in one of the six academies during the 1977-78 schoolyear during which the Study of Values questionnaire was administered. These requirements were stipulated to ensure the students' familiarity with the teachers, and likewise the teachers' familiarity with the students who were employed in the evaluation of their teachers' leadership styles.

The student group was comprised of the seniors, juniors, and sophomores of the six academies during the 1977-78 school year. Using the Leader Behavior Description Questionnaire, the students evaluated only those teachers that had taught them since the beginning of the 1977-78 schoolyear.

Out of the entire population of 93 teachers and 1,044

students of the six academies, a total of 72 teachers and 694 students met the stipulated requirements and participated in the study.

Instrumentation

In order to obtain the necessary data for statistical analysis, two standardized instruments and a demographic questionnaire were used: (1) The Allport-Vernon-Lindzey Study of Values: a Scale for Measuring the Dominant Interest in Personality, (2) the Leader Behavior Description Questionnaire, developed by Hemphill and Coons, and (3) the Teacher Background Information questionnaire, designed by the researcher.

Study of Values

This instrument was first published in 1931. Continued study by the authors led to two revisions and the publication of a second edition in 1951 and a third edition in 1960. In 1968 a machine-scorable booklet and supplementary high-school norms were developed and made available for the third edition. The 1960 edition was employed for this study.

The Study of Values was designed to measure the relative prominence of six basic interests or motives in personality: the Theoretical, Economic, Aesthetic, Social, Political, and Religious. This classification of values was based on the work of Eduard Spranger, who, in his book Types of Men (1928), defended the view that the personalities of man can be best known through a study of their values or evaluative attitudes.

As it has been pointed out in the test manual (Allport, Vernon, & Lindzey, 1970, p. 8), the instrument does not measure the

absolute strength of each of the six values, but rather their relative strength. Thus a high score on one value can be obtained only if scores of one or more of the other values are correspondingly reduced. It is obvious that this scale does not reveal the total amount of "value energy" or motivation possessed by an individual, but the relative importance of each of the six values in a given personality.

The instrument consists of 120 questions, twenty questions to each value. These questions are based on a variety of familiar situations. There are two sections in the instrument. In section one there are two alternative answers to each of the thirty items. In section two there are four alternative answers to each of the fifteen items.

The Study of Values was designed primarily for use with college students, or with adults who have some college education. The test is self-administered and normally takes twenty minutes to complete.

Two methods were employed to determine the reliability coefficient and to test the internal consistency of the instrument. For the test of reliability, the split-half method was applied. Using the Spearman-Brown product-moment correlation, for a sample group of 100 subjects, the mean reliability coefficient for all six sub-scales was .90. On the test for item analysis, it was shown that each item was positively associated with the total score derived from all the other items in the same category, and all the items were found to hang together consistently. The final item analysis was carried out on 780 college students of both sexes. At the .01 level of

confidence, the positive correlation for each item was found to be significant (Allport, Vernon, & Lindzey, 1970, pp. 9-10).

External validity of the Study of Values, as pointed out by the authors, is based on the evidence that comes from "examining the scores of groups whose characteristics are known" (Allport, Vernon, & Lindzey, 1970, p. 13). For example, women on the average are expected to be more Religious, Social, and Aesthetic than men. Likewise, business students in general are expected to stand relatively high in Economic and Political values. From the tables of norms of various occupational and student groups, it is rather evident that "in nearly all cases the high and low scores correspond well with a prior expectation" (Allport, Vernon, & Lindzey, 1970, pp. 14-15). Information on the extensive external validation of the first edition of the instrument has also been provided in the literature surveys of Cantril and Allport (1933) and Duffy (1940).

The Study of Values has been criticized for its ipsative scoring and the poorly defined nature of values. In spite of these problematic features, it provides "dependable and pertinent information concerning individual cases" when used with cooperative subjects and will continue to be useful as a research device (Hogan, 1972, p. 147). As it is indicated in the Seventh Mental Measurement Yearbook (1972), the Study of Values has been used in approximately 140 doctoral studies.

Permission to use the instrument for the present study was obtained from the Houghton Mifflin Company. However, the researcher was asked by the publisher not to include a copy of the instrument in the dissertation for copyright reasons.

Leader Behavior Description Questionnaire

This instrument was developed by Hemphill and Coons in 1957 for the purpose of measuring supervisors' leadership behavior through the ratings of their subordinates. However, it can be used for describing the behavior of the leader or leaders in any type of group or organization, "provided the followers have had an opportunity to observe the leader in action as a leader of their group" (Stogdill, 1963, p. 1).

This questionnaire provides measures of two independent dimensions of leader behavior which are identified as Consideration and Initiating Structure. They are defined as follows:

Consideration. Reflects the extent to which an individual is likely to have job relations with subordinates characterized by mutual trust, respect for their ideas, consideration of their feelings, and a certain warmth between the individual and them. A high score is indicative of a climate of good rapport and two-way communication. A low score indicates the individual is likely to be more impersonal in relations with group members.

Structure. Reflects the extent to which an individual is likely to define and structure his or her own role and those of subordinates toward goal attainment. A high score on this dimension characterize individuals who play a very active role in directing group activities through planning, communicating information, scheduling, criticizing, trying out new ideas, and so forth. A low score characterizes individuals who are likely to be relatively inactive in giving direction in these ways. (Fleishman, 1969, p. 1)

The question booklet of the instrument contains forty short statements to which the subjects respond by expressing their perception of the leader's behavior. For each item, scoring weights of 0 to 4 correspond to the five choices. Scores on the Consideration and Initiating Structure scales are each based on fifteen items, with the possible scores on each dimension ranging from 0 to 60. Ten

items are not scored. The reason for their retention in the questionnaire is "to keep the conditions of administration comparable to those used in standardizing the questionnaire" (Halpin, 1957, p. 1)

This instrument has been widely used in empirical studies of industrial, military, and educational organizations (Halpin, 1957; Stogdill, 1974). In the field of education, extensive studies have been conducted to investigate the leadership behavior of educational administrators (Halpin, 1955, 1956; Hemphill, 1955) and school teachers (Greenfield & Andrews, 1961). According to the Seventh Mental Measurements Yearbook (1972), more than seventy doctoral dissertations have employed this instrument for various research projects.

The authors of the Leader Behavior Description Questionnaire report a high reliability for the test. By using the split-half method for computation, the estimated reliability is .83 for the Structure scores and .92 for the Consideration scores (Halpin, 1957, p. 1).

The high predictability of the instrument on the leadership behavior of various occupational groups like aircraft commanders, factory foremen, and educational administrators, as reported by Halpin (1954, 1955, 1959), Fleishman, Harris, and Burt (1956), confirmed the claim of the instrument's external validity. In the above studies, the "between vs. within group" analysis of variance was used to examine the agreement among respondents in describing their respective leaders. The F-ratios resulting from the analyses were found to be significant at the .01 level. Thus it was

concluded that "followers tend to agree in describing the same leader, and the descriptions of different leaders differ significantly" (Halpin, 1957, p. 1).

A formal request for the use of the instrument was sent to the Center for Business and Economic Research at the Ohio State University. A general statement of policy regarding the use of the questionnaire was received. According to the policy, the questionnaire can be used for research project without formal request.

The questionnaire is self-administered, and it normally takes ten minutes to complete.

Teacher Background Information Questionnaire

The teacher background information questionnaire (see appendix A) was designed by the researcher for the present study. It was administered to the teachers together with the Study of Values. This one-page questionnaire consists of six items which call for specific responses such as sex and age of the subjects. Each item has two to four alternatives. Respondents are to choose only one alternative in each item. The responses to the questionnaire make up the data for the independent variables used in statistical analysis in the study.

This questionnaire covers six areas of teacher background information. They are: sex, age, highest academic degree held, years of teaching experience, years of schooling in Seventh-day Adventist institutions, and major area of teaching.

Collection of Data

There are six senior academies operated by the Seventh-day

Adventists in Michigan. All of them are under the jurisdiction of the Lake Union Conference of the Seventh-day Adventists. A request for permission to use the staff and students of the academies for the intended study was officially made to the director of education of the Lake Union Conference on November 29, 1977 (see appendix C). Permission having been obtained, an introductory letter was written to the principals of the academies, informing them of the tentative time the researcher intended to visit their schools for the purpose of administering the questionnaires to the teachers and students. From their replies it was found that the most convenient time to visit the various academies ranged from mid January to early February of 1978. A schedule was made according to the information provided.

A second letter was sent to the principals on January 16, 1978 (see appendix C), requesting a list of teachers, the number of students in the sophomore, junior, and senior classes, and the necessary arrangements needed for administering the questionnaires. Again the needed information was provided.

To facilitate the survey process, the researcher visited all the six academies personally. Though a schedule was arranged, the researcher was unable to follow it strictly due to the severe winter weather which forced many schools to close down temporarily or caused many students to be absent from their classes. When these conditions arose, rescheduling was made through phone communication with the principals involved. In spite of the adverse circumstances, the survey was completed by the end of February.

In his visit to each of the academies, the researcher made

it a point to arrive at the campus one day before the survey was to take place. This was arranged to ensure his presence on the day scheduled and to allow him to work out the final details regarding the number of teachers and students who would participate in the study and when and where the questionnaires would be completed.

In the administration of the questionnaires, the Study of Values and teacher background information questionnaire, to the teachers, several approaches were employed according to the prevailing situations in each of the academies during the appointed time for the survey. In one academy, teachers filled out the questionnaires during the regular staff meeting. In another, the principal called for a special meeting after school in order to have the teachers participate in the survey as a group. Teachers of the rest of the academies completed their questionnaires in their offices. All the questionnaires were collected on the spot except those given to teachers absent on the day of administration. These absent teachers (three in all) were assisted by their respective principals who requested them to fill out the questionnaires and return them to the researcher by mail.

As it turned out, all the teachers who met the stipulated requirements participated in the survey. A total of seventy-two questionnaires were received. However, one of them was unusable because the response was incomplete; thus only seventy-one questionnaires were used in the analysis of data.

Six hundred and ninety-four students participating in the survey evaluated their teachers' leadership styles. Questionnaires were administered to them in several settings. In one academy, all

the sophomores, juniors, and seniors assembled in the auditorium during their regular chapel hour to fill out the questionnaires. In another academy the three classes of students met at the same time but in different locations to complete the questionnaires. For the rest of the academies, Bible classes were used for the administration of the questionnaires. The reason for using the Bible classes was that different classes of students attended different Bible classes at different time. All these students had Bible classes on the same day. This enabled the researcher to complete his survey in an academy within one day.

Since the scores on the Leader Behavior Description Questionnaire filled out by the students were based on responses by four to ten students (Halpin, 1957, p. 2), the researcher decided that at least seven students should evaluate one teacher. The questionnaires with coded numbers were randomly distributed to students for evaluation. From the code numbers each student would know the teacher he or she was evaluating by comparing the code number on the questionnaires with the list of teachers' names and their corresponding code numbers.

Students were not required to put their names on the response sheets. This was to ensure their frankness in evaluating their teachers. Their responses to the items in the questionnaires were marked on the computer OpScan sheets provided them. In order to make sure that they understood the items in the questionnaires, the researcher explained to them beforehand the particular usages of such terms as "unit," "organization," "leader," etc., during each session.

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Altogether 694 questionnaires were received from the students. However, four of them were found to be incomplete; thus only 690 questionnaires were used in data analysis.

Statistical Analysis

Together with the demographical questionnaire, two standardized instruments were used in the study. The returned Study of Values questionnaires filled in by the teachers were hand-scored by the researcher. These scores and the demographical information were transferred to key-punch cards by personnel at the Andrews University Computer Center. The completed response sheets, the OpScan cards, filled in by the students in response to the items in the Leader Behavior Description Questionnaire, were translated into a computer file by the OpScan reader at the Computer Center.

The data generated from the responses to the questionnaires on teachers' values and leadership styles are both interval data. Since "the analysis of variance generally uses interval data as criterion variable being analyzed" (Asher, 1976, p. 290), it was deemed appropriate for the present study to use this statistical procedure for analyzing the data on the values and leadership styles of the subjects.

Three statistical methods were employed for examining the data. While one-way multivariate analysis of variance (Cooley & Lohnes, 1971, pp. 223-241) was used to analyze the data on the values of teachers, one-way univariate analysis of variance was employed for treating the data generated from the questionnaires on teachers' leadership styles. To examine the relationships between

the values and leadership styles scores of the subjects, stepwise multiple regression analysis (Kelinger & Pedhazur, 1973, pp. 290-295) was utilized.

To analyze the data on the values of teachers for the first two hypotheses, one-way multivariate analysis of variance was conducted for each of the six comparisons to determine the significance of the differences existing among the group centroids. This particular statistical analysis method was followed for the reason that there were six dependent variables and two to four independent variables in the hypotheses. Rather than comparing the groups one at a time, it was considered more useful to make comparisons with the variables combined in multivariate analysis in order that the effects of the intercorrelation among the variables may be accounted for. For each analysis, a Wilks' lambda value was calculated. This value was converted into an approximate F-ratio. For any comparison yielding a significant F-ratio, two-group or multiple discriminant function analysis (Overall & Klett, 1972, pp. 300-306; see also Tatsuoka, 1970) was used to study the relative importance of the dependent variables in differentiating among the groups. Two-group discriminating function analysis was used for comparisons that yielded significant F-ratio and had only two criterion variables. However, for any comparisons that had more than two criterion variables, yielding a significant F-ratio, multiple discriminant function analysis was applied.

Due to the dependent nature of the six value scores which added up to a constant sum of 240, only five of the six value scores were used in the one-way multivariate analysis of variance in order

to avoid a singular matrix (and the multivariate equivalent of attempting to divide by zero in the univariate case). The Religious value score was omitted in the analysis because it has the least variation among the groups.

For the one-way multivariate analysis of variance, when the probability of F-ratios were greater than that which were desired, no further statistical treatment was necessary. However, when the probability of F-ratios reached significant levels, further probing was necessary to determine wherein the difference lay. For this probing two-group and multiple discriminant function analyses were used.

In using two-group and multiple discriminant function analysis to study the relative importance of the dependent variables in differentiating among the groups whenever any comparison yielded a significant F-ratio, five value scores were used for each analysis in order again to avoid a singular matrix; that is, for each test, six runs were made, so that study could be made of the relative importance of variables in each combination of five out of the six value measures. In order to determine whether the leaving out of a value score would affect the results of each analysis, a table was constructed, giving the summary of all the discriminant analyses that yielded significant Chi-squares. Further, for each analysis, group means on the discriminant function were shown.

To analyze the data on the leadership styles of teachers with respect to hypotheses three and four, one-way univariate analysis of variance was used. Though one-way multivariate analysis of variance would possibly be more useful in comparing the leadership

styles of the various teacher groups, one-way univariate analysis of variance was used instead, taking the two dependent variables--Consideration and Initiating Structure--separately. In order to use a multivariate analysis of variance, two requirements must be met:

(1) the number of treatment groups being compared must be fewer than the number of dependent variables, and (2) the total number of subjects in the study must be at least twice as large as the number of dependent variables (Huck, Cormier, & Bounds, 1974, pp. 190-191).

In the present study of leadership styles, though the second requirement was met, the first requirement could not be followed. There were only two dependent variables, Consideration and Initiating Structure, while there were two to four treatment groups.

Using the Consideration and Initiating Structure dimensions of leadership styles as the dependent variables, one-way univariate analysis of variance was conducted for each of the six comparisons to determine the significance of the differences existing among the group means. Whenever the F-ratios were found to be significant in the comparisons of the leadership scores of three groups or more teachers, Newman-Keuls test (Winer, 1971, pp. 185-195) was applied. This was done to further investigate which of the comparisons on the leadership scale between the teacher groups was significant.

To examine the relationships between the values and leadership styles scores of the subjects, stepwise multiple regression analysis was used. Analyses were conducted to determine if there is a linear combination of the six value scores which yield a significant multiple correlation with the Consideration and Initiating Structure scores, respectively, over the complete group of subjects.

An intercorrelation matrix was first set up for the purpose of examining the Pearson product-moment coefficients of correlation between all pairs of variables in the study. Then, using the Consideration and Initiating Structure as criteria in the multiple regression analyses, multiple correlation coefficients were computed. These coefficients showed how well the independent variables (the six value scores) taken together were able to predict the dependent variables (the two leadership scores).

For all statistical tests, alpha was set at .05.

Summary

In accordance with the purpose of the study, two sets of dependent variables on values and leadership styles and one set of independent variables on the demographical information of teachers were identified. These variables formed the basis for the formulation of the six hypotheses stated in null form in this chapter for the purpose of statistical analysis.

Two groups of subjects were selected for the present study: namely, (1) the full-time teachers of the six Seventh-day Adventist academies in the state of Michigan who have taught at least three months in their respective academies during the 1977-78 schoolyear before the Study of Values was administered to them, and (2) the senior, junior, and sophomore students of the six academies who have studied for at least three months in their respective academies during the 1977-78 schoolyear when the Leader Behavior Description Questionnaire was administered to them. A total of seventy-two teachers and 694 students participated in the study.

In order to obtain the necessary data for the present study, three instruments were employed. The Study of Values was used to measure teachers' response concerning their personal values. The Leader Behavior Description Questionnaire was employed to secure the students' evaluation of their teachers' leadership styles. The teacher background information questionnaire was used to obtain demographical information of the participating teachers. These instruments were administered to the subjects personally by the researcher.

The interval data on teachers' values and leadership styles were treated by employing the analysis of variance statistical procedure. The first two hypotheses were tested by one-way multivariate analysis of variance. For any comparisons yielding significant F-ratios, two-group or multiple discriminant function analysis was used for further probing.

One-way univariate analysis of variance was applied to test hypotheses three and four. When comparisons of the leadership scores of three groups or more teachers were found to be significant, Newman-Keuls test was used for further investigation.

Hypotheses five and six were tested by using stepwise multiple regression analysis. This statistical procedure was followed in order to examine the relationships between the values and leadership styles, and to discover the levels of predictability of teachers' values on their leadership styles.

CHAPTER IV

ANALYSIS OF DATA AND PRESENTATION OF FINDINGS

Results of the statistical analysis and discussion of the findings from the Allport-Vernon-Lindzey Study of Values and the Leader Behavior Description Questionnaire are presented in this chapter.

The major hypothesis of the present research is that a significant relationship exists between the values and leadership styles of Seventh-day Adventist academy teachers. Other hypotheses were set forth in harmony with the corollary purpose of the study which is mainly concerned with the investigation of the possible differences of the teachers' values and leadership styles based on the independent variables of major teaching area, sex, age, highest academic degree held, years of teaching experience, and years of schooling in Seventh-day Adventist institutions.

For the purpose of a logical sequence in data analysis and presentation of the findings, the four hypotheses relating to the corollary purpose of the study are presented first, followed by the last two hypotheses pertaining to the relationship between teachers' values and leadership styles.

In presenting the values and leadership styles of the teachers, the following comparisons were made: (1) major teaching areas--Bible, humanities, science, vocational and other; (2) sex; (3) age--30 and

under, 31 to 40, 41 to 50, and 51 and over; (4) highest academic degree held--Bachelor's, Master's; (5) years of teaching experience--0 to 10, 11 to 20, 21 and over; and (6) years of schooling in Seventh-day Adventist institutions--0 to 6, 7 to 12, and 13 and over.

In the first section of this chapter, the analysis of data with respect to the first two hypotheses are presented. As it was discussed in chapter III, the dependent nature of the six value scores necessitated the use of only five of the six value scores for the one-way multivariate analysis of variance. In each analysis the Religious value score was omitted. Though the Religious value score was not used in the analyses, for the convenience of readers and for the purpose of describing the values of teachers, it was deemed proper to include the score and its mean in each table.

Two-group and multiple discriminant function analysis were employed to study the relative importance of the dependent variables in differentiating among the teacher groups whenever any comparison yielded a significant F-ratio. In order to avoid a singular matrix, only five value scores were used for each analysis.

It should be noted that a multiple discriminant function analysis results in one or more discriminant functions because the maximum number of possible functions is always equal to one less than the number of criterion groups or to the number of predictor variables, whichever of these is smaller. For example, in the present study of values there were four groups of teachers according to their areas of teaching and five predictor variables. Three discriminant functions were provided by computer analysis. However, the various functions do not contribute equally to successful prediction of

between-group variability. The first function provides the maximum possible between-group variance. The second function explains the second largest amount of the between-group variance and so on. Therefore, in the present study only those functions that significantly explained the between-group variance are presented in this chapter.

The second section of the chapter deals with the analysis of data on leadership styles. Tables showing the means of the leadership style scores are used in the presentation of data. The regular format of one-way analysis of variance is followed to show the variables, the between- and within-group mean squares, the degrees of freedom, the F-ratio, and the probability level.

The last section of the chapter concerns itself with the results of testing hypotheses five and six. Findings on the relationships between the values and leadership style scores of the subjects are presented.

Throughout the chapter all numbers have been rounded to two decimal places.

Analysis and Presentation of Data on Values

Hypothesis 1

There is no significant difference among the centroids of Seventh-day Adventist academy Bible, humanities, science, and vocational teachers on the Theoretical, Economic, Aesthetic, Social, Political, and Religious values as measured by the Study of Values scale.

Table 1 presents the value mean scores of the Bible, humanities, science, and vocational teachers. In examining the means,

it is evident that the Religious value scale yielded the highest mean for all the four groups of teachers. All the other values appear to have different relative importance in the various teacher groups. There is a great difference in the variability of scores on

TABLE 1

MEANS AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE VALUE
SCORES OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS
BASED ON MAJOR AREA OF TEACHING

Values	Four Teacher Groups				Total (N=71) Means
	Bible (N=10) Means	Humanities (N=28) Means	Science (N=13) Means	Vocational (N=20) Means	
Theoretical	37.60	33.61	47.42	33.95	36.80
Economic	36.40	35.66	38.92	41.35	37.97
Aesthetic	37.40	43.07	31.19	37.38	38.49
Social	42.60	40.09	38.54	41.20	40.47
Political	38.40	38.07	35.27	37.45	37.43
Religious	47.50	49.50	48.65	48.68	48.83
For test of equality of group centroids				df = 15 & 174	
				F = 6.28	
				p < .0005	

the scales. For example, the highest Religious score is only .67 different from the overall mean score. But the science teachers' Theoretical scale mean is 10.62 greater than the overall Theoretical scale mean.

In the overall group, the means of the value scores ranked as follows: (1) Religious, (2) Social, (3) Aesthetic, (4) Economic, (5) Political, and (6) Theoretical. It is rather evident that, while the differences between most of the value scores are minimal, the Religious score is much greater than the others (apart from the Theoretical score of the science teachers).

One-way multivariate analysis of variance data are also presented in table 1. For the test of equality of group centroids, with 15 and 174 degrees of freedom, it was found that the F-ratio was 6.28, with a probability below .0005. Because there were significant differences in the values scores among the four groups of teachers, the null hypothesis was rejected.

In order to further examine the values scores that were most responsible in differentiating among the four groups of teachers, multiple discriminant function analysis was used. Omitting one value each time, six discriminant function analyses were conducted.

In the first run of the discriminant function analysis program, the Religious value was omitted. Since there were four categories of criterion group variables, a total of three discriminant functions resulted. The significance of a discriminant function is estimated by a procedure yielding an approximate Chi-square.

The first discriminant function was found to be significant ($\chi^2 = 78.12$, $df = 15$, $p < .0005$), and so was the second function ($\chi^2 = 16.65$, $df = 8$, $p < .05$). But the third function was not significant ($p = .32$).

TABLE 2
MULTIPLE DISCRIMINANT FUNCTION ANALYSIS FUNCTION I
WITH RELIGIOUS VALUE OMITTED

Values	Standard Discriminant Function Coefficient
Theoretical	-33.32
Economic	- 8.22
Aesthetic	28.27
Social	10.71
Political	9.40

The standard coefficients for discriminant function I are shown in table 2. It is evident that the predictor variables that contributed the most in discriminating between the four groups of teachers are the Theoretical and Aesthetic values. Figure 1 illustrates the way in which the four groups of teachers are being differentiated by the Theoretical and Aesthetic values. It places the

Fig. 1. Multiple discriminant analysis function I of value sub-scales, separating four groups of teachers classified according to their major area of teaching: omitting Religious value.

teacher groups on a scale in accordance with their means of discriminant function I, and the predictor variables that most discriminated between the groups. The two extreme groups, the science and humanities teachers, which are most discriminated by the Theoretical and Aesthetic values, are placed on a higher plane in order to be distinguished from the other two groups, the Bible and vocational teachers. The numbers below the four teacher groups represent the group means on the discriminant function. The directions of the arrows indicate the

way that the predictors separated the two extreme groups. For example, the arrow representing Theoretical values is directed towards science teachers, thus showing that science teachers have the highest Theoretical values, and humanities teachers, the lowest. It should be noted that only those variables whose weight is at least one-half of the highest weight are used for comparisons. As it is shown in figure 1, the groups of teachers are separated in the following manner: there is a tendency for the science teachers to have higher Theoretical and lower Aesthetic values than the other three groups of teachers, and for the humanities teachers to have lower Theoretical and higher Aesthetic values than the others.

Table 3 shows the standard discriminant function coefficients of the five predictor variables for discriminant function two. As it

TABLE 3
MULTIPLE DISCRIMINANT FUNCTION ANALYSIS FUNCTION II
WITH RELIGIOUS VALUE OMITTED

Values	Standard Discriminant Function Coefficient
Theoretical	- 9.14
Economic	40.35
Aesthetic	- 4.74
Social	18.35
Political	.89

is shown in figure 2, the value that contributed the most in discriminating among the teacher groups was the Economic. It discriminated the most between the vocational and humanities teachers. Vocational teachers are distinguished from the other three groups mainly in that they have higher Economic value.

In the subsequent discriminant analysis runs whose data are included in the appendices (see appendix B), the discriminating

Fig. 2. Multiple discriminant function analysis function II of value sub-scales, separating four groups of teachers classified according to their major area of teaching: omitting Religious value.

factors among the four groups of teachers by teaching areas followed somewhat the same pattern as shown in figures 1 and 2. Table 4 summarizes, for the first discriminant function in each case, the results of the discriminant analyses, with a different value omitted in each run. As it is shown in the table, the two extreme groups

TABLE 4

MULTIPLE DISCRIMINANT FUNCTION ANALYSIS FUNCTION I SUMMARY:
COMPARISONS BY TEACHING AREAS

	Science Teachers (highest)		Humanities Teachers (lowest)	
Value Omitted	Major Discriminant Variables			
Religious	Theoretical (+)	Aesthetic	(-)	
Political	Theoretical (+)			
Social	Theoretical (+)			
Aesthetic	Theoretical (+)	Economic	(+)	Religious (+)
Economic	Aesthetic (-)	Theoretical	(+)	Social (-)
Theoretical	Aesthetic (-)	Social	(-)	Political (-)
				Religious (-)

are consistently the science and humanities teachers. The Theoretical and Aesthetic values are most responsible in discriminating between the groups.

The predictor variables in table 4 are listed in their order of importance, from left to right, according to their discriminating power in each analysis. The positive and negative signs placed besides the variables are indications of their weights pertaining to the two extreme groups. Variables with positive signs are higher for the science teachers and those with negative signs are higher for the humanities teachers.

As it is shown in table 4, the Theoretical and Aesthetic values are the dominating factors in differentiating the groups of teachers. With the Religious value omitted, the major discriminating variables with the Theoretical and Aesthetic values. When the Political and Social values were omitted, Theoretical value became the sole major discriminating variable. The Aesthetic value became the most important discriminating variable, followed by Theoretical and Religious in the analysis wherein Economic value was left out. Theoretical value remained to be the most weighty variable in separating the groups when one of the major discriminating variables, the Aesthetic, was omitted. In this analysis, the Economic and Religious also had some weights in differentiating the groups. In the final analysis, the Theoretical value was omitted. In this case, Aesthetic value became the most important discriminating variable, followed by Social, Political, and Religious values. Consistently, science teachers have higher Theoretical and lower Aesthetic values than the other groups.

Table 5 summarizes, for the second function in each case, the results of the discriminant function analyses, with a different value omitted in each run. As it was shown in figure 2, the prominent predictor variable in differentiating the groups was the Economic values. The two groups that were most widely separated by the Economic value were the humanities and vocational teachers. The vocational teachers tended to have high Economic values. (See appendix B for subsequent discriminant function II analysis summaries.)

TABLE 5

MULTIPLE DISCRIMINANT FUNCTION ANALYSIS FUNCTION II SUMMARY:
COMPARISONS BY TEACHING AREAS

Vocational Teachers (highest)			Humanities Teachers (lowest)	
Value Omitted		Major Discriminating Variables		
Religious	Economic	(+)		
Political	Economic	(+)		
Social	Theoretical	(-)	Aesthetic(-)	Economic (+) Religious(-)
Aesthetic	Economic	(+)	Social (+)	
Economic	Theoretical	(-)	Religious(-)	Aesthetic(-) Political(-)
Theoretical	Economic	(+)	Social (+)	

In the analyses wherein the Religious, Political, Aesthetic, and Theoretical values were omitted, Economic value was the dominant discriminating variable. However, when either the Social or the Economic value was omitted from the analysis, the Theoretical value became the major discriminating variable.

Having examined the one-way multivariate analysis of variance of the value scores of the Bible, humanities, science, and vocational teachers, it was found that significant differences existed among the teachers in their values. Multiple discriminant analysis

function I revealed that Theoretical and Aesthetic values contributed the most in differentiating the humanities teachers from the science teachers. The former had higher Aesthetic values while the latter had higher Theoretical values. The other two groups of teachers were placed between them.

Multiple discriminant analysis function II further explained the teacher group differences in values. The two groups that showed most differences in the Economic and Theoretical values were the vocational and humanities teachers. The vocational teachers had higher Economic and Social values but lower Theoretical and Aesthetic values than the humanities teachers.

Hypothesis 2

There is no significant difference among the centroids of Seventh-day Adventist academy teachers on their values, as measured by the Study of Values scale, based on the independent variables of sex, age, highest academic degree held, years of teaching experience, and years of schooling in Seventh-day Adventist institutions.

There are five comparisons in this hypothesis, namely, (1) two levels of sex, (2) four levels of age, (3) two levels of highest academic degree held, (4) three levels of years of teaching experience, and (5) three levels of years of schooling in Seventh-day Adventist institutions. Each of these comparisons was treated separately.

Comparisons by sex. In table 6 the means of forty-eight male teachers are compared to the means of twenty-three female teachers. The main difference between the means of the two groups are found on the Theoretical and the Aesthetic values. The Theoretical value mean

score of male teachers was 5.36 greater than that of the female teachers whose Aesthetic value mean score was 6.47 higher than that of male teachers. The Economic, Social, and Political mean value scores showed only minor differences. The Religious value mean scores were almost identical for the two groups.

In ranking the value mean scores of the two groups of teachers, it was found that the male and female teachers had a similar ranking for the Religious, Economic, and Political values. While the male

TABLE 6

MEANS AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE VALUE SCORES
OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON SEX

Values	Two Teacher Groups		Total (N=71) Means
	Male (N=48) Means	Female (N=23) Means	
Theoretical	38.53	33.17	36.80
Economic	38.43	37.00	37.97
Aesthetic	36.40	42.87	38.49
Social	39.54	42.41	40.47
Political	38.27	35.67	37.43
Religious	48.81	48.87	48.83
For test of equality of group centroids			df = 5 & 65 F = 6.37 p < .0005

teachers showed higher Theoretical and Political values than the female teachers did, the female teachers indicated higher Aesthetic and Social values than the male teachers. It was of interest to note that the two most important values—the Theoretical and the Aesthetic—that differentiated the two groups of teachers were perceived very differently by the teachers. According to the order of means

in table 6, while the Theoretical value ranked third for male teachers and last for female teachers, the Aesthetic value ranked second for female teachers and last for male teachers.

In table 6 the multivariate analysis of variance is also presented. With 5 and 65 degrees of freedom the analysis yielded an F-ratio of 6.37, which was significant beyond the .0005 level. The null hypothesis, which stated that there was no significant difference between the centroids of academy teachers on their values based on the independent variable of sex, was therefore rejected.

A two-group discriminant function analysis was conducted on the data for the male and female teachers. The dependent nature of the value scores necessitated six analyses, omitting one value score in each analysis. Since there were two criterion groups, there was only one function for each discriminant analysis. Omitting the Religious value, the discriminant function yielded a group mean of 27.34 for male teachers, and 35.66 for female teachers.

The standard discriminant function coefficients for the five values are presented in table 7. With 5 degrees of freedom the

TABLE 7

TWO-GROUP DISCRIMINANT FUNCTION ANALYSIS
WITH RELIGIOUS VALUE OMITTED

Value	Standard Discriminant Function Coefficient
Theoretical	-16.06
Economic	6.49
Aesthetic	39.47
Social	24.39
Political	-16.74

appropriate Chi square was 26.51. The discriminant function was found to be significant at the .0001 level.

Figure 3 shows the scale of the means of the two groups of teachers and the values that contributed the most in differentiating between the groups. The Aesthetic and Social values were the most important predictor variables.

Fig. 3. Two-group discriminant function analysis of value sub-scales, separating two groups of teachers classified according to their sex: omitting Religious value.

Together with the above analysis, the subsequent five analyses have been summarized in table 8. Similar to the discriminant analysis in which Religious value was left out, when either the Political, Economic, or Theoretical value was omitted from the analyses, the Aesthetic value remained to be the most important discriminating variable. Social value was the other major discriminating variable in the above analyses except in the analysis where the Economic value was omitted. Besides the Social value, the Theoretical and Political values also had some weights in separating the two groups.

When either of the two major discriminating variables, the Aesthetic and Social values, of the foregoing analyses was omitted in the

TABLE 8

TWO-GROUP DISCRIMINANT FUNCTION ANALYSIS SUMMARY:
COMPARISONS BY SEX

Value Omitted	Female (highest)				Male (lowest)	
	Major Discriminating Variables					
Religious	Aesthetic	(+)	Social	(+)		
Political	Aesthetic	(+)	Social	(+)		
Social	Theoretical	(-)	Political	(-)	Religious	(+)
Aesthetic	Theoretical	(-)	Political	(-)	Religious	(+)
Economic	Aesthetic	(+)	Theoretical	(-)	Political	(-)
					Social	(+)
Theoretical	Aesthetic	(+)	Social	(+)		

analyses, three values--Theoretical, Political, and Religious--emerged to be the major discriminating variables. (see appendix B for subsequent discriminant function analysis summaries.)

From the foregoing analyses, the multivariate analysis of variance and the two-group discriminant function analysis, it was found that there was a significant difference between the values of male and female teachers of Seventh-day Adventist academies. The most important variables in separating the groups were found to be the Aesthetic and Theoretical values. They were rather consistent throughout the discriminant function analyses as the most important discriminant variables. But other values such as the Social and Political also contributed in differentiating between the groups. As illustrated in table 8, all these values mentioned are rather consistent as a whole in their standings as the major contributing

factors in discriminating between the male and female teachers. In general, the female teachers had higher Aesthetic and Social and lower Theoretical and Political values than the male teachers.

Comparisons by age. Table 9 presents the means and multivariate analysis of variance of the value scores of the four groups of teachers classified according to age. Out of the total of seventy-one teachers nearly half of them (48 percent) fall in the age bracket of 30 and below. Only seventeen teachers (24 percent) are over forty years old. Relatively speaking, the teachers as a whole are considered to be rather young.

TABLE 9

MEANS AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE VALUE SCORES
OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON AGE

Values	Four Teacher Groups				Total (N=71) Means
	30 & below (N=34)	31-40 (N=20)	41-50 (N=9)	51 & above (N=8)	
	Means	Means	Means	Means	
Theoretical	36.06	35.70	42.50	36.25	36.80
Economic	37.47	38.05	37.44	40.44	37.97
Aesthetic	38.94	39.03	38.50	35.25	38.49
Social	40.25	40.23	40.67	41.81	40.47
Political	39.07	37.10	35.72	33.19	37.43
Religious	48.21	49.90	45.06	53.06	48.83
For test of equality of group centroids				df = 15 & 174	
				F = 1.37	
				p = .17	

A comparison of the value mean scores of the four groups of teachers in table 9 shows the Religious mean value score as the highest, followed by the Social mean value score. Teachers who are in

the 51 and above age group have highest means on both the Religious and Social values. Though there were only minor differences between the Theoretical, Economic, Aesthetic, and Political mean scores, it was noted that, while the Theoretical mean score was ranked lowest for the two groups of younger teachers, the Political mean score was ranked lowest for the two groups of older teachers.

Multivariate analysis of variance presented in table 9 shows an F-ratio of 1.37. With 15 and 174 degrees of freedom, the probability level was found to be .17. To reject the null hypothesis, an F-ratio of 1.73 with 15 and 174 degrees of freedom would be required at the .05 level of significance; thus the multivariate analysis of variance was found to be not significant at the .05 level and thereby the data failed to lead to a rejecting of the null hypothesis that there was no significant difference between the centroids of teachers on their values, based on the independent variable of age.

Comparisons by highest academic degree held. In the demographic questionnaire used in the survey there were four response categories for the highest academic degree held. The categories were: (1) no degree, (2) Bachelor's degree, (3) Master's degree, and (4) Doctor's degree. From the responses it was found that all the teachers possessed either a Bachelor's or Master's degree. Thus, the first and last variables were not included in the analysis.

In table 10, the means and multivariate analysis of variance of the value scores of the two groups of teachers are presented. In ranking the mean scores, it was noted that Religious and Social values were ranked first and second, respectively, for the two groups

of teachers. Teachers with Master's degrees had higher means on the above two value scores than teachers with Bachelor's degrees. However, the differences were only minimal. While teachers with Bachelor's degrees had higher Aesthetic and Political value mean scores, teachers with Master's degrees had higher Economic and Theoretical value mean scores.

The multivariate analysis of variance in table 10, with 5 and 65 degrees of freedom, yielded an F-ratio of 1.58. To reject the null hypothesis that there was no significant difference between the centroids of teachers on their values, based on the independent

TABLE 10
MEANS AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE VALUE
SCORES OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS
BASED ON HIGHEST ACADEMIC DEGREE HELD

Values	Two Teacher Groups		Total (N=71) Means
	Bachelor's (N=29) Means	Master's (N=42) Means	
Theoretical	35.72	37.54	36.80
Economic	37.00	38.63	37.97
Aesthetic	40.28	37.26	38.49
Social	40.33	40.57	40.47
Political	38.95	36.38	37.43
Religious	47.72	49.60	48.83
For test of equality of group centroids			df = 5 & 65 F = 1.58 p = .18

variable of highest academic degree held, an F-ratio of 2.36 with 5 and 65 degrees of freedom would be required at the .05 level of significance. Thus, the multivariate analysis of variance was not

significant at the .05 level. The null hypothesis was therefore retained.

Comparisons by years of teaching experience. As was shown in table 9, most of the teachers were relatively young. Of the total of seventy-one subjects, fifty-four of them were in the age category of 40 years and below; therefore, it is reasonable to expect that most of these teachers had only a few years of teaching experience.

Table 11 indicates that there were forty-nine teachers with 10 years or less of teaching experience. This figure is consistent with the great number of young teachers presented in table 9. While there were fifteen teachers in the 11 to 20 years category, only seven were found in the 21 and over category. As for the older

TABLE 11
MEANS AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE VALUE
SCORES OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS
BASED ON YEARS OF TEACHING EXPERIENCE

Values	Three Teacher Groups			Total (N=71) Means
	0-10 (N=49)	11-20 (N=15)	21 & over (N=7)	
	Means	Means	Means	
Theoretical	36.18	37.13	40.36	36.80
Economic	37.33	40.30	37.43	37.97
Aesthetic	38.90	38.50	35.64	38.49
Social	40.68	39.40	41.29	40.47
Political	38.40	36.30	33.07	37.43
Religious	48.51	48.30	52.21	48.83
For test of equality of group centroids			df = 10 & 128	
			F = 1.25	
			p = .26	

teachers, the more experienced teachers had highest Religious, Social, and Theoretical value mean scores and lowest Political value mean score. The Religious value mean score was ranked highest for all the three categories of teachers. The Social value mean score was ranked second only for the most and least experienced teachers.

In table 11 the multivariate analysis of variance is presented. With 10 and 128 degrees of freedom, it yielded an F-ratio of 1.25 and a probability of .26. At the .05 level of probability, the data for this category failed to reject the null hypothesis that there was no significant difference among the centroids of teachers' value scores, based on the independent variable of teaching experience. To reject the null hypothesis, a critical F value of 1.86, with 10 and 128 degrees of freedom would be required at the .05 level of significance.

Comparisons by years of schooling in SDA institutions. Table 12 presents the means and the data on the multivariate analysis of variance of the value scores of teachers, based on the number of years of schooling in Seventh-day Adventist schools. According to the data presented in table 12, nearly half of the teachers (46%) had spent more than thirteen years in Seventh-day Adventist institutions for their formal education. Among the six value means scores, the Religious value mean score was ranked highest for all the three groups of teachers. While teachers with 0 to 6 years of Seventh-day Adventist education had the highest means on the Political and Theoretical values, teachers with 7 to 12 years had the highest means on the Religious and Social values. But, the highest

Economic and Aesthetic value mean scores were for teachers who had 13 years or more of schooling in Seventh-day Adventist schools.

TABLE 12
MEANS AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE VALUE SCORES
OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON YEARS
OF SCHOOLING IN SEVENTH-DAY ADVENTIST INSTITUTIONS

Values	Three Teacher Groups			Total (N=71) Means
	0-6 (N=20)	7-12 (N=18)	13 & over (N=33)	
	Means	Means	Means	
Theoretical	37.50	36.33	36.62	36.80
Economic	36.26	37.75	39.08	37.97
Aesthetic	38.55	36.58	39.50	38.49
Social	41.78	41.94	38.88	40.47
Political	39.68	36.08	36.80	37.43
Religious	46.18	51.31	49.09	48.83
For test of equality of group centroids				df = 10 & 128 F = 1.95 p = .04

For test of equality of group centroids, the multivariate analysis of variance, with 10 and 128 degrees of freedom, yielded an F-ratio of 1.95, which is significant at the .05 level. The null hypothesis that there was no significant difference between the centroids of Seventh-day Adventist academy teachers on their values, based on the independent variable of the number of years of schooling in Seventh-day Adventist institutions, was therefore rejected.

To further investigate the value scores that were most responsible in differentiating among the three groups of teachers, multiple discriminant function analysis was employed. Omitting one value each time, six discriminant function analyses were conducted.

In the first discriminant function analysis, the Religious value was omitted. Since there were three criterion groups, a total of two discriminant functions resulted. The first discriminant function was found to be significant ($\chi^2 = 18.73$, $df = 10$, $p < .05$). But the second function was not significant ($p = .29$).

Table 13 presents the standardized coefficients for discriminant function I. From the data listed in the table, it appears that the predictor variables that contributed the most in differentiating between the three groups of teachers were the Political and Social

TABLE 13
MULTIPLE DISCRIMINANT FUNCTION ANALYSIS FUNCTION I
WITH RELIGIOUS VALUE OMITTED

Value	Standard Discriminant Function Coefficient
Theoretical	19.22
Economic	-3.68
Aesthetic	9.21
Social	29.30
Political	32.38

values. And the teachers that were most widely separated were those with 0 to 6 and 13 and more years of schooling in Seventh-day Adventist institutions.

Figure 4 illustrates the positions of each teacher group on the scale of group means, showing the teachers' rank in order of their years of schooling in Seventh-day Adventist institutions. It also indicates the predictor variables that most discriminated between the groups. These predictor variables are arranged according to their

weights; the variable with the heaviest weight being on the top. The directions of the arrows indicate the way that the predictor variables separated the two extreme groups. As illustrated in figure 4, there is a tendency for teachers with fewer years of schooling in Seventh-day Adventist institutions to have higher Political, Social, and Theoretical values.

Fig. 4. Multiple discriminant function analysis function I of value sub-scales separating three teacher groups classified according to their years of schooling in Seventh-day Adventist institutions: omitting Religious value.

In the subsequent discriminant function analyses (see appendix B), the discriminant variables among the three groups of teachers followed nearly the same pattern as that shown in figure 4 except for the analyses wherein the two major predictor variables--Political and Social--were omitted.

A summary of the discriminant factors in each of the analyses is given in table 14. In all the analyses, the three groups of

teachers were ranked according to their years of schooling in Seventh-day Adventist institutions.

TABLE 14

MULTIPLE DISCRIMINANT FUNCTION ANALYSIS FUNCTION I SUMMARY:
COMPARISONS BY YEARS OF SCHOOLING IN
SEVENTH-DAY ADVENTIST INSTITUTIONS

Value Omitted	Teachers with 0-6 years (highest)	Teachers with 13 years or more	Teachers with 13 years (lowest)
Major Discriminant Variables			
Religious	Political (+)	Social (+)	Theoretical (+)
Political	Economic (-)	Religious (-)	Aesthetic (-)
			Theoretical (-)
Social	Economic (-)	Religious (-)	Aesthetic (-)
			Theoretical (-)
Aesthetic	Political (+)	Social (+)	
Economic	Political (+)	Social (+)	Theoretical (+)
Theoretical	Political (+)	Economic (-)	Religious (-)
			Social (+)

The variables in the table are listed in their order of importance, from left to right, and according to their discriminating power in each analysis. The positive and negative signs placed alongside the variables are indications of their weights pertaining to the two extreme groups of teachers. Variables with positive signs are the higher values of the 0 to 6 category teachers and those with negative signs are the higher values of the 13 and over category teachers.

As it is shown in table 14, the Political and Social values are the major discriminating variables. However, in the discriminant function analyses where these two variables were omitted, Economic, Religious, Aesthetic, and Theoretical values had become the major predictor variables.

The one-way multivariate analysis of variance of the value scores of the three teacher groups showed that there were significant differences among the teachers in their values. Discriminant function analyses indicated that Political, Social, Economic, and Religious values were most responsible in differentiating the three groups of teachers. Those teachers with more years of Seventh-day Adventist education tended to have higher Economic, Religious, and Aesthetic values and lower Political, Social, and Theoretical values than those with fewer years of Seventh-day Adventist education.

Analysis and Presentation of Data on Leadership Styles

Hypothesis 3

There is no significant difference among the means of Seventh-day Adventist academy Bible, humanities, science, and vocational teachers on their leadership styles, as measured by the Leader Behavior Description Questionnaire scale.

In table 15 the means of ten Bible teachers, twenty-eight humanities teachers, thirteen science teachers, and twenty

TABLE 15

MEANS OF THE LEADERSHIP DIMENSION SCORES OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON MAJOR AREA OF TEACHING

Leadership Dimensions	Four Teacher Groups				Total (N=71) Means
	Bible (N=10) Means	Humanities (N=28) Means	Science (N=13) Means	Vocational (N=20) Means	
Consideration	40.57	36.44	39.86	41.45	39.06
Structure	39.60	39.82	39.23	42.75	40.51

vocational teachers are listed for each of the two leadership dimensions, namely, Consideration and Initiating Structure (hereafter referred to as Structure). The overall means for all the seventy-one teachers are also presented. The data in this table indicate that there are differences in the mean scores on each of the leadership dimensions. With the exception of the humanities teachers who had the greatest difference (3.38) between their two leadership mean scores, the mean score differences on both the Consideration and Structure dimensions for each of the four categories of teachers are minimal.

As it is presented in the table, the vocational teachers had the highest mean scores on both the leadership dimensions. While humanities teachers had the lowest mean score on Consideration, science teachers had the lowest mean score on Structure. The two extreme groups that were most differentiated by the mean score differences were the vocational and the humanities teachers.

Table 16 lists the data for the analysis of variance which was used in the comparison between the leadership styles of the four categories of teachers. As indicated in table 15, differences in the mean scores existed among the four groups of teachers. However, these differences on both the scales were not statistically significant. The analysis of variance summaries in table 16 shows that the F-ratio for the Consideration was 1.27, and the Structure, 1.58. With 3 and 67 degrees of freedom, the level of significance required to reject the null hypothesis at the .05 level was 2.75. The mean differences among the Bible, humanities, science, and vocational

teachers on both the leadership dimensions failed to reach significant level. Thus, the null hypothesis that there was no significant

TABLE 16

ANALYSIS OF VARIANCE SUMMARIES OF THE LEADERSHIP DIMENSION
SCORES OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS
BASED ON MAJOR AREA OF TEACHING

Leadership Dimensions	Degrees of Freedom	Mean Square	F-ratio	Probability
Consideration				
Between	3	73.23	1.27	.29
Within	67	57.71		
Structure				
Between	3	39.88	1.58	.20
Within	67	25.92		

difference among the means of Bible, humanities, science, and vocational teachers on their leadership styles was retained.

Hypothesis 4

There is no significant difference among the means of Seventh-day Adventist academy teachers on their leadership styles, as measured by the Leader Behavior Description Questionnaire scale, based on the independent variables of sex, age, highest academic degree held, years of teaching experience, and years of schooling in Seventh-day Adventist institutions.

As stated in hypothesis 4, there were five independent variables. These variables necessitated the dividing of the hypothesis into five sub-hypotheses, with one variable to each sub-hypothesis. Thus, there were five comparisons in hypothesis 4: (1) comparisons by

sex, (2) comparisons by age, (3) comparisons by highest academic degree held, (4) comparisons by years of teaching experience, and (5) comparisons by years of schooling in Seventh-day Adventist institutions. Each of these sub-hypotheses was treated and discussed separately with regards to the means and analysis of variance.

Comparisons by sex. Table 17 presents the mean scores of forty-eight male teachers and twenty-three female teachers. The male teachers had higher Consideration mean score but lower Structure mean score than the female teachers. A greater difference between the means of the two groups of teachers was found on the Structure dimension of leadership style where the Structure mean score of female teachers was 1.82 higher than the male teachers.

TABLE 17
MEANS OF THE LEADERSHIP DIMENSION SCORES OF SEVENTH-DAY
ADVENTIST ACADEMY TEACHERS BASED ON SEX

Leadership Dimensions	Two Teacher Groups		Total (N=71) Means
	Male (N=48)	Female (N=23)	
	Means	Means	
Consideration	39.53	38.07	39.06
Structure	39.92	41.74	40.51

Table 18 presents a summary of the analysis of variance which was used in analyzing the data for the two groups of teachers on both the Consideration and Structure leadership dimensions. The results showed no significant differences between male and female teachers

on both the Consideration and Structure scales. To reject the null hypothesis at the .05 level of significance and with 1 and 69 degrees

TABLE 18

ANALYSIS OF VARIANCE SUMMARIES OF THE LEADERSHIP DIMENSION SCORES
OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON SEX

Leadership Dimensions	Degree of Freedom	Mean Square	F-ratio	Probability
Consideration				
Between	1	33.50	.55	.53
Within	69	60.45		
Structure				
Between	1	51.65	2.00	.16
Within	69	25.89		

of freedom, a critical F value of 3.98 would be required. Therefore, the null hypothesis that there was no significant difference among the means of Seventh-day Adventist academy teachers on their leadership styles, based on sex, was retained.

Comparisons by age. The leadership mean scores of the four groups of teachers classified by their age are listed in table 19. On the Consideration scale, teachers that were thirty years or younger showed a higher mean than the other three groups of teachers. Though they were surpassed only by the teachers over fifty years of age on the Structure scale, their Structure mean score (41.09) was compatible with their Consideration mean score (40.17). However, though teachers who were over fifty years of age had the highest mean on the Structure scale, there was relatively great disparity between their Consideration

mean score (37.83) and their Structure mean score (42.75).

TABLE 19

MEANS OF THE LEADERSHIP DIMENSION SCORES OF SEVENTH-DAY
ADVENTIST ACADEMY TEACHERS BASED ON AGE

Leadership Dimensions	Four Teacher Groups				Total (N=71) Means
	30 & under (N=34)	31-40 (N=20)	41-50 (N=9)	51 & over (N=8)	
	Means	Means	Means	Means	
Consideration	40.17	39.21	35.61	37.83	39.06
Structure	41.09	38.95	39.78	42.75	40.51

Summaries of the analysis of variance are presented in table 20. The data in the table indicate that the differences on the Consideration and Structure dimensions of leadership styles among the four groups of teachers were not significant on the analysis of variance at the .05 level of significance. With 3 and 67 degrees of

TABLE 20

ANALYSIS OF VARIANCE SUMMARIES OF THE LEADERSHIP DIMENSION SCORES
OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON AGE

Leadership Dimensions	Degrees of Freedom	Mean Square	F-ratio	Probability
Consideration				
Between	3	49.57	.82	.51
Within	67	60.34		
Structure				
Between	3	34.87	1.35	.27
Within	67	25.86		

freedom the F-ratio for the Consideration was .82 and the Structure .1.35. A critical F value of 2.75 with 3 and 67 degrees of freedom would be required to reject the null hypothesis at the .05 level of significance. Thus, the null hypothesis that there was no significant difference on the two leadership dimension scores of Seventh-day Adventist academy teachers, based on age, was not rejected.

Comparisons by highest academic degree held. In table 21, the mean scores of twenty-nine teachers with Bachelor's degrees and forty-two with Master's degrees are listed for each of the two leadership dimensions. As it is indicated, teachers with Bachelor's degrees had higher and more consistent mean scores on both the Consideration and Structure dimensions than teachers with Master's degrees.

TABLE 21

MEANS OF THE LEADERSHIP DIMENSION SCORES OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON HIGHEST ACADEMIC DEGREE HELD

Leadership Dimensions	Two Teacher Groups		Total (N=71) Means
	Bachelor's (N=29) Means	Master's (N=42) Means	
Consideration	41.25	37.54	39.06
Structure	41.48	39.83	40.51

The data for the analysis of variance are presented in table 22. With 1 and 69 degrees of freedom, the F-ratio for Consideration was 4.10, and the Structure, 1.80. The required critical F value for

rejecting the null hypothesis would be 3.98. Thus, the difference between the means of the two groups of teachers on the Consideration dimension of leadership style was found to be significant at the .05

TABLE 22

ANALYSIS OF VARIANCE SUMMARIES OF THE LEADERSHIP DIMENSION SCORES
OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON
HIGHEST ACADEMIC DEGREE HELD

Leadership Dimensions	Degrees of Freedom	Mean Square	F-ratio	Probability
Consideration				
Between	1	235.64	4.10	.04
Within	69	57.52		
Structure				
Between	1	46.67	1.80	.18
Within	69	25.96		

level. The null hypothesis that there was no significant difference between the means of academy teachers on the leadership styles, based on highest academic degree held, was therefore rejected on the Consideration dimension; but was upheld for the Structure dimension. Those teachers with Master's degrees scored significantly lower on the Consideration scale than did those with Bachelor's degrees.

Comparisons by years of teaching experience. The means of the three groups of teachers categorized according to their years of teaching experience are presented in table 23. On the Consideration scale, teachers with 0 to 10 years of teaching experience show the tendency to have higher mean scores than the other two groups of teachers. However, their mean scores of 39.49 on the Consideration

dimension is only .43 higher than the overall mean score.

Though the Consideration mean score of the teachers with twenty-one or more years of teaching experience was the lowest, they showed the highest Structure mean score among the three groups of

TABLE 23

MEANS OF THE LEADERSHIP DIMENSION SCORES OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON YEARS OF TEACHING EXPERIENCE

Leadership Dimensions	Three Teacher Groups			Total (N=71) Means
	0-10 (N=49) Means	11-20 (N=15) Means	21 & over (N=7) Means	
Consideration	39.49	38.57	37.06	39.06
Structure	40.20	40.67	42.29	40.51

teachers. It should be noted that the mean score of teachers with eleven to twenty years of teaching experience lie in between those of the two extreme groups on the Consideration scale.

Table 24 presents the data for the analysis of variance. The F-ratios for the Consideration and Structure dimensions resulting from the analyses were .32 and .59, respectively. To reject the null hypothesis at the .05 level of significance and with 2 and 68 degrees of freedom, a critical F value of 3.13 would be required. Thus the hypothesis that there was no significant difference between the means of academy teachers on the leadership styles, based on their years of teaching experience, was supported.

TABLE 24

ANALYSIS OF VARIANCE SUMMARIES OF THE LEADERSHIP DIMENSION SCORES
OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON
YEARS OF TEACHING EXPERIENCE

Leadership Dimensions	Degrees of Freedom	Mean Square	F-ratio	Probability
Consideration				
Between	2	19.68	.32	.73
Within	68	61.23		
Structure				
Between	2	15.59	.59	.57
Within	68	26.63		

Comparisons by years of schooling in SDA institutions. Based on the number of years of schooling in Seventh-day Adventist institutions, the seventy-one teachers were classified into three categories. As it is presented in table 25, the Structure mean scores of the three groups of teachers were very similar to one another. However, the

TABLE 25

MEANS OF THE LEADERSHIP DIMENSION SCORES OF SEVENTH-DAY ADVENTIST
ACADEMY TEACHERS BASED ON YEARS OF SCHOOLING IN
SEVENTH-DAY ADVENTIST INSTITUTIONS

Leadership Dimensions	Three Teacher Groups			Total (N=71) Means
	0-6 (N=20) Means	7-12 (N=18) Means	13 & over (N=33) Means	
Consideration	41.53	35.78	39.35	39.06
Structure	41.10	39.06	40.94	40.51

difference among the Consideration mean scores of the three groups of teachers were much greater. The difference between the highest mean (41.53) and the lowest mean (35.78) was 5.75. Teachers with six years or less of schooling in Seventh-day Adventist institutions had the highest mean scores on both the leadership dimensions. Mean scores of teachers belonging to the thirteen years and over category lie in between those of the other two groups.

Summaries of the analysis of variance of the leadership dimension scores are presented in table 26. With 2 and 68 degrees of

TABLE 26

ANALYSIS OF VARIANCE SUMMARIES OF THE LEADERSHIP DIMENSION SCORES
OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS BASED ON YEARS OF
SCHOOLING IN SEVENTH-DAY ADVENTIST INSTITUTIONS

Leadership Dimensions	Degrees of Freedom	Mean Square	F-ratio	Probability
Consideration				
Between	2	185.91	3.25	.04
Within	68	57.15		
Structure				
Between	2	28.54	1.09	.34
Within	68	26.27		

freedom, the F-ratio of 3.25 on the Consideration dimension was found to be significant at the .05 level. However, the F-ratio of 1.09 on the Structure dimension failed to reach the significance level. The null hypothesis that there was no significant difference among the means of academy teachers on the leadership styles, based on years of schooling in Seventh-day Adventist institutions was rejected on the Consideration, but supported for the Structure.

In order to further examine which of the three comparisons on the Consideration dimension among the teacher groups was significant, a Newman-Keuls test was applied. The means for the three groups were ranked: group 2 (7-12), 35.78; group 3 (13 & over), 39.35; group 1 (0-6), 41.53. With the computed harmonic mean of the group sizes as 22.08, and the within-group variance for the three groups as 57.15, the obtained Newman-Keuls values between groups 1 and 2, 2 and 3, and 1 and 3 were 3.57, 2.22, and 1.35, respectively. The tabled critical values were found to be 2.83 ($r = 2$, $df = 68$) and 3.39 ($r = 3$, $df = 68$). Therefore, the results indicated that teachers with six years or less of schooling in Seventh-day Adventist institutions scored significantly higher than those with seven to twelve years of Seventh-day Adventist education. However, the differences between groups 1 and 3, and between groups 2 and 3, were not significant.

Analysis and Presentation of Data on the Correlation Between Values and Leadership Styles

Hypothesis 5

There is no linear combination of six value scores which yields a significant multiple correlation with the Consideration score over the complete group of subjects.

In accordance with the primary purpose of the study, the following analyses were conducted to examine the relationships between the dependent variables and the predictors. However, in this section under hypothesis 5, only the relationships between the Consideration and the six values are considered.

Table 27 presents the correlation matrix for the eight variables. In examining the Pearson product-moment coefficients of correlation between the variables in the correlation matrix, it is obvious that the dependent variables and the predictors have very low

TABLE 27
INTERCORRELATION MATRIX FOR THE TWO LEADERSHIP STYLE
AND THE SIX VALUE SCORES

Variable	1	2	3	4	5	6	7	8
1--Consideration	1.00	.49	.21	.07	-.24	.06	.04	-.12
2--Structure	.49	1.00	.01	.07	.10	-.10	.01	-.11
3--Theoretical	.21	.01	1.00	-.16	-.35	-.15	-.23	-.28
4--Economic	.07	.07	-.16	1.00	-.32	-.24	.06	-.20
5--Aesthetic	-.24	.10	-.35	-.32	1.00	-.21	.01	-.23
6--Social	.06	-.10	-.15	-.24	-.21	1.00	-.35	.03
7--Political	.04	.01	-.23	.06	.01	-.35	1.00	-.34
8--Religious	-.12	-.11	-.28	-.20	-.23	.03	-.34	1.00

intercorrelations. These correlations between the Consideration and the six predictors in descending order, with the percentage of variance explained by each one, are presented in table 28. Of the six

TABLE 28
ORDERED CORRELATIONS BETWEEN CONSIDERATION AND
THE SIX VARIABLES IN VALUES

Variables	Coefficients of Correlation	Percentage of Variance Explained
Aesthetic	-.24	6%
Theoretical	.21	4%
Religious	-.12	1%
Economic	.07	0%
Social	.06	0%
Political	.04	0%

predictor variables, only the Aesthetic was found to be significant at the .05 level. It explained as much as 6 percent of the Consideration variance. Aside from the Theoretical and the Religious which show a relatively small predictive value, the other predictors, the Economic, Social, and Political, show no appreciable influence in predicting the Consideration dimension of leadership style.

For a useful increase in prediction, it is necessary that the predictor variables have low intercorrelations with each other, but reasonably high separate correlations with the criterion. From table 27, it is clear that this is not the case with the present data.

Further investigation in the effectiveness of the six value scores in predicting the Consideration score identified two predictors as the best combination. They were the Aesthetic and Religious values. In each of the six runs of the stepwise multiple regression program these two variables were included, a significant improvement in prediction was obtained only by combining two variables. These, in each case, were the Aesthetic and Religious values. As it is shown in table 29, using the Aesthetic and Religious values as predictors and Consideration as criterion, the analysis of variance for

TABLE 29

ANALYSIS OF VARIANCE FOR STEPWISE MULTIPLE REGRESSION ANALYSIS--
WITH CONSIDERATION AS CRITERION AND AESTHETIC AND
RELIGIOUS VALUES AS PREDICTOR VARIABLES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F-ratio	Probability
Regression	2	371.19	185.59	3.29	.04
Residual	68	3833.04	56.37		

multiple regression, with 2 and 68 degrees of freedom, yielded an F-ratio of 3.29 which was significant at the .05 level. The multiple correlation coefficient between these two predictor variables and the criterion was .30, accounting for 9 percent of the variance of Consideration scores.

In order to test the null hypothesis that there was no linear combination of six value scores which yields a significant multiple correlation with the Consideration score, stepwise multiple regression analysis was conducted. Due to the dependent nature of the predictor variables, with one value score omitted in each case, six runs of multiple regression analysis were necessitated. Using all predictor variables--five of the six on each run--there was no significant increase in the multiple correlation coefficient, as shown in table 30. The computed F-ratios failed to reach the .05 level of

TABLE 30

STEPWISE MULTIPLE REGRESSION ANALYSIS SUMMARY--
WITH CONSIDERATION AS CRITERION

Value Omitted	MS for Regression	MS for Error	df	F-ratio	p	Multiple R
Religious	79.20	58.59	5 & 65	1.35	.25	.31
Political	98.56	57.73	4 & 66	1.71	.16	.31
Social	98.56	57.73	4 & 66	1.71	.16	.31
Aesthetic	79.32	58.58	5 & 65	1.35	.25	.31
Economic	78.97	58.61	5 & 65	1.35	.25	.31
Theoretical	78.80	56.62	5 & 65	1.34	.26	.31

significance. The null hypothesis was retained. Thus, it can be concluded that the combination of the six value scores is not effective in predicting the Consideration dimension of leadership style.

Hypothesis 6

There is no linear combination of the six value scores which yields a significant multiple correlation with the Initiating Structure score over the complete group of subjects.

As it is shown in the correlation matrix for the two leadership style and the six value scores in table 27, the correlations between the value scores and Structure score are extremely low. All the coefficients of correlation between the variables were found to be insignificant at the .05 level. Table 31 shows the correlations between the Structure and the six predictors in a descending order with the percentage of variance explained by each one. It is rather evident that all the six predictors show no appreciable influence in predicting the Structure dimension of leadership style.

TABLE 31
ORDERED CORRELATIONS BETWEEN INITIATING STRUCTURE
AND THE SIX VARIABLES IN VALUES

Variables	Coefficients of Correlation	Percentage of Variance Explained
Religious	-.11	1%
Aesthetic	.10	1%
Social	-.10	1%
Economic	.07	0%
Theoretical	.01	0%
Political	.01	0%

To test the null hypothesis, with one value score omitted in each run, six runs of stepwise multiple regression analysis were conducted. As it is shown in table 32, the coefficient of multiple

correlation between the criterion variables and a linear combination of the predictors is .18 for all the six runs. The computed F-ratios

TABLE 32

STEPWISE MULTIPLE REGRESSION ANALYSIS SUMMARY--WITH
INITIATING STRUCTURE AS CRITERION

Value Omitted	MS for Regression	MS for Error	df	. F-ratio	p	Multiple R
Religious	14.61	26.96	4 & 66	.54	.71	.18
Political	11.69	27.37	5 & 65	.43	.83	.18
Social	14.61	26.96	4 & 66	.54	.71	.18
Aesthetic	14.55	26.97	4 & 66	.54	.71	.18
Economic	14.55	26.96	4 & 66	.54	.71	.18
Theoretical	11.67	27.38	5 & 65	.43	.83	.18

failed to reach the .05 level of significance for any combination of from two to five variables. Therefore, the null hypothesis was retained. It is evident from the data that the combination of the six value scores is not effective in predicting the Structure dimension of leadership style.

Summary

There were three main sections in the analysis and presentation of data in this chapter. Section one dealt with the first two hypotheses on values. Section two concerned itself with the two hypotheses on leadership styles. A correlational study on the relationships between values and leadership styles made up the third section.

One-way multivariate analysis of variance was employed to test the first two hypotheses on values. Data resulting from the

analyses indicated that statistically significant differences existed among teachers in their values in three areas of comparisons: (1) major areas of teaching, (2) sex, and (3) years of schooling in Seventh-day Adventist institutions. For each of the F-ratios that was found significant at or beyond the .05 level of significance, two-group or multiple discriminant function analysis was conducted to examine the relative importance of the values in differentiating among the various teacher groups.

Among the four groups of teachers classified according to their major areas of teaching, science and humanities teachers were found to be separated to the greatest extent by the Aesthetic and Theoretical values. In comparing the values of male and female teachers, it was found that female teachers had higher scores in Aesthetic and Social values. And these two values were most discriminating in differentiating between the two groups of teachers. The two extreme groups of teachers (0 to 6 and 13 and over), categorized by their years of schooling in Seventh-day Adventist institutions, had value centroids which were significantly different. The Political, Social, and Economic values were found to be the major discriminating variables.

The Consideration and Initiating Structure leadership styles of teachers were compared in section two of the chapter. To test the hypotheses, univariate analysis of variance was conducted. Both the hypotheses were accepted on the Structure dimension of leadership style. However, significant F-ratios were found on the Consideration dimension in the comparisons among teachers according to their highest academic degree held and their years of schooling in Seventh-day

Adventist institutions. Both the teachers with Bachelor's degrees and teachers with 0 to 6 years of schooling in Seventh-day Adventist institutions tended to have higher Consideration scores than the other groups of teachers. .

The last two hypotheses on the relationships between the values and leadership styles of teachers were tested by stepwise multiple regression analysis. The F-ratios resulting from the analyses failed to reach the .05 level of significance. Thus, both hypotheses five and six were upheld with respect to the full group of value scales. There was, however, a significant relationship between Consideration and the linear combination of the Aesthetic and Religious values.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR FURTHER RESEARCH

This chapter presents the summary and conclusions of the study, and the implications for further research. The summary briefly describes the purpose of the study, the subjects, the procedure and methodology, and the results of the findings. The discussion on the values, leadership styles, and the relationship between the values and the leadership styles based on the findings are also presented, followed by the conclusions with regards to the values and leadership styles of teachers. Finally, the implications for further research conclude the chapter.

Summary

Purpose of the Study

The purpose of the present study was to determine if there were any significant relationships between the values and leadership styles of Seventh-day Adventist academy teachers. The study was aimed at discovering the levels of predictability of the values held by teachers on their leadership styles. Since no research had been conducted on the values and leadership styles of Seventh-day Adventist academy teachers, it was also the purpose of the study to provide a description of the values and leadership characteristics of

the teachers and to determine if there were any significant differences in their values and leadership styles according to the six independent variables.

Subjects

The subjects of the study were comprised of the teachers and students of six Seventh-day Adventist academies in Michigan. A total of seventy-two full time teachers who had taught for at least three months in one of the six academies, beginning in the 1977-78 school-year, participated in the study. The study also involved 694 students from the senior, junior, and sophomore classes of the academies who were employed for the purpose of evaluating their teachers' leadership styles.

The researcher visited all the academies and personally administered the Study of Values and the teacher background information questionnaire to the teachers and the Leader Behavior Description Questionnaire to the students. To encourage frank and honest response as far as possible, respondents were not required to put their names on the response sheets. Only coded numbers appeared on the answer sheets for the researcher's use.

Of the seventy-two questionnaires received from the teachers, all but one were satisfactorily completed according to instruction. Among the questionnaires filled out by the students, four of them were found to be incomplete. Thus seventy-one responses on teachers' values and their demographical information and 690 questionnaires on teachers' leadership styles were used in the data analysis in the study.

Procedure and Methodology

Two standardized instruments were employed in the investigation of the values and leadership styles of teachers. The Study of Values, developed by Allport, Vernon, and Lindzey, measured the relative prominence of six values or interests in personality. Since its publication in 1931, two revisions have been made. The present study employed the 1960 edition.

To investigate the leadership styles of teachers, the Leader Behavior Description Questionnaire was used. This instrument was developed by Hemphill and Coons in 1957 for the purpose of measuring two independent dimensions of leadership behavior, namely, Consideration and Initiating Structure.

To analyze the data collected, three main statistical methods were employed. One-way multivariate analysis of variance was used to examine the data on the values of teachers, while one-way univariate analysis of variance was used for treating the data on the leadership styles of teachers. The results of both of these analyses were stated in terms of F-ratios. In the events of the probabilities of F-ratios reaching significant levels, two-group or multiple discriminant function analysis was used for the one-way multivariate analysis of variance, and the Newman-Keuls test, for the one-way univariate analysis of variance. Finally, the relationships between the values and leadership styles of teachers were examined by using stepwise multiple regression analysis.

Summary and Discussion of Findings

The major hypothesis of the study was that there is a

significant relationship between the values held by teachers and their leadership styles as perceived by their students. Based on this main hypothesis, the nature of teachers' values and leadership styles were also advanced for empirical investigation. Altogether six hypotheses were tested and analyzed. According to the order of the research hypotheses, the summary and discussion of the findings on the values of teachers is first presented, followed by the leadership styles of teachers and the relationships between values and leadership styles.

Values of teachers. The mean score of the Religious value for the seventy-one teachers in the study was the highest among the six value scores which ranked as follows: (1) Religious, (2) Social, (3) Aesthetic, (4) Economic, (5) Political, and (6) Theoretical. Religious value maintains its position as the most highly esteemed value even when comparisons were made on the values of teachers classified according to the six independent variables.

While the differences between most of the overall value scores were minimal, the Religious value score was substantially greater than the others. This phenomenon of teachers' high esteem of the Religious value may reflect their strong religious backgrounds. For instance, as it was indicated by their years of schooling in Seventh-day Adventist institutions, more than two-thirds (72%) of the teachers in the study spent seven years or more in Seventh-day Adventist schools for their formal education. These teachers generally scored substantially higher in Religious value than those teachers who had received less than seven years of

Seventh-day Adventist education. It may thus be assumed that Seventh-day Adventist institutions appear to be one of the effective agencies by which Religious value is transmitted.

Aside from the Religious value which is perceived to be the most prominent value for all the four groups of teachers classified according to their major area of teaching, Bible teachers have higher Social value; humanities teachers, higher Aesthetic value; science teachers, higher Theoretical value; and vocational teachers, higher Economic value than the other teachers. Except for the Bible teachers, the findings concur with those reported in the literature reviewed by Duffy (1940) and Dukes (1955).

As revealed in the findings, humanities and science teachers show the greatest differences in their values. Though both groups of teachers have the highest esteem for Religious value, humanities teachers have higher Aesthetic, Political, and Social but lower Theoretical and Economic values than science teachers. Among the six values, the Theoretical and Aesthetic values contribute the most in differentiating between the science and humanities teachers.

While there are great variations among the teachers in regards to their Theoretical and Aesthetic values, no appreciable differences exists among the teachers in their Religious values. Moreover, the Religious value mean scores for all the four groups of teachers fall in the high significant area. This seems to indicate that there is a high degree of congruency among the teachers in their Religious values. This could be an unifying factor in the life and work of academy teachers.

It should be noted that the great differences between the

science and humanities teachers in their Theoretical and Aesthetic values are consistent with the previous findings reported in the literature. In general, individuals in the sciences have higher Theoretical value; those in artistic fields, higher Aesthetic value; and those in business, higher Economic value (Duffy, 1940; Dukes, 1955). The Bible and vocational teachers whose major fields of teaching are more akin to the humanities teachers generally possess values that are more similar to the values of humanities teachers rather than those of science teachers.

As has been pointed out in the norms provided in the manual of the Study of Values, males and females differ substantially in their values. The findings of the present study on the Theoretical, Aesthetic, and Social values of male and female teachers concur with those reported by Allport, Vernon, and Lindzey (1970, pp. 11-12). According to the findings, while the two groups of teachers manifest near identical Religious value, the female teachers have higher Aesthetic and Social but lower Theoretical values than the male teachers. Thus, it appears that male teachers tend to be more intellectually inclined than the female teachers whose high scores on the Aesthetic and Social values reflect their artistic nature and their altruistic love and genuine concern for people.

The male and female teachers in the study differ minimally in their Economic, Political, and particularly Religious values. While this finding is considerably different from the norms of male and female college students (Allport, Vernon, & Lindzey, 1970, pp. 11-12), it is similar to the norms of the students of professional religious works at Hartford School of Religious Education (Allport,

Vernon, & Lindzey, 1970, pp. 14-15). These differences and similarities between the values of the academy teachers and the general and specific groups of college students mentioned above may be attributed to the academy teachers' religious orientations and their work as teachers in religious institutions. Moreover, the high congruency in their Religious values may suggest the presence of a unifying factor in their view in and approach to religious matters.

Teachers classified according to their years of schooling in Seventh-day Adventist institutions do differ in their values. As it has been pointed out, Seventh-day Adventist education seems to have a noticeable effect on the Religious values of teachers. Teachers who have spent only six years or less in Seventh-day Adventist schools have lower Religious value than those teachers with seven years or more of Seventh-day Adventist education. However, it should be noted that teachers with thirteen years or more of schooling in Seventh-day Adventist schools have lower Religious value than the teachers with seven to twelve years of Seventh-day Adventist education. Though the difference is minimal, the finding does not lend support to the assumption that the longer the teachers spend in Seventh-day Adventist schools for their formal education, the higher is their Religious value.

The variables of age, highest academic degree held, and teaching experience make no significant impact on the values of teachers in that they do not contribute to the differentiation of teachers with reference to their values.

Thus, Seventh-day Adventist academy teachers in Michigan do differ in their values. Significant value differences exist among

the Bible, humanities, science, and vocational teachers, male and female teachers, and teachers who have spent varying lengths of time in Seventh-day Adventist institutions for their formal education. Though they differ in their values, these teachers manifest high congruency in their most esteemed Religious value.

Leadership styles of teachers. Academy teachers in the present study manifest little variations in their leadership styles. As indicated in chapter IV, the two research hypotheses on leadership styles were not upheld on all the comparisons except for two comparisons on the Consideration dimension among teachers who were classified according to their highest academic degree held and their years of schooling in Seventh-day Adventist institutions. Teachers with Bachelor's degrees and teachers with six years or less of Seventh-day Adventist education were perceived by their students to be more concerned over the needs and feelings of the students than the other teachers.

In general, academy teachers as a group are very similar in their leadership styles on both the Consideration and Structure dimensions. Though the mean score on the Structure dimension is higher than the mean score on the Consideration dimension, the difference is minimal.

Among the Bible, humanities, science, and vocational teachers, vocational teachers tend to have higher leadership mean score than the other three groups of teachers. As indicated in the literature on leadership, the most effective leaders tend to be described high on both the Consideration and Structure leadership scales (Stogdill,

1974). It appears that vocational teachers in the study, as perceived by their students, tend to be rather effective "leaders".

According to the norms provided in the manual for the Leader Behavior Description Questionnaire, the mean scores for sixty-four educational administrators on the Consideration scale is 37.9, and on the Structure scale is 44.7 (1957, p. 8). In comparing the leadership mean scores of the administrators and the academy teachers, it is evident that the academy teachers scored higher on the Structure scale and lower on the Consideration scale than the administrators. Thus it seems that academy teachers are more goal-oriented in their leadership behavior than the administrators who are more people-oriented.

As a whole the teachers in the present study scored rather high on both the Consideration and Structure scales of leadership styles. This balance in their leadership styles seems to convey to their students the impression that they are concerned with both the students and their achievements. In other words, they are perceived as both people- and goal-oriented in their leadership styles.

Relationships between values and leadership styles. Academy teachers in general have high esteem for Religious value. The mean score for the other five values are rather similar. The differences between these values are minimal.

As has been indicated earlier, teachers differ very slightly in their leadership styles. Though the mean score on the Structure dimension is higher than that of the Consideration dimension, the difference is statistically insignificant. This seems to indicate

a balance between the Consideration and Structure dimensions of the teachers' leadership styles.

According to the literature, an individual's behavior is influenced by his values. For example, teachers who held higher Religious and Social values were perceived by their students to be more supportive and more concerned with the needs, problems and feelings of students than teachers with lower Religious and Social values.

However, according to the findings of the present study, no significant relationship is found between the values and leadership styles of the academy teachers. There are very low intercorrelations between the values and leadership styles scores. The combination of the six value scores is not effective in predicting either the Consideration or the Initiating Structure dimension of teachers' leadership styles.

This apparent lack of concurrence between the findings of the present study and those reported in the literature on the relationship between values and leadership behavior may be partly attributed to different methodologies used in the comparisons and the relatively low Social value mean score of the subjects in the study. For instance, in the study of Murray (1968) in which significant relationship was found between values and teacher behavior, it is to be noted that comparisons were made between teachers with high Social value scores and teachers with low Social value scores. Teachers with high Social value scores were perceived by their students to be more concerned than the teachers with low Social value scores. In the present investigation of the relationship between values and leadership

styles, no such distinction between high and low value scores was made.

Moreover, it should also be noted that although teachers' Social value mean score (40.47) ranked second among their six value mean scores in the present study, it is only comparable to the average mean score of the norm. A Social value score may be considered definitely high if it exceeds the scores of 42 for men and 47 for women, respectively (Allport, Vernon, & Lindzey, 1960, p. 12); thus the relatively low score of teachers on the Consideration scale may be attributed to the average score on the Social value.

As it is indicated in the present study, Religious value is most highly esteemed by the teachers. Taking the teachers as a group this is the only value with a mean score in the high significant area. Though Bowie's (1957) study revealed that teachers with high Religious values tended to make more supportive statements, its association with Consideration leadership style by definition is not as intimate as that of Social values. Thus, the high Religious values of teachers may have but little influence on their Consideration leadership style.

Though the above observations may provide a partial explanation for the seemingly apparent discrepancy, the findings of the present study nevertheless suggest the inconclusiveness of the influence of values on behavior.

Conclusions

From the findings of this study on the values, as measured by the Study of Values, and the leadership styles, as measured by the .

Leader Behavior Description Questionnaire, of academy teachers, the following conclusions were drawn:

1. Academy teachers as a group perceive Religious value as the most important value, followed by Social, Aesthetic, Economic, Political, and Theoretical values. Religious value maintains its position as the most esteemed value among teacher groups classified according to the six independent variables.

2. Teachers classified according to their major area of teaching, sex, and years of schooling in Seventh-day Adventist institutions show significant differences in their values. However, a high degree of congruency in values exists among teacher groups classified according to age, highest academic degree held, and years of teaching experience.

3. Bible, humanities, science, and vocational teachers express significant differences in their values. Science teachers hold higher Theoretical but lower Aesthetic values than the other teachers. Vocational teachers are distinguished from the other three groups of teachers by possessing higher Economic value. While the Theoretical and Aesthetic values differentiated the most between the science and humanities teachers, the Economic value discriminated best between the vocational and humanities teachers.

4. Female teachers express significantly higher Aesthetic and Social, but lower Theoretical and Political values than male teachers.

5. The length of time teachers spent in Seventh-day Adventist institutions for their formal education makes a significant difference in their values. Teachers with six years or less of

schooling in Seventh-day Adventist schools express higher Political, Social, and Theoretical values than the teachers with seven or more of Seventh-day Adventist education who show high Religious value. The Political and Social values discriminate the best between teachers with six years or less and thirteen years or more of Seventh-day Adventist education, respectively.

6. Academy teachers generally have higher mean score on the Structure dimension than the Consideration dimension for their leadership styles. However, the difference between the mean scores on the dimensions of leadership styles is not statistically significant.

7. Teachers classified according to the six independent variables show no significant differences on the Structure dimension of their leadership style.

8. A high degree of congruency on the Consideration dimension of leadership style exists among teacher groups classified according to their major area of teaching, sex, age, and years of teaching experience.

9. Teachers with Bachelor's degrees have significantly higher mean score on the Consideration dimension of leadership style than teachers with Master's degrees.

10. Teachers classified according to their years of schooling in Seventh-day Adventist institutions show significant difference on the Consideration dimension of their leadership style. Teachers with six years or less of Seventh-day Adventist education have higher Consideration mean score than those with seven years or more of schooling in Seventh-day Adventist institutions.

11. Teachers' self-expressed values do not correlate significantly with the students' evaluation of their leadership styles. There is no significant relationship between the six values and two dimensions of leadership styles of the teachers included in this study. Thus, the combination of the six value scores is not effective in predicting both the Consideration and the Initiating Structure dimensions of leadership styles.

Implications for Further Research

The present study is an attempt in the investigation of the relationships between the values and leadership styles. The findings of the study provide an insight into the values and leadership behavior of the Seventh-day Adventist academy teachers in Michigan. Significant differences were found in the values and the Consideration dimension of leadership when teachers were compared on several variables.

The most important findings of the study were those related to the Religious value of the teachers. When comparing the values of teachers on the six variables, it was discovered that Religious value was consistently esteemed to be the most important value. This consistency in Religious value provides a unifying factor among the teachers in spite of their differences in other values.

It is important to recognize that teachers belonging to different sexes and disciplines in their teaching profession do differ appreciably in their values. These value differences will inevitably be manifested in their personal relationships with others, in their presentation of teaching materials, and in their daily contacts with

the students and other personnel in the school. It is essential that educational administrators should perceive these differences and be able to understand them and relate to them in a meaningful way. Administrators are to capitalize on these differences and thus utilize the teachers according to their prominent interests or values in fulfilling the purpose and goals of the school.

The value differences of teachers also affect the formulation of goals, aims, objectives, and curriculum of a school. The researcher makes no value-judgment as to which are the best values. With the emphasis placed on value education today, educational administrators will have to determine the kind of values that are to be encouraged and inculcated, and the kind of teachers that are to be recruited in order to fulfill the educational purposes of the schools.

Effective teachers are known to be concerned with both the academic achievements and the needs and feelings of students. Teachers of the present study are rated relatively high on Initiating Structure (40.51) and rather low on Consideration (39.06) when compared to the mean scores on Consideration (44.7) and Initiating Structure (37.9) of educational administrators as provided in the manual of the Leader Behavior Description Questionnaire. Though the discrepancy between the leadership scores of teachers and educational administrators may be partly attributed to the fact that these two groups of people were in different positions, and that their leadership styles were perceived by different people, it is apparent that the findings on teachers' leadership styles are somewhat inconsistent with the findings on their values. The teachers of the present study

have indicated their most cherished values as Religious and Social values. They gave Theoretical values the lowest rating. According to the findings on values, teachers should be rated high on Consideration and low on Structure by their students. This inevitably generates some questions that may be considered for further research: To what extent is a teacher's behavior a reflection of his personal values? What are the possible sources or causes of the discrepancy between the findings on teachers' values and leadership styles? What other intervening or extraneous variables in connection with the study of teachers' values and leadership styles need to be considered?

Contrary to the findings of Stromberg's study on the value orientation and leadership behavior of school principals in which he found significant relationships between the two variables, the present study indicates that value differences of teachers do not effectively differentiate teachers according to their leadership styles. Besides the differences in the instrument on values used and the population studied, what are some of the possible reasons for the differences in these findings?

It is evident that the findings of the present study raise a number of questions related to the values and leadership styles of teachers. Finding answers to these questions would necessitate further studies. Therefore, it is recommended:

1. that larger samples of Seventh-day Adventist academy teachers and students be used in a similar study to ascertain whether similar findings with reference to the values and leadership styles of teachers will result;
2. that study be conducted among teachers of other school

systems in order to investigate if significant relationships exist between their values and leadership styles;

3. that investigation be undertaken on the values of students, administrators, and parents for comparisons with the values of teachers in order to find out if congruency of values exist among them;

4. that a similar study be conducted, using other approaches to value classification such as the traditional-emergent classification and other instruments in assessing teachers' values;

5. that empirical studies be conducted to study the effects of teachers' values and leadership styles on the different groups of students in their personality growth as well as their academic achievements in the Seventh-day Adventist educational system;

6. that further investigation be undertaken to understand the differences between the relatively high indication of teachers' love for people as revealed in their values and the low rating of teachers' Consideration leadership style by their students;

7. that in the investigation of teachers' leadership styles, besides using students, school administrators and fellow teachers be employed in assessing teachers' leadership behavior for a more adequate picture of their leadership styles.

In harmony with its purpose the present study investigated the values and leadership styles of Seventh-day Adventist academy teachers. The many questions resulting from the findings have led to the formulation of the above recommendations for further research. However, this list of recommendations is far from exhaustive. It serves only as a guide to the areas of values and leadership studies

that may prove to be fruitful. Certainly, further investigations in the above recommended areas will help to answer some of the questions raised and thus shed more light on the present study.

APPENDIX A
INSTRUMENTS

Leader Behavior Description Questionnaire

Teacher Background Information Questionnaire

LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE

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The Ohio State University

On the following pages is a list of items that may be used to describe the behavior of your teacher. Each item describes a specific kind of behavior, but does not ask you to judge whether the behavior is desirable or undesirable. This is not a test of ability. It simply asks you to describe, as accurately as you can, the behavior of your teacher.

Your answers will NOT be seen by the teacher. This questionnaire will be used by the researcher only. His report on the findings will preserve the anonymity of your answers.

Thank you for your cooperation and the contribution you will make toward the success of this study.

PLEASE NOTE:

The term "group" as employed in the questionnaire refers to a class which is supervised by the teacher being described.

The term "members" refers to all the students in the class which is supervised by the teacher being described.

DIRECTIONS:

- a. READ each item carefully.
- b. THINK about how frequently the leader engages in the behavior described by the item.
- c. DECIDE whether your teacher always, often, occasionally, seldom or never acts as described by the item.
- d. BLACKEN the space under one of the five letters on the separate answer sheet which corresponds to the answer you have selected.

A = Always
 B = Often
 C = Occasionally
 D = Seldom
 E = Never

- e. MARK every item. When in doubt about your answer, your first impression is likely to be the most accurate.
- f. MAKE SURE that the item number on the answer sheet corresponds in each case to the item which you are answering.
- g. Please PRECEDE each statement with: "My teacher"

"My teacher"

1. does personal favors for group members.	A B C D E
2. makes his/her attitudes clear to the group.	A B C D E
3. does little things to make it pleasant to be a member of the group.	A B C D E
4. tries out his/her new ideas with the group.	A B C D E
5. acts as the real leader of the group.	A B C D E
6. is easy to understand.	A B C D E
7. rules with an iron hand.	A B C D E
8. finds time to listen to group members.	A B C D E
9. criticizes poor work.	A B C D E
10. gives advance notice of changes.	A B C D E

11. speaks in a manner not to be questioned.	A B C D E
12. keeps to himself/herself.	A B C D E
13. looks out for the personal welfare of individual group members.	A B C D E
14. assigns group members to particular tasks.	A B C D E
15. is the spokesperson of the group.	A B C D E
16. schedules the work to be done.	A B C D E
17. maintains definite standards of performance.	A B C D E
18. refuses to explain his/her actions.	A B C D E
19. keeps the group informed.	A B C D E
20. acts without consulting the group.	A B C D E
21. backs up the members in their actions.	A B C D E
22. emphasizes the meeting of deadlines.	A B C D E
23. treats all group members as his/her equals.	A B C D E
24. encourages the use of uniform procedures.	A B C D E
25. gets what he/she asks for from his/her superiors.	A B C D E
26. is willing to make changes.	A B C D E
27. makes sure that his/her part in the organization is understood by group members.	A B C D E
28. is friendly and approachable.	A B C D E
29. asks that group members follow standard rules and regulations.	A B C D E
30. fails to take necessary action.	A B C D E
31. makes group members feel at ease when talking with them.	A B C D E
32. lets group members know what is expected of them.	A B C D E
33. speaks as the representative of the group.	A B C D E
34. puts suggestions made by the group into operation.	A B C D E

35. sees to it that group members are working up to capacity.	A B C D E
36. lets other people take away his/her leadership in the group.	A B C D E
37. gets his/her superiors to act for the welfare of the group members.	A B C D E
38. gets group approval in important matters before going ahead.	A B C D E
39. sees to it that the work of group members is coordinated.	A B C D E
40. keeps the group working together as a team.	A B C D E

TEACHER BACKGROUND INFORMATION QUESTIONNAIRE

Please put a check mark in the appropriate parenthesis for each section. Do not put more than one check mark in each section.

A. Sex	Male	() 1
	Female	() 2
B. Age	30 and under	() 1
	31 - 40	() 2
	41 - 50	() 3
	51 and over	() 4
C. Highest academic degree held	None	() 1
	Bachelor's	() 2
	Master's	() 3
	Doctor's	() 4
D. Number of years of teaching experience	0 - 10	() 1
	11 - 20	() 2
	21 and over	() 3
E. Number of years of schooling in Seventh-day Adventist institutions	0 - 6	() 1
	7 - 12	() 2
	13 and over	() 3
F. Major area of teaching	Bible	() 1
	Humanities	() 2
	Science & Mathematics ..	() 3
	Vocational & others	() 4

APPENDIX B

MULTIPLE AND TWO-GROUP DISCRIMINANT FUNCTION ANALYSIS DATA OF VALUE SCORES

Multiple Discriminant Function Analysis Function I
Summaries: Comparisons by Teaching Areas

Multiple Discriminant Function Analysis Function II
Summaries: Comparisons by Teaching Areas

Two-Group Discriminant Function Analysis Summaries:
Comparisons by Sex

Multiple Discriminant Function Analysis Function I
Summaries: Comparisons by Years of Schooling
in Seventh-day Adventist Institutions

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TABLE 33

MULTIPLE DISCRIMINANT FUNCTION ANALYSIS FUNCTION I SUMMARIES:
COMPARISONS BY TEACHING AREAS

A. TEACHER GROUP MEANS ON DISCRIMINANT FUNCTION

Value Omitted	Four Teacher groups			
	Bible	Humanities	Science	Vocational
Religious	4.96	10.70	-7.85	6.21
Political	39.39	34.18	51.09	38.27
Social	43.21	38.10	54.67	42.12
Aesthetic	78.76	75.43	86.29	78.06
Economic	43.91	49.09	32.40	45.04
Theoretical	86.47	89.26	80.35	87.10

B. STANDARD DISCRIMINANT FUNCTION COEFFICIENTS

Value Omitted	Six Values					
	Theore	Econom	Aesthe	Social	Politi	Religi
Religious	-33.32	-8.22	28.27	10.71	9.39	-----
Political	38.73	15.75	-16.89	-.97	-----	10.16
Social	38.81	16.31	-15.60	-----	.87	11.01
Aesthetic	35.04	20.19	-----	10.07	10.36	18.91
Economic	-22.47	-----	33.42	17.52	16.12	9.17
Theoretical	-----	11.89	30.59	21.95	20.84	19.50

C. TESTS OF SIGNIFICANCE

Value Omitted	Chi-square	Degree of Freedom	Probability
Religious	78.12	15	<.0005
Political	78.24	15	<.0005
Social	78.25	15	<.0005
Aesthetic	78.08	15	<.0005
Economic	78.08	15	<.0005
Theoretical	78.22	15	<.0005

TABLE 34

MULTIPLE DISCRIMINANT FUNCTION ANALYSIS FUNCTION II SUMMARIES:
COMPARISONS BY TEACHING AREAS

A. TEACHER GROUP MEANS ON DISCRIMINANT FUNCTION

Value Omitted	Four Teacher Groups			
	Bible	Humanities	Science	Vocational
Religious	38.47	37.08	37.75	43.08
Political	34.90	33.49	34.17	39.59
Social	50.53	51.88	51.25	46.18
Aesthetic	55.35	54.13	54.72	59.49
Economic	87.85	88.60	88.27	85.59
Theoretical	67.51	66.45	67.00	71.13

B. STANDARD DISCRIMINANT FUNCTION COEFFICIENTS

Value Omitted	Six Values					
	Theore	Econom	Aesthe	Social	Politi	Religi
Religious	-9.14	40.35	-4.74	18.35	.89	-----
Political	-10.10	40.25	-5.64	17.78	-----	-.91
Social	25.25	-21.89	22.14	-----	16.03	20.14
Aesthetic	-4.19	39.98	-----	20.56	4.87	4.93
Economic	24.99	-----	24.13	12.12	20.30	24.88
Theoretical	-----	38.57	3.89	21.76	7.94	8.76

C. TESTS OF SIGNIFICANCE

Value Omitted	Chi-square	Degree of Freedom	Probability
Religious	16.65	8	.03
Political	16.78	8	.03
Social	16.80	8	.03
Aesthetic	16.66	8	.03
Economic	16.60	8	.03
Theoretical	16.71	8	.03

TABLE 35

TWO-GROUP DISCRIMINANT FUNCTION ANALYSIS SUMMARIES:
COMPARISONS BY SEX

A. TEACHER GROUP MEANS ON DISCRIMINANT FUNCTION

Value Omitted	Two Teacher Groups	
	Male	Female
Religious	27.34	35.66
Political	75.22	80.66
Social	70.12	63.90
Aesthetic	83.11	78.33
Economic	-2.93	5.81
Theoretical	68.22	74.36

B. STANDARD DISCRIMINANT FUNCTION COEFFICIENTS

Value Omitted	Six Values					
	Theore	Econom	Aesthe	Social	Politi	Religi
Religious	-16.06	6.49	39.47	24.39	-16.74	-----
Political	3.83	16.03	38.92	27.29	-----	13.51
Social	34.61	13.71	-8.91	-----	30.14	20.86
Aesthetic	33.90	16.55	-----	5.65	28.77	22.87
Economic	-24.75	-----	34.21	19.28	-23.64	-7.10
Theoretical	-----	14.62	40.05	27.50	-3.01	11.36

C. TESTS OF SIGNIFICANCE

Value Omitted	Chi-square	Degree of Freedom	Probability
Religious	26.51	5	.0001
Political	26.63	5	.0001
Social	26.34	5	.0001
Aesthetic	26.27	5	.0001
Economic	26.47	5	.0001
Theoretical	26.60	5	.0001

TABLE 36

MULTIPLE DISCRIMINANT FUNCTION ANALYSIS FUNCTION I SUMMARIES:
COMPARISONS BY YEARS OF SCHOOLING IN SEVENTH-DAY
ADVENTIST INSTITUTIONS

A. TEACHER GROUP MEANS ON DISCRIMINANT FUNCTION

Value Omitted	Three Teacher Groups		
	0 - 6	7 - 12	13 & Over
Religious	68.37	65.18	64.22
Political	80.13	82.65	83.42
Social	72.96	75.90	76.77
Aesthetic	41.24	37.25	36.01
Economic	76.52	73.76	72.91
Theoretical	5.37	9.77	11.11

B. STANDARD DISCRIMINANT FUNCTION COEFFICIENTS

Value Omitted	Six Values					
	Theore	Econom	Aesthe	Social	Politi	Religi
Religious	19.22	-3.68	9.21	29.30	32.38	-----
Political	20.12	30.27	26.29	3.19	-----	30.00
Social	18.04	31.10	25.50	-----	-4.06	30.30
Aesthetic	12.35	-13.89	-----	28.12	32.35	-9.78
Economic	21.21	-----	12.18	28.87	31.50	4.02
Theoretical	-----	25.52	12.38	-20.90	-25.87	22.16

C. TESTS OF SIGNIFICANCE

Value Omitted	Chi-square	Degree of Freedom	Probability
Religious	18.73	10	.04
Political	18.47	10	.05
Social	18.50	10	.05
Aesthetic	18.67	10	.05
Economic	18.76	10	.04
Theoretical	18.62	10	.05

APPENDIX C
COVERING LETTERS

David Wong
1624-K Spartan Village
East Lansing, Michigan 48823
November 29, 1977

Elder F. R. Stephan
Educational Secretary
Lake Union Conference
Berrien Springs, Michigan 49103

Dear Elder Stephan:

I am a student of Andrews University, sponsored by the Far Eastern Division to work for a Ed. D. degree in Religious Education. By the help of God, I hope to complete my studies and return to teach in Southeast Asia Union College in Singapore by the end of 1978.

Currently I am working on my dissertation. The topic is: VALUES AND LEADERSHIP CHARACTERISTICS OF SEVENTH-DAY ADVENTIST ACADEMY TEACHERS IN MICHIGAN. This project involves questionnaires to be administered personally to both academy teachers and students. The content and scope of the study is self-explanatory in the enclosed resume of the proposal.

As it is implied in the title of the research project, I am planning to conduct the study in all the six academies in the Michigan Conference. Therefore, I am writing to ask for your permission to do this study in the above mentioned territory. I hope this request will meet with your approval.

Thank you so much for your kind consideration. May the Lord continue to bless you in your work.

Sincerely yours,

David Wong

Dr. Rudolf Klimes
Co-ordinator and Professor of
Educational Administration

David Wong
1624-K Spartan Village
East Lansing, Michigan 48823
December 20, 1977

Dear

I have received a letter from Elder Stephan, informing me that he has written you regarding my request to use the teachers and students of your school as the population for my dissertation on the values and leadership styles of Seventh-day Adventist academy teachers. Your willingness to help means a great deal to me and my sponsoring organization, the Far Eastern Division. It will enable me to complete my program earlier so that I can return to help finish the work of the Lord in the Far East. You can be sure that your kindness will be much appreciated.

I plan to conduct my study sometime in the middle of January, 1978, and will contact you to make prior arrangements for visiting your school. I will be very grateful if you will let me know whether the month of January is convenient for you.

Thank you again for your co-operation. May God continue to bless your work in the new year.

MERRY CHRISTMAS!

Sincerely yours,

David Wong

David Wong
1624-K Spartan Village
East Lansing, Michigan 48823
January 16, 1978

Principal
Academy
Address

Dear

Happy new year! I hope you have had an enjoyable vacation during the Christmas and the new year season. May the Lord's richest blessings be upon you, the staff, and the students of your school as you begin the new year.

On December 20, 1977, I wrote you a letter, indicating my intentions of conducting a study at your school sometime in January, 1978. Now that all the questionnaires are ready to be administered to your teachers and students, I would like to visit your school on the _____, 1978, and hope that the date is convenient for you and the people involved. If this date conflicts with any events listed on your school calendar, I will appreciate it very much if you will suggest another date on which I can visit your school.

My visit to your school will involve administering the Study of Values questionnaire to the teachers of the sophomore, junior, and senior classes, and the Leader Behavior Description Questionnaire to the students of the three classes mentioned. Normally it will take ten minutes to fill in the Leader Behavior Description Questionnaire and fifteen minutes for the Study of Values. In order to use the minimum time possible, and to facilitate the process of administering the questionnaires, the following information and arrangement will be most helpful:

1. Number of students in the sophomore, junior, and senior classes.
2. A list of teachers of the sophomore, junior, and senior classes.
3. Arrangement for the three classes of students to meet at the auditorium for about half an hour to fill in the questionnaire.
4. Arrangement for the teachers involved to meet at the principal's office or their individual offices to fill in the questionnaire at the same time as the students, if possible.

I am very grateful to you and your staff and students for your willingness to help in this project. Hope that the findings in this

research will contribute to the enrichment of our knowledge in the values and leadership characteristics of our teachers.

Sincerely yours,

David Wong

APPENDIX D

PROFILES OF VALUES AND LEADERSHIP STYLES
OF ACADEMY TEACHERS

Fig. 5. Profile of value mean scores obtained for the overall group of teachers as measured by the Allport-Vernon-Lindzey Study of Values.

Fig. 6. Profile of value mean scores obtained for four groups of teachers as measured by the Allport-Vernon-Lindzey Study of Values.

Fig. 7. Profile of value mean scores obtained for two groups of teachers as measured by the Allport-Vernon-Lindzey Study of Values.

Fig. 8. Profile of value mean scores obtained for three groups of teachers as measured by the Allport-Vernon-Lindzey Study of Values.

Fig. 9. Profile of leadership mean scores obtained for four groups of teachers as measured by the Leader Behavior Description Questionnaire.

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