

A COMPARATIVE ANALYSIS OF THE VALUE ORIENTATIONS OF
SECONDARY VOCATIONAL AND TECHNICAL EDUCATION
TEACHERS IN VIRGINIA PUBLIC SCHOOLS

by

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Chapter 1

INTRODUCTION

Quinland, Splender, and Thomas (1955) contended that teachers play an important role in conveying the values of our culture. Consciously or unconsciously teachers disclose personal and cultural values in the educational setting. Teachers frequently influence the choice of educational materials, reading assignments, class activities, discussion topics, and examination questions. Through selecting these materials and processes, they determine the personal and cultural values deemed most important for student consideration. In addition, teachers reveal personal and cultural values as they reward and reprimand student behavior.

Sprinthall and Beaton (1966) indicated that emphasis on the teacher's role in influencing values has caused researchers to investigate the value orientations of teachers and prospective teachers. As a result of their investigations, these researchers have concluded that differences exist in the value orientations of teachers and prospective teachers in heterogeneous subject matter areas.

Researchers have found that present and potential vocational education teachers differ from their academic colleagues in terms of value orientations. Through a study of educators employed by the correctional institutions of Oregon, Colbert (1971) found that academic teachers differ from vocational teachers in terms of their economic,

aesthetic, and social values. MacLean, Gowan, and Gowan (1955) found differences as they compared the value orientations of home economics majors with those of kindergarten-primary education majors. Twomey (1952) reported that industrial arts majors exhibit lower social values on the Allport-Vernon-Lindzey Study of Values than students in other academic areas.

Researchers have also studied the value orientations of particular specialty groups of vocational and technical education teachers. The values of Chicago business education teachers were obtained through a study conducted by Schutte (1967). White (1968) investigated the value orientations of Ohio distributive education teacher coordinators, and Finch (1969) conducted a study to test the backgrounds, attitudes, and values of inservice trade and industrial educators. Hill (1959) designed an original instrument, Personal Choices of Homemaking Teachers, to obtain the values of high school home economics teachers. Murray (1968) utilized the Allport-Vernon-Lindzey Study of Values to determine the social values of home economics teachers considered to be either self-actualizing or non-self-actualizing on Shostrom's Personal Orientation Inventory. These researchers were utilizing subjects from differing environments. They employed different instruments in their investigations, and their statistical techniques were not homogeneous. Therefore, the data obtained from these studies have not enabled a comparison of the value orientations among teachers in these specialty areas. In addition, data have not been available regarding the value orientations of agriculture, health occupations, or industrial arts teachers.

THE PROBLEM AREA

Many vocational and technical educators have obtained their educational preparation and teaching experience in a particular specialty area within vocational education. They have become specialists in agricultural, business, distributive, health occupations, home economics, industrial arts, or trade and industrial education. As the need for teacher educators and supervisory personnel for vocational and technical education has increased, these specialists have been recruited for positions such as teacher educators, state and local directors of vocational education, and vocational school principals which require a comprehensive knowledge of vocational education. As a result of the Vocational Education Amendments of 1968 (P.L. 90-576), increased emphasis has been placed on the preparation of vocational and technical educators. Evans and Terry (1971:3) specified that "vocational-technical educators are nearing general agreement on the desirability of each vocational teacher having both specialized competencies and a general knowledge of the whole of vocational education." Thus, vocational and technical education program and curriculum planners are designing across-the-board approaches for undergraduate, graduate, and inservice education programs. As program planners determine educational requirements for programs with an across-the-board approach, they may benefit from an understanding of the value orientations of specialty groups operating within vocational and technical education.

Little research has been available regarding the similarities and differences among the specialty groups in vocational and technical

education. Researchers have studied the value orientations of certain specialists with vocational and technical education. However, data have not been available which would enable a comparative analysis of the value orientations of these specialists. Kohlman (1962:822) indicated that "both needs and values initiate behavior, but values direct the behavior which has been initiated." Other theorists such as Maslow (1954) and Becker (1968) have also stressed the motivational nature of values. If, in fact, values do influence behavior, a study of the value orientations of vocational and technical educators should provide information regarding their potential behaviors and basic motivations. An awareness of this information should assist educational planners and teacher educators as they design programs to prepare vocational and technical education teachers and administrators.

Statement of the Problem

Do statistically significant differences exist in the value orientations of Virginia secondary vocational and technical education teachers according to their specialty area within vocational and technical education?

Purpose of the Study

The major purpose of the study is to determine and compare the value orientations as measured by the Allport-Vernon-Lindzey Study of Values among Virginia secondary vocational and technical education teachers in each of the following vocational service areas: (1) agriculture, (2) business, (3) distribution, (4) health occupations, (5) home economics, (6) industrial arts, and (7) trades and industries.

Significance of the Study

This study was an aid to filling the void in research related to intra-group value variations among vocational and technical education teachers. It provided educational program planners with information which might assist them in understanding the similarities between and differences among the values of specialists in vocational and technical education. This information may be helpful as preservice, inservice, and graduate education programs are designed for vocational and technical educators.

Approximately fifty-six Virginia school divisions have employed local directors of vocational and technical education. These individuals have responsibility for administering the vocational and technical education program within the local district. As local directors perform their duties, they work with personnel from the various specialty areas within vocational and technical education. Local directors should benefit from a knowledge of the similarities and differences in the value orientations of these specialists. Such information may assist local directors as they attempt to understand the factors which motivate their personnel.

As vocational and technical education teachers participated in this study, they identified their individual value orientations. Through this process, they became more aware of their personal value orientations. This knowledge should help these teachers as they work in the educational setting. The secondary vocational and technical education teacher assists

high school students, adults, and special needs students to examine the broad spectrum of career opportunities and consider alternative choices and programs. When the career interests of a student change, the individual makes adjustments in his learning situation. As these adjustments are made, the student often relies upon the advice and counsel of vocational and technical educators. Value decisions are involved in this process, and vocational and technical educators may have a strong influence on the value orientations of their students.

Vocational and technical educators should help their students clarify values and select employment situations congruent with their aptitudes, abilities, interests, and values. In addition, vocational and technical educators should assist students in clarifying and developing attitudes and values which will aid them in becoming successful in their chosen occupations. If vocational and technical educators wish to strengthen their ability to assist students in clarifying values, these educators should have an understanding of their own value orientations.

As a result of this investigation, data such as mean scores were made available regarding the value orientations of secondary vocational and technical education teachers in Virginia public schools. Such data may be helpful to vocational guidance personnel at the collegiate level as they assist individuals with industrial backgrounds who desire to enter the educational setting as vocational and technical education teachers.

Through means of content analysis, Glasgow (1964) studied the value orientations of American public school teachers over a time

period of thirty years. He indicated that public school teachers educate and socialize the youth of our nation, and he claimed that a better understanding of these teachers would contribute to our sociological knowledge of the United States. Information regarding the values of vocational and technical educators was not presented in the study. In this era of rapid technological change, values also appear to be changing. Future research regarding the value orientations of teachers should not exclude vocational and technical educators. In fact, as rapid technological change occurs, increased emphasis may be placed on the value orientations of vocational and technical education teachers.

The significance of the study will depend upon the manner in which the research findings are utilized. A number of utilization possibilities may be suggested as follows:

1. To consolidate the evidence of need to determine the value orientations of specialists within vocational and technical education.
2. To provide educational program planners with information which might assist them in understanding the similarities between and differences among specialists in vocational and technical education.
3. To provide local directors of vocational and technical education with information regarding value orientations of secondary vocational and technical education teachers.
4. To provide vocational and technical education teachers with some insights regarding their personal value orientations.

5. To furnish mean theoretical, economic, aesthetic, social, political, and religious scores for Virginia secondary teachers within all specialty areas of vocational and technical education.

6. To provide baseline data for future research regarding the value orientations of vocational and technical education personnel.

Hypotheses

The central research question from which hypotheses have been developed to guide the collection and analysis of data is: Do statistically significant differences exist in the value orientations of Virginia secondary vocational and technical education teachers according to their specialty area within vocational education? The following hypotheses have been formulated to test this question: After making adjustments for the covariates (sex, race, residence background, age, educational status, years of teaching experience, and years of occupational experience), Virginia secondary teachers of agriculture, business, distribution, health occupations, home economics, industrial arts, and trades and industries do not differ in terms of their

Hypothesis I:	theoretical values
Hypothesis II:	economic values
Hypothesis III:	aesthetic values
Hypothesis IV:	social values
Hypothesis V:	political values
Hypothesis VI:	religious values

DEFINITION OF TERMS

Values: evaluative attitudes operationally defined as the relative prominence of six basic interests or motives in personality

described by Spranger (1928): the theoretical, economic, aesthetic, social, political, and religious.

Value orientations: refer to the six basic motives of personality described by Spranger (1928) and are operationally defined as scores on six values--theoretical, economic, political, aesthetic, social, and religious--of the Allport-Vernon-Lindzey Study of Values.

These values may be defined as described by Allport, Vernon, and Lindzey in Manual Study of Values:

1. The theoretical. The dominant interest of the "ideal" theoretical man is the discovery of truth. In the pursuit of this goal he characteristically takes a "cognitive" attitude, one that looks for identities and differences, one that divests itself of judgments regarding the beauty or utility of objects, and seeks only to observe and to reason. Since the interests of the theoretical man are empirical, critical, and rational, he is necessarily an intellectualist, frequently a scientist or a philosopher. His chief aim in life is to order and to systematize his knowledge.

2. The economic. The "ideal" economic man is characteristically interested in what is useful. Based originally upon the satisfaction of bodily needs (self-preservation), the interest in utilities develops to embrace the practical affairs of the business world--the production, marketing, and composition of goods; the elaboration of credit; and the accumulation of tangible wealth. This type is thoroughly "practical" and conforms well to the prevailing conception of the average American businessman. . . .

3. The aesthetic. The aesthetic man sees his highest value in form and harmony. Each single experience is judged from the standpoint of grace, symmetry, or fitness. He regards life as a procession of events; each single impression is enjoyed for its own sake. He need not be a creative artist, nor need he be effete; he is aesthetic if he but finds his chief interest in the artistic episodes of life. . . .

4. The social. The highest value for this type is love of people. . . . The social man prizes other persons as ends, and is therefore himself kind, sympathetic, and unselfish. . . . In its purist form the social interest is selfless and tends to approach very closely to the religious attitude.

5. The political. The political man is interested primarily in power. His activities are not necessarily within the narrow field of politics; but whatever his vocation, he betrays himself as a Machtmensch. Leaders in any field generally have high power value. Since competition and struggle play a large part in all life, many philosophers have seen power as the most universal and most fundamental of motives. There are, however, certain personalities in whom the desire for a direct expression of this motive is uppermost, who wish above all else for personal power, influence, and renown.

6. The religious. The highest value of the religious man may be called unity. He is mystical, and seeks to comprehend the cosmos as a whole, to relate himself to its embracing totality. . . . (Allport, Vernon, and Lindzey, 1960:4-5)

Vocational and technical education teachers: Virginia educators who provide instruction in one or more of the following specialty areas: (1) agriculture, (2) business, (3) distribution, (4) health occupations, (5) home economics, (6) industrial arts, and (7) trades and industries.

Agricultural education teachers: Virginia educators who have the responsibility for providing students with the attitudes, skills, and knowledge necessary for success in both on-farm and off-farm agricultural vocations.

Business education teachers: Virginia educators who provide instruction which is designed to prepare students with personal business skills and/or the attitudes, skills, and knowledge necessary for careers in accounting, computing and related occupations; business data processing systems occupations; filing, office machines, and general clerical occupations; information communications occupations; materials support occupations; stenographic, secretarial, and related occupations; and/or typewriting and related occupations.

Distributive education teachers: Virginia educators who have the "responsibility of preparing students for entry and advancement

in distributive occupations or in occupations requiring competency in one or more of the marketing functions" (Crawford and Meyer, 1972:9).

Health occupations teachers: Virginia educators who have the responsibility of preparing students for careers as health occupations workers who, as a team, enable the physician to utilize his or her professional skill in a more efficient manner for the service of patients.

Home economics teachers: Virginia educators who provide instruction designed to prepare students with personal consumer and homemaking education, and/or attitudes, skills, and knowledge necessary for occupations related to home economics.

Industrial arts teachers: Virginia educators who prepare students with an opportunity to learn of the broad aspects of technology (such as transportation, communications, construction, and manufacturing); plus, specific knowledge regarding electricity, electronics, graphic arts, mechanical drawing, metal working, and woodworking.

Trade and industrial education teachers: Virginia educators providing attitudes, skills, and knowledge necessary for careers in auto mechanics, auto body repair, cosmetology, masonry, carpentry, cabinetmaking, drafting, electricity, electronics, radio and television repair, air conditioning and refrigeration, building trades, metal trades, needle trades, printing, and/or other trades areas.

Secondary schools: instructional institutions in Virginia such as high schools and vocational schools for students in grades eight through twelve.

LIMITATIONS

1. Due to the availability of the subjects, the population for the study was limited to Virginia secondary public school vocational and technical education teachers. Therefore, generalizations of research findings to populations outside the State of Virginia should be made with caution.

2. The study will be confined to those randomly selected vocational and technical education teachers employed on a full-time basis in the public secondary schools and vocational centers of Virginia. Groups of instructors who will be eliminated from the study include those who teach solely in programs for disadvantaged or handicapped students and Industrial Cooperative Training coordinators.

CHAPTER SUMMARY

This study was designed to examine possible differences in the value orientations of specialists teaching within the field of secondary vocational and technical education. Through this chapter, the problem area was introduced, terms were defined, and limitations were specified.

Chapter 2

REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

- Do statistically significant differences exist in the value orientations of Virginia secondary vocational and technical education teachers according to their specialties within vocational and technical education? The research effort was stimulated by this question plus certain concepts and principles from the field of social psychology, such as reference group and value theories.

Research related to the value orientations of occupational groups was reviewed in this chapter. Through the theoretical framework, reference group and value theories were presented. In addition, factors which may influence value orientations were explored and the theoretical model of the study was presented. Through this section, previous research regarding value orientations of selected educational groups was placed in perspective to the current investigation.

REVIEW OF LITERATURE

Researchers have studied the value orientations of a variety of occupational groups. Research related to the theories which prompted a comparative analysis of the value orientations of Virginia secondary school vocational and technical educators was reviewed herein. These studies included those regarding: (1) entering and potential vocational and technical educators, (2) specialists in vocational and technical

education, (3) occupational groups closely related to vocational and technical education, and (4) teaching group comparisons. In addition, a matrix illustrating related research was presented through Table 1 on page 15.

Entering and Potential Vocational and Technical Educators

Capelli (1973) and White (1968) studied the value orientations of entering and potential vocational and technical education teachers. The entering group of vocational and technical education teachers in the Capelli study had participated in a two-week pre-service teacher preparation institute conducted at the University of Missouri. With the assistance of the entering vocational education teachers, a group of potential vocational education teachers was selected. The entering vocational education teachers recommended persons who compared with themselves on the variables of occupation, occupational experience, education, and sex. A wide range of perceptions, values, and interpersonal values were identified among entering and potential vocational education teachers utilizing group mean scores on the Role Perception Scale, the Study of Values, and the Survey of Interpersonal Values. The analysis of data did not reveal statistically significant differences between group mean scores on these instruments at an alpha level of .05.

By means of the Allport-Vernon-Lindzey Study of Values and the Minnesota Teacher Attitude Inventory, White (1968) measured the values and attitudes of practicing and prospective Ohio distributive education personnel. Practicing teachers were divided into four sub-groups:

Table 1

Matrix: Research Related to the Theories Which Prompted a Comparative
Analysis of the Value Orientations of Virginia Secondary School
Vocational and Technical Educators

Research Study	Sample	Statistic	Levels of Significance	Occupational Interest	Sex	Race	Residence Background	Age	Degree Obtained	Years of Teaching Experience	Occupational Experience	Years of
Briley (1968)	Extension Homemakers	χ^2	.001, .01, .05			S		S	S			
Capelli (1973)	Potential and Entering Vocational Teachers	"t" tests	.05									
Colbert (1971)	Correctional Educators	"t" tests	.05	S	S				S	NS		
Ethridge (1971)	Administrators, Teachers and Students	Regression Analysis	.05				S		S	S		
Finch (1969)	Trade and Industrial Education Teachers	Correlation	.01, .05					NS	NS	NS		NS
Hill (1959)	Home Economics Teachers	Correlation	.05						S	S		
Karn (1952)	Engineering Students	"t" tests	*	S								
King (1961)	Agricultural Extension Personnel	ANOVA, "t" tests	.05		S							
Murray (1968)	Home Economics Teachers	"t" tests	.05						NS	NS		
Nave (1969)	Adult Education Teachers	"t" tests	.05		NS	S		NS	NS			
Schutte (1967)	Business Teachers	ANOVA, "t" tests	.05	S	S				S			
Shaffer (1956)	Businessmen	χ^2 , Correlation	.05									S
Sprinthall and Beaton (1966)	Teachers	Regression Analysis	.05	S	S							
Weick (1969)	Extension Educators	"t" tests	.05						S			
White (1968)	Distributive Education Teachers	ANOVA	.05		S							
Whitmore (1968)	Student Teachers and Teachers	ANOVA	.05						NS			

*Not specified

(1) having majored or minored in distributive education as an undergraduate, (2) having majored in business administration and immediately qualified for certification, (3) having entered distributive education after business employment, or (4) entered distributive education after teaching in another subject area. The potential coordinators consisted of two sub-groups: (1) distributive employees having at least a baccalaureate degree in business administration and at least two years of work experience in a marketing or managerial position, plus (2) undergraduate students majoring in business administration. As a result of the data obtained through this study it is possible to say that distributive education teachers have similar personal values. These values remain constant for teacher-coordinators regardless of the means of entering the teaching profession.

Specialists in Vocational and Technical Education

Hill (1959), Murray (1968), and Finch (1969) conducted studies related to the value orientations of specialists in vocational and technical education. Home economics and trade and industrial educators were included in these studies.

Hill (1959) obtained the values of homemaking teachers in Connecticut and Illinois through an original instrument, Personal Choices of Homemaking Teachers, and Murray (1968) examined students' perceptions of teacher concern in relation to teachers' level of self-actualization and social values. Through the Murray (1968) study, teachers of home economics were asked to complete Shostrom's Personal Orientation Inventory

and the Allport-Vernon-Lindzey Study of Values. Those who obtained extreme scores on these two instruments were compared. When the teachers were classified according to their scores, it was found that self-actualizing and non-self-actualizing teachers did not differ significantly on social values. There were differences among such teachers for other scales of the Study of Values. The factors of age and years of teaching experience were not related to social values.

Finch (1969) tested the backgrounds, values, and attitudes toward teaching of inservice trade and industrial education teachers to draw relationships between these variables. While no direct relationships were discovered, several implications were made. The following were among such:

For the most part, teachers' personal and interpersonal values seem to identify with the tradesman or technician rather than the teacher. It might be that although the individual has moved on to his "second career," he still retains many of the personal attributes identified with his former occupation.

The results of this study strongly suggest that the trade and industrial teacher is an atypical individual. Certain of his personal and interpersonal values are not representative of the general population (Finch, 1969:63).

These implications lead one to question the effects of occupational experience upon the values of vocational educators. The value orientations of vocational and technical educators may be related to members of their vocational specialty group, the vocational and technical education profession, or both groups.

Occupational Groups Closely Related to Vocational and Technical Education

Research regarding extension personnel, other educational personnel, businessmen, and engineers has been reviewed in order to

illustrate the value orientations of individuals in occupations closely related to vocational and technical education. Briley (1968) investigated the interpersonal value orientations of 267 extension homemakers in Robeson County, North Carolina. She studied the relationship of value orientations to age, educational level, income, years in club work, family size, and ethnic group. Data were obtained through a personal information sheet and Gordon's Survey of Interpersonal Values. Some statistically significant relationships were found at the alpha level of .01 between value orientations and the variables of age, educational level, and ethnic group.

King (1961) attempted to reveal the direction of the relationships of personal value systems to job satisfaction among personnel of the Florida Agricultural Extension Service. The Job Satisfaction Inventory and Poe's Inventory of Values were utilized. Male and female workers were found to have differential value systems. The researcher indicated that a study of the changes in values with age and length of service would be desirable.

Weick (1969) conducted a study of the relationships of personal value orientations to the personal characteristics of Arizona Cooperative Extension Service professional staff members. Value orientations were measured via the Allport-Vernon-Lindzey Study of Values. Statistically significant correlations were found at the alpha level of .05 between the background factor of sex and aesthetic, political, and social values. Level of degree was related to theoretical values.

Through a study of adult basic education teacher trainees, Nave (1969) found that value orientations as measured by the

Study of Values vary according to race. Value orientations remained constant among males and females. In addition, value orientations remained constant as age and level of education increased.

Ethridge (1971) studied the relationships between value orientations and critical thinking ability of present and prospective administrators, teachers, and students enrolled in selected courses at North Carolina State University. The Watson-Glaser Critical Thinking Appraisal and the Revised Differential Values Inventory were administered to sixty-one graduate students enrolled in professional adult education courses during the first summer session. No differences were found in the value orientations of administrators, teachers, and students. However, experience, educational level, and residence background were significantly associated with the value orientations of teachers.

Shaffer (1956) attempted to obtain the relationship of the values of businessmen to membership location within the business organization. Values were measured by the Allport-Vernon-Lindzey Study of Values. Length of occupational service, rank attained, departmental membership, size and type of organizational affiliation were utilized as the means of defining membership location within the organization. Significant differences were found on all variables tested.

Utilizing the Allport-Vernon Study of Values, Karn (1952) attempted to obtain the value orientations of undergraduate engineering students. These students were classified according to their specialty within the engineering major: metallurgical, electrical, mechanical, chemical, and civil. Value scores were obtained for each engineering

specialty group. Reliable differences were found among the groups in every value area except the theoretical and social. This study indicated that specialty groups within a particular occupation may possess distinct value orientations.

Comparisons Among Teaching Groups

Getzels and Jackson (1963) stressed the importance of studying intra-group variations when teaching is the vocation under consideration. They indicated that researchers assume teaching to be a unitary interest and do not differentiate teachers by subject matter taught.

Sprinthall and Beaton (1966) examined possible value differences among teachers within a suburban Boston secondary school. Values were measured through the Allport-Vernon-Lindzey Study of Values with variation examined according to subject matter taught and sex. In an analysis of the theoretical, economic, and aesthetic scales, the effect of subject matter taught was significant.

Whitmore (1968) obtained and compared the value preference scores of Colorado State College student teachers, their supervising teachers, and undergraduate education majors. The Allport-Vernon-Lindzey Study of Values was utilized to obtain the subjects' value preferences. Differences between the group means were tested for significant differences at the alpha level of .05 through F tests of analysis of variance. Value preference scores of the student teachers, their supervising teachers, and the undergraduate education majors were not significantly different in any of the six value areas.

Other findings indicated that teaching experience may not greatly influence the value orientations of teachers.

A total of 189 teachers from forty-four Chicago suburban schools participated in the Schutte (1968) study. She employed the Allport-Vernon-Lindzey Study of Values, the Edwards Personal Preference Schedule, and the Minnesota Multiphasic Personality Inventory in order to measure the characteristics of inservice typewriting and shorthand teachers. She desired to determine statistically significant differences existing between teachers ranked highest by their department chairman and those ranked lowest. Comparisons were also made based on the teachers' age, sex, marital status, degree, professional memberships, courses taken, subjects taught, teaching preference, and beliefs about differences in skills required to teach. Test scores were statistically analyzed by one-way analysis of variance and t-tests with a .05 level of significance as the criteria of difference. Differences were obtained in all comparisons with a few exceptions. First, on the basis of the instruments used the researcher could not distinguish between teachers ranked highest and lowest by their department chairmen. Second, shorthand and typing teachers could not be effectively distinguished from one another on the basis of comparisons made and instruments used.

The Study of Values was utilized by Colbert (1971) to compare several groups of teachers employed in Oregon's correctional institutions. The values of these teachers were compared according to: (1) institution, (2) educational assignment, (3) employment status, (4) sex, (5) age,

(6) educational preparation, and (7) educational experience. When academic and vocational educators were compared, significant differences were found between their economic, aesthetic, and social values.

The value orientations of academic and vocational educators have been compared, and researchers have studied the value orientations of certain specialists within vocational education. However, prior to the present study, data have not been available which would enable a comparative analysis of the value orientations of secondary teachers in all of the vocational specialty areas.

THEORETICAL FRAMEWORK

Reference group and value theories stimulated and guided this research. These theories were reviewed herein. Factors which may influence value orientations were discussed, and the theoretical model of the investigation was presented.

Reference Group Theory

Merton (1957) and Hyman (1960) stressed the philosophy that attitudes, beliefs, values, and behavior are influenced through social contact with others in a group context. These group associations have been distinguished as primary or secondary depending upon their size, the degree of face-to-face interaction within the group, and the type of influence the group has on the individual. The term, "primary group," has been used to refer to associations which are small enough to permit frequent interaction among members. On the other hand, the

"secondary or reference group" has typically referred to a large scale association.

Merton (1957:233) defined the reference group as any group that an individual takes as a frame of reference for self-evaluation, attitude formation, and behavior. A variety of social formations such as membership and non-membership groups, collectives, and social categories have been included in the reference group concept. Shibutani (1955:563) indicated that a number of groupings with great variation in size, composition, and structure could become reference groups.

According to Merton (1957), an individual's values, beliefs, and ideals are derived from the values, norms, and status regulations of the group or groups of which he is an actual member. These memberships have been established on either an informal or formal basis. Informal group memberships have been based upon factors such as sex, race, or cultural background. The individual has had no choice over his informal group memberships. Formal membership implies that the individual has had some choice in becoming a member of this particular group. An individual's chosen occupational or educational group present examples of formal group memberships (Sherif, 1948).

Sociologists such as Kelley (1952) and Merton (1957) have agreed that a reference group may serve both normative and comparative functions. These functions are used to describe the relationships between individuals and a particular group or groups. The normative function describes a group in which the individual is motivated to gain or maintain acceptance. Such a group serves to set and enforce standards for the individual. The group to which the individual refers as a

reference point in making evaluations of himself or others is considered as serving the comparative function of reference groups. For instance, the vocational educator may wish to be accepted by other individuals within his particular specialty area. In addition, he may refer to himself as a agricultural education teacher and compare himself to other teachers in agricultural education. Thus, an individual's specific reference group identity within vocational education may serve either or both normative and comparative functions for this individual.

Social categories have been perceived as non-membership type reference groups which may be used as a frame of reference by the individual. The individual utilizes social categories as a standard or comparative point in making evaluative decisions. The social categories serve as a comparative function and account for variations in behavior. Collectives are described as aggregates of social statuses in which the occupants are not necessarily in social interaction. Because social categories have like statuses and similar interests and values, social categories can be mobilized into collectives or groups.

Shibutani (1955:563) indicated that groups structure the individual's perceptual field, and any collectivity whose perspective is assumed by the individual becomes a reference group. He contended that:

. . . consistency in the behavior of a man in a wide variety of social contexts is to be accounted for, then, in terms of his organized perspective. Once one has incorporated a particular outlook from his group, it becomes his orientation toward the world, and he brings this frame of reference to bear on all new situations.

Thus, as an individual uses the outlook of a particular grouping as a frame of reference in organizing his perceptual field, this particular grouping becomes the individual's reference group. Although some sociologists recognize membership groups as being of greatest importance as reference groups, in some situations an individual might assume the perspective of a specific social category or a collective.

Reference group theory has been utilized to describe individuals as group members. This theory has centered upon the processes through which individuals related themselves to groups. Riley and Riley (1959) indicated that an individual adopts many of the central values of his significant reference groups during the various stages of his life development. Reference groups provide individuals with a standard for evaluating their own actions and those of others. Thus, the individual comes to shape his value orientations in line with those of his reference groups. His behavior is molded by the value orientations of these groups. This reference group theory is congruent with the psychological value theories of Spranger (1928) and Allport (1961). These theorists have emphasized the motivational nature of values. They have come to view values as predispositions operating prior to behavior.

Value Theory

A number of theorists and researchers in the fields of anthropology, sociology, psychology, and education have studied a variety of concepts in efforts to define and classify values. According to Tisdale (1961), general agreement has not been reached on any single meaning for the term value. However, he offers the following as a potentially useful summative definition:

. . . inferred motivational products associated with perceived differences in goal-directed behavior and indicated by the selection of action alternatives with social situations (Tisdale, 1961:168).

This definition is based upon a combination of the various categories of value theory. These theories may be classified into distinct groups as follows: (1) those who equate values with intellectually held concepts, (2) those who view values as preferences resulting from problem situations demanding behavioral choices, (3) those who see values as different kinds of situational relationships, and (4) those who describe values at the affective level as needs and motivations. These theories are discussed in order to present a total perspective of the value concept.

Values as concepts. Few psychologists have been willing to defend the view that values are intellectually held concepts. However, some social scientists expressed this view as they defined values. Kluckhohn (1951:395) proposed the following definition: "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 to action." Corey (1955) hoped to discover the concepts held by students in the teachers college. She developed an 112 item instrument and administered such to 843 subjects. The subjects did not illustrate congruent value systems. This pattern caused Corey to indicate that value systems are uniquely individual, but not exclusively so.

Values as preferences resulting from problem situations demanding behavioral choices. John Dewey could be considered a leading theorist among those who view values as problem situations demanding behavioral choices. Dewey (1929) perceived values as practical judgments and aspects of human experience. When problem situations arise, practical judgments or value decisions must be made. It is within the context of human experience that valuation takes place. Through human experiences or life, man develops different perspectives for viewing acts.

Morris (1956) referred to values as preferential behavior. He described three types of values: (1) operative, (2) conceived, and (3) object. Operative values referred to actual preferences among real alternatives. Conceived values were said to be ideal conceptions of what should be. Object values were considered means end relationships (Morris, 1955:10-12). Object values have yet to be operationalized in Morris' work. However, his definitions of value refer to preferential behaviors. Morris designed a scale to measure values, the Ways to Live Scale. This scale contains thirteen paragraphs which include statements regarding values both as what is desired and as what should be preferred. The respondent is asked to relate what he prefers. However, some data have been gathered by asking the respondent what he feels he should prefer.

Woodruff and DiVesta (1944) postulated several concepts relative to values but equated them with choices. Thus, Woodruff and DiVesta considered values as the roots of preferential decisions that individuals make in the course of behaving as a human being.

Bem (1970) contended that values enter as premises into many syllogisms. Accordingly, many beliefs are derived from them as choices are made among alternatives.

Values as situational relationships. Kohler (1938), Lewin (1951), and Asch (1950) have described values as different types of situational relationships. Although these theorists have defined values, little research has been conducted which is related to this theory.

Kohler (1938) is the original and most influential of this particular group of theorists. Kohler perceived value orientations as relationships between sets of objects within an individual's phenomenal field. This theory is further explained by Lewin (1951:41):

Values influence behavior but do not have the character of a goal (that is, of a force field). For example, the individual does not try to 'reach' the value of fairness but fairness is 'guiding' his behavior. It is probably correct to say that values determine which types of activity have a positive and which have negative valence for an individual in a given situation. In other words, values are not force-fields but they 'induce' force fields.

In addition, Lewin felt that group membership could influence an individual's values. Asch (1950) also expressed this theory. He indicated that social situations cause individuals to develop a set of relevant motives. These motives direct the actions or behavior of individuals. Generally, individuals are motivated to produce behavioral patterns which will be acceptable to others.

Hartley (1960) conducted research regarding group membership and value change. She asked 146 male college freshmen to rank lists of value items. As a result of such rankings, she confirmed the following hypothesis:

The greater the compatibility between the values of the individual and the perceived values of the new group, the more likely the individual is to accept the new group as a reference group (Hartley, 1960:181).

Values as needs and motives. Becker (1968:252) stated: "There are no human needs without values; there are no human values without needs. Needs and values are reciprocally defined in and through socialization." In terms of theory, Maslow's elucidation of values as needs is the most extensive. Basically, Maslow (1954) describes human values as needs or need gratifications. He identifies values according to their constitutional basis, hierarchical nature, and possible horizontal classification. When values are classified according to their constitutional basis, they are considered to be of a biological nature or hereditary in their determination. Values are hierarchical in terms of their order or strength of priority. Maslow indicated that the chief principle of organization in human motivational life is the arrangement of needs in a hierarchy of priorities. When the basic needs are satisfied, higher needs emerge to dominate the organism. These need groups or values are: (1) the physiological (hunger, thirst); (2) the safety (security, order); (3) the love (affection, identification); (4) the esteem (prestige, success); and (5) self-actualization (the desire for self-fulfillment). In order to make Maslow's hierarchy more explicit, two theorists have attempted to make the term, "self-actualization," more definitive. McClelland (1968) described this term as achievement while Gellerman (1968) viewed self-actualization in terms of power and competition.

Through his horizontal classification, Maslow (1954) described two types of values: (1) common and (2) idiosyncratic. Common values are commonly shared needs. On the other hand, idiosyncratic values refer to peculiarly individual needs or individual values.

Goldstein (1959) shared Maslow's theoretical base. However, he considered health as the basic value. Both Maslow and Goldstein defined values in relationship to the biological structure of the individual. Other theorists have accepted this theory in order to stress the motivational nature of values. Spranger and Allport are the two major theorists concerned with this perspective.

According to Spranger (1928), values are interests, attitudes, sets, relations to objects, or dispositions to act which predetermine both the character and the behavior of an individual. Through his Lebensformen study, Spranger described the broad types of value orientations of life forms. Every actual person can be regarded as approaching (but not fitting perfectly within) one of these six value orientations:

The theoretical man values the discovery of truth. He is empirical, critical, and rational, aiming to order and systemize his knowledge.

The economic man most values that which is useful. He is interested in practical affairs, especially those of business, judging things by their tangible utility.

The aesthetic man most values beauty and harmony. He is concerned with grace and symmetry, finding fulfillment in artistic experiences.

The social man most values altruistic and philanthropic love. He is kind, sympathetic, unselfish, valuing other men as ends in themselves.

The political man most values power and influence. He seeks leadership, enjoying competition and struggle.

The religious man most values unity. He seeks communion with the cosmos, mystically relating to its wholeness (Robinson and Shaver, 1969:419).

In selecting his types of men, Spranger held a flattering view of human nature. He did not allow for valueless personalities or for those who follow an expedient or hedonistic philosophy. Nevertheless, Allport expounded upon Spranger's theory. According to Allport (1961:454) we know a person best if we know what kind of future he is bringing about--and his molding of the future rests primarily on his personal values. Thus, Allport and Vernon (1931) sought to translate Spranger's constructs regarding the ideal types of men into measurable dimensions through their Study of Values instrument. The original instrument was revised in 1951, and additional revisions were made in the manual of instructions with a third edition in 1960.

Explicit credit is given to Spranger for the theoretical inspiration for the Study of Values instrument. The basic interests or motives measured by the instrument are the same as those postulated by Spranger with the exception of the social type. Through the 1951 revision of the instrument, the social value was redefined to measure altruistic love or philanthropy. Spranger considered the social value to include love in any form.

Researchers have developed other instruments utilizing Spranger's theoretical base. Lurie (1937) conducted a factor analysis of items based on the Spranger work. He obtained factors differing from Allport and Vernon's, but failed to validate such. VanDusen, Wimberly, and Moser (1939) developed the Values Inventory which built on Lurie's work. They have suggested that the instrument be revised for future usage. However, this suggestion has not been carried out.

Maller and Glaser (1939) created an Interest-Values Inventory. The instrument was designed to measure four value categories: (1) social, (2) economic, (3) theoretical, and (4) aesthetic. This test was validated by use of criterion groups of known vocational interests.

Although other instruments have been constructed based on the Spranger classification, the Allport-Vernon Study of Values (1931) has emerged as the most popular instrument (Robinson and Shaver, 1969:405). According to Dukes (1955:34), the instrument has obtained widespread, sometimes uncritical usage.

Since the development of the Allport-Vernon Study of Values, another theorist has stressed the motivational nature of values.

Once a value is internalized, it becomes, consciously or unconsciously, a standard or criterion for guiding action, for developing and maintaining attitudes toward relevant objects and situations, for justifying one's own and other's actions and attitudes, for morally judging self and others, and for comparing self with others (Rokeach, 1968:160).

While many social psychologists are studying the attitude concept, Rokeach (1968:14-15) has stressed the following reasons for placing the value concept above the attitude concept:

First, value is clearly a more dynamic concept than attitude having a strong motivational component as well as cognitive, affective and behavioral components. Second, while attitude and value are both widely assumed to be determinants of social behavior, value is a determinant of attitude as well as of behavior. Third, if we further assume that a person possesses considerably fewer values than attitudes, then the value concept provides us with a more economical analytic tool for describing and explaining similarities and differences between persons, groups, nations and cultures.

Consider, finally, the relative ubiquitousness of the value and attitude concepts across disciplines. While attitudes seem to be a specialized concern mainly of psychology and sociology, values have long been a center of theoretical attention across many disciplines-- in philosophy, education, political science, economics, anthropology

and theology, as well as in psychology and sociology. All these disciplines seem to share a common concern with the antecedents and consequents of value organization and value change. Around such a shared concern we may more realistically anticipate genuine interdisciplinary collaboration.

Krathwohl, Bloom, and Masia (1964) presented a five level framework wherein value levels may be expressed in behavioral terms. These levels have been summarized by Etheridge (1971:42) as follows:

At the first level--receiving--the individual is sensitized to the presence of certain phenomena and stimuli. The individual is aware of a stimulus factor, is willing to receive it, and differentiates the aspects of the stimulus.

At the second level--responding--the individual is sufficiently motivated to attend actively the stimulus. At this level, the individual is doing something with the phenomenon besides merely perceiving it, and makes some type of response.

At the third level--valuing--the individual perceives that an object, phenomenon, or behavior has worth of a nature such that it is accepted, preferred, committed to, and prized.

At the fourth level--organization--the individual has so internalized values that he encounters situations for which more than one value is relevant. He is thus faced with the necessity of determining the relationships among the values, organizing them into a system, and establishing dominances.

At the fifth level--characterization--the individual acts consistently in accordance with his internalized values, which guide his behavior, provide the matrix for action, and determine his philosophy of life.

Sikula (1971:281) described values as wants or preferences and value systems as a hierarchy revealing the relative importance of individual values. He indicated that these factors, values and value systems, are the key elements involved in understanding motivated behavior.

Groves, Kahalas, and Smart (1973) also denoted the motivational nature of values. They specified that beliefs, feelings, and action patterns interact to form a highly interrelated complex value system which situationally directs the behavior of individuals.

Factors Which Influence Values

There is no evidence that a generally accepted, clearly defined process exists by which an individual acquires his values. According to reference group theory, individuals hold attitudes and values in harmony with their group identifications. Generally, individuals possess a variety of group identifications and each of these identifications has the potential of influencing their values. Dewey (1929), Kolmann (1962), Breer and Locke (1965), Howard (1969), and Means (1970) contended that values arise from experience. Group settings and associations have provided the means for such experience.

Researchers conducting studies in social science and psychology have indicated that values may be influenced by a variety of factors. Such factors include: (1) vocation, (2) sex role, (3) race, (4) socio-economic background, (5) age, (6) educational status, and (7) teaching experience. Occupational experience may also influence value orientations. Theories and research studies which have implications regarding the manner in which each of these factors might influence value orientations are briefly mentioned herein.

Vocation. Spranger (1928:143) indicated that no power in adult life molds an individual so strongly as his vocation. According to Rosenberg (1957), values influence occupational choices and these choices also influence values. Once an individual has made an occupational choice, he begins to internalize the values, attitudes, and behavioral patterns characteristic of occupational incumbents (Rosenberg, 1957:6-7).

Through this study, the value orientations of Virginia vocational and technical education teachers were obtained according to their specialty area within vocational and technical education.

Sex role. According to Rosenberg (1954), the significance and meaning of work for men and women in American society are very different. Career has been said to play a more important part in the life plans of men than of women. Rosenberg (1954:43) further indicated that the values which men and women hope to satisfy in their occupational efforts differ in accordance with the socially defined sex roles. In recent years, socially defined sex roles have been experiencing great change. Value orientations of males and females should be studied as such roles continue to undergo change.

King (1961) found differing value patterns among male and female agricultural extension personnel, but Nave (1969) found no statistically significant differences among male and female adult education teachers. Through a study of correctional divisions' educators, Colbert (1971) found that males and females hold different aesthetic values. Sprinthall and Beaton (1966) found some differences among male and female teachers in terms of their social values. In addition, Weick (1969) found that teachers differ in terms of their aesthetic, political, and social values.

The research seems to support the philosophy that males and females differ in terms of their value orientations. According to tables of norms in the Manual Study of Values (1960), there is clear

evidence regarding sex differences in value orientations. This information provided implications for the study of the value orientations of vocational and technical education teachers.

Race. Studies of extension homemakers by Briley (1968) and adult education teachers by Nave (1969) have provided some information regarding the influence of race upon value orientations. Both researchers found that members of various races had different value orientations. As a result of this information, it was determined that the race of vocational and technical education teachers might influence their value orientations.

Socioeconomic background. Noll and Noll (1964) were unable to find any consistent relationship between the values and socioeconomic background of prospective teachers. However, Ethridge (1971) found that residence background did influence teachers' values. Goodenough's (1963) theory supports the information obtained through the Ethridge study. Goodenough (1963:87) indicated that people who have grown up under similar conditions are likely to show less differences in the personal sentiments than are persons of differing backgrounds.

Evidence regarding socioeconomic background and its effect on teacher's value orientations is inconclusive. However, it is a factor which was considered in the study of the value orientations of vocational and technical education teachers.

Age. James (1950:121) stated that by the age of thirty, the character has set like plaster and will never soften again. Schutte's

(1967) study of business teachers and Nave's (1969) study of adult basic education teacher trainers did not reveal significant differences among the values of subjects classified according to age. According to Finch (1969) values were not significantly correlated with the age of trade and industrial education teachers. Briley (1968) found some significant differences in the social values of home economics educators grouped according to their ages. In addition, Elliot (1969) implied that age influences value orientations. Super and Crites (1962) indicated that too little is known concerning the manner in which age influences values. Therefore, age was a factor of consideration in the study of the value orientations of vocational and technical educators.

Educational status. March and Simon (1958) postulated that values are related to levels of education. Nave (1969) found that the value orientations of adult basic education teacher trainers remained constant as education level increased; however, Colbert (1971) found differences in the economic and social values of correctional educators classified according to their educational preparation. Weick (1969) found differences in the theoretical values of teachers grouped according to their educational degree.

Through a study of administrators, teachers, and students, Ethridge (1971) found that educational status was significantly associated with value orientations. Schutte (1967) also found this relationship through her study of business teachers. Finch (1969) did not find significant correlations between value orientations and educational experience of trade and industrial educators.

The educational status of the vocational and technical education teachers in Virginia is extremely diverse. Some teachers are hired with high school diplomas, while others have more advanced degrees. Therefore, the influence of educational status upon the value orientations of vocational and technical educators was a factor of consideration in this study.

Teaching experience. The body of knowledge regarding the influence of teaching experience upon value orientations presents conflicting viewpoints. Hill (1959) found differences in the value orientations of groups of teachers having different amounts of teaching experience. Colbert (1971) discovered differences between the value orientations of correctional educators with one year of teaching experience and those with more experience. The research conducted by Murray (1968), Whitmore (1968), and Nave (1969) revealed no differences among the value orientations of teachers based on their teaching experience. No relationships existed between teaching experience and value orientations of trade and industrial education teachers in the study conducted by Finch (1969). The study of the value orientations of vocational and technical education teachers utilized length of teaching experience as a factor of consideration.

Occupational experience. Breer and Locke (1965) contended that researchers must examine the relationship between job experience and attitudes. They have indicated that it should be of special relevance to study how occupational experience affects value orientations. Shaffer (1955) found differences in the value orientations of businessmen with

varying years of occupational experience. However, such differences were not revealed through Whitmore's (1968) study of teachers and student teachers. In addition, Finch (1969) found no correlations between trade and industrial teachers' value orientations and the length of their occupational experience.

Most states require work experience for vocational teachers (Moss, 1971:54). It would appear that these teachers would develop certain values as a result of this experience. Klaurens (1972:131) has indicated that:

. . . a vocational teacher can exemplify workers or employers in an occupation in terms of values and attitudes, depending on the type of occupational experience he has had and how he related to his work.

Length of occupational experience was a factor of consideration in a study of the value orientations of vocational and technical educators.

Theoretical Model

A Theoretical Model for the Study of the Value Orientations of Virginia Secondary Vocational Educators is presented through Figure 1, page 40. For the purposes of this investigation, value orientations have been defined as the six basic motives of personality described by Spranger (1928). They are operationally defined as scores on six values--theoretical, economic, political, aesthetic, social, and religious--of the Allport-Vernon-Lindzey Study of Values.

According to Sikula (1971), a growing body of research knowledge has been accumulated which indicates the importance of value orientations in explaining and determining both individual and group

INPUTS

THROUGHPUTS

OUTPUTS

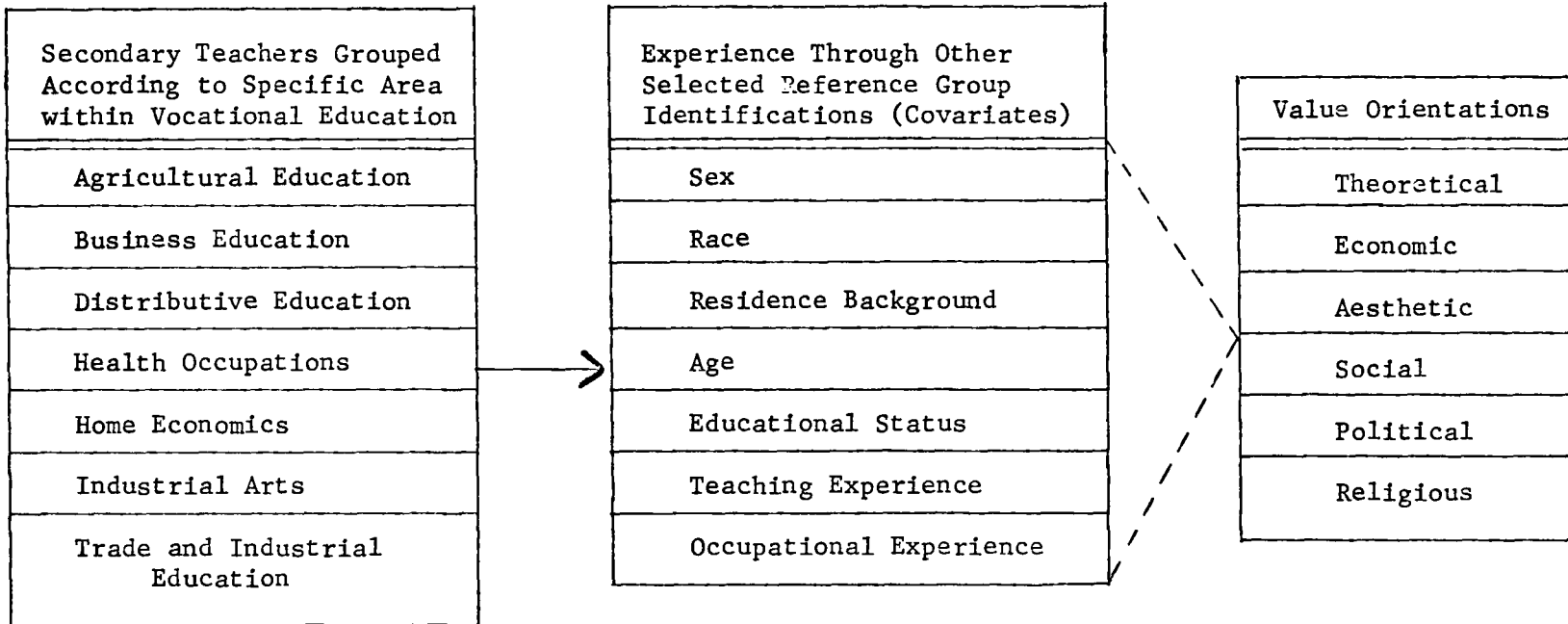


Figure 1

A Theoretical Model for the Study of the Value Orientations of Virginia Secondary School Vocational Educators

behavior. Reference group identifications become a part of the individual psychological identity and such affiliations influence the development of values. Thus, it would appear that value orientations of vocational and technical education teachers could be characterized by their reference group identifications. For the purposes of this investigation, specialty area within vocational and technical education was considered a major reference group identification. It was postulated that vocational and technical education teachers hold distinct value orientations based upon their specific reference group identity within vocational education. It was further postulated that experience through other selected reference group identifications may also influence the value orientations of vocational and technical educators. Based on a review of literature related to value orientations, it appeared that reference group identifications such as sex, race, residence background, age, educational status, teaching experience, and occupational experience might also influence value orientations. Therefore, these variables were statistically controlled in order to determine the effects of subject matter taught upon value orientations.

CHAPTER SUMMARY

Research related to the theories which prompted a comparative analysis of the value orientations of Virginia secondary school vocational and technical educators was reviewed in this chapter. These studies centered around the value orientations of: (1) entering and potential vocational and technical educators, (2) specialists in vocational and technical education, (3) occupational groups closely

related to vocational and technical education, and (4) teaching group comparisons.

Capelli (1973) studied the value orientations of entering and potential vocational and technical educators. The value orientations of entering and potential distributive education personnel were revealed through White's (1968) research. Hill (1959) and Murray (1968) obtained the value orientations of specialists in home economics education while Finch (1969) studied trade and industrial educators' backgrounds, values, and attitudes toward teaching. Through research by Briley (1968), King (1961), Weick (1969), Nave (1969), Ethridge (1971), Shaffer (1956), and Karn (1952) value orientations were obtained for groups of extension educators, other educational personnel, businessmen, and engineers. Comparisons among the value orientations of teaching groups were made by Sprinthall and Beaton (1966), Whitmore (1968), Schutte (1968), and Colbert (1971).

Reference group theory was reviewed in the theoretical framework. Distinct groups of value theories were discussed as follows: (1) those who equate values with intellectually held concepts, (2) those who view values as preferences resulting from problem situations demanding behavioral choices, (3) those who see values as different kinds of situational relationships, and (4) those who describe values at the affective level as needs and motivations. Factors such as vocation, sex role, race, socioeconomic background, age, educational status, teaching experience, and occupational experience were explored as group identifications which may influence values. In addition, the theoretical model for the study was presented and discussed.

Chapter 3

RESEARCH DESIGN AND METHODOLOGY

The purpose of the study was to determine and compare the value orientations of Virginia secondary teaching specialists operating within vocational and technical education. Undergirding theoretical considerations and a review of related literature were presented in the preceding chapter. In this chapter, the design, methods, and techniques used were described. The definition and delineation of the population; the research instrument; dependent, independent, and statistically controlled variables; procedures for collection of data; and methods of data analysis were included.

DESIGN OF THE STUDY

Kerlinger (1973:379) has defined ex post facto research as:

. . . systematic empirical inquiry in which the scientist does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulable.

The study was ex post facto survey research. Information regarding the value orientations of Virginia secondary vocational and technical educators was obtained via mail through a standardized instrument.

POPULATION AND SAMPLE

Secondary vocational and technical education teachers employed on a full-time basis in Virginia public schools comprised the target

population for the investigation. Groups of teachers who instruct solely in programs for disadvantaged or handicapped students and Industrial Cooperative Training coordinators were not included in the population as mentioned in the limitations of the study. Due to the fact that industrial arts is administered through the Division of Vocational and Technical Education, Virginia State Department of Education, industrial arts teachers were included in the population.

Using the 1974-75 Virginia directories of specialists within vocational and technical education, instructor data information sheets, and other information provided by the Virginia State Department of Education, the teachers were divided into seven strata according to their teaching specialty within vocational and technical education.

These seven strata were:

1. 345 agricultural education teachers;
2. 1,303 business education teachers;
3. 348 distributive education teachers;
4. 177 health occupations teachers;
5. 571 home economics teachers;
6. 537 industrial arts teachers; and
7. 702 trade and industrial education teachers.

In order to identify the sample for the study, a 12 percent stratified random sampling of the target population was made. A table of random numbers (Ary, Jacobs, and Razavieh, 1972:366) was utilized to select individual members of the sample. This procedure was consistent with that outlined by VanDalen (1973:322).

When employing this technique, he (the researcher) divides his population into strata by some characteristic which is known

from previous research or theories to be related to the phenomenon under investigation, and from each of these smaller homogeneous groups he draws at random a predetermined number of units.

Ary, Jacobs, and Razavieh (1972:164-165) have also commented on the procedure:

In stratified sampling, one first identifies the strata of interest and then draws a specified number of subjects from each stratum An advantage of stratified sampling is that the researcher can determine to what extent each stratum in the population is represented in the sample. He may either take equal amounts from each stratum or select in proportion to the size of the stratum in the population.

The major emphasis of the study was to determine the differences among and within the strata. Therefore, an equal percentage (12 percent) was applied to each stratum in order to obtain the sample. This resulted in a sample size of 478 vocational educators stratified as follows:

1. Forty-two agricultural education teachers;
2. One hundred fifty-six business education teachers;
3. Forty-two distributive education teachers;
4. Twenty-one health occupations teachers;
5. Sixty-nine home economics teachers;
6. Sixty-four industrial arts teachers; and
7. Eighty-four trade and industrial education teachers.

This percentage was determined to be sufficient based on information stated by Ary, Jacobs, and Razavieh (1972:167).

There is no single rule that can be used to determine sample size It is sometimes suggested that one select 10-20 percent of the accessible population for the sample.

In addition, Roscoe (1969) recommended the use of a sample one-tenth of the size of the parent population. The sample of 478 teachers

was larger than this recommendation. Because a mail questionnaire technique was used, it was anticipated that (1) some teachers might decline to participate in the study and (2) a 100 percent return of the instruments would not be forthcoming, hence the use of a larger initial group.

THE RESEARCH INSTRUMENTS

A Professional Data Sheet (Appendix D) was developed as a means of obtaining demographic data regarding the research subjects. The data sheet was examined by a panel of graduate students to improve face validity. This meets with the description of face validity specified by Ary, Jacobs and Razavieh (1972:192): "a subjective evaluation by judges as to what a measuring device appears to measure."

Through a comprehensive review of the literature related to value orientations, the Allport-Vernon-Lindzey Study of Values was identified as the instrument to be employed in this investigation. First developed in 1931, the Study of Values assesses the relative prominence of six basic interest or personality motives: (1) the theoretical, (2) economic, (3) aesthetic, (4) social, (5) political, and (6) religious. The classification is based on Spranger's theory which indicated that the personalities of individuals are best known through a study of their values or evaluative attitudes.

The Study of Values was revised in 1951. According to the authors, improvements were revealed in the revised form:

. . . it increased the diagnostic power of the items; it simplified working and modernized certain items; it revised and shortened the scoring system; it provided fresh norms; it increased the reliability of the test as a whole (Allport, Vernon, and Lindzey, 1960:9).

The social value was also redefined to improve its reliability. The authors limited their items to measure altruistic love or philanthropy through this edition. A third edition of the test was published in 1960. There were no changes in the test items through this edition, but additional data were offered in the manual as a result of enlarged and improved norms.

Limitations of this instrument also exist. This scale measures only the relative strength of each value; thus, being ipsative in nature, a high score on one scale necessitates a corresponding reduction on one or more of the other scales. This is not necessarily a deficiency in the test, but it is a fact that must be remembered in evaluating the results.

The test is self-administered, requiring about twenty minutes to complete. The test may also be self-scored. Both taking and scoring the test can be completed within one hour. Norms are provided for both sexes so that subjects can interpret their own profile of values.

The test is composed of forty-five items, thirty of which are forced choice (Part I), and fifteen of which require rank ordering of four alternatives (Part II). In Part I the subject can express a strong or weak preference for his choices by the way he distributes three points. Thus, a strong preference for alternative a over alternative b would be indicated by marking alternative a as "3" and marking alternative b as "0." A slight preference for a over b would be indicated by marking a as "2" and b as "1." In Part II the subject rank orders four statements from "1" to "4," where "4" indicates greatest preference. Scores are obtained by summing item scores and adding or subtracting correction

figures. In all, there are 120 answers, twenty of which refer to each of the six values.

The relative importance of six areas of interest or values are examined through the Allport-Vernon-Lindzey Study of Values. The instrument measures preferences, not what ought to be preferred. Internal consistency and split-half reliability for group use are adequate and scores do consistently relate to certain occupations as predicted by the theory. It is easy to administer. In spite of the criticisms and limitations noted, Robinson and Shaver (1969:421) consider it to be "the best and certainly the most ubiquitous of scales of values."

It was selected for this investigation on the basis of: (1) prior use in educational and occupational research, (2) reliability, (3) validity, and (4) ease of administration. It was also felt that previous work with vocational and technical education personnel utilizing this instrument would enable comparisons with Virginia secondary vocational and technical education teachers.

Reliability

Split-half reliabilities (N = 100) created the following Spearman-Brown product moment correlations: theoretical .84, economic .93, aesthetic .89, social .90, political .87, and religious .95. A Z transformation provided a mean reliability coefficient of .90 (Allport, Vernon and Lindzey; 1960:7). An item analysis (N = 780 male and female subjects at six different colleges) indicated that every item was positively correlated at the .01 level with the total score for its value. Test-retest reliabilities after one month (N = 34, 1951) were:

theoretical .87, economic .92, aesthetic .90, social .77, political .90, and religious .91. After two months (N = 53, 1957) test-retest reliabilities were theoretical .85, economic .84, aesthetic .87, social .88, political .88, and religious .93. For the 1951 study, .89 was the Z transformed mean repeat reliability coefficient; for the 1957 study, this figure was .88 (Allport, Vernon and Lindzey; 1960).

Validity

Much external validation has been done on this test. Two surveys reviewed issues of validation for the 1931 form: (1) Cantril and Allport (1933) and (2) Duffy (1940). Indirect validation has been suggested by findings such as those of Newcomb (1943) which indicated that values change in the direction predicted by a particular kind of college education. The scale does distinguish among groups differing in occupation and other interests in predicted ways. There are many studies showing correlations between the scales and other variables such as group memberships, occupational and educational choices. Some of these studies are discussed herein in order to illustrate the content validity of the instrument.

Duffy and Crissy (1940) correlated scores on the Study of Values with scores on ten scales of the Strong Vocational Interest Blank for Women. Statistically significant relationships were found between certain values and specific vocational interests. Sarbin and Berdie (1940) found relationships between values measured by the Allport-Vernon scale and interest measured by the Strong Vocational Interest Blank for

Men. As a result of information obtained through these studies, Duffy (1940:609) concluded that:

. . . individuals in scientific fields have high theoretic value scores; individuals in artistic fields have high aesthetic value scores; and individuals in business, and those studying commercial subjects have high economic values. Men score higher on theoretic, economic and political values; women score higher on aesthetic, social, and religious values.

Arsenian (1943) administered the Allport-Vernon Study of Values and the Cleeton Vocational Interest Inventory to entering male freshmen at Springfield College. Statistically significant correlations of each of the evaluative attitudes with interest in the occupational categories showed that:

1. The theoretical attitude is positively correlated with vocational interest in four occupational groups, namely; (a) engineer, chemist, technologist, mathematician, and occupations related to physical sciences (+.29); (b) physician and occupations related to biological sciences (+.17); (c) skilled workers in mechanical occupations (+.15); (d) accountant, statistician, banker, broker, and other occupations related to finance (+.14).
2. The economic attitude is positively correlated with four occupational groups and negatively with one as follows: (a) purchasing agent, business manager, and occupations related to business administration (+.19); (b) accountant, statistician, banker, broker, and other occupations related to finance (+.15); (c) life insurance salesman, and other specialized selling fields (+.13); (d) skilled workers in mechanical occupations (+.12); (e) actor, musician, artist, and other creative or public performance occupations (-.15).
3. The aesthetic attitude is positively correlated with only one occupational group, namely, actor, musician, artist and other creative or public performance occupations. . . .
4. The social attitude is positively correlated with three occupational groups, namely: (a) actor, musician, artist, and other creative or public performance occupations (+.17); (b) teacher, minister, social worker, Y.M.C.A. worker, and occupations related to social sciences (+.14); lawyer, journalist and other legal and literary occupations (+.13).
5. The political attitude is negatively correlated with three occupational groups, namely: (a) teacher, minister, social worker, Y.M.C.A. worker and other occupations related to the social sciences (-.23); (b) actor, musician, artist and other creative or public performance occupations (-.19); (c) physician and occupations related to biological sciences (-.13).

6. The religious attitude is positively correlated with only one occupational group, namely: teacher, minister, social worker, Y.M.C.A. worker and occupations related to the social sciences. (Arsenian, 1943:241-242)

Super's (1957) theory of vocational development formed the basis for the hypothesis that there would be significant positive correlations between certain life values, as measured by the Allport-Vernon Study of Values, and corresponding work values, as measured by the Work Values Inventory. Kinnane and Gaubinger (1963) administered these instruments to college freshmen. Pearson product moment correlations were computed for each of the pairs of values. Five hypotheses predicting relationships between life values and work values were supported.

Through a study of the interest and value patterns of air force officers, Guba and Betzels (1956) found that low theoretical scores on the Study of Values instrument were supported by low scientific scores on the Kuder. Low social and aesthetic scores on the Study of Values were supported by low social service and literary scores on the Kuder. In addition, a high Study of Values political score was supported by a high Kuder persuasive score.

Ary, Jacobs, and Razavieh (1972:191) have defined content validity as "the degree to which a test samples the content area which is to be measured." As a result of information obtained through previous research with the Allport-Vernon-Lindzey Study of Values, it appears that content validity exists for this instrument.

THE VARIABLES

Dependent Variables

The Allport-Vernon-Lindzey Study of Values was employed in order to measure value orientations. Value orientations were operationally defined as scores on six values--theoretical, economic, political, aesthetic, social, and religious--of the Allport-Vernon-Lindzey Study of Values. Therefore, these six values were the dependent variables under investigation: the theoretical, the economic, the political, the aesthetic, the social, and the religious.

Independent Variables

The seven groups of vocational and technical educators were the independent variables to be investigated. These groups included Virginia secondary teachers of agriculture, business, distribution, health occupations, home economics, industrial arts, and trades and industries.

Statistically Controlled Variables

As a result of a review of literature related to value orientations, it became evident that variables such as the sex, race, residence background, age, educational status, years of teaching experience, and years of occupational experience of an individual might influence value orientations. Therefore, it was decided that these variables should be considered in a study of the value orientations of vocational and technical education teachers.

Generally, these variables would be controlled through the process of matching or blocking. Through matching, vocational educators in each

of the seven groups would be identically matched on a subject to subject basis on the variables of sex, race, residence background, age, educational status, years of teaching experience, and years of occupational experience. If the matched pairs were obtained and then randomly placed in the various groups, the process of blocking would be used. Due to the complexity of the variables, the nature of the subjects and the data available on them, matching or blocking could not be employed in this investigation. Therefore, statistical techniques were utilized in order to control these variables.

COLLECTION OF DATA

Each Virginia school division superintendent was mailed a letter requesting permission to include the school division's vocational and technical education teachers in the sample (Appendix A). With only two exceptions, permission was granted by all division superintendents.

Packets of materials including a cover letter from the Virginia Polytechnic Institute and State University vocational and technical education program area leaders, a letter from the investigator, the Professional Data Sheet, the Allport-Vernon-Lindzey Study of Values color coded according to specialty area of teacher, a number two pencil, and a self-addressed stamped return envelope were prepared for mailing. The letters and professional data sheets are illustrated in Appendices B through D.

Mail surveys enable participants to complete the instruments at their own pace and location. They yield data collected in an uncontrolled environment. Inasmuch as a major source of errors encountered

in the use of direct mail instruments is misinterpretation of items and slowness of response, efforts were expended to insure accuracy and completeness of directions. A panel of graduate students at Virginia Polytechnic Institute and State University was asked to review the research materials prior to the initial mailing. The 478 packets were mailed March 17, 1975.

Two weeks were allowed for response before follow-up procedures were initiated. Letters were mailed to those who had not completed the instruments. If the first reminder failed to elicit a response, another mail contact was made two weeks later. This effort was followed by a telephone call directly to the participant. Follow-up letters are illustrated in Appendix E.

Travers (1969) indicated that the normal maximum rate of return for a mail survey is 40 percent. In order to conduct the statistical data analysis, a 50 percent rate of return was necessary. Therefore, the higher return rate was anticipated. This prediction proved to be accurate. By May 5, 1975, 73 percent or 349 of the 478 packets had been returned. Table 2 illustrates the number of packets mailed and the number and percentage of returns by each specialty group.

ANALYSIS OF THE DATA

Professional Data Sheets and Study of Values instruments were audited for completeness. In two instances where items were not complete, the subjects were contacted by telephone and requested to provide the necessary information.

Table 2

Summary of Packets Mailed and Number and Percentage
Returned by Specialty Groups

Specialty Group	Number Mailed	Number and Percentage Returned	
Agriculture	42	34	(80.9%)
Business	156	113	(72.4%)
Distributive	42	30	(71.4%)
Health Occupations	21	18	(85.7%)
Home Economics	69	54	(78.3%)
Industrial Arts	64	40	(62.5%)
Trades and Industries	84	60	(71.4%)
TOTALS	478	349	(73.0%)

The Allport-Vernon-Lindzey Study of Values was hand scored, and re-checked for accuracy. Profiles were sent to 273 respondents who requested them. Data obtained from the Professional Data Sheet and the Study of Values were key punched on data processing cards and checked for accuracy. Data analyses were either hand calculated or conducted using the Virginia Polytechnic Institute and State University computer facilities.

Descriptive statistics such as frequencies, percentages, and mean scores were utilized in order to define the general characteristics of the subjects. These statistics were hand calculated.

A simple one way analysis of variance was calculated for each of the six dependent variables: (1) theoretical, (2) economic, (3) aesthetic, (4) social, (5) political, and (6) religious values. According to Ferguson (1971), "the analysis of variance is used to test the significance of the differences between the means of a number of different populations." This analysis was calculated through the Tele-Storage and Retrieval System One Way Analysis of Variance Program. This program yielded mean scores, standard deviations, variances, degrees of freedom, sums of squares, variance estimates, F-ratios, interclass ratios, and Bartlett's test scores. Assumptions underlying the analysis of variance as specified by Downie and Heath (1970) were satisfied. First, the seven groups of vocational educators were randomly selected from normally distributed populations, and secondly, the samples comprising the groups were independent. On the basis of a Bartlett's test, variance of the subgroups was homogeneous for each of the six values.

F test multiple comparisons were hand calculated utilizing the Scheffé procedure. Ferguson (1971:271) has indicated that this method "is more rigorous than other procedures, and will lead to fewer significant results." The alpha level of .05 was utilized to test significant differences between the means.

A Fortran IV G Level 21 Program was written and utilized in order to separate and code the variables for the final data analysis. The BMD04V program was utilized to compute analysis of covariance information. According to Hays (1973), the analysis of covariance enables statistical control for the concomitant variables, thus removing their influence on the dependent variables when the groups are compared. Ary, Jacobs, and Razavieh (1972) have indicated that the analysis of covariance is a superior method of control in an ex post facto study.

Output from the BMD04V program included: (1) variable means for the treatment groups; (2) the sums of products matrices for total treatment and error; (3) analysis of covariance tables with degrees of freedom, sums of squares, mean squares, and F ratios; (4) tables of regression coefficients, their standard errors, and computed t-values with and without adjustment for groups, (5) and tables of adjusted means and their standard errors. The hypotheses of this study were tested at the alpha level of .05. In order to clarify the processes utilized in the analysis of data, a graphical illustration of the data analysis is presented through Figure 2, page 58.

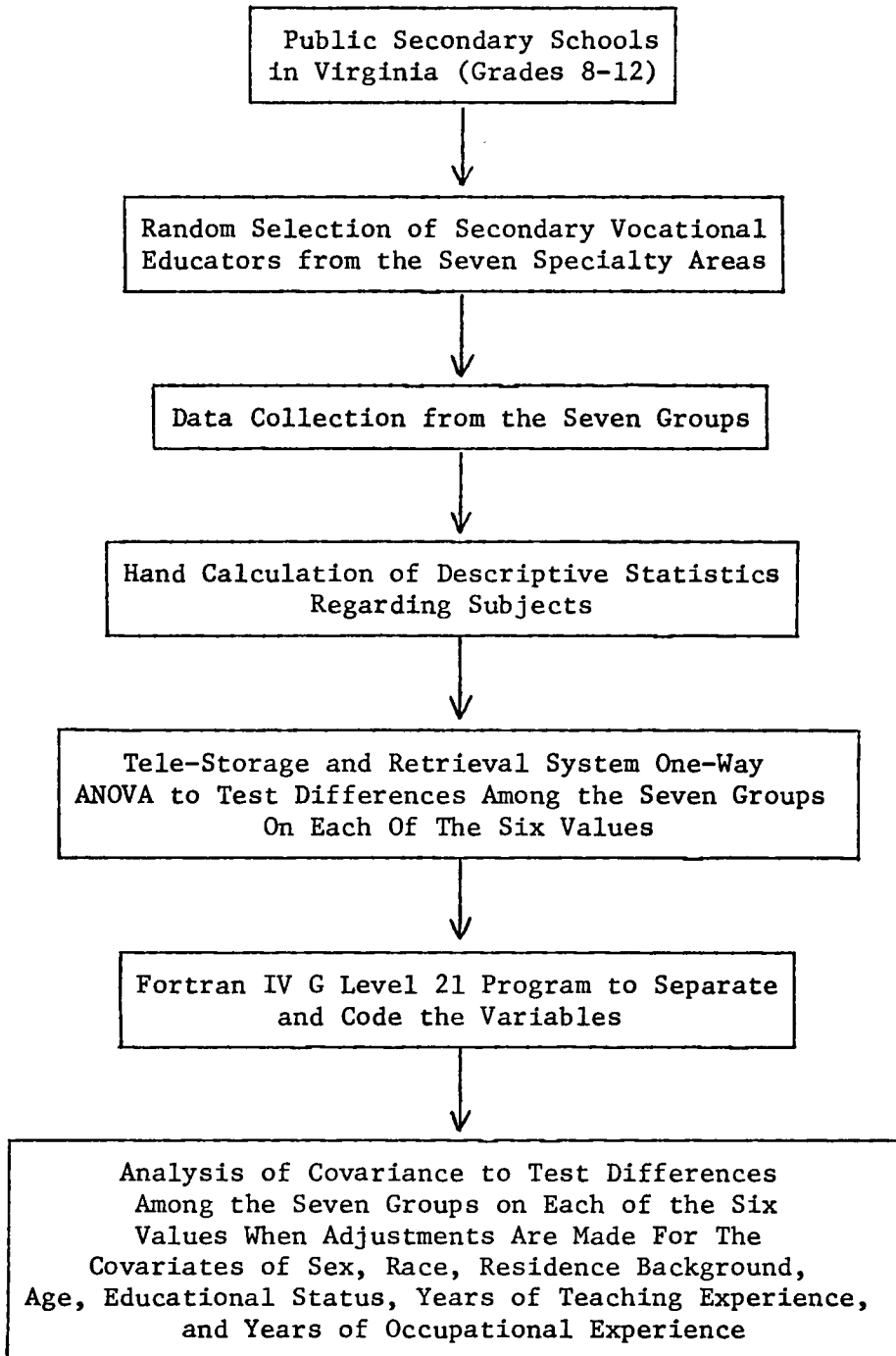


Figure 2

Graphical Illustration of the Data Analysis

CHAPTER SUMMARY

The design, methods, and techniques for the study were presented in this chapter. The description of such included the definition and delineation of the population to be studied; selection of the research instrument; dependent, independent and statistically controlled variables; procedures for collection of data; and methods of data analysis. A graphical illustration of the data analysis was also presented.

Chapter 4

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Through this study, the value orientations of seven groups of secondary vocational and technical education teachers in Virginia public schools were determined and compared. The analysis and interpretation of data collected to make these comparisons were presented in this chapter. The chapter was divided into three sections which included a discussion of the general characteristics of the subjects, group value differences, and group value differences with adjustments for the covariates. In addition, the results of hypotheses testing were presented through the discussion of group value differences with covariate adjustments.

GENERAL CHARACTERISTICS OF THE SUBJECTS

A descriptive overview of selected personal characteristics of the subjects was presented herein. This information was obtained through their responses to the Personal Data Sheet in Appendix D. Specific data included a classification of the subjects by sex, residential background, race, educational status, age, teaching experience, and occupational experience. These items were the statistically controlled variables in the investigation. For the purpose of describing the general characteristics of the subjects, respondents were divided by specialty area and classified according to the aforementioned characteristics.

A distribution of the subjects by specialty group is presented in Table 3. Business education teachers comprised the largest group of vocational and technical educators studied; 32.3 percent of the respondents were classified in this category. Trade and industrial education teachers represented 17.2 percent of the subjects. Other groups of teachers were represented as follows: agriculture (9.7 percent), distributive (8.6 percent), health occupations (5.2 percent), home economics (15.5 percent), and industrial arts (11.5 percent).

Distribution of Subjects by Sex

Most (54.8 percent) of the respondents were female; however, 45.2 percent were male. The distribution of subjects by sex is presented in Table 4. When respondents were classified according to service area and sex, male agricultural education teachers comprised 9.2 percent of the respondents. Female agricultural education teachers represented .5 percent of the respondents. Male business education teachers represented 3.6 percent of the respondents, and 28.7 percent were female. In the area of distributive education, males represented 5.4 percent of the respondents, and 3.2 percent were female. All (5.2 percent) of the respondents in the area of health occupations were female. Male home economics teachers represented .3 percent of the respondents, and 15.2 percent were female. Most (11.2 percent) of the industrial arts teachers were male; however, .3 percent were female. Male trades and industries teachers represented 15.5 percent of the respondents, and 1.7 percent were female.

Table 3
Distribution of Subjects by Service Area

Specialty Area	Respondents	
	N	%
Agriculture	34	9.7
Business	113	32.3
Distributive	30	8.6
Health Occupations	18	5.2
Home Economics	54	15.5
Industrial Arts	40	11.5
Trades and Industries	60	17.2
TOTAL	349	100.0

Table 4
Distribution of Subjects by Sex

Specialty Area	Sex					
	Males		Females		Total	
	N	%	N	%	N	%
Agriculture	32	9.2	2	.5	34	9.7
Business	13	3.6	100	28.7	113	32.3
Distributive	19	5.4	11	3.2	30	8.6
Health Occupations	0	0	18	5.2	18	5.2
Home Economics	1	.3	53	15.2	54	15.5
Industrial Arts	39	11.2	1	.3	40	11.5
Trades and Industries	54	15.5	6	1.7	60	17.2
TOTAL	158	45.2	191	54.8	349	100.0

Distribution of Subjects by
Residence Background

As illustrated in Table 5, most (64.2 percent) of the respondents had urban backgrounds. A total of 8.9 percent of the agricultural education teachers had urban backgrounds, and .8 percent had rural backgrounds. The residential backgrounds of business educators were urban (19.5 percent), rural (11.1 percent), and a combination of both (1.7 percent). In the area of distributive education, 3.7 percent of the respondents had urban backgrounds; 3.2 percent had rural backgrounds, and 1.7 percent had a combination of both urban and rural residence backgrounds. Most (4.1 percent) of the health occupations teachers had urban backgrounds; however, (1.1 percent) had rural backgrounds. Most (10.3 percent) home economics teachers had urban backgrounds; 5.2 percent came from rural backgrounds. Six percent of the industrial arts respondents had urban backgrounds; 4.6 percent had rural backgrounds, and .9 percent came from a combination urban and rural background.

Distribution of Subjects
by Race

A distribution of the subjects by race is presented in Table 6. Caucasians represented 84.3 percent of the respondents and 14.8 percent of the respondents were Negro. In addition, three of the respondents (.9 percent) were members of other races. Distribution of Caucasians was as follows: agriculture (8.6 percent), business (26.6 percent), distributive (8.3 percent), health occupations (4.9 percent), home economics (12.1 percent), industrial arts (8.6 percent), and trades and industries (15.2 percent). Negro respondents were in the areas of

Table 5

Distribution of Subjects by Residence Background

Specialty Area	Residence Background							
	<u>Urban</u>		<u>Rural</u>		<u>Both</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%
Agriculture	31	8.9	3	.8	0	0	34	9.7
Business	68	19.5	39	11.1	6	1.7	113	32.3
Distributive	13	3.7	11	3.2	6	1.7	30	8.6
Health Occupations	14	4.1	4	1.1	0	0	18	5.2
Home Economics	36	10.3	18	5.2	0	0	54	15.5
Industrial Arts	21	6.0	16	4.6	3	.9	40	11.5
Trades and Industries	41	11.7	17	4.9	2	.6	60	17.2
TOTAL	224	64.2	108	30.9	17	4.9	349	100.0

Table 6
Distribution of Subjects by Race

Specialty Area	Race							
	<u>Caucasian</u>		<u>Negro</u>		<u>Other</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%
Agriculture	30	8.6	3	.8	1	.3	34	9.7
Business	93	26.6	20	5.7	0	0	113	32.3
Distributive	29	8.3	0	0	1	.3	30	8.6
Health Occupations	17	4.9	1	.3	0	0	18	5.2
Home Economics	42	12.1	12	3.4	0	0	54	15.5
Industrial Arts	30	8.6	10	2.9	0	0	40	11.5
Trades and Industries	53	15.2	6	1.7	1	.3	60	17.2
TOTAL	294	84.3	52	14.8	3	.9	349	100.0

agriculture (.8 percent), business (5.7 percent), health occupations (.3 percent), home economics (3.4 percent), industrial arts (2.9 percent), and trades and industries (1.7 percent). Members of other races were represented by .3 percent of the respondents in each of the following areas: agriculture, distributive, and trades and industries.

Distribution of Subjects by
Educational Status

Respondents were classified according to their educational status on the basis of the highest educational degree currently held. Information obtained is depicted in Table 7. Most (62.5 percent) of the respondents held bachelor's degrees. High school diplomas were held by 12.9 percent of the respondents, and 1.9 percent held the associate (two year) degree. In addition, 21.7 percent of the respondents held master's degrees, and 1 percent held the specialist.

Respondents holding high school diplomas were employed in the areas of health occupations (.6 percent) and trade and industrial (12.3 percent) education. Those holding associate degrees were in the areas of agriculture (.2 percent), health occupations (.6 percent), and trade and industrial education (12.3 percent). Respondents in all service areas held bachelor's degrees as follows: agriculture (6.9 percent), business (24.1 percent), distributive (6.7 percent), health occupations (3.2 percent), home economics (11.2 percent), industrial arts (7.2 percent), and trade and industries (3.2 percent). Master's degrees were also held by respondents in all service areas: agriculture (2.6 percent), business (8 percent), distributive (1.7 percent),

Table 7

Distribution of Subjects by Educational Status

Specialty Area	Educational Status											
	High School Diploma		AA, AAS, or AS		BS or BA		MA or MS		Specialist		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Agriculture	0	0	1	0.2	24	6.9	9	2.6	0	0	34	9.7
Business	0	0	0	0	84	24.1	28	8.0	1	0.2	113	32.3
Distributive	0	0	0	0	23	6.7	6	1.7	1	0.2	30	8.6
Health Occupations	2	0.6	2	0.6	11	3.2	1	0.2	2	0.6	18	5.2
Home Economics	0	0	0	0	39	11.2	15	4.3	0	0	54	15.5
Industrial Arts	0	0	0	0	25	7.2	15	4.3	0	0	40	11.5
Trades and Industries	43	12.3	4	1.1	11	3.2	2	0.6	0	0	60	17.2
TOTAL	45	12.9	7	1.9	217	62.5	76	21.7	4	1.0	349	100.0

health occupations (.2 percent), home economics (4.3 percent), industrial arts (4.3 percent), and trades and industries (.6 percent). The specialist degree was held by .2 percent of the respondents in the fields of business and distributive education, and .6 percent of the health occupations teachers.

Distribution of Subjects by Age

A distribution of subjects by age is presented in Table 8. Of the total respondents, 12.2 percent were twenty-five or below. Most (38.5 percent) were in thirty-six to forty-five year age range (22.8 percent) or the over forty-six age range (26.5 percent).

Respondents in the age category of twenty-five or below were distributed according to specialty area as follows: agriculture (1.7 percent), business (6 percent), distributive (1.4 percent), health occupations (.2 percent), home economics (1.4 percent), industrial arts (.9 percent), and trades and industries (.6 percent). Agricultural education teachers represented 3.7 percent of the respondents in the twenty-six to thirty-five age group. Others in this age group were: business (15.5 percent), distributive (5.2 percent), health occupations (2.1 percent), home economics (4 percent), industrial arts (5.4 percent), and trades and industries (2.6 percent).

Most of the respondents in the thirty-six to forty-five year age range were in the area of trade and industrial education (7.4 percent). Business educators followed the trade and industrial educators with a total of 5.4 percent of the respondents in this age group. They were followed by home economics teachers (3.7 percent of

Table 8
Distribution of Subjects by Age

Specialty Area	Age									
	<u>25 or below</u>		<u>26 to 35</u>		<u>36 to 45</u>		<u>46 and over</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%	N	%
Agriculture	6	1.7	13	3.7	4	1.1	11	3.2	34	9.7
Business	21	6.0	54	15.5	19	5.4	19	5.4	113	32.3
Distributive	5	1.4	18	5.2	7	2.0	0	0	30	8.6
Health Occupations	1	.2	7	2.1	2	.6	8	2.3	18	5.2
Home Economics	5	1.4	14	4.0	13	3.7	22	6.4	54	15.5
Industrial Arts	3	.9	19	5.4	9	2.6	9	2.6	40	11.5
Trades and Industries	2	.6	9	2.6	26	7.4	23	6.6	60	17.2
TOTAL	43	12.2	134	38.5	80	22.8	92	26.5	349	100.0

the respondents) and industrial arts teachers (2.6 percent of the respondents). Two percent of the respondents in the thirty-six to forty-five age group were in distributive education and 1.1 percent were teachers of agriculture. Teachers in the forty-six and over age group could be classified as follows: agriculture (3.2 percent), business (5.4 percent), health occupations (2.3 percent), home economics (6.4 percent), industrial arts (2.6 percent), and trades and industries (6.6 percent). There were no distributive education teachers in this age category.

Distribution of Subjects by Teaching
and Occupational Experience

Through Table 9, the teaching and occupational experience of the respondents is depicted in terms of mean years. Mean years of teaching experience for the respondents could be classified as follows: agriculture (13.04), business (9.78), distributive (4.98), health occupations (7.89), home economics (14.51), industrial arts (9.98), and trades and industries (10.93). They held the following amounts of occupational experience in terms of mean years: agriculture (5.05), business (2.81), distributive (3.91), health occupations (11.03), home economics (2.16), industrial arts (5.00), and trades and industries (13.88).

GROUP VALUE DIFFERENCES

The one way analysis of variance was used to test the equality of mean value scores among the seven groups of vocational and technical educators. This analysis was computed for the theoretical, economic,

Table 9
Distribution of Subjects by Teaching and
Occupational Experience

Specialty Area	Teaching Experience (Mean Years)	Occupational Experience (Mean Years)
Agriculture	13.04	5.05
Business	9.78	2.81
Distributive	4.98	3.91
Health Occupations	7.89	11.03
Home Economics	14.51	2.16
Industrial Arts	9.98	5.00
Trades and Industries	10.93	13.88
TOTAL	71.11	43.84

aesthetic, social, political, and religious values. Results of these tests are illustrated in Tables 10 through 15. These results suggested that statistically significant differences existed among the seven groups for each of the values.

The Scheffé test for multiple comparisons was used to test the significance of the F-ratios for the groups of vocational and technical educators. These test results are illustrated through Table 16.

Theoretical Values

Results of the Scheffé test revealed statistically significant differences among the theoretical values of certain vocational and technical education teachers. Findings were statistically significant at the alpha level of .01 when the following groups were compared: agriculture versus business, agriculture versus home economics, business versus industrial arts, business versus trades and industries, and home economics versus industrial arts. In addition, statistically significant differences were found at the alpha level of .05 when home economics and industrial arts teachers were compared.

Economic Values

Scheffé test results suggested that differences existed among the economic values of distributive education teachers and teachers of health occupations and home economics. Findings were statistically significant at the alpha level of .05 when distributive and health occupations teachers were compared. The same statistically significant differences were found when comparisons were made among distributive and home economics teachers.

Table 10

Analysis of Variance for the Theoretical Values of Respondents

Specialty Group	Number	Mean	Standard Deviation	Variance
Agriculture	34	42.6324	5.1878	26.9138
Business	113	35.4602	6.4577	41.7015
Distributive	30	37.0833	7.5316	56.7256
Health Occupations	18	40.3333	7.3183	53.5588
Home Economics	54	35.8704	7.2530	52.6055
Industrial Arts	40	41.4000	6.2360	38.8872
Trades and Industries	60	41.2833	5.9748	35.6980

Summary Table for the Simple One Way Analysis of Variance

Source of Variance	Degrees of Freedom	Sums of Squares	Mean Squares	F-ratio
Between	6	2905.4589	484.2432	11.4017*
Within	342	14525.1428	42.4712	

*Statistically significant at the alpha level of .01
df = 6, 348

Table 11

Analysis of Variance for the Economic Values of Respondents

Specialty Group	Number	Mean	Standard Deviation	Variance
Agriculture	34	48.0883	6.3693	40.5677
Business	113	45.7699	6.2020	38.4644
Distributive	30	49.7333	7.5289	56.6851
Health Occupations	18	42.1944	6.8710	47.2099
Home Economics	54	43.9074	6.8743	47.2554
Industrial Arts	40	47.1125	7.4391	55.3396
Trades and Industries	60	47.6333	7.4696	55.7954

Summary Table for the Simple One Way Analysis of Variance

Source of Variance	Degrees of Freedom	Sums of Squares	Mean Squares	F-ratio
Between	6	1239.1999	206.5333	4.4015*
Within	342	16047.9032	46.9236	

*Statistically significant at the alpha level of .01
df = 6, 348

Table 12

Analysis of Variance for the Aesthetic Values of Respondents

Specialty Group	Number	Mean	Standard Deviation	Variance
Agriculture	34	30.7941	7.9564	63.3048
Business	113	37.9558	7.3535	54.0739
Distributive	30	37.1667	7.9093	62.5574
Health Occupations	18	38.8889	6.6145	43.7516
Home Economics	54	40.4074	5.2746	27.8214
Industrial Arts	40	36.3625	7.6267	58.1665
Trades and Industries	60	31.0500	7.2962	53.2347

Summary Table for the Simple One Way Analysis of Variance

Source of Variance	Degrees of Freedom	Sums of Squares	Mean Squares	F-ratio
Between	6	4047.6481	674.6080	13.1184*
Within	342	17587.1628	51.4245	

*Statistically significant at the alpha level of .01
df = 6, 348

Table 13

Analysis of Variance for the Social Values of Respondents

Specialty Group	Number	Mean	Standard Deviation	Variance
Agriculture	34	35.9411	7.0825	50.1631
Business	113	39.2522	6.7344	45.3532
Distributive	30	37.5333	9.5375	90.9643
Health Occupations	18	40.9444	6.2045	38.4967
Home Economics	54	40.1203	7.2208	52.1408
Industrial Arts	40	34.8125	5.8074	33.7267
Trades and Industries	60	37.1333	7.5430	56.8971

Summary Table for the Simple One Way Analysis of Variance

Source of Variance	Degrees of Freedom	Sums of Squares	Mean Squares	F-ratio
Between	6	1172.2179	195.3696	3.8261*
Within	342	17463.1000	51.0616	

*Statistically significant at the alpha level of .01
df = 6, 348

Table 14

Analysis of Variance for the Political Values of Respondents

Specialty Group	Number	Mean	Standard Deviation	Variance
Agriculture	34	40.6029	6.4300	41.3451
Business	113	39.5442	5.5010	30.2614
Distributive	30	42.5833	4.8353	23.3807
Health Occupations	18	33.7500	5.7605	33.1838
Home Economics	54	35.7314	6.0592	36.7142
Industrial Arts	40	41.0125	6.5255	42.5831
Trades and Industries	60	40.3833	6.4310	41.3590

Summary Table for the Simple One Way Analysis of Variance

Source of Variance	Degrees of Freedom	Sums of Squares	Mean Squares	F-ratio
Between	6	1817.3254	302.8875	8.6017*
Within	342	12042.6186	35.2123	

*Statistically significant at the alpha level of .01
df = 6, 348

Table 15

Analysis of Variance for the Religious Values of Respondents

Specialty Group	Number	Mean	Standard Deviation	Variance
Agriculture	34	41.9411	8.9092	79.3752
Business	113	42.1504	8.6568	74.9414
Distributive	30	35.9000	9.4380	89.0758
Health Occupations	18	44.0555	8.7361	76.3202
Home Economics	54	43.9629	9.6058	92.2721
Industrial Arts	40	39.3000	9.5660	91.5102
Trades and Industries	60	42.5166	9.2873	86.2539

Summary Table for the Simple One Way Analysis of Variance

Source of Variance	Degrees of Freedom	Sums of Squares	Mean Squares	F-ratio
Between	6	1680.9105	280.1517	3.3687*
Within	342	28441.7785	83.1630	

*Statistically significant at the alpha level of .01
df = 6, 348

Table 16. Results of Value Score Comparisons Across the Groups of Vocational and Technical Educators

Specialty Groups Compared	Scheffé F Values					
	Theoretical	Economic	Aesthetic	Social	Political	Religious
Agriculture vs. Business	31.65539*	2.99361	26.06722*	5.61142	.83193	.01376
Agriculture vs. Distributive	11.55469	.91920	12.58569	.79122	1.77512	6.99411
Agriculture vs. Health Occupations	1.46467	8.71255	14.99642**	5.76980	15.69666**	.63268
Agriculture vs. Home Economics	22.46176*	7.77181	37.49423*	7.13641	14.06091**	1.02549
Agriculture vs. Industrial Arts	.65718	.37289	11.08143	.45851	.08755	1.54160
Agriculture vs. Trades and Industries	.92921	.09571	.02763	.60405	.02972	.08643
Business vs. Distributive	1.47059	7.93619	.28704	1.37169	6.21929	11.13665
Business vs. Health Occupations	8.68173	4.23012	.26291	.87077	14.80399**	.67763
Business vs. Home Economics	.14476	2.70121	4.27076	.53933	15.08486**	1.44341
Business vs. Industrial Arts	24.54143*	1.13426	1.45830	11.40411	1.80865	2.88630
Business vs. Trades and Industries	31.29006*	2.90011	36.34427*	3.44588	.78361	.06320
Distributive vs. Health Occupations	2.79785	13.62621**	.64888	2.56359	24.92912*	8.99765
Distributive vs. Home Economics	.66809	13.94998**	3.93872	2.52782	25.71324*	15.07629**
Distributive vs. Industrial Arts	7.52118	2.50940	.21558	2.48537	1.20129	2.38293
Distributive vs. Trades and Industries	8.30681	1.87965	14.55090**	.02455	2.74904	10.52877
Health Occupations vs. Home Economics	6.33120	.84418	.60535	.17954	1.50529	.00139
Health Occupations vs. Industrial Arts	.30138	6.39881	1.54076	4.57063	18.59439*	3.37107
Health Occupations vs. Trades and Industries	.29423	8.72886	16.54506**	3.93856	17.30207**	.39429
Home Economics vs. Industrial Arts	16.54336**	5.03054	7.31094	12.67860	18.19980*	6.00785
Home Economics vs. Trades and Industries	19.60722*	8.40846	48.39289*	4.96622	17.46615*	.71486
Industrial Arts vs. Trades and Industries	.00769	.13874	13.17163**	2.53165	.26980	2.96748

*Statistically significant = .01 (F = 17.4)
 **Statistically significant = .05 (F = 12.8)

Aesthetic Values

Results of the Scheffé' test revealed statistically significant differences among the aesthetic values of certain vocational and technical education teachers. Statistically significant results were found at the alpha level of .01 when these comparisons were made: agriculture versus business, agriculture versus home economics, business versus trade and industries, and home economics versus trades and industries. In addition, statistically significant results at the alpha level of .05 were found when comparisons were made among agriculture and health occupations teachers, distributive and trades and industries teachers, health occupations and trades and industries teachers, and industrial arts and trades and industries teachers.

Social Values

Results of the Scheffé' test for social values indicated that no statistically significant differences existed among the seven groups of vocational and technical educators at the alpha level of .05.

Political Values

Through Scheffé' test results, statistically significant differences were revealed among the political values of certain vocational and technical education teachers. Statistically significant differences were found at the alpha level of .01 when comparisons were among the following teachers: distributive and health occupations, distributive and home economics, health occupations and industrial arts, home economics and industrial arts, and home economics and trades and industries.

Differences of statistical significance were also found at the alpha level of .05 when the following comparisons were made: agriculture versus health occupations, agriculture versus home economics, business versus health occupations, business versus home economics, and health occupations versus trades and industries.

Religious Values

Scheffé test results suggested that distributive and home economics teachers differ in terms of their religious values. Findings were statistically significant at the alpha level of .05.

GROUP VALUE DIFFERENCES WITH ADJUSTMENTS FOR THE COVARIATES

The analysis of covariance was used to test the equality of mean value scores among the seven groups of vocational and technical education teachers after adjustments were made for selected covariates. These covariates were sex, residence background, race, educational degree, age, years of teaching experience, and years of occupational experience. The analysis was computed for the theoretical, economic, aesthetic, social, political, and religious values. Test results are illustrated in Tables 17 through 22. Results suggested that statistically significant differences existed among the seven groups for the theoretical, economic, aesthetic, and political values.

Adjusted mean value scores are illustrated in Table 23. These scores were utilized in the Scheffé test for multiple comparisons. This method was used to test the significance of the F-ratios for the

Table 17

Analysis of Covariance Table for
Theoretical Values

Source of Variance	Degrees of Freedom	Regression Equivalent	Sum of Squares Due to Regression	Sum of Squares About the Regression	Adjusted Degrees of Freedom	Mean Square
Treatment (Between)	6	2905.3750				
Error (Within)	342	14525.3125	1456.1201	13069.1914	328	39.8451
Treatment + Error (Total)	348	17430.6875	3833.2844	13597.4023	334	
Difference for testing adjusted treatment means:				528.2109	6	88.0352

$F(6, 328) = 2.209^*$

*Statistically significant at the alpha level of .05

Table 18

Analysis of Covariance Table for
Economic Values

Source of Variance	Degrees of Freedom	Regression Equivalents	Sum of Squares Due to Regression	Sum of Squares About the Regression	Adjusted Degrees of Freedom	Mean Square
Treatment (Between)	6	1239.0625				
Error (Within)	342	16048.0625	1585.7615	14462.3008	328	44.0924
Treatment + Error (Total)	348	17287.1250	2254.6077	15032.5156	334	
Difference for testing adjusted treatment means:				570.2148	6	95.0358

$F(6, 328) = 2.155^*$

*Statistically significant at the alpha level of .05

Table 19

Analysis of Covariance Table for
Aesthetic Values

Source of Variance	Degrees of Freedom	Regression Equivalents	Sum of Squares Due to Regression	Sum of Squares About the Regression	Adjusted Degrees of Freedom	Mean Square
Treatment (Between)	6	4047.5625				
Error (Within)	342	17587.3125	2654.0388	14933.2734	328	45.5283
Treatment + Error (Total)	348	21634.8750	5909.1602	15725.7148	334	
Difference for testing adjusted treatment means:					6	132.0736

$F(6, 328) = 2.901^*$

*Statistically significant at the alpha level of .01

Table 20

Analysis of Covariance Table for
Social Values

Source of Variance	Degrees of Freedom	Regression Equivalent	Sum of Squares Due to Regression	Sum of Squares About the Regression	Adjusted Degrees of Freedom	Mean Square
Treatment (Between)	6	1112.3125				
Error (Within)	342	18703.2500	3422.7559	15280.4922	328	46.5869
Treatment + Error (Total)	348	19815.5625	4149.1797	15666.3828	334	
Difference for testing adjusted treatment means:				528.2109	6	64.3151

$F(6, 328) = 1.381^{**}$

******Not statistically significant at an alpha level of .05

Table 21
Analysis of Covariance Table for
Political Values

Source of Variance	Degrees of Freedom	Regression Equivalent	Sum of Squares Due to Regression	Sum of Squares About the Regression	Adjusted Degrees of Freedom	Mean Square
Treatment (Between)	6	1817.1875				
Error (Within)	342	12042.8125	1382.6257	10660.1836	328	32.5005
Treatment + Error (Total)	348	13860.0000	2526.9170	11333.0820	334	
Difference for testing adjusted treatment means:				672.8984	6	112.1497

F (6, 328) = 3.451*

*Statistically significant at the alpha level of .01

Table 22

Analysis of Covariance Table for
Religious Values

Source of Variance	Degrees of Freedom	Regression Equivalent	Sum of Squares Due to Regression	Sum of Squares About the Regression	Adjusted Degrees of Freedom	Mean Square
Treatment (Between)	6	1680.6250				
Error (Within)	342	28442.1250	1907.4226	26534.6992	328	80.8985
Treatment + Error (Total)	348	30122.7500	3140.8921	26981.8555	334	
Difference for testing adjusted treatment means:				447.1563	6	74.5260

F (6, 328) = .921**

**Not statistically significant at the alpha level of .05

Table 23

Mean Value Scores of Vocational and Technical Educators
Adjusted for the Covariates

Specialty Group	Number	Adjusted Mean Values					
		Theoretical	Economic	Aesthetic	Social	Political	Religious
Agriculture	34	40.8354	46.1380	33.0650	38.1965	38.1506	43.4100
Business	113	37.5095	47.4591	36.2651	36.6683	40.2699	41.7635
Distributive	30	36.2284	50.1201	35.9746	39.8182	40.0777	38.1064
Health Occupations	18	41.6289	44.7117	36.2276	39.7500	35.0244	42.8962
Home Economics	54	38.1853	45.8803	39.1090	37.0242	37.7166	42.0208
Industrial Arts	40	38.6203	45.9735	38.1628	37.1199	38.5916	41.5161
Trades and Industries	60	38.2505	43.5922	34.3100	40.7057	41.1040	41.9282

seven groups of vocational and technical educators. Results of these tests are illustrated through Table 24.

Through the analysis of covariance and the Scheffé test for multiple comparisons, the hypotheses of the study as specified herein were tested at the alpha level of .05. After making adjustments for the covariates (sex, race, residence background, age, educational status, years of teaching experience, and years of occupational experience), Virginia secondary teachers of agriculture, business, distribution, health occupations, home economics, industrial arts, and trades and industries do not differ in terms of their

Hypothesis I:	theoretical values
Hypothesis II:	economic values
Hypothesis III:	aesthetic values
Hypothesis IV:	social values
Hypothesis V:	political values
Hypothesis VI:	religious values

Adjusted Theoretical Values

Results of the Scheffé test for the adjusted theoretical values indicated that no statistically significant differences existed among the seven groups of vocational and technical educators at the alpha level of .05. See Table 24 on page 91. Based on this analysis, Hypothesis I failed to be rejected.

Adjusted Economic Values

Scheffé test results suggested that differences existed among the adjusted economic values of business and trades and industries teachers

Table 24

Results of Adjusted Mean Value Score Comparisons Across the
Groups of Vocational and Technical Educators

Groups Compared	Scheffé F Values for Adjusted Mean Value Scores			
	Theoretical	Economic	Aesthetic	Political
Agriculture vs. Business	7.2560	1.0350	5.8791	3.6120
Agriculture vs. Distributive	8.4891	5.7317	2.9634	1.8212
Agriculture vs. Health Occupations	.1859	.5430	2.1882	3.3166
Agriculture vs. Home Economics	2.8586	.0314	16.7406**	.0319
Agriculture vs. Industrial Arts	1.8071	.0113	10.4909	.1099
Agriculture vs. Trades and Industries	1.1765	1.5701	.7389	5.8249
Business vs. Distributive	.9764	3.8070	.0439	.0269
Business vs. Health Occupations	6.6130	2.6582	.3671	13.1449**
Business vs. Home Economics	.4190	2.0656	9.5930	7.3297
Business vs. Industrial Arts	.9149	1.4787	2.3369	2.5602
Business vs. Trades and Industries	.4724	13.2904**	3.2905	.8389
Distributive vs. Health Occupations	8.2343	7.4634	.1379	8.8391
Distributive vs. Home Economics	1.8535	7.8630	37.4534*	3.3078
Distributive vs. Industrial Arts	2.4614	6.6856	19.0798*	1.1649
Distributive vs. Trades and Industries	1.9560	19.3291*	25.7627*	.6481
Health Occupations vs. Home Economics	4.0177	.4181	4.4673	3.0106
Health Occupations vs. Industrial Arts	.8786	.4483	2.3491	4.8601
Health Occupations vs. Trades and Industries	4.0801	.3936	.2561	15.7462**
Home Economics vs. Industrial Arts	.1091	.0045	.2441	.5413
Home Economics vs. Trades and Industries	.0002	3.3744	7.0043	10.0335
Industrial Arts vs. Trades and Industries	.1051	3.0867	7.8252	4.6612

*Statistically significant = .01 (F = 17.4)

**Statistically significant = .05 (F = 12.8)

at the alpha level of .05. Findings were statistically significant at the alpha level of .01 when distributive education and trades and industries teachers were compared.

Based on these Scheffé test results, Hypothesis II was rejected when comparisons were made among the economic values of business and trades and industries teachers at the alpha level of .05. Hypothesis II was also rejected when comparisons were made among distributive and trades and industries teachers at the alpha level of .01. Hypothesis II failed to be rejected when other comparisons were made among the seven groups of vocational and technical educators as illustrated in Table 24 on page 91.

Adjusted Aesthetic Values

Scheffé test results indicated that most statistically significant differences in the adjusted value orientations of vocational and technical education teachers occurred in the adjusted aesthetic values. When the adjusted aesthetic values for teachers of agriculture and home economics were compared, statistically significant differences were found at the alpha level of .05. In addition, statistically significant differences were found at the alpha level of .01 when adjusted aesthetic values scores of the following groups were compared: distributive versus home economics, distributive versus industrial arts, and distributive versus trades and industries.

Therefore, Hypothesis III was rejected at the alpha level of .05 when comparisons were made among agriculture and home economics teachers. In addition, this hypothesis was rejected at the alpha level of .01 when

comparisons were made among distributive and home economics teachers, distributive and industrial arts teachers, and distributive and trades and industries teachers. Hypothesis III failed to be rejected when other comparisons were made among the seven groups of vocational and technical educators. Refer to Table 24 on page 91.

Adjusted Social Values

Findings of the analysis of covariance test suggested that no statistically significant differences existed among the seven groups of vocational and technical educators at the alpha level of .05. Refer to Table 20 on page 86. Based on this analysis, Hypothesis IV failed to be rejected.

Adjusted Political Values

Scheffé' test results revealed statistically significant differences among the adjusted political values of certain vocational and technical education teachers. Such differences were found at the alpha level of .05 when the following comparisons were made: business versus health occupations, and health occupations versus trades and industries. Therefore, Hypothesis V was rejected when these comparisons were made. As illustrated in Table 24, other comparisons among the vocational and technical educators did not yield statistically significant differences on an alpha level of .05. Thus, Hypothesis V failed to be rejected for these comparisons.

Adjusted Religious Values

Findings of the analysis of covariance test revealed no statistically significant difference at the alpha level of .05 among the seven groups of vocational and technical educators. Refer to Table 22 on page 88. Thus, Hypothesis VI failed to be rejected.

CHAPTER SUMMARY

The value orientation of seven groups of secondary vocational and technical educators in Virginia public schools were determined and compared in this study. The data analysis and interpretation were presented in this chapter. The chapter was divided into three sections which included a discussion of the general characteristics of the subjects, group value differences, and group value differences with adjustments for the covariates. Results of hypotheses testing were presented through the discussion of group value differences with covariate adjustments.

The descriptive overview of selected personal characteristics of the subjects contained information regarding the subjects' sex, residential background, race, educational status, age, teaching experience, and occupational experience. Respondents were divided by specialty area and classified on the basis of these characteristics.

The one way analysis of variance was used to test the equality of mean value scores among the seven groups of vocational and technical educators. This analysis was computed for the theoretical, economic, aesthetic, social, political, and religious values. Results suggested that statistically significant differences existed among the seven

groups for each of the values. The Scheffé' test for multiple comparisons was used to test the significance of the F-ratios for the groups of vocational and technical educators. Some statistically significant differences were found in the theoretical, economic, aesthetic, political, and religious values of certain groups of vocational and technical educators.

The analysis of covariance was used to test the equality of mean value scores among the seven groups of vocational and technical education teachers with adjustments made for the covariates (sex, residence background, race, educational degree, age, years of teaching experience, and years of occupational experience). Results suggested that statistically significant differences exist among the seven groups for the theoretical, economic, aesthetic, and political values.

Adjusted mean value scores were utilized in the Scheffé' test for multiple comparisons. Results suggested that some statistically significant differences exist in the economic, aesthetic, social, and political values of certain groups of vocational and technical educators. Scheffé' test results for the theoretical and religious values revealed no statistically significant differences among the seven groups at an alpha .05 level.

Based on the analysis of covariance and the Scheffé' test for multiple comparisons, six hypotheses were tested. After making adjustments for the covariates (sex, race, residence background, age, educational status, years of teaching experience, and years of occupational experience), Virginia secondary teachers of agriculture,

business, distribution, health occupations, home economics, industrial arts, and trades and industries do not differ in terms of their

Hypothesis I:	theoretical values
Hypothesis II:	economic values
Hypothesis III:	aesthetic values
Hypothesis IV:	social values
Hypothesis V:	political values
Hypothesis VI:	religious values

Results of the Scheffé test for the adjusted theoretical values indicated that no statistically significant differences existed among the seven groups at the alpha level of .05. Hypothesis I failed to be rejected.

Hypothesis II was rejected when comparisons were made among the economic values of business and trades and industries teachers at the alpha level of .05. Hypothesis II was also rejected when comparisons were made among distributive and trades and industries teachers at the alpha level of .01. This hypothesis failed to be rejected when other comparisons were made among the groups of vocational and technical educators.

Hypothesis III was rejected at an alpha level of .05 when comparisons were made among agriculture and home economics teachers. This hypothesis was also rejected at the alpha level of .01 when the following comparisons were made: distributive versus home economics, distributive versus industrial arts, and distributive versus trades and industries. Hypothesis III failed to be rejected when other comparisons were made among the vocational and technical educators.

Results of the analysis of covariance test suggested that no statistically significant differences existed among the seven groups of vocational and technical educators at the alpha level of .05. Based on this analysis, Hypothesis IV failed to be rejected.

Statistically significant differences were found among the adjusted political values of the following vocational and technical education teachers: business and health occupations, and health occupations and trades and industries. Hypothesis V was rejected when these comparisons were made. Hypothesis V failed to be rejected for other comparisons.

Analysis of covariance test results revealed no statistically significant differences among the seven groups of vocational and technical educators at the alpha level of .05. Hypothesis VI failed to be rejected.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

According to Sprinthall and Beaton (1966) the lack of investigation of values has been a substantial omission in occupational research. Hill (1959), Schutte (1967), White (1968), Murray (1968), and Finch (1969) studied the value orientations of particular specialty groups of vocational and technical educators. However, the data obtained from these studies did not enable a comparative analysis among business, home economics, distributive, and trade and industrial education teachers. In addition, data have not been available regarding the value orientations of agriculture, health occupations, and industrial arts teachers. Through this study, the value orientations of seven groups of secondary vocational and technical educators in Virginia public schools were determined and compared.

Purpose of the Study

The major purpose of the study was to determine and compare the value orientations as measured by the Allport-Vernon-Lindzey Study of Values among Virginia secondary vocational and technical education teachers in each of the following vocational service areas: (1) agriculture, (2) business, (3) distribution, (4) health occupations, (5) home economics, (6) industrial arts, and (7) trades and industries.

As a result of a review of literature related to value orientations, it became evident that variables such as sex, race, residence background, age, educational status, years of teaching experience, and years of occupational experience of an individual might influence value orientations. Therefore, these variables considered as the value orientations of the vocational and technical education teachers were compared. Statistical techniques were utilized in order to control for these variables.

Hypotheses Tested

The following hypotheses were generated and tested: After making adjustments for the covariates (sex, race, residence background, age, educational status, years of teaching experience, and years of occupational experience), Virginia secondary teachers of agriculture, business, distribution, health occupations, home economics, industrial arts, and trades and industries do not differ in terms of their

Hypothesis I:	theoretical values
Hypothesis II:	economic values
Hypothesis III:	aesthetic values
Hypothesis IV:	social values
Hypothesis V:	political values
Hypothesis VI:	religious values

Selection of Subjects

Secondary vocational and technical education teachers employed on a full-time basis in Virginia public schools comprised the target population for the investigation. Teachers instructing solely in

programs for disadvantaged or handicapped students and Industrial Cooperative Training coordinators were not included in the population. The population was divided into seven strata on the basis of their teaching specialty, and a table of random numbers was utilized in order to select the 12 percent stratified random sample. This procedure yielded a sample size of 478 vocational and technical educators stratified as follows: forty-two agriculture, one hundred and fifty-six business, forty-two distributive, twenty-one health occupations, sixty-nine home economics, sixty-four industrial arts, and eighty-four trades and industries.

Data Collection and Analysis

Data were collected through a mail survey technique. Packets of materials including a cover letter from the Virginia Polytechnic Institute and State University vocational and technical education program area leaders, a letter from the investigator, the Professional Data Sheet, the Allport-Vernon-Lindzey Study of Values color coded according to specialty area, a pencil, and a self-addressed stamped return envelope were mailed to participants. Three follow-up efforts were initiated at two-week intervals. A 73 percent return rate was obtained through responses of 349 teachers.

Data were analyzed through the following statistical tools: one way analysis of variance, the Scheffé test for multiple comparisons, and the analysis of covariance.

Findings

The one way analysis of variance was used to test the equality of mean values scores among the seven groups of vocational and technical educators. The F-ratios calculated for theoretical, economic, aesthetic, social, political, and religious values were significant at the alpha level of .01.

Scheffé tests for multiple comparisons were used to test the significance of F-ratios among the groups for each of the six values. Results revealed statistically significant differences among certain groups of vocational and technical education teachers for all values except the social value.

Findings were statistically significant at the alpha level of .01 when the theoretical values of the following groups were compared: agriculture versus home economics, business versus industrial arts, business versus trades and industries, and home economics versus industrial arts. Differences were also statistically significant at the alpha level of .05 when home economics and trades and industries teachers were compared.

Results of the Scheffé test revealed statistically significant differences among the economic values of distributive education teachers and two other teacher groups--health occupations and home economics. Findings were statistically significant at an alpha level of .05.

When comparisons were made among the groups for the aesthetic values, statistically significant results were found at the alpha level of .01 for the following: agriculture versus business, agriculture versus home economics, business versus trades and industries, and home

economics versus trades and industries. Comparisons among the aesthetic values of teachers of agriculture and health occupations, distributive and trades and industries, and industrial arts and trades and industries were statistically significant at the alpha level of .05.

Statistically significant differences were revealed at the alpha level of .01 when comparisons were made among the political values of the following teachers: distributive and health occupations, distributive and home economics, health occupations and industrial arts, home economics and industrial arts, and home economics and trades and industries. The following comparisons were statistically significant at the alpha level of .05: agriculture versus health occupations, agriculture versus home economics, business versus health occupations, business versus home economics, and health occupations versus trades and industries.

Scheffé tests results suggested that distributive and home economics teachers differ in terms of their religious values. Findings were statistically significant at the alpha level of .05.

The analysis of covariance was used to test the equality of mean value scores among the seven groups of vocational and technical education teachers with adjustments for the covariates. Results suggested that statistically significant differences existed among the seven groups for the theoretical, economic, aesthetic, and political values. The Scheffé test was used to test the significance of the F-ratios for the seven groups of vocational and technical educators.

When Scheffé test results were applied to the adjusted theoretical values, no statistically significant differences were

found among the seven groups of vocational and technical educators at the alpha level of .05. Statistically significant differences existed among certain groups of vocational and technical educators compared on the basis of their adjusted economic, aesthetic, and political values.

Scheffé test results suggested differences exist among the adjusted economic values of business and trades and industries teachers at the alpha level of .05. Findings were statistically significant at the alpha level of .01 when distributive education and trades and industries teachers were compared.

When adjusted aesthetic values for teachers of agriculture and home economics were compared, statistically significant differences were found at the alpha level of .05. Statistically significant differences were found at the alpha level of .01 when the following groups were compared: distributive versus home economics, distributive versus industrial arts, and distributive versus trades and industries.

Statistically significant differences were revealed among the adjusted political values of certain vocational and technical education teachers at the alpha level of .05. These groups were business and health occupations teachers, and health occupations and trades and industries teachers.

CONCLUSIONS

Examination of the findings summarized in this chapter provided a basis for the conclusions detailed herein.

1. Specialists within vocational and technical education in Virginia public schools do not differ significantly in terms of their

adjusted theoretical values. Scheffé' test results for the adjusted theoretical values indicated that no statistically significant differences existed among the seven groups at the alpha level of .05, and Hypothesis I (specialists do not differ in terms of their adjusted theoretical values) failed to be rejected.

2. Specialists within vocational and technical education in Virginia public schools are not a homogeneous group in terms of their adjusted economic values. Business and distributive education teachers have the higher adjusted mean scores on the economic values than trades and industries teachers. Hypothesis II (specialists do not differ in terms of their adjusted economic values) was rejected when Scheffé' test comparisons were made among the economic values of business and trades and industries teachers at an alpha level of .05. This hypothesis was also rejected when comparisons were made among distributive and trades and industries teachers at an alpha level of .01. Hypothesis II failed to be rejected when other comparisons were made among the groups of vocational and technical educators.

3. Specialists within vocational and technical education in Virginia public schools are not a homogeneous group in terms of their adjusted aesthetic values. Home economics teachers have greater adjusted mean aesthetic values than agriculture and distributive education teachers. Hypothesis III (specialists do not differ in terms of their adjusted aesthetic values) was rejected at an alpha level of .05 when comparisons were made among agriculture and home economics teachers. This hypothesis was rejected at an alpha level of .01 when comparisons

were made among distributive and home economics teachers, distributive and industrial arts teachers, and distributive and trades and industries teachers. Hypothesis III failed to be rejected when other comparisons were made among the vocational and technical educators.

4. Specialists within vocational and technical education in Virginia public schools do not differ significantly in terms of their adjusted social values. Hypothesis IV (specialists do not differ in terms of their adjusted social values) failed to be rejected at the alpha level of .05 based on findings of analysis of covariance test.

5. Specialists within vocational and technical education in Virginia public schools do not differ significantly in terms of their adjusted political values. Business teachers and trade and industrial education teachers have higher adjusted mean political values than those of health occupations teachers. Hypothesis V (specialists do not differ in terms of their adjusted political values) was rejected at the alpha level of .05 when the following comparisons were made: business versus health occupations, and health occupations versus trades and industries.

6. Specialists within vocational and technical education in Virginia public schools do not differ significantly in terms of their adjusted religious values. Hypothesis VI (specialists do not differ in terms of their adjusted religious values) failed to be rejected at the alpha level of .05 based on findings of the analysis of covariance test.

7. Data from this research suggested that the covariates investigated (sex, race, residential background, age, educational status, years of teaching experience, and years of occupational experience) influenced value orientations.

8. Information obtained through this research provided an additional data base of research findings regarding the value orientations of secondary vocational and technical education teachers and added to previous knowledge regarding value orientations as follows:

a. Specialists within vocational and technical education in Virginia public schools are not a homogeneous group in terms of their adjusted economic, aesthetic, and political values. However, these teachers do not differ significantly in terms of their adjusted theoretical, social, and religious values. This adds information to the research hypothesis of Sprinthall and Beaton (1966) that teachers do not represent a homogeneous occupational group on measured values. Through their research study, differences in the teachers' Study of Values scores were significant for subject matter on the theoretical, aesthetic, and economic scales.

b. Economic values were the highest mean value scores for all seven groups of vocational and technical education teachers when adjustments were made for the covariates. Other researchers have also found that specialists within vocational and technical education have strong economic values. Mean economic values scores were greater than other Study of Values scores as the following teaching specialists were studied: distributive education (White, 1968), home economics (Murray, 1968), and trades and industries (Finch, 1969). In addition,

mean economic values were higher than other scores of the Allport-Vernon-Lindzey Study of Values among vocational and technical education teachers employed in Oregon correctional institutions (Colbert, 1971).

c. Results indicated that distributive education teachers hold high economic and political values and supported the findings of White (1968).

d. Results also supported the findings of Finch (1968): trade and industrial education teachers have high economic values and low aesthetic values.

e. Murray (1968) ranked home economics teachers' values on the Allport, Vernon, Lindzey scale as follows: religious (44.18), economic (42.44), aesthetic (40.77), social (39.33), political (36.91), and theoretical (36.32). Mean value scores obtained for home economics teachers in this study produced the same rank ordering of the six values.

RECOMMENDATIONS

Based on the findings and procedures of this research, the following recommendations are suggested:

1. This study should be replicated in other states in order to add validity to the research procedure and methodology and to enable a comparative analysis of vocational and technical educators within the various states.
2. A research effort should be directed specifically at an examination of the following covariates and the manner in which each

influences value orientations: sex, race, residential background, age, educational status, years of teaching experience, and years of occupational experience.

3. A research effort should be directed specifically at identifying and examining other factors which might influence the value orientations of vocational and technical educators.

4. A research effort should be directed specifically at examining the similarities and differences in value orientations of secondary teaching specialists within vocational and technical education and teachers in other areas of secondary education.

5. A research effort should be directed specifically at examining the similarities and differences in value orientations among teaching specialists within vocational and technical education at various levels of educational preparation. Such comparisons could include the following groups:

- a. secondary versus post-secondary
- b. secondary versus collegiate
- c. post-secondary versus collegiate

6. A research effort should be directed specifically at examining the similarities and differences in value orientations among groups of professional educators such as the following:

- a. groups of vocational and technical education teachers versus local directors of vocational and technical education
- b. groups of vocational and technical education teachers versus other administrative groups and school board members

c. groups of vocational and technical education teachers versus guidance and counseling personnel

7. A research effort should be directed specifically at examining the similarities and differences in value orientations among specialists within vocational and technical education and the following groups:

a. individuals employed in similar specialty areas of business and industry

b. students enrolled in vocational and technical education

8. Additional research efforts should be directed toward examining similarities and differences which may exist among vocational and technical educators. Such studies might utilize other values instruments or instruments which measure behavior such as attitudes, dogmatism, and interests.

9. Education program planners and teacher educators might examine formal course work requirements for vocational and technical educators to:

a. determine possible curricula differences which may influence certain value orientations of vocational and technical educators (especially the economic, aesthetic, and political values)

b. determine curricula offerings which may influence the value orientations of vocational and technical educators and means of providing such

c. determine commonalities and differences in preservice, inservice, and graduate education requirements for vocational and technical educators

10. Educational program planners and teacher educators might examine the results of this investigation and consider such as they plan across-the-board courses for preservice, inservice, and graduate education.

11. Teacher educators might examine possible means of providing courses utilizing techniques which enable vocational and technical educators to clarify their values. Such courses could be offered at pre-service, inservice, and graduate levels of training.

12. Teacher educators and administrators might provide seminars and other activities which enable specialists within vocational and technical education to interact in educational and social settings.

13. Administrative personnel and teacher educators within vocational and technical education should examine similarities and differences among the value orientations of secondary vocational and technical education teachers. They may wish to appeal to the economic value when working with this group in an across-the-board situation. When dealing with particular specialty groups, however, they may wish to appeal to the economic value plus other values associated with that particular group.

14. Guidance personnel and vocational and technical education personnel might utilize mean value scores plus data obtained through other research which utilized the Allport-Vernon-Lindzey Study of Values as an information base when they are counseling individuals considering a career in vocational and technical education.

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LITERATURE CITED

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APPENDICES

APPENDIX A

Letter to Superintendents



COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DIVISION OF VOCATIONAL-TECHNICAL EDUCATION

Price House
Stanger Street
February 26, 1975

Dear _____:

I am currently pursuing the Ed.D. in Vocational Education at Virginia Polytechnic Institute and State University. The dissertation topic which I have selected involves a study of the value orientations of teachers of agriculture, business, distribution, health occupations, home economics, industrial arts, and trades and industries.

The participants for the study will be selected through a random sampling of Virginia public school vocational educators. Prior to selecting this sample, I would like to obtain your approval to include the teachers employed in your school district. Data will be collected via mail through a standardized instrument designed to measure value orientations.

All data will be held in strict confidence and will not be used for any purpose other than this study. Names of individuals involved will not be used in the dissertation.

The results of this study should provide information regarding the similarities and differences in vocational educators in each of the specialty areas. Such information may be helpful to local supervisory personnel for vocational and technical education and to persons preparing in-service education programs for vocational educators.

If you prefer that I not conduct this study in your school division, please inform me in writing by March 10, 1975, otherwise, as a convenience to you, a reply will not be necessary.

Thank you for your attention to this matter and for your assistance in the study.

Sincerely,

Authorized by:

Carolyn G. Litchfield
Doctoral CandidateDr. Dewey A. Adams, Director
Division of Vocational and
Technical Education

APPENDIX B

Letter of Transmittal



COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

March 17, 1975

DIVISION OF VOCATIONAL-TECHNICAL EDUCATION

Dear Colleague:

We are writing to request your participation in a study initiated by Carolyn Litchfield, a doctoral candidate in the Division of Vocational and Technical Education at Virginia Polytechnic Institute and State University.

The study is an attempt to find the differences and similarities among teachers of agriculture, business, distribution, health occupations, home economics, industrial arts, and trades and industries in terms of their value orientations. The results may provide information which will assist graduate, undergraduate, and inservice education program planning in Vocational and Technical Education.

We urge you to take 25 minutes from your busy schedule to complete the enclosed instruments. If you desire, you may receive a copy of your personally scored value profile for your participation.

Thank you for your cooperation.

Sincerely,

Dr. Dewey A. Adams, Director
Division of Vocational and Technical Education

Dr. James Clouse, Chairman
Agriculture Education

Dr. Ruth D. Harris, Chairman
Home Economics

Dr. Jeffrey R. Stewart, Chairman
Business Education

Dr. William E. Dugger, Chairman
Industrial Arts

Dr. Richard Lynch, Chairman
Distributive Education

Dr. Lester G. Duenk, Chairman
Trade and Industrial Education

Enclosure

APPENDIX C

Letter from Researcher



COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

March 17, 1975

DIVISION OF VOCATIONAL-TECHNICAL EDUCATION

Dear Vocational Educator:

Your cooperation is needed in the conduct of a study regarding the value orientations of vocational educators. Your name was selected in a 12 percent random sample of Virginia vocational educators. Therefore, your participation is respectfully requested.

Please read the instructions on the enclosed Professional Data Sheet and the Study of Values; complete each item on these instruments; and return them in the enclosed prestamped self-addressed envelope. There are no incorrect answers to the instruments. Your responses will be handled in a confidential manner and will become anonymous in the analysis of data and report of the study.

In the upper right hand corner of the Professional Data Sheet and the Study of Values instrument, you will notice an identifying number. This is placed on the instruments strictly for follow-up purposes.

If you would like a personal copy of your values profile, please indicate such on item eight of the Professional Data Sheet. Your personal values profile will be returned, once your instrument has been tabulated.

Thank you in advance for your prompt response to the instruments.

Sincerely,

Ms. Carolyn G. Litchfield
Investigator

Enclosure

APPENDIX D

Professional Data Sheet

Instructions: Please follow the specific instructions within each statement.

1. Indicate your sex:

Male
 Female

2. Indicate your residential background as a youth:

Rural
 Urban
 Other

3. Indicate your race:

Caucasian
 Negro
 Other

4. Indicate the highest educational degree you currently hold:

High school diploma
 AA, AAS, or AS
 BA or BS
 MA, MS, or M. Ed.
 Specialist
 Ph. D. or Ed. D.

5. State your age: _____

6. State your total years of teaching experience as of July 1, 1975:

7. Specify your total years of occupational experience related to your vocational teaching area as of July 1, 1975. (Convert part time experience to full time equivalency by the following formula: 2,000 hours equals one year of work experience.) Do not include teaching experience: _____

8. Would you like to have your completed values profile returned to you?

No

Yes; Please specify your name: _____

RETURN IN ENCLOSED ENVELOPE WITH STUDY OF VALUES TO:

Ms. Carolyn Litchfield

Price House

Virginia Polytechnic Institute and State University
Blacksburg, Virginia 24061

APPENDIX E
Follow-Up Letters



COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

March 31, 1975

DIVISION OF VOCATIONAL-TECHNICAL EDUCATION

Dear Vocational Educator:

You were recently selected to participate in a study designed to determine the value orientations of Virginia vocational educators. Participants have been contacted via mail and asked to complete two instruments: a Professional Data Sheet and the Allport-Vernon-Lindzey Study of Values.

To date your response has not reached my office. If your instruments have been mailed, please disregard this letter. If not, may I please hear from you soon?

Thank you for your consideration in this matter.

Sincerely,

Ms. Carolyn G. Litchfield

COLLEGE OF EDUCATION
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

DIVISION OF VOCATIONAL-TECHNICAL EDUCATION

Blacksburg, Virginia 24061

April 14, 1975

Dear Vocational Educator:

You were recently selected to participate in a study designed to determine the value orientations of Virginia vocational educators. Shortly after March 17, 1975, you should have received an information packet from me which contained a Professional Data Sheet and the Allport-Vernon-Lindzey Study of Values. The data you can provide through completing these instruments is vital to the completion of this research study.

To date your response has not reached my office. If your instruments have been mailed, please disregard this letter and accept my sincere appreciation and thanks for your help.

If you have not yet had time to complete the instruments, won't you please take about 20 minutes today for that purpose and send it by return mail immediately?

Perhaps you did not receive an information packet or have misplaced the original instruments. If this is the case, please notify me via mail or by calling 703-951-5271. I shall be most happy to provide you with the necessary instruments.

Thank you for your kind consideration.

Sincerely,

Ms. Carolyn G. Litchfield

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A COMPARATIVE ANALYSIS OF THE VALUE ORIENTATIONS OF
SECONDARY VOCATIONAL AND TECHNICAL EDUCATION
TEACHERS IN VIRGINIA PUBLIC SCHOOLS

by

Carolyn Gay Litchfield

(ABSTRACT)

The major purpose of the study was to determine and compare the value orientations among Virginia secondary vocational and technical education teachers in each of the following vocational service areas: (1) agriculture, (2) business, (3) distribution, (4) health occupations, (5) home economics, (6) industrial arts, and (7) trades and industries. Value orientations referred to the six basic motives of personality described by Spranger (1928) and were operationally defined as scores on six values--theoretical, economic, political, aesthetic, social, and religious--of the Allport-Vernon-Lindzey Study of Values.

Secondary vocational and technical education teachers employed on a full-time basis in Virginia public schools comprised the population. A 12 percent stratified random sampling of the population yielded a sample size of 478 vocational and technical educators stratified as follows: 42 agriculture, 156 business, 42 distributive, 21 health occupations, 69 home economics, 64 industrial arts, and 84

trades and industries. Data were collected through a mail survey technique. A 73 percent return rate was obtained through the responses of 349 teachers.

The one way analysis of variance, the analysis of covariance, and the Scheffé test for multiple comparisons were utilized in order to test the following hypotheses: After making adjustments for the covariates (sex, race, residence background, age, educational status, years of teaching experience, and years of occupational experience), Virginia secondary teachers of agriculture, business, distribution, health occupations, home economics, industrial arts, and trades and industries do not differ in terms of their

Hypothesis I:	theoretical values
Hypothesis II:	economic values
Hypothesis III:	aesthetic values
Hypothesis IV:	social values
Hypothesis V:	political values
Hypothesis VI:	religious values

The findings indicated that specialists within vocational and technical education in Virginia public schools are not a homogeneous group in terms of their adjusted economic, aesthetic, and political values. However, these teachers do not differ significantly in terms of their adjusted theoretical, aesthetic, and religious values. Data also suggested that the covariates investigated (sex, race, residential background, age, educational status, years of teaching experience, and years of occupational experience) influenced value orientations.