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INTERGENERATIONAL VALUES AS MEASURED BY
THE DIFFERENTIAL VALUE PROFILE

by

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CHAPTER I
INTRODUCTION

The declining birth rate and extended lifespan have become major dimensions in social, economic, and political planning. Biological technology has contributed to prolonged productivity, with individuals remaining physically, socially, mentally, and educationally active past retirement age.

Politically, the aging are learning the importance of organized strength. Organizations such as the American Association of Retired Persons (AARP), The National Association of Retired Federal Employees (NARFE), and the National Retired Teachers Association (NRTA) are using their growing numbers to effect political action.

Along with the extension of the active lifespan, industrial technology has reduced the need for human labor in goods production. A lowered retirement age is becoming common in industry as it has been traditionally in military careers. The newly retired show heterogeneous patterns of response to their free time (Havighurst, 1970, chap. 8; Sussman, 1970, chap. 15). Many find satisfaction in the expansion of leisure time activities. Some step directly into second careers or part-time employment, and others

return to the classroom for new learning. It is with the latter event that this study is concerned. As older learners return to the classroom, it is important to know whether or not their values differ from those of traditional students.

Statement of the Problem

The study is concerned with the following question: As measured by the Thomas Differential Value Profile (DVP), do the values of retired adults differ from those of younger students?

This investigation seeks to answer the question by comparing the values of retired persons with the values of regular university students. In addition, two subgroups are compared: (a) Retired persons with recent education are compared with regular university students, and (b) retired teachers are compared with regular students who are teachers or planning teaching careers.

Definitions

Retired Persons

The criterion for the "retired person" is that used by the American Association of Retired Persons: an individual 55 years of age or older. The individual may or may not be employed.

Regular Students

The term "regular student" refers to students enrolled

in a scheduled University of Alabama class who are less than 55 years of age.

Value

In the DVP manual, (Thomas, 1972) a value is defined as a "normative, conceptual standard of the desirable that predispositionally influences individuals in choosing among personally perceived alternatives of behavior" (p. 10). The item choices a respondent selects, then, reflect his personally preferred values. Since the DVP was selected for this study, the Thomas definition of values is used.

Value Factor

The term "value factor" refers to an underlying dimension derived from inter-correlations of responses to items requiring preference decisions. According to Thomas (1972), the DVP is comprised of six value factors, as follows:

Aesthetic. The aesthetic person usually perceives his environment according to its form, symmetry, beauty, and harmony. He is likely to judge each single experience from the standpoint of its grace, decor, or fitness. He may not be a creative artist or musician in the popular sense, but he is aesthetic if he finds his greatest interest in the artistic episodes of life.

Humanitarian. The humanitarian is characterized by love for people; whether one or many, whether conjugal, filial, friendly or philanthropic. He prizes other persons as ends and is, therefore, kind, sympathetic, and unselfish. He is not to be confused with merely an affluent philanthropist who may give to others conveniently, because the humanitarian cares for others even at his own inconvenience.

Intellectual. The intellectual person emphasizes the rational and cognitive things of life. He enjoys theoretical pursuits. He seeks to observe systematically and to reason. Since the interests of the intellectual man are empirical, critical, and rational, he may be a scientist or philosopher. A major purpose in his life is to order and systematize his knowledge.

Material. The materialistic person usually perceives his environment in the light of the dollar sign. Economic worth is primary to him. He is probably a very practical person and will tend to judge an event or object by its tangible benefits. He will embrace the practical affairs of the business world--the production, marketing, and consumption of goods, the elaboration of credit, and probably the accumulation of tangible wealth.

Power. The power-oriented person usually perceives the objects, persons, and events in his environment in terms of his own power and authority. He obtains great satisfaction from control and leadership of others. He feels most at ease when he is in charge. He probably enjoys open competition even though demonstration of competitive behavior may be subtle. He is often interested in political, military, or similar positions.

Religious. The religious man usually has a great faith in God and probably denies audience with anything that would appear to sever a cherished relationship with the Divine. He attempts to relate religiously to objects, events, and persons in his environment. He is frequently mystical and desires to comprehend the cosmos as a Whole. The highest motive of the religious man is to commit himself to some transcendent and higher purpose.
(p. 6)

Background and Relevance of the Study

The view of education as a lifespan concept has wide recognition, according to Knowles (1975). He attributes world-wide interest in programs for lifelong education to recommendations of the UNESCO Commission on the Development of Education, and states that the recommendations engendered

program developments in "France, Germany, India, Japan, the Scandinavian countries, and in many other places" (p. 86). In our own country, interest in older age learners is reflected in educational journal reports (Asimov, 1976; Cohen, 1975), gerontology studies (Birren & Woodruff, 1973b), and statistical surveys (Golloday, 1976).

Programs to meet the needs of older learners are proceeding from multifaceted directions. Technical and junior college programs offer new careers in new fields at the associate degree level. At the baccalaureate level, courses and credits are available through traditional programs, part-time and weekend courses, extension studies, and external degree programs. For the retired professional, graduate education provides opportunities for updating knowledge, for enrichment, or for new careers.

While educational administrators are planning programs, curriculum specialists and educational psychologists are examining the nature of the new learners and the potential need for revising curricular content, educational objectives, and instructional strategies. Courses of study may require revision not only to meet the needs of retired students, but also to provide understanding of the extended age span. Aging is one of the certitudes of living, and understanding the later stages of human development is as important as any other stage. To facilitate this understanding, courses in lifespan human development are supplementing programs that in the past have been limited

to child development. Saylor and Alexander (1973, p. 29) point out that social conditions and the nature of the learner should determine instructional goals and objectives. Educational objectives, an important component of educational planning, may require change.

A re-examination of instructional strategies may be indicated. Birren and Woodruff (1973a) state that methods developed for educating a younger student population may be inappropriate for adults returning to school after a lifetime of work. They optimistically add that "educational psychologists may find the task of developing the means to motivate and teach adults even more challenging and demanding than the task of educating children" (p. 31).

Pressey and Kuhlen (1957, p. 436) also emphasize the role of motivation in learning and point out that an individual's motivations result from his values and beliefs. What are the values of older persons? Are they different from those of younger individuals? Value theorists have searched for empirical evidence of a relationship between values and age groups.

Rokeach (1973) found age differences in the ranking of the 36 values of his Value Survey (pp. 72-82). The results suggested "continuous value change from early adolescence through old age with the presence of several generation gaps rather than just one" (p. 73). Kohlberg (1973, 1975) postulated invariant stages of development for values concerned with moral reasoning, with a maturation of moral judgment in adult life.

Increasingly, empirical studies are assessing differences in values. Wright (1973) found a moderate generation gap as well as intragenerational gaps in values held by college students and their parents. Morstain and Smart (1974), in a study of motivational dimensions among individuals participating in adult education, found minor age-related differences. Beveridge (1973) noted a significant difference in only one of six values held by graduate students and school administrators.

In view of the mixed finding on age-related differences in values and the need for a better understanding of the values of older adults, this investigation is in order. It is the purpose of this study to examine the values of a sample of adults over the age of 54 and to compare their value patterns with those of a sample of regular students in higher education classes. Comparative information on value patterns, as measured by the Thomas Differential Value Profile (1972) will contribute to a better understanding of lifespan development.

Data Collection

Instrument

The Differential Value Profile (see Appendix A) is used to assess the respondents' values. The DVP manual states that factor analysis data revealed six dimensions: aesthetic, humanitarian, intellectual, material, power, and

religious (Thomas, 1972). The classification is strongly influenced by Spranger's typology (1928). It was felt that completing the simplified Likert type format of the DVP would be less confusing for older respondents than the forms of more complicated value scales.

A potential problem lies in its limited validity. The present investigation establishes construct validity by a factor analysis of the responses, with subsequent data analysis based on the factor scores.

Internal consistency and test-retest reliability measures averaged about .85 on samples of university students (Thomas, 1972, pp. 28-30).

Samples

Since the study is directed to a comparative analysis of the values of regular university students and retired adults, two samples have been selected. Students from the following University of Alabama courses comprised the regular student sample: English composition, introduction to psychology, educational psychology, social behavior, deviant behavior, educational statistics, and advanced educational statistics.

The retired adult group was selected from the following sources: Students over 54 years of age enrolled in University of Alabama programs, the National Retired Teachers Association (NRTA), the American Association of

Retired Persons (AARP), and the National Association of Retired Federal Employees (NARFE). The three retirement groups were Tuscaloosa chapters of the national organizations. Administrative officials at the University of Alabama have cooperated in contacting currently registered students over 54 years of age, including external degree and week-end college enrollments.

Cattell has recommended that the minimum number of subjects in a multivariate study should be determined by adding the number of variables to 100 (1966b, p. 240). Since the DVP has 134 items, a total of approximately 250 individuals is required to satisfy Cattell's criterion. Expected distribution of the total is a minimum of 100 from each group with the remainder from either group.

Procedures

The questionnaires were distributed by the investigator to retired persons at meetings of their organizations. In addition, they were mailed to students over 54 years of age through the University Testing Service, where computerized mailing labels were available. A cover sheet explained the general purpose of the study, and requested information on five additional variables: educational level, recent course enrollment, occupation, age, and sex (see Appendix B). Stamped return envelopes accompanied the instruments.

For the regular students, instruments were distributed in their classes. These were to be completed independently,

as were those of the older respondents. The completed tests were collected by the investigator during a subsequent class period. The tests for both groups were unsigned, assuring anonymity.

Item scores were punched on data cards for submission to factor analysis. Scores from the factor analysis were subjected to discriminant analysis and multiple regression programs.

Hypotheses

Hypothesis I: Factor analysis reveals the following six dimensions postulated by Thomas (1972) to be present in the Differential Value Profile: Aesthetic, Humanitarian, Material, Intellectual, Power, and Religious.

Hypothesis II: Scores derived from factor loadings distinguish between groups of regular students and retired persons.

Hypothesis III: Scores derived from factor loadings distinguish between regular students and retired persons who have enrolled in university programs during the past ten years.

Hypothesis IV: Scores derived from factor loadings distinguish between regular students who are teaching or planning teaching careers and retired educators.

Hypothesis V: There is a statistically significant relationship between scores based on DVP factors and age.

The .05 level of significance is set for accepting Hypotheses II, III, IV, and V.

Limitations

The study is limited by the method of sample selection. Although a number of different programs and levels were included in the student group, the sample cannot be regarded as representative of either University of Alabama students or a wider population of students. In the same way, the retired sample cannot be construed as representing either their organizational membership or a population of individuals 55 years of age and older. However, because the more active individuals participate in organizational meetings and because the more educationally interested would be expected to respond to the questionnaires, it is quite likely that the retired respondents would be more like those older individuals most interested in lifespan education.

A second limitation is related to the instrument. The value comparisons are based on responses to the Differential Value Profile. Surveys conducted with other value instruments may yield different results.

A third limitation concerns problems in cross-sectional research. Similar age groups in other periods of time may respond differently. Longitudinal research would be required for ideal assessment of age related differences.

CHAPTER II

REVIEW OF THE LITERATURE

In order to ensure a systematic review of literature and avoid entanglement with related but less pertinent topics, two areas have been selected for in-depth review and discussion: value concepts and intergenerational values. Each area, in turn, is delineated and subsectioned. The discussion on value concepts includes definitions of concepts, differentiation of concepts related to values, alternative value concepts, and value concepts based on Spranger's typology. The section on intergenerational values reviews developmental theories and empirical studies pertinent to age-related value comparisons.

It is felt that the two categories selected for review are especially relevant to the purpose of the study: to examine the values of older persons and compare them with learners in higher education classrooms. A review of value concepts is required in order to understand the construct that is being measured. Literature on intergenerational values as reported by developmental theorists and empirical researchers offers relevant background information for this investigation.

Feather (1975) has pointed out that developmental theory and empirical inquiry must supplement each other in studies of intergenerational values. Both Feather and Rokeach (1973) found a relationship between lifespan stages as hypothesized by developmental theorists and age-related value comparisons.

Value Concepts

Value definitions in the social sciences have been viewed as ambiguous (Jacob & Flink, 1962, p. 7), in conceptual disarray (Rokeach, 1973, p. 17), and vague and diffuse (Albert & Kluckhohn, 1959, p. ix). Albert (1956) states, "The plethora of definitions and the multiplicity of theories are intimidating" (p. 243).

According to Kluckhohn (1951), an examination of the literature "finds values considered as attitudes, motivations, objects, measurable quantities, substantive areas of behavior, affect-laden customs or traditions, and relationships such as those between individuals, groups, objects, events" (p. 390). Robinson and Shaver (1973) contended that finding a theoretical basis from which to initiate value research is difficult because "the rubric 'values' has included everything from utilities in decision theory...to preferred 'ways of life'" (p. 491). In the same vein, Cattell (1966a) pointed out that "The term 'value' is itself an extremely loose one, covering artistic

taste, religious and ethical beliefs, political loyalties, economics, and almost any interest whatever" (p. 779).

Paradoxically, although there may be little agreement on value definitions, there is general consensus on the importance of values in human behavior. The nature of human values is of multidisciplinary concern. Educators have been alert to the crucial role of values in schooling. In discussing "The Fiery Centrality of Values," Lerner (1976) emphasized, "Every actor in the educational drama (teacher, student, family, administrator, media, peer group) is up to its neck in values. Like it or not, education is values drenched" (p. 13). In his concluding chapter, Lerner showed that man is a valuing organism: "In every phase of his being, for good or ill, he is a value-receiving, value-choosing, value-carrying, value-shaping, value-transmitting, value-binding animal" (p. 97).

Other writers have shared Lerner's concern with the relationship of values and education. Getzels (1957) pointed out that "the central serious issue facing the schools today, as it always has been, is the problem of values" (p. 92). He went on to show that, not only do values influence the child's self-identity, but the values held by teachers and parents related strongly to the selection of objectives, curriculum personnel, and even building construction. Spindler (1955) claimed that the attacks on education during the 1950's were symptoms of the transformation of American value systems.

Social scientists have stressed the importance of values in behavioral research. Feather (1975) who has been conducting value research in Australia, pointed out that "the concept of value enables the social scientists to bridge the gap between the analysis of the individual and the analysis of the society in which that individual lives. It has a central, integrative role in contemporary social science" (p. xiv).

Kerlinger (1973) agreed that values were important for behavioral scientists and he predicted, "there can be little doubt...that social and educational values will become the focus of much more theoretical and empirical work in the next decade, since social scientists are becoming increasingly aware that values are important influences on individual and group behavior" (p. 500).

Rokeach (1973), too, agreed on the strong relationship between values and human behavior. To Rokeach,

Values are determinants of virtually all kinds of behavior that could be called social behavior--of social action, attitudes and ideology, evaluations, moral judgments and justifications of self and others, comparisons of self with others, presentations of self to others, and attempts to influence others. Boiling all these down to a more succinct theoretical statement, it can perhaps be stated that values are guides and determinants of social attitudes and ideologies on the one hand and of social behavior on the other. (p. 24)

There may be a relationship between the recognition of the critical role of values as determinants of behavior and the lack of agreement on value definitions. Perhaps it is because of the crucial importance of values in

individual and social behavior that theorists are reluctant to establish consensual, inflexible labels. Perhaps social scientists, recognizing the limitations of scientific methods in the realm of human behavior, are cautious in accepting definitions that may place constraints on continued investigations. Van Dalen (1973, chap. 2) pointed out that, whereas phenomena in natural sciences are relatively stable and therefore more measurable and predictable, factors underlying human behavior are less so. Thus, according to Van Dalen, progress in the social sciences can be made only by persistent and patient probing. In the same vein, Rokeach (1968, p. 111), after discussing concepts that lacked definition and systematic status, recommended that confused concepts can best be clarified by continuing critical analysis.

This section of the literature review follows the recommendations of Rokeach and Van Dalen and is concerned with a critical analysis of value concepts. The organization of the material proceeds from the general to the particular. First, definitions of concepts are reviewed. Secondly, concepts related to values are differentiated. Thirdly, value concepts as viewed by theorists and researchers are described. And finally, since the instrument used in this investigation seeks to tap the dominant interests of man first described by Spranger (1928), value concepts related to Spranger's theories are discussed.

Definitions of Concepts

Before entering into discussions of value concepts, it is first necessary to define the meaning of "concept." In contrast to the ambiguity in the definition of values, there is general agreement on the definition of concepts. Educational psychologists offer straightforward statements concerning the meaning of the latter term. DeCecco and Crawford (1974), for example, stated that concepts are classes or categories of stimuli; that, although not always congruent with personal experience, concepts represent attempts to "classify the confusion of our world and to render it more amenable to our control and satisfaction" (p. 289).

Archer's definition of a concept as "the label of a set of things that have something in common" is discussed by Loree (1970). Loree felt the definition was "deceptively simple" and modified it to read: "A concept is the meaning attached to the label of a set of things that have something in common" (p. 368).

There is agreement in the three definitions that a concept is a set or class or category. The set has a label and its members have something in common that differentiate them from other sets with other labels. Two characteristics of a concept are noted and are applied to the following subsections. First, a concept has to do with classification. In discussing the writings of value

researchers and theorists, emphasis is placed on their systems or criteria for classifying values. Secondly, the components or members of the set or concept have something in common and thus can be differentiated from dissimilar although related categories. We now turn to the task of differentiating values from related concepts.

Differentiation of Related Concepts

As concepts related to values are examined, it is apparent that, again, there is a problem in consensual agreement on meanings. Additionally, the method of definition used varies. Some authors offer straightforward delineation of meanings, some define concepts by comparison with related meanings, and others assign different cognitive, affective, and behavioral components to the term.

Although the task of distinguishing between related concepts and values may be somewhat unproductive in arriving at consensual criteria, an examination of the painstaking efforts of social scientists to arrive at some differentiation will lead to a better understanding of values. Additionally, extracting the points of agreement provides a frame of reference for organizing values and related concepts.

Beliefs. Since Rokeach (1968, 1973) defines a value as a type of belief, it is appropriate to begin this section with a discussion of meanings associated with

the term "belief." To Rokeach (1968), a belief is "any simple proposition, conscious or unconscious, inferred from what a person says or does, capable of being preceded by the phrase 'I believe that....'" (p. 113). A belief may describe (descriptive belief), evaluate (evaluative belief), or exhort (prescriptive belief). A value is a belief of the latter category, a prescriptive belief that views a means or end as desirable.

All beliefs, according to Rokeach, have cognitive, affective, and behavioral components, which are strongly interrelated. The melding of these components is attributed to the individual's striving toward the maintenance of consistency within the belief as well as among related beliefs.

Although some theorists question the presence of affective and behavioral components in beliefs (Rokeach, 1968, p. 115), they agree to the cognitive component. Additionally, beliefs are viewed by some as having existential characteristics. Parson and Shils (1951), for example, stated, "Symbol systems in which the cognitive function has primacy may be called 'beliefs' or ideas.... Beliefs, since they are primarily cognitive, always relate the individual to his environment. Thus they are all existential" (p. 162).

Kluckhohn (1951), too, referred to the existential identification of beliefs. He claimed that "belief refers

primarily to the categories, 'true' and 'false'; 'correct' and 'incorrect'" (p. 432). A similar interpretation was made by Fishbein and Raven (1967, chap. 21), who viewed a belief as the probability dimension of a concept.

Generally, then, there appears to be acceptance of the cognitive and existential characteristics of beliefs. A value is related to a belief, according to Rokeach, in that it is a special type of belief: a prescriptive belief that a specific mode of conduct or end-state of existence is desirable.

Attitudes. If beliefs are defined as primarily cognitive concepts, attitudes are often interpreted as including affective or feeling components. Bills, Vance, and McLean (1951), for example, defined an attitude as an evaluation or feeling. They offered the following explanation of attitudes toward traits, interests, and self:

An attitude toward a trait is a feeling or evaluation as to whether or not a certain trait constitutes a value. An attitude toward self is a feeling or evaluation by the individual as to whether or not a trait which he possesses in a given amount constitutes a value. An attitude toward an interest is a feeling as to whether or not this interest is helpful in maintaining or achieving a value or values. (p. 257)

To Bills et al., then, an attitude is an evaluation as to whether or not the referent possesses the standards set by the individual. Since feeling states are involved, an attitude has an affective component. Since assessment is present, an attitude also has a cognitive component.

The evaluative function of an attitude was also emphasized by Fishbein (1965, pp. 107-120) when he stated that attitudes were evaluative summaries of concepts. In another publication (Fishbein & Raven, 1967, pp. 183-189), attitudes were described as the evaluative dimension in the Attitude-Belief Scale.

A number of theorists stress the "predisposition to respond" characteristic of attitudes as a distinguishing element. Kerlinger (1973) included this characteristic in the following definition: "An attitude...is an organized predisposition to think, feel, perceive, and behave toward a referent or cognitive object. It is an enduring structure of beliefs that predisposes the individual to behave selectively toward attitude referents" (p. 495). Kerlinger's definition is similar to one offered by Rokeach (1968) wherein "an attitude is a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner" (p. 112).

Rokeach would differ with distinctions that attribute only cognitive components to beliefs, but both cognitive and affective components to attitudes. He holds that both beliefs and attitudes have cognitive, affective, and behavioral elements and he supports the inclusion of the behavioral component in attitudes in two ways: (a) Since beliefs are the underlying units in attitudes, the three components attributed to beliefs are also present in

attitudes; (b) the predisposition to respond characteristic of attitudes makes them "agendas for action" (p. 120), and when motivated leads to a behavioral response.

In another publication Rokeach (1973) stressed the need for reducing the blurred meaning of attitudes. He noted that the greater emphasis on attitude research as compared with value research partly stemmed from "a lack of clarity about the conceptual differences between values and attitudes" (p. 18) and he proceeded to clarify the differences. The more salient distinctions were: (a) An attitude is an organization of several beliefs, whereas a value refers to a single belief; (b) an attitude is focused on a specific object or situation, while a value transcends objects and situations; (c) an attitude is not a standard, whereas a value is a standard; (d) attitudes number in the thousands, but values are few and number in the dozens; (e) a person has as many attitudes as encounters with specific objects or situations, but one's values are limited to the number of beliefs concerning desirable modes of conduct and end-states of existence; (f) attitudes are less central than values in the personality and cognitive systems; (g) attitudes are determined by value standards.

A clarification of values as determinants of attitudes is offered by Robinson and Shaver (1973) as follows: "An individual's attitudes across many areas (e.g., nationalism, conformity) can be explained as emerging from one common

value (e.g., loyalty)" (p. 6). In regard to overall distinctions between values and attitudes, they stated, "Values differ operationally from attitudes only in being fewer in number, more general, central and pervasive, less situation-bound, more resistant to modification and perhaps tied to developmentally more primitive or dramatic experiences" (p. 494). It is apparent that Robinson and Shaver are in agreement with Rokeach concerning differences between attitudes and values.

Although there may be some debate among value theorists concerning the nature of attitudes (e.g., affective, cognitive, and behavioral components), there is general consensus that attitudes are interrelated with other concepts, that they are situation-specific, that they are evaluative and cognitive concepts, that they are functions of values, and that they are relatively enduring. Attitudes are closely related to values in that attitudes are derived from standards set by antecedent values.

Needs. There are numerous systems for classifying needs, but few direct definitions of this concept. According to Lee (1948) the problem of multiple categories started "when the behaviorists banished the old list of instincts" (p. 391) and inventories of needs were developed to fill the vacuum. When an original list was faulty, new lists were added in a continuing process of adding and correcting. As a result, Lee stated, there are basic needs,

social needs, psychic needs; primary needs, secondary needs, and secondary needs that play the role of primary needs; needs for novelty, escape from reality, and security.

If the classification systems are too numerous to be orderly, the definitions are often too complex for clear understanding. Four examples are given below.

Kluckhohn (1951) defined needs as "a readiness or tendency to persist toward and to perform a consummatory response relative to a certain more or less arbitrarily chosen 'standard' goal object or situation and to avoid or go away from certain other objects or situations" (p. 335). Tolman (1951) used similar terms in his definition of needs as "a postulated resultant, intervening, behavioral process to be defined in the last analysis as a readiness to get to and to manipulate in consummatory fashion (or to get from) certain other types of object" (p. 288). Tolman noted that his conception of "need" was consistent with that of Murray's. An examination of Murray's definition (cited in Hall & Lindzey, 1970) reveals congruency with the above concepts:

A need is a construct (a convenient fiction or hypothetical concept) which stands for a force...in the brain region, a force which organizes perception, apperception, intellection, conation and action in such a way as to transform in a certain direction an existing, unsatisfying situation. (p. 175)

Loree (1970) offered a more direct definition in the statement that "the term 'need' is used to denote some inferred common characteristics of the motivational basis for the behavior of an individual" (p. 238). By analyzing

components of the definitions cited, it is possible to arrive at an understanding of needs as a construct inferred from behavior, a construct which is motivational in that the resultant behavior shows a readiness to respond to a goal object or situation.

Rokeach (1973) sidestepped definitional complexities and instead, dwelt on the differentiation of needs and values. First, he charged that some writers, such as Maslow, regarded values and needs as equivalent.

The present writer's examination of a compilation of Maslow's writings (1962) revealed that there is some basis for these charges. As he discussed his hierarchy of five basic needs (physiological, safety, love, esteem, self-actualization) he referred to them as "needs or values." The top of the hierarchy (self-actualization) is identified by Maslow as the 'single ultimate value for mankind' (p. 145).

Rokeach (1973) strongly refuted the similarity of needs and values. He showed that "If values are indeed equivalent to needs, as Maslow and many others have suggested, then the lowly rat, to the extent that it can be said to possess needs, should to the same extent also be said to possess values." He went on to point out that man is the only animal that has values, that a system of values distinguishes humans from infrahumans, and that "values are the cognitive representations and transformations of needs, and man is the only animal capable of such representation and transformations" (p. 20).

According to Rokeach, needs must necessarily be transformed to meet societal demands. And once the needs are transformed into values,

they are capable of being defended, justified, advocated, and exhorted as personally and socially desirable Aggressive needs may be transformed into values concerning ambition, honor, family or national security. . . . Needs are cognitively transformed into values so that a person can end up smelling himself, and being smelled by others, like a rose. Because infrahumans are incapable of such cognitive representations and transformations of needs, they cannot have values." (pp. 20-21)

Although Rokeach refuted the equivalence of needs and values, he stressed the strong relationship between the two concepts. Values emerge from the cognitive transformation of needs and therefore, the number of values is related to the number of needs. Rokeach showed that, because the number of needs is small (Freud proposed 2; Maslow, 5; Murray, 28), the number of values is small. Thus the Rokeach Value Survey has a limited number of items -- 18 instrumental values and 18 terminal values.

Kluckhohn (1951) also showed that needs were not identical with values, but that a strong relationship existed between the two concepts. He discussed this relationship as follows: "Since a value is a complex proposition involving cognition, approval, selection, and affect, then the relationship between a value system and a need or goal system is necessarily complex. Values both rise from and create needs" (p. 428). Kluckhohn clarified

the latter statement by showing that not only do values emerge from needs, according to cultural standards, but additionally, needs are created by cultural values.

By synthesizing the relationship between values and needs and the definitions of needs discussed above, it is possible to arrive at the following delineation of the need concept: A need is a motivational readiness for response and is strongly related to, but not equivalent with, values. Social demands result in a cognitive transformation of needs in order that they can be accepted openly as values.

Traits. Allport's (1937) technical description of a trait is frequently cited by personality theorists as the classical definition of this concept. The definition states: "A trait is...a neuropsychic structure having the capacity to render many stimuli functionally equivalent, and to initiate and guide equivalent (meaningfully consistent) forms of adaptive and expressive behavior" (p. 347). Recognizing the formidability of this definition, Allport offered several simpler versions: "A trait is a broad system of similar action tendencies existing in the person we are studying" (1937, p. 337) and "Traits express characteristic modes of adaptation to one's surroundings" (1961, pp. 139-140).

The content of the three definitions can be simplified with Kerlinger's (1973) direct statement: "A trait is a relatively enduring characteristic of the individual to

respond in a certain manner in all situations" (p. 495). Kerlinger showed the following clear distinction between traits and attitudes: "A trait has subjective reference; an attitude has objective reference. One who has a hostile attitude toward foreigners may be hostile only to foreigners, but one who has the trait hostility is hostile toward everyone (at least potentially)" (p. 496).

Both traits and attitudes were of prime concern to Allport (1937) and he distinguished between the two concepts with the explanation that attitudes have an object of reference, with pro or con responses; traits are characteristics without approach or withdrawal attributes. Additionally, he differentiated the two concepts through the focus of interest:

Since attitude has to do with people's orientation to definite facets of the environment..., it is the favored concept in social psychology. In the field of personality, however, we are interested in the structure of the person, and hence trait becomes the favored concept. (p. 348)

From the above, it can be stated that a trait is a characteristic of an individual, is inferred from consistent behavioral responses, and is of primary importance in understanding one's personality structure.

Combs, Richards, and Richards (1976) agreed that "traits describe what is characteristic of a person's behavior" but, paradoxically, they questioned the consistency of traits, since "they are by no means an accurate indication of what a particular person will do in a

particular situation" (p. 269). They explained their thinking from the perceptual point of view: "What seems appropriate for a person to do in a given circumstance is always dependent upon his need and the state of his perceptual field at the moment" (p. 270).

Other perceptual psychologists assign a close relationship between traits, perceptions, and values. Bills et al. (1951) define a trait as "an adjective which may be used to describe a person" and a value as "a trait which the individual considers desirable." The interrelationship of traits and values is explained as follows: "Traits are examined in light of our philosophy of life and become values or are rejected in accordance with their consistency with our value system or philosophy" (p. 257). To Bills et al., traits are valued according to an individual's perceptions of the trait's desirability.

Rokeach (1973) discussed the perceptual distillation of traits as they become values. He first noted that traits are "human characteristics that are highly fixed and not amenable to modification" and then he showed that only through a system of values can traits be altered:

A person's character, which is seen from a personality psychologist's standpoint as a cluster of fixed traits, can be reformulated from an internal, phenomenological standpoint as a system of values....A person we might identify as aggressive might see himself as merely ambitious, as one who cares about being a good provider for his family, and as one who cares about accomplishing something important in life. (p. 21)

It is clear that Rokeach accepts the view of perceptual psychologists that the relationship of traits and values can best be understood through the individual's perceptions of traits.

There appears to be more agreement on the concept of traits than almost any other concept related to values. Traits are viewed as characteristics of individuals, relatively enduring, inferred from consistent behavior. Traits are distilled into values by the perceptions and preferences of the individual. As indicative of the importance of traits as raw materials for values, it may be noted that both Bills and Rokeach derived lists of values from Allport's original list of 11,000 traits.

Summary: An Organizational Model. A review of literature on value-related concepts showed that, although there is ambiguity and diversity in term definition, there is adequate consensus for the formulation of a model to illustrate the relationship between values and beliefs, attitudes, needs, and traits. By extracting the points of agreement and the statements that have not encountered disagreement, a summarizing consensus is possible. Figure 1 illustrates the organizational model which provides the framework for the following summary.

The model is headed by beliefs, since a value is a type of belief. Beliefs may be of three kinds: descriptive, evaluative, or prescriptive. In the latter

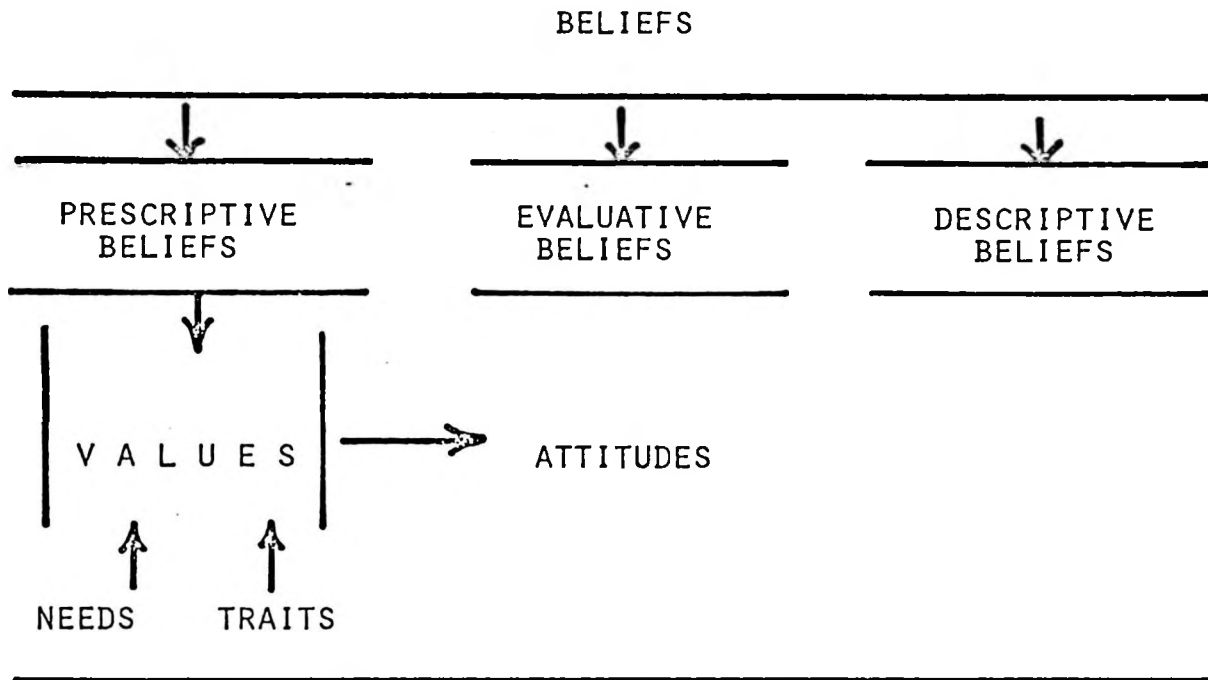


FIGURE 1. AN ORGANIZATIONAL MODEL FOR VALUE-RELATED CONCEPTS

category, some means or end-state is regarded as being desirable or undesirable. Values are beliefs of the prescriptive type.

A need is a motivational readiness for response. Needs are cognitively transformed into values in order to conform with societal acceptance. Thus values are derived from needs.

A trait is an adjective describing a relatively enduring characteristic of an individual. In itself a trait has no affective content. Through perceptual selectivity, some traits are viewed by an individual as desirable and the trait becomes a value. Values are derived from traits as well as from needs.

Attitudes are defined by some as evaluative concepts and by others as predispositions to respond. By synthesizing the two views, attitudes may be regarded as predispositions toward evaluative response. The evaluation is derived from standards set by the individual's values, which are more central and pervasive than the situation-specific attitudes. Attitudes are thus determined by values.

Despite some debate and ambiguity in definitions, it has been possible to illustrate a structured relationship between values, beliefs, attitudes, needs, and traits. An organizational model has been used for this purpose. Additionally, the model can serve as a frame of reference

in understanding the value concepts postulated by theorists and researchers. Examples of these concepts are discussed in the following subsection.

Alternative Value Concepts

In the above discussion it was shown that, although there was diversity in definitions of value-related concepts, there was also congruity. It was possible to bring together points of agreement in a frame of reference.

This section uses a similar approach in dealing with value concepts. Diverse conceptual definitions and classifications are examined, shared components are extracted, and points of agreement are synthesized into a consensual summary.

It would be difficult to find a comprehensive study of value theory that does not recognize the contributions of Kluckhohn (1951) to this field. His conceptualization of values is frequently cited by writers as a starting point in arriving at their own definitions or at their own classification systems (Albert, 1956, p. 221; Feather, 1975, p. 5; Robinson & Shaver, 1973, p. 493; Rokeach, 1973, p. 9). For this reason, it is appropriate to begin the review of alternative concepts with a discussion of Kluckhohn's definition of values.

Kluckhohn's (1951) definition stated: "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 or action" (p. 395). Kluckhohn clarified each component of his definition as follows: Since a value is not directly observable, it is defined as a "conception" or construct. "Explicit or implicit" permits the inclusion of values that are expressed as well as those that are not verbalized. Values are primarily cultural products, and thus characteristic of groups. However, since group values are given personal interpretation by each individual, both individual and group values are included in the definition. The "desirable" is what the individual believes he "ought" or "should" desire. "Selection" connotes choice of alternatives. "Available" implies genuine opportunities for selection. Available "modes, ends, and means" place limits on the alternatives.

According to Kluckhohn, then, a value may be expressed or implied, personal or cultural, pertaining to a means of attainment or an end-goal. While some value theorists have accepted these delineations in total or in part, others have questioned one or more of the components of Kluckhohn's definition.

Searching for a value-classification system for exploratory cross-cultural comparisons, Albert (1956) developed a system for categorizing values according to their level of generality. She used Kluckhohn's definition as a point of departure and postulated five categories in

descending order of generality. Premises and value orientations are at the top level and are the most general conception of the desirable and undesirable. Examples are: the place of human beings in the scheme of things; the direction and significance of human history; the meaning of life and the nature of happiness; conceptions of moral worth. Value premises are usually not verbalized and it is necessary to construct them by inference.

The next level of generality is focal values, which are explicitly valued within a culture. These values cluster about a limited number of cores and their content varies with the culture. Albert illustrated with the following examples: "knowledge, family, possessions, enjoyment and health are focal values for the Ramah Navaho ...and for the Texan homesteaders, individualism, personal success and community progress are focal" (p. 240).

In the third category are directives. This category includes the prescriptions and prohibitions; the do's and don'ts; the laws, commandments, rules of conduct, taboos, and any other rules intended to regulate conduct. At the same level of generality and overlapping the directives category is character, the fourth category. Character includes the qualities of personality that are approved and disapproved, rewarded or punished: the virtues and the vices.

At the lowest level of generality, and therefore the most specific, is the fifth category, the valued and

and disvalued entities. Cultural diversity is revealed in the specific values placed upon objects, situations, and activities. Albert points out that a turquoise necklace, for example, may represent a physical object, a work of art, a form of wealth, social prestige, the reward of industriousness and esthetic satisfaction. Cultural differences which must be inferred from the more general values, become more explicit at the specific level labeled entities.

Value classifications according to level of generality may well be useful for cross-cultural studies. The categories however have primarily a philosophical or anthropological orientation and probably are less useful for direct social science application in value assessment.

F. Kluckhohn and F. Strodtbeck (1961) developed an interview instrument to assess cross cultural value orientations in five southwestern communities. By condensing their lengthy and complex definition of value orientations, this concept may be described as a pattern of rank ordered principles resulting from the evaluative process. The value orientation theory was based on the assumptions that: (a) There is a limited number of human problems which require solutions; (b) these problems are universal; (c) the range of solutions is limited; (d) the same variations in solutions are present in all societies, but are differentially preferred.

Five common human problems were identified and became the basis for the interview questionnaire: (a) the nature of man himself, human-nature orientation; (b) relation to nature and supernature, man-nature orientation; (c) one's place in the flow of time, time orientation; (d) the modality of human activity, activity orientation; and (e) relationship to fellow human beings, relational orientation.

Robinson and Shaver (1973, p. 562) lauded the comprehensiveness of the value orientation classifications, despite a number of technical problems which they described. Rokeach (1973, p. 22), on the other hand, felt the Kluckhohn and Strodtbeck value orientations were more representative of philosophical beliefs than of values. Specifically, he felt the alternatives were not conceptions of the desirable, but rather existential beliefs.

The above conceptualizations of values have been postulated by anthropologists. A second group of value concepts evolved from educational concerns.

Donaldson (1972), after reviewing literature on the values of university students, concluded that a "majority of studies dealing with values are based, directly or indirectly, upon the value structure of Eduard Spranger..., well known for his analysis and six-fold classification of values, or George Spindler, who advanced a value structure in which values were categorized as 'traditional' or 'emergent'" (p. 32). Spranger's value structure is

analyzed in a subsequent subsection because it is more specifically related to the instrument used in this study, the Differential Value Profile. Spindler's theories are directly applicable to values in education and can appropriately be described in this subsection. At the same time, Getzels' formulations are discussed, since they are an outgrowth of Spindler's value classifications.

In order to understand the value patterns of college students who ranged in age from 19 to 57 years, Spindler (1955) collected data from students during a four year time frame. The data were based on responses to open ended items, such as, "The individual is _____" and on one paragraph descriptions of the "Ideal American Boy" (p. 146). Using projective analysis of the responses, value patterns were determined and dichotomized into traditional values and emergent values. The traditional values were: Puritan morality, the work-success ethic, individualism, achievement orientation and future-time orientation. Emergent values included: sociability (getting along with people), relativistic moral attitude, consideration for others, present-time orientation, and conformity to the group.

Spindler felt that the transformation in American culture of the 1950's was brought on by the shift from traditional to emergent values. Additionally, he postulated that the attacks on professional educators during those years were symptomatic of the conflict resulting from this transformation.

Getzels (1957) was also concerned with the relationship between values and education. He first differentiated between relatively stable American "sacred values" and existential, operating, secular values. The sacred values (democracy, individualism, equality, human perfectibility) were regarded "as attractive now as they were 150 years ago" (p. 96). Getzels drew upon the traditional-emergent classifications of Spindler to illustrate the operating, secular values, which were changing. He described traditional-emergent differences in American culture as follows:

Instead of the work-success ethic, there is an overriding value of sociability and frictionless interpersonal relations....Instead of future-time orientation and consequent self-denial there is a hedonistic present-time orientation. (p. 98)

Getzels' description appears to be somewhat biased towards traditionalism. Spindler, however, stressed that his findings "are not castigating either the emergentists, or the traditionalists" (1955, p. 155). He went on to show that value systems change to meet societal needs:

Value systems must always be functional in terms of the demands of the social and economic structure of a people. The traditional mode has much that is good about it....But rugged individualism (in its expedient, ego-centered form), and rigid moralism (with its capacity for displaced hate) become non-functional in a society where people are rubbing shoulders in polyglot masses, and playing with a technology that may destroy, or save, with a pushing of buttons. (p. 156)

Spindler stated that his analysis of traditional-emergent values was tentative and unfinished; that "the next 20

years may tell the more complete story" (p. 155). Today, more than 20 years have elapsed. A value survey based on his classifications might well reveal continued change toward the emergent values.

Both Spindler and Getzels recognized the contributions of anthropologists Clyde and Florence Kluckhohn and stated that the Kluckhohn value theories were a starting point for their premises. Getzels, particularly, related his postulations to Clyde Kluckhohn's definition of a value as a conception of the desirable. Moreover, the Spindler-Getzels formulations can be regarded as primarily cultural (American culture). Thus, there appears to be a close relationship between the value conceptualizations of the anthropologists and the above educators.

Bills, Vance, and McLean (1951) are representative of educators and psychologists who approach the value concept from a phenomenological or perceptual viewpoint. In perceptual theory, values have meaning only as they are experienced by the individual at the moment of response (Bills, 1975, p. 7; Combs, Richard, & Richard, 1976, p. 22).

To Bills et al. traits, values, self-concept, and the ideal self are closely related. Self-concept refers to the way an individual sees himself. Ideal self connotates the way the individual wishes to be--his conception of which traits are desirable. Since "a value is a trait which the individual considers desirable" (p. 257),

it follows that the ideal self and the value system are synonymous. Behavior is motivated by the striving for congruency between the self-concept and the ideal self (the value system).

The authors developed a scale, the Index of Adjustment and Values, to assess an individual's self-concept, self acceptance, and ideal self "the values toward which he is striving" (p. 258). The methodology in scale development reveals the close relationship recognized between traits and values. The scale items were derived from lists of traits. It is the individual's assignment of desirability to these traits that establishes them as values.

The scales are available in the original adult version and in forms for three educational levels: elementary, junior high school, and high school. Although the items (lists of traits) differ, each form includes columns that indicate the respondent's view of self, acceptance of self, and ideal self. In addition to offering an assessment of personal values, the scale responses show the degree of personal adjustment as determined by discrepancies between the self concept and the ideal self. Because the scale can be used in all educational levels and because the Index is both a measure of personal values and of the degree of personal adjustment based on these values, it has been used in a wide range of research.

In addition to the anthropologists and educators, a third group, the social psychologists, have been in the

forefront of value research. Robinson and Shaver (1973) have worked with the Institute for Social Research at the University of Michigan in the compilation of attitude measures. The publications include not only an analysis of the measures, but also an analysis of the theory related to the measures.

In the introduction to a chapter on values, Robinson and Shaver noted that a common problem to value theorists was the distinction between "'what is preferred' vs. 'what is preferable'--what is desired as opposed to what ought to be desired." Although research has shown that in some cases there is no difference, "Nevertheless, the relationship between what is desired by an individual...and what is held...to be the morally proper choice should not be prejudged" (pp. 496-497).

Because of this theoretical distinction, Robinson and Shaver organized their review of value scales into three parts: (a) values as what is desired, (b) values as what ought to be desired, and (c) a mixed conception of values.

Rokeach's (1973) conception of values was included in the third part. In his exploration of values, Rokeach (1973) offered a direct and specific definition: "A value is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (p. 5).

After stating his definition, Rokeach discussed each component in the same manner that Kluckhohn (1951) dissected and analyzed each part of his definition. Rokeach showed that values are enduring because of the absolute manner in which they are initially taught. But experiences rearrange value priorities in a "hierarchically organized system" and "the behavioral outcome will be a result of the relative importance of all the competing values that the situation has activated" (p. 6). Thus values are enduring, but only in a relative relationship to other values.

Since a value is a type of belief, it has cognitive, affective, and behavioral components, like all beliefs. The beliefs concern desirable modes of conduct, which are called instrumental values, or end-states of existence, which are called terminal values. There is no distinction between a preference and a conception of the preferable. Rather, Rokeach indicates they are the same: In selecting a mode of conduct, for example, "the person who prefers one believes that same one to be consensually preferred" (p. 10). In the same way, the definition does not distinguish between personal and social values, but includes them both in the phrase "personally or socially preferable." Rokeach recognized that values may be construed as applying to oneself and/or to others and felt that further research was needed in this area.

To assess values, Rokeach developed his Value Survey, a list of 18 instrumental values and a list of 18 terminal values. The derivation of the values listed in the Value Survey follows procedures indicated by other scale developers. The 18 terminal values resulted from logical and then statistical analysis of a larger list compiled from various sources: social and historical literature, graduate students, adult interviews. The instrumental values were derived from Allport and Odbert's trait-names, similar to procedures used by Bills et al. (1951). It is not surprising then, that 7 of the 18 instrumental values in the Value Survey are also listed in the Index of Adjustment and Values. The terminal or end-state values are in noun form, since they represent end-states, whereas the instrumental values are in adjective form. The description of value patterns that includes both noun values and adjective values tends to create consternation among grammarians.

Rokeach, as a social psychologist, has been especially interested in value research, and both his conceptualization of values and his instrument for measuring them are directed to large scale individual and group assessment. The goal for wide applicability appears to have been met, according to Rokeach, since, "Research to date suggests that the Value Survey's instructions are easily grasped by people between the ages of 11 and 90, providing that they can read" (p. 51).

Alternative value concepts have been examined in this section. Included in the review were analyses of value conceptualizations by anthropologists, educators, and social psychologists. The primary differences are in the classifications of values and these differences relate to the type of value research for which the classification system was intended.

Anthropologists Albert and Kluckhohn developed categories applicable to cross-cultural studies. University educators Spindler and Getzels used value categories pertinent to an era of change in American culture in general and university culture in particular. Phenomenologist Bills developed multi-level scales for assessing values as related to an individual's self-concept. Rokeach, as a social psychologist, viewed values as central determinants of behavior and classified values in simple lists for use in wide scale research.

In the basic interpretations of values, there is considerable congruence. The following tenets are generally accepted by most of the theorists: (a) A value is a type of belief; (b) values are conceptions of the desirable or the preferable; (c) values are revealed by selection from alternative means or ends; (d) values are characteristics of individuals or groups, personal or social; (e) values are standards that guide conduct.

Value Concepts Based on Spranger's Typology

The previous subsection reviewed alternative value concepts as propounded by multidisciplinary theorists and researchers. This subsection continues the examination of value concepts, but focuses on the theories of Eduard Spranger (1928). The development of the Differential Value Profile (DVP), the scale used in the present investigation, was clearly influenced by Spranger's typologies. For this reason, the final subsection on value concepts is directed to an analysis of Spranger's writings and subsequent research related to his tenets. The discussions in this subsection, then, center on the theories of Spranger and value systems based on Spranger's theories, including the DVP.

After reviewing the schools of psychology of his time (physiological, developmental, gestalt), Spranger (1928) stated his case for a new branch of psychology which he called "geisteswissenschaftliche psychology." He held that no psychological theory of his day "suffices to designate the peculiarity of geisteswissenschaftliche psychology. The ultimate distinction lies in the fact that the latter deals with meaningfully related acts and experiences of the subject" (p. 18). Clearly, Spranger was a perceptual psychologist.

To Spranger, individual perceptions can best be understood through personal value systems. Contrary to the

theory of Rokeach relative to personal values emerging from cultural demands, Spranger distinguished between cultural values and personal values, albeit more in emphasis than in separation of the two categories. The distinction was highly relevant to his psychological theory, because:

"Insofar as we direct our interest to normative laws of value, ...we study the ethics of culture. Should we, however, place the meaningful experiences and acts of the individual in the foreground (regardless of whether these coincide with or deviate from the ideal norms), our study is geisteswissenschaftliche psychology" (p. 16).

Spranger went on to show that in order to understand the individual it was necessary to identify the dominant interest or value. He postulated six ideal types that would serve as models for personifying dominant interests. The need for such a classification system was long overdue, Spranger noted: "It is curious that though for centuries we have classified the numerous species of plants and animals in a well-ordered system...we still regard man, whose classification should be more important to us, as if he were all of one species: homo" (p. vii).

The salient characteristics of Spranger's types are as follows:

Theoretic: Regards validity as the primary goal; differentiates, generalizes, reasons and systematizes; a cognitive intellectualist.

Economic: Prefers utility to all other values; sees everything as a means of self-preservation in the struggle for existence; the useful is a means to satisfy needs; interested in business and practical affairs.

Aesthetic: Cherishes the perceptual abundance of his experiences and feelings with a minimum of logical reflection; views the universe as an ocean of harmony and beauty; aims are self-realization, self-fulfillment, self-enjoyment.

Social: Values "an affirming interest in another being and the taking-the-place of another" (p. 172); values others, not for any attribute, but because of love for other beings.

Political: Finds expediency more important than morals or cognition; regards man from the point of view of control; the political type in pure form is seldom seen, since usually power is collective and involves community and social obligation.

Religious: Looks for revelation in a higher meaning; a universalist and cosmic enthusiast; finds something divine in every aspect of life; may seek affirmation of life through active participation or withdrawal from life with asceticism and meditation.

In applying the ideal types to an understanding of dominant interests, Spranger cautioned that the basic types were not photographs of real life, but were based upon an idealizing method for describing each value. He explained the relationship between the dominant value in an individual

and the subordinate values, using a die for illustration: "We may symbolize this in the figure of the gambler's die, of which in every instance one side with its figure must lie uppermost. The others are not, however, absent but are instead in a definite relation to the figures on top" (pp. 104-105).

As Spranger described each dominant value, the conceptual alteration of each subordinate value was explained. For example, when the economic value is dominant, one views the other values through the lens of utility. Whereas the theoretical man seeks truth for itself, "the economic type asks: 'How can this fact be used?'" (p. 133). Art is valued as a means of social elevation, without appreciation of any inner significance. Social values are viewed according to their economic importance: thrift, industry, efficiency, reliability; man is evaluated "according to his ability to work, his capital or his purchasing power" (p. 137). In religious values, God appears as the owner of wealth and the giver of gifts, such as daily bread.

As one value becomes dominant, all other values are perceived in relation to the dominant value. With such dependent relationships between dominant and subordinate values, the development of an instrument for assessing the degree of dominance of the six values would indeed be a formidable undertaking. But such an instrument, the

Allport-Vernon-Lindzey (1960) Study of Values (SOV), was developed and it has held up successfully for almost half a century.

Noting that researchers were more concerned with the precision of their instruments than with instrument applicability, Vernon and Allport (1931) developed the Study of Values (SOV) to surmount the problem. They claimed the test conformed to current statistical practice and yet was designed to apply a theory of personality suggested by Spranger. The two Spranger tenets adopted for the instrument were: "the view that men are best known through a study of their subjective values, and the six-fold classification of such values" (p. 232).

In 1933 Cantril and Allport reviewed the SOV research during the two years of the scale's existence and concluded that the "general evaluative attitudes" (p. 272) measured by the instrument are pervasive, enduring, and enter into activities of everyday life. They cautioned, however, that the social value had low reliability. The 1951 revision improved the reliability for this value by redefining the social value from Spranger's conception of love in any form, "conjugal, familial, philanthropic, religious" (Allport, et al., 1960, p. 9), to an altruistic or philanthropic love.

The quality and diversity of research generated by Spranger's theory and the SOV has been steadily mounting.

Buros (1975, p. 195) lists 836 references that used the scale in research studies through 1971.

During the same period that the SOV was developed, a number of similar value scales appeared in the literature (Robinson & Shaver, 1973). None of the scales has received the widespread usage of the SOV. However, interest in the typologies continued to stimulate scale development and in recent years Thomas (1970), influenced by Spranger's formulations, developed the Differential Value Profile.

Thomas indicated that the identification of dimensions in the DVP were arrived at, in part, by a review of factor analytic studies which he listed and discussed. An examination of these factor analytic reports (Brogden, 1952; Duffy & Crissy, 1940; Ferguson, Humphreys, & Strong, 1941; Lurie, 1937) revealed that they were conducted to validate the six-fold classification of Spranger and the SOV. The results of the factor analytic studies offered only partial empirical evidence to support Spranger's theory of six types and Allport et al.'s application of the typologies to six postulated dimensions. Some factors (e.g., Lurie's Theoretical, Social, and Religious factors) followed closely the SOV dimensions. But the number of factors extracted in the four studies ranged from 3 to 11. In some instances more than one value loaded on a factor and in other cases the values loaded on more than one factor. The problem with unidimensionality, as revealed by the factor analyses,

may detract somewhat from scale precision, but it probably lends support to Spranger's theory. Throughout his writings he stressed that an ideal type is not found in real life, that most people are mixtures. It could well be that these mixtures are contributing to the complexities of the derived factors.

After reviewing value theories and the factor analytic studies, Thomas proceeded to develop a value scale whose factors are similar in description to that of the SOV.

Examples of DVP and SOV scale descriptions are given below:

DVP Aesthetic. The aesthetic person usually perceives his environment according to its form, symmetry, beauty, and harmony. He is likely to judge each single experience from the standpoint of its grace, decor, or fitness. He may not be a creative artist or musician in the popular sense, but he is aesthetic if he finds his greatest interest in the artistic episodes of life.

DVP Intellectual. The intellectual person emphasizes the rational and cognitive things of life. He enjoys theoretical pursuits. He seeks to observe systematically and to reason. Since the interests of the intellectual man are empirical, critical, and rational, he may be a scientist or philosopher. A major purpose in his life is to order and systematize his knowledge. (Thomas, 1972, p. 6)

SOV 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 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.

SOV Theoretical. The dominant interest of the theoretical man is the discovery of truth. In the pursuit of this goal he characteristically takes a "cognitive" attitude, ...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 philosopher. His chief aim in life is to order and systematize his knowledge. (Allport et al., 1960, pp. 4-5)

Although there are some differences in the value labels, the value descriptions of the DVP are similar to those of the SOV. Thomas apparently concluded that the typologies offered a desirable theoretical framework for instrument development, despite problems in unidimensionality. Certainly the success of the SOV in predicting a wide range of criteria and discriminating groups testified to the potential viability of a scale based on Spranger's types (Allport et al., 1960, p. 15; Buros, 1972, p. 356; Kerlinger, 1973, p. 651). The scale's group discrimination potential was especially important to Thomas, since a primary purpose of DVP development was to compare the values of students in church related and public institutions. The success of the Spranger framework in accomplishing group comparisons was well demonstrated with SOV empirical evidence and there was every reason to expect that a new instrument based on the same framework would accomplish its purpose, providing the meticulous technical requirements for scale development were satisfied. The technical facets of the DVP are discussed in a subsequent chapter.

Summary of Value Concepts

Although literature that explores value concepts shows diversity in definitions and variation in ways of classifying values, there are also basic areas of agreement in the concepts of values. There is general consensus on the importance of values in human behavior. There is

adequate agreement on the definitions of value-related concepts to formulate a conceptual model that differentiates between value-related terms and values (see Figure 1).

Specifically, it was shown that:

1. A belief has cognitive and existential characteristics. There are three kinds of beliefs--descriptive, evaluative, and prescriptive. A value is a prescriptive belief concerning desirable means or end-states.

2. Attitudes are predispositions toward evaluative response. They are more situation-specific than values. Attitudes are derived from standards set by values.

3. A need is a motivational readiness to respond. Needs are cognitively transformed by social demands in order that they can be accepted openly as values.

4. A trait is a relatively enduring characteristic of an individual. When a person views a trait as desirable, it becomes a value.

The relationship of the above concepts can be summarized as follows: (a) A value is a type of belief; (b) values are derived from needs and from traits; (c) attitudes are determined by value standards.

The writings of value theorists and researchers indicate that the nature of human values is of multidisciplinary concern. This section has examined value definitions and classifications by anthropologists, educators, and psychologists. The systems for categorizing values show

wide diversity, primarily because of differences in the intended use for the value classification system. There was, however, basic congruity in the interpretations of values. Values were viewed as a type of belief, as conceptions of the desirable or preferable, as selected from alternative means or end-states, as personal and social, and as standards that guide conduct.

The final subsection reviewed literature related to the theoretical formulations of Spranger (1928), since the dimensions of the instrument used in the present report appear to be derived from Spranger's typologies. Included are discussions of Spranger's *geistweissenschaftliche* psychology; the Allport-Vernon-Lindzey Study of Values (1960), which is based directly on Spranger's theory of dominant values; factor analytic studies which have tested Spranger's six-fold classifications; and the relationship of the above to the Thomas Differential Value Profile (1972), the scale used in this investigation. Thus the literature review in this section has moved from diverse concepts to the specific formulations applicable to this study.

Intergenerational Values

This subsection examines literature relevant to age related value comparisons. First, developmental theories that hypothesize lifespan cycles of biological and psychological change are reviewed. These theories

suggest that experiences encountered in the resolution of changing lifespan problems may generate revised conceptions of the desirable. Secondly, empirical comparative studies of age related values are analyzed. According to Feather (1975), theory must be fertilized by reliable evidence "in order to generate new empirical inquiries that in turn can assist further theoretical development--theory moving along with observation, in tandem as it were" (p. 121).

Developmental Theories

Three theories of lifespan cycles have been selected for review. Charlotte Bühler was one of the first psychologists to study human development from a lifespan perspective (Havighurst, 1973, p. 7; Kimmel, 1974, pp. 17-21; Rappaport, 1972, pp. 393-395). Erik Erikson's neo-Freudian model of eight stages during which social demands and biological cycles influence lifespan development are currently widely studied (Erikson, 1973, pp. 53-62; Rappaport, 1972, pp. 84-92). Kohlberg's theory of moral development postulates lifespan changes in conceptualization of moral values (Kohlberg, 1973, pp. 180-204; 1975).

Bühler studied the course of human life from 400 biographies and arrived at five personality phases which correspond to biological cycles (Bühler, 1968, p. 14; Kimmel, 1974, pp. 17-18). The five phases are as follows:

1. Progressive growth; child at home; prior to self-determination of goals; age 0-15.

2. Continued growth with the onset of reproductive ability; expansion and self-determination of goals; age 15-25.

3. Stationary growth; culmination of goal attainment; age 25-45.

4. Beginning decline and loss of reproductive ability; self-assessment of goal attainment; age 45-65.

5. Further decline and loss of reproductive ability; evaluation of self-fulfillment or failure, with a continuation of prior activities or a return to need-satisfying childhood orientations; age 65 and up.

The emphasis is on the setting of lifespan goals. In the early decades, there is experimentation in the determination of goals, which later are synthesized into culminating attainments. Sometimes, a reassessment results in a change of goals, but usually the shift is to stability and retirement. Ideally, the attained goals are recognized as self-fulfilling in the second half of life.

Erikson has had wide impact on current conceptualizations of lifespan developmental stages. In addition to his professional influence as lecturer at Harvard, Yale, University of California, and the Menninger Foundation, his publications such as *Childhood and Society* (1963) have had wide circulation. Erikson was a neo-Freudian and his stages built upon Freudian analytic theory, but advanced beyond Freudian psychology. Maier (1965, pp. 16-17)

showed three ways in which Erikson differed from Freud. First, was the shift from the id to the ego; to less attention to instincts and more interest in a person's struggle to succeed; to concern for the function of the ego in the process of socialization. Secondly, the individual was studied in a wider social setting than the Freudian child-mother-father triangle. Thirdly, Erikson showed the developmental opportunities to triumph over the psychological hazards of the life cycle and offered an optimistic interpretation of the solution of developmental crises.

However, Erikson (1973) warned against over-optimism. He pointed out, "There has been a tendency here and there to turn the eight stages into a sort of rosary of achievement...as though each were achieved as a permanent trait" (p. 52). He showed that the healthy personality must continually reconquer the hazardous negative counterparts of each stage, in the same way that body metabolism continuously resists decay. Then Erikson again reverted to optimism as he showed that, under favorable conditions, not only is the positive likely to outbalance the negative, but the struggle builds strength for the next crisis.

The life cycle crises are described in the eight following stages postulated by Erikson:

Stage 1. Infancy: Trust vs. Mistrust. The infant develops a basic sense of trust from the quality of

maternal care and a sense of self-trust through participatory activities such as feeding. Discontinuities in care lead to a sense of basic mistrust, with the severity of emotional consequences dependent on the degree of deviation from optimum maternal care.

Stage II. Early Childhood: Autonomy vs. Shame and Doubt. During this stage the child "experiments with holding on and letting go" (Erikson, 1973, p. 54). There is the beginning of purposeful activity--grasping, holding, crawling, walking, toilet training. The danger is in the deprivation of the opportunity for the child to try out his abilities. However, the parents must help the child to experience autonomy successfully, the consequences of failure being a sense of shame and doubt.

Stage III. Play Age: Initiative vs. Guilt. This is an age of intrusive activity, curiosity, aggressive orientation toward his environment. The activity may get out of control, and since the conscience is also developed at this stage, there may be a tendency to feel guilty at mishaps. The child must learn to direct his initiative to socially approved behavior.

Stage IV. School Age: Industry vs. Inferiority. This is the period of sexual latency when the child learns the capacity for work enjoyment. He learns to become productive, to accept instruction, and to win recognition by work accomplishment. Without this recognition, there

is the danger of developing a sense of inadequacy and inferiority. Also, inferiority may develop if there is failure to master socially expected skills. With a sense of inadequacy, there may be a tendency toward alienation or rejection of society.

Stage V. Adolescence: Identity vs. Identity Diffusion. Physiological growth and sexual maturity accompany a re-evaluation of earlier crises. There is a struggle to integrate childhood identification crises with the new biological drives and opportunities for social roles. The adolescent works through problems of sex identity, occupational goals, societal expectations. Although identity diffusion is temporarily unavoidable during this stage, there is danger of permanent inability to "take hold."

Stage VI. Young Adulthood: Intimacy vs. Isolation. When an individual is secure in his own identity, he can merge this identity with that of another person in sexual intimacy, a "love-based mutually satisfying sexual relationship with a member of the opposite sex" (Erikson, 1973, p. 55). Without a strong sense of personal identity, the individual is reluctant "to expose himself to the hazards of intimacy" and the result is a deep sense of isolation (Rappoport, 1972, p. 90).

Stage VII. Adulthood: Generativity vs. Self-absorption. The mature person looks to the needs and

hopes of the next generation, the generativity of guiding offspring. In this stage are also the more general concepts of productivity and creativity. In the presence of impoverished adult experiences and interests, stagnation may lead to self-absorption.

Stage VIII. Senescence: Integrity vs. Disgust. The individual who has successfully attained role identity, human intimacy, and generative activities reaches senescence with ego integrity. Such an individual has an acceptance of his own life pattern and a sense of continuity. Without this ego integrity, there is despair and disgust.

Erikson (1973) warned against the omission of any of his stages in a discussion of his theoretical framework. He believed that,

This kind of omission ignores the cogwheeling of infantile and adult stages--the fact that each further stage of growth in a given individual is not only dependent upon the relatively successful completion of his own previous stages, but also on the completion of the subsequent stages in those other individuals with whom he interacts and whom he accepts as models. (pp. 53-54)

It appears that each life cycle stage engenders new issues and new problems that require different solutions. Do the changes in stages, in problems, and in solutions result in equivalent changes in perceptions of desirable modes of conduct or end-goals? The relationship of developmental cycles and value change is reviewed later in this section.

It has been shown that values are partially concerned with the "oughtness" of societal demands. Thus morality is

closely related to values. Rokeach (1973) classified moral values "as representing idealized modes of conduct" (p. 7).

Philosophers-theorists from early Biblical spokesmen to present day researchers have sought to define the moral person and to answer questions such as: What is morality? Is it a quantitative substance? Do people have more or less of it? Is it a qualitative construct? Do people have different kinds of it?

Kohlberg (1973, 1975) found qualitative patterns of moral reasoning in a longitudinal study of 75 boys. He used responses to hypothetical moral dilemmas as a basis for classifying moral reasoning into six hierarchical stages under three general levels. Kohlberg's hypothesis on qualitative stages of moral development has been supported by empirical studies (Rappoport, 1972, p. 244; Stanfill, 1973). The levels and stages are as follows:

Level I. Preconventional. Stage 1 shows punishment obedience orientation. Values are determined by the goodness or badness of action, with its physical consequences. Deference to power is valued in its own right. Stage 2 indicates instrumental hedonism and concrete reciprocity. The right action consists of satisfying one's own needs and the needs of others according to the precept "you scratch my back and I'll scratch yours" (Kohlberg, 1975, p. 49).

Level II. Conventional. Stage 3 shows orientation to interpersonal relations of mutuality--"good boy, good girl" behavior. Moral behavior is that which is approved by others. There is conformity to stereotypes. Stage 4 is characterized by "law and order" orientation. Morality is relevant to the maintenance of the social order, fixed rules and authority.

Level III. Postconventional or principled level. Stage 5 indicates social contract orientation; the right action is related to both individual rights and standards agreed upon by society. The law is viewed as subject to change, according to rational and social utility considerations. Kohlberg (1975) described this stage as "the official morality of the American government and constitution" (p. 49). Stage 6 reveals universal ethical principle orientations. Decisions are in terms of conscience and of abstract ethical principles, which have universal applicability.

Kohlberg (1973) believed that the upper level stages do not occur until adult life, that although "the adolescent is capable of awareness of universal ethical principles, ...only the adult can consistently be ethical" (p. 197). Additionally, Kohlberg has speculated on a Stage 7, which might be characterized by contemplative experience and a cosmic perspective. He stressed that such a stage was purely hypothetical, and as yet, there were no data to support it.

According to the above theorists, the human personality develops in sequential stages similar to biological cycles. But, do value changes accompany the biological and psychological changes across the lifespan? Do developmental stages, as postulated by theorists such as Bühler, Erikson, and Kohlberg, generate shifts in conceptions of the desirable?

Using the Bühler stages, one might expect values to be more divergent during the period of goal expansion and more conservative during stationary growth. In the Erikson stages, the adolescent's search for identity would be expected to result in different values from the adult's interest in generativity. The application of the Kohlberg stages would raise the possibility that the individual in the conventional level of moral reasoning might have more conservative values than the individual with universal ethical principles.

Fortunately, a few value researchers have investigated intergenerational values and have compiled empirical evidence to supplement the theoretical formulations. These studies are discussed in the following subsection.

Empirical Studies

Intergenerational comparisons can be researched from two perspectives: A macroperspective involving large age-based generational units, such as cohort groups; and a microperspective, involving different ages within a social or

biological unit, such as lineage groups (Bengston & Black, 1973, pp. 207-234; Feather, 1975, p. 120). Although frequently the approaches are mixed, some of the investigations are closer to one or the other methods of intergenerational comparisons.

Feather (1975) used primarily micro-level methodology in surveys of households in Adelaide, Australia. His purpose was to study similarities and differences in values and attitudes of family members. Intergenerational values of lineage groups (the part of the investigation with which this discussion is concerned) were assessed by the Rokeach Value Survey. Interviews of wives, husbands, and sons and daughters over 14 years of age were conducted in a random sample of Adelaide dwellings.

Similarity indexes of the Value Survey rankings showed Spearman rho correlations ranging from .63 to .98 between the four groups of husbands, wives, sons, daughters. These correlations showed an overall value relationship, since they were based on the group median rankings of all the items. The indexes which showed the highest correlations were between husbands and wives; the lowest between sons and their fathers and mothers. The average values of daughters were closer to those of their fathers and mothers than the values of sons.

Feather conjectured that,

in response to role demands, the young male is better able to distance himself from the family when compared

with the young female, to see himself as having to make his own way in life, breaking away from the dependency on the family and taking on his own responsibilities. The girl, more dependent than the boy and with a vision of nurturant responsibilities in the future, remains closer to her parents in her value priorities. (p. 129)

However, Feather predicted, "Perhaps in these changing times such differences are being reduced" (p. 129).

Although the correlations showed the sons' values to be less consonant with the parents' values, the overall similarity indexes revealed general congruence between all four groups of sons, daughters, husbands, and wives. A comparison of single values, however, showed a number of statistically significant differences. Parents placed higher priorities on values concerned with family and national security, self respect and responsibility, and politeness and cleanliness. Children assigned more importance to excitement and pleasure, equality and freedom, a world of beauty and an imaginative stance towards it, and true friendship with others.

Feather stated that these differences correspond with developmental theories. He felt that the priorities of parents for family security, responsibility, and conformity fitted the theory of middle-aged concern for generativity. Similarly, the children's value patterns reflected a developmental stage wherein the adolescent is hedonistically oriented, reacting against rules that threaten personal freedom, demanding to be treated as equals, and generally searching for identity and expansion of self.

This microanalysis showed both similarities and differences in the values of parents and children. The similarities were reflected in correlations of overall responses and in rankings on individual items. There were no significant differences in generational rankings of approximately half of the items, including such values as a comfortable life, a world at peace, happiness, mature love, salvation. This congruency, according to Feather, should not be surprising, since the evidence showed that most Australian teenagers highly valued their families and were influenced by their standards. Differences also are to be expected, since the children are in separate developmental stages and are experiencing a different historical era from that of their parents' youthful experiences. Feather concluded that, in researching inter-generational comparisons, both similarities and differences must be examined.

A micro-level investigation of the values of family members was also conducted by Wright (1973), who compared the values of university students with values held by their parents. Wright considered untenable the following two opposing interpretations of campus protests during the 1960's: (a) The values of college youth were inimical to American traditions and; (b) the values of college youth were a substantial improvement over traditional American values. He hypothesized that, since students and parents

lived in the same social structure, the value differences would not be significant.

Value questionnaires were developed by the investigator and completed by university students and their parents. Analysis of the returns indicated that the two generations differed significantly in the intensity of values held, but showed less differences in the adherence or non-adherence to values. These differences applied to a relatively few values; e.g., students were more accepting of "progress" than their parents, but students strongly rejected the value of "external conformity." A bi-modal distribution for both groups indicated the existence of an intergenerational gap within both generations, more marked by students than by parents. There was no relationship between values and sex in either the parent or student groups.

Wright concluded that a mild to moderate generation gap existed, primarily related to differences in intensities with which values are held. For the most part, the differences in the acceptance of values were not critical. According to Wright, the values of American youth probably reflect those held by the parental generation.

Rokeach (1973) has researched intergenerational values with a macro-level perspective. The samples were derived from cohort groups rather than lineage groups. Responses from 1,489 Americans over 21 years of age comprised the adult sample. Data from this group were available as part

of a National Opinion Research Center survey. The college sample of 298 students came from introductory psychology classes at Michigan State University. The 11-17 year old group ($N=752$) was obtained from the public schools of New York City. Rokeach recognized that a more representative sampling of the younger groups would have been desirable.

The ages ranged from 11 to 70 and over. The latter category included three who were over 90 years of age. The subjects were approximately evenly divided by sex.

The three groups had completed the Rokeach Value Survey, and the composite rank order of each value was computed for 11 age categories. The data suggested 14 developmental patterns, with several generation gaps. The patterns included both terminal (noun) and instrumental (adjective) values. Examples are:

Developmental Pattern 1: A Sense of Accomplishment, Wisdom, Responsible. These values are concerned with self-realization and show an inverted U-shaped pattern. They are ranked low in early adolescence and old age, but increase in importance through the adolescent and college years. Wisdom does not appear to be highly valued among the elderly.

Developmental Pattern 7: Loving. This value is second in importance for 11 year olds and then declines linearly to fourteenth for people beyond 70 years of age. Love appears important to young people, but less so to the elderly.

Developmental Pattern 10: A Comfortable Life, Cheerful, Clean, Forgiving, Helpful. These conventional values decrease in importance during adolescent years, after which there is a gradual increase in importance. They are regarded more highly in later decades, as economic security becomes more important.

Rokeach stated that, although these value patterns required further research with more representative sampling, some interesting theoretical observations can be derived from the above patterns. Of primary interest is the lifespan nature of value change. It does not stop with the psycho-sexual stages postulated by Freud, but is more in line with Erikson's lifelong developmental stages.

Two studies comparing value differences are related to postsecondary education. The first investigation (Morstain & Smart, 1974) assessed group differences in motivations for part-time college course enrollment. Reasons for educational participation were measured by the Education Participation Scale (EPS), which had originally been developed to assess motivational orientations of New Zealand samples.

The scale was administered to 648 adults enrolled for part-time college course work. Respondents were asked to complete the 48 EPS items which indicated on a nine-point scale the item's influence on enrollment. Additionally, information on the respondent's age and sex were requested. The subjects were classified into three age groups (20 or less, 21-40, 41 and over) for each sex, a total of six groups.

The responses were factor analyzed and separate discriminant analyses were performed for each sex to determine whether factor scores would differentiate the three age groups. The factors were as follows: Social Relationships, which included group activity participation and making new friends; External Expectations, wherein requirements from other individuals or agencies generated motivations for education; Social Welfare, which was characterized by humanitarian concerns; Professional Advancement, or higher status orientation; Escape/Stimulation, which was described as relief from daily routine; and Cognitive Interest, wherein learning was pursued for its own sake. The motivational factors may be regarded as values contributing to educational participation, inasmuch as several of these factors closely resemble the Spranger types. Specifically, Social Welfare resembles the social type and Cognitive Interest the theoretic type.

Findings showed that the degree of importance attached to the four factors of Social Welfare, Professional Advancement, Escape/Stimulation, and Cognitive Interest was similar for all age groups in both sexes. Social Relations was the major discriminator of age groups in both sexes. The desire for social activity and meeting new people declines with age. Sociability, using the dictionary meaning, was a highly important value for younger men and women. Additionally, External Expectations was a

significant discriminator of male age groups. In this factor, the scores increased with age. Older men valued the expectations of other individuals and agencies significantly more than younger men.

Feather (1975) pointed out that group value comparisons should reveal both similarities and differences. In the above study, there were more of the former than the latter. Female age groups differed significantly only in their valuing of social activity. Two factors significantly differentiated male age groups: (a) Social Relationships, which were more highly valued by younger men; and (b) External Expectations, which was significantly more important to older men. The other four factors were regarded as similarly important by all age groups in both men and women.

A second study in postsecondary education compared the values of Utah's public school administrators and graduate students in educational administration (Beveridge, 1973). Although age variables were not specified, it is assumed that the students were in a younger age group than the administrators.

The sample of 60 school administrators was randomly selected. The sample of 60 graduate students was drawn from the three institutions of higher learning in the state. The Study of Values was used to assess group values and analysis of variance was used to test the statistical

significance of group differences. The two groups differed significantly in the aesthetic value scale only. The students scored higher in this dimension than the administrators.

Administrators were oriented to the business world and rated economic and political values high. Graduate students also showed high choice in this direction, indicating that little change in the values of school administrators could be expected in the near future. The investigator felt that the higher aesthetic values in students were not likely to make a difference in administrative practice.

The two postsecondary education studies described above are especially relevant to the present investigation. Based on the wide similarities found in the age group values in these studies, one might speculate that values in an age-integrated higher education classroom would show no greater spread than in a traditional higher education classroom.

In a previously discussed study on motivations for educational participation (Morstain & Smart, 1974), it was noted that, although the variables were labeled motivators, several factor descriptions were similar to Spranger's values. The same reasoning is applied to an investigation based on Christie's Mach Scales (Christie & Geis, 1970).

Christie developed the scales to measure the degree of approval of Machiavellian or manipulative tendencies.

At one polarity is the individual (the high Mach) who resorts to strategies to gain control in interpersonal relationships. At the other polarity is the low Mach, who is sensitive to others as individual persons and affectively involved during interaction with others. Christie cautioned against pejorative connotations, pointing out that individuals who score high on these scales are no more dishonest or vindictive than low Machs. Rather, high scorers have a cool detachment, using cognitions and strategy instead of affect and ideals in relating with others. Field studies indicate that the more complex the role relationship with others, the greater the endorsement of Machiavellian or manipulative tactics. Since the high Mach reflects the values of Spranger's political type and the low Mach, Spranger's social type, an age related study in Machiavellianism is reported in this section.

The study compared Mach scale scores of two samples, one with a median age of 19 years and the other with a median age of 42 years. The younger group was comprised of 1782 students from 14 different colleges. The older group of 1477 adults had participated in a survey by the National Opinion Research Center. The mean score on the Mach items by the college group was significantly higher than the mean score of the older group. Because the variable of education may have been implicated, separate comparisons were made between the college group and adults

with equivalent education. Again, the college scores were higher. Further analysis within the older sample indicated a negative relationship beyond the .01 level between age and Mach scores.

Christie and Geis concluded that the younger individuals were "significantly more in agreement with Machiavelli... than were those who were a generation or more older" (p. 315), and that "individual orientations toward manipulation are increasing" (p. 358). They raised the question often posed by developmental theorists: Are the age-related differences the result of the developmental process or the result of cohort experiences? In the former case, the explanation of the higher approval of manipulative strategies by younger respondents might be as follows:

Young adults are typically cynical and opportunistic and...as they grow older they find that society is more benevolent than it appears when one is beginning to find one's way. In consequence, Mach scores should decrease with increasing experience. (p. 316)

If the differences were related to historical experiences, then the explanation might be that "lower mean scores among older adults reflect a clinging to values common when they are growing to maturity" (p. 316).

The authors conceded that these alternative explanations could only be resolved through longitudinal studies, but they leaned to cohort experience explanation. Rural-urban changes were implicated, with evidence suggesting that individuals who matured in urban-cosmopolitan areas had

higher Mach scores than those who matured in rural areas. Christie and Geis felt that the increasing urbanization of American society created an environment more conducive to manipulative orientations. They contended that the valuing of manipulative strategies by the younger individuals resulted from this environment. On the other hand, the lower Mach scores and higher idealism of the older respondents represented "a clinging to values incorporated at the time of maturity" (p. 338).

The issues concerning developmental influences raised in this last report of intergenerational studies tie together the literature reviewed in this section. Developmental psychologists, such as Bühler, Erikson, and Kohlberg, have postulated lifespan cycles in which the individuals resolve situations and problems peculiar to each developmental stage. If age-related differences in values exist, are they, then, in whole or in part, concomitant to developmental cycles? Both Feather (1975) and Rokeach (1973) believed that their value research suggested a relationship between values held by different age groups and developmental theory. They showed a congruence between their empirical studies and life cycles as postulated by Erikson. Christie and Geis (1970), on the other hand, believed that value differences were better explained by experiences idiosyncratic to each age group.

In concluding this section, two points emphasized by Feather (1975) should again be noted. First, it is

necessary to consider both similarities and differences in group comparisons of values. In most of the studies reviewed, there was more congruence than contrast in group values. The second point of emphasis showed the need for empirical studies and developmental theories to supplement each other in generating information on lifespan values. In a number of the above reports, value researchers contributed to this need by discussing the relationship of their empirical findings to developmental theories.

Summary

This chapter has reviewed literature relevant to the investigation, a comparison of values of regular students in university classrooms and retired persons.

Before reviewing literature on intergenerational values, it was first necessary to distinguish between values and related concepts. A number of writers have analyzed the meaning of the following terms: belief, attitude, need, and trait. Their definitions were synthesized into an organizational model that showed the relationship between these terms and values.

Value concepts, as defined and classified by anthropologists, educators, and psychologists were examined. Although the classification systems were diverse, there was considerable agreement on the basic meaning of values. Values were accepted as a type of belief, as conceptions

of the desirable, as standards that guide conduct, and as enduring.

Literature concerned with Spranger's six major value types was of special interest since the factors in the Differential Value Profile, the instrument used in the present investigation, were primarily derived from Spranger's classification.

The final section of the chapter reviewed literature concerned with intergenerational values. Included were writings of developmental theorists relevant to lifespan cycles in human development. These theories were related to the empirical reports on age group comparisons by value researchers. The research reports indicated both similarities and differences in intergenerational value comparisons.

CHAPTER III

METHODOLOGY

This study undertook a comparison of intergenerational values, as measured by the Differential Value Profile (Thomas, 1970, 1972). The methodological components of the overall design are examined in this chapter. These components are: the instrument, the samples, and the procedures. The section on procedures includes discussions of data collection, scoring, and statistical techniques. The samples were analyzed through a data description computer program (SPEC10) developed by B. M. Barker (Barker & Barker, 1977).

Instrument

Thomas (1970, 1972) developed the Differential Value Profile (DVP) to assess the personal values of students in higher education and to compare the values of students in church-related and public institutions. The DVP consists of 134 statements in modified Likert format, with categories for indicating strongly agree, agree, disagree, and strongly disagree (see Appendix A).

The items were constructed by Thomas to sample six dimensions: Aesthetic, Humanitarian, Intellectual, Material,

Power, and Religious. The DVP test manual (Thomas, 1972) states that the six dimensions were labeled "after careful study of factor analysis data" (p. 6). No further information on factor derivations is given in the manual and Hogan, who reviewed the DVP, (Buros, 1972, p. 138) was critical of the missing information on the factor loadings which defined the dimensions. However, a clarification of the factor analyses is offered in the more detailed report on scale development (Thomas, 1970). In his 1970 publication, Thomas indicated that the factor analyses data referred to consisted of findings from earlier factor analytic studies of other instruments reported in the literature. Specifically,

The instrument to be reported in the present study was written with due consideration of the review of item content, factor descriptions, and factor analysis of other instruments. Attempts were made to follow apparent guidelines suggested in the studies reviewed. (p. 35)

Discussions in Chapter II of the present report showed that Spranger's typologies strongly influenced the description of the DVP factors. Briefly, the DVP dimensions, as related to dominant values, are: The aesthetic type values form, harmony and artistic experiences in life; the intellectual type emphasizes rational and cognitive pursuits and the discovery of truth; the material type judges events and objects by utilitarian measures; the power oriented person finds satisfaction through control and leadership of others; the religious individual attempts to comprehend the cosmos and seeks a transcendent purpose in the universe.

After identifying the value areas, Thomas constructed items to sample the six postulated dimensions. Item construction was accomplished rationally, using ideas from various sources: value literature, other instruments, graduate students.

Content validity for the items was assessed by inter-rater analysis. Ten judges, representing a cross-section of academic disciplines, evaluated the content of each item, using value definitions as criteria. Of the 134 items, 75 received unanimous inter-judge agreement. The weakest concordance was in the Material factor classification, where four items received less than 70% agreement. A correlation matrix of inter-judge agreement indicated that correlations among judges, relative to the value content ratings of items, ranged from .54 to .99. One judge, whose correlations with other judges ranged from .54 to .69, appeared to have contributed most to the lower coefficients. Most of the correlations were above .90 and all coefficients tested beyond the .01 level of significance. Thomas (1972) concluded that "the high degree of inter-judge agreement" was "viable evidence of logical content validity in the DVP" (p. 9). Hogan, in his DVP review (Buros, 1972) assessed the inter-judge agreement as "fair to good" (p. 138).

Concurrent validity was arrived at by distinguishing groups according to value orientations believed to be

present in these groups. Thomas (1972) labeled this type of concurrent validity "criterion group status" (p. 12). The criterion status analysis was directed at two groups: church-related college students and public college students, and male and female college students. Church-related students were believed to have higher humanitarian and religious values and public college students were expected to be more inclined toward aesthetic, intellectual, power, and material values. Females were believed to be more aesthetic, humanitarian, and religious, while males were presumed to be more oriented toward intellectual, power, and material values.

There is substantial empirical support for these a priori expectations. Beveridge (1973) found that graduate students from a church-related university scored significantly higher in religious values on the Study of Values (SOV) than graduate students from public universities. Vernon and Allport (1931) found "striking and consistent" (p. 246) sex differences in responses to the SOV, with aesthetic, social, and religious values more prominent in women's personalities and men stronger in theoretical, economic, and political interests. Cantril and Allport (1933) reported similar findings. More recently Donaldson (1972), using the DVP, found males higher in the intellectual, material, and power scales and females higher in aesthetic, humanitarian, and religious scales.

These empirical findings are consistent with Spranger's statement that, although the same values that appear in men also appear in women, "their interweaving to form an individual total mind differ enormously. It seems as if even the modern woman is less capable than man of devotion to differentiated achievements of a strictly objective nature" (1928, p. 395). Although the modern woman of 1977 may differ in values, it would appear that Thomas had both theoretical and empirical support for his concurrent group status expectations.

To test the concurrent validity, Thomas used a sample of 1480 freshman students, evenly divided as to church-related and public supported groups and male and female groups. Two way analysis of variance was performed for each value, with sex and type of institutions as the independent variables. The expected group differences were significant at the .01 level, except in the case of aesthetic values between types of institutions. In this single comparison, there was no significant difference. Thomas concluded that the DVP scales evidenced concurrent validity in addition to the content validity demonstrated by inter-judge agreement.

DVP reliability was assessed by internal consistency and test-retest measures. Kuder-Richardson Formula 20 was applied to each scale to estimate internal consistency, with resultant coefficients ranging from .76 to .88.

Temporal stability was evaluated by test-retest procedures over a 10 day interval. Pearson product-moment correlations were calculated for each scale, with coefficients ranging from .75 to .94. In regard to the internal consistency and test-retest measures, Hogan (Buros, 1972) concluded, "These figures seem reasonable and appropriate" (p. 138).

According to Thomas (1972), the above studies demonstrated validity and reliability for the DVP. However, he cautioned that in its present stage of development, it has been proven primarily for college level application and for group research. Since the scale is of comparative recent origin, compared to the time-tested Study of Values, it has not been widely evaluated. However, a few test evaluators have given the DVP mixed reviews. Beatty (1969), after describing the DVP, concluded that "the DVP has excellent reliability and established validity" (p. 114). Hogan (Buros, 1972) is less glowing in his evaluative summary, stating:

The Differential Value Profile provides stable, internally consistent, face valid measures of six well-known value clusters. However...the practical utility of this inventory for research in education and guidance remains to be demonstrated. (p. 138)

The practical utility of the DVP can only be tested through empirical investigations, such as the present study.

Samples

Two samples were used for the intergenerational value comparisons: a sample of regular university students and

a sample of retired persons. The term "regular student" was operationally defined in Chapter I as students enrolled in a scheduled University of Alabama class who were less than 55 years of age. Included were students from the following classes: advanced educational statistics, educational psychology, educational statistics, English, introductory psychology, and two sociology classes (social behavior and deviant behavior). Since the students in the two sociology classes were at similar educational levels and the numbers were small, they were pooled as a sociology group. Similarly, the advanced statistics group included students from analysis of variance and correlation classes. The educational statistics group included classes in the spring semester and the first summer term of 1977. All other students participated in the study during the spring semester only.

The term "retired person" was operationally defined in Chapter I as an individual 55 years of age or older, who may or may not be employed. The retired persons group included a number of subgroups. Three Tuscaloosa, Alabama chapters of national retirement organizations participated in the survey. Approximately 200 questionnaires were distributed to members attending the regular luncheon meetings of the American Association of Retired Persons (AARP), the National Association of Retired Federal Employees (NARFE), and the National Retired Teachers

Association (NRTA). A total of 90 completed questionnaires was available for analysis.

Older age University of Alabama students comprised an additional subgroup. The University Testing Service supplied mailing labels for students enrolled in the 1977 spring semester whose year of birth was prior to 1923. Of the 45 instruments mailed, 24 were returned and were available for analysis. Four of the returns indicated 54 years as the age at last birthday, but since they would be 55 years of age during 1977, they were included in the retirement group as 55 years of age. Finally, a small group of seven miscellaneous retired persons (Continuing Education contacts and colleagues of the investigator) completed the retired persons sample.

Table 1 shows the number of individuals from each retired persons subgroup participating in the study. The largest group was the NRTA with 44 returns. The AARP, and the NARFE, and the enrolled students were approximately equal in size. The total of 121 individuals in the retired sample cannot be construed as representative of adults over 54 years of age. However, it is quite likely that these individuals would be more like those retired persons who would be the most interested in pursuing lifelong learning.

Table 1
Subgroups in Retired Sample

Subgroups	<u>n</u>
AARP	24
NARFE	22
NRTA	44
Enrolled students	24
Miscellaneous	7
Total	121

The sex, age, and educational level distribution of both samples can be compared from Table 2. The educational level code is as follows:

- 1--12 = years completed in elementary and high schools
- 13--20 = levels of university education
- 13 = freshman
- 14 = sophomore
- 15 = junior
- 16 = senior
- 17 = working on masters degree
- 18 = masters degree completed
- 19 = working on doctoral program
- 20 = doctoral program completed or doctoral candidate.

Although the educational level range indicated that some members of the retired group had less schooling than the regular students, the data showed that only five individuals had less than a 12th grade education. One had completed the 8th grade, 3 the 10th grade, and 1 the 11th grade. It is interesting to note that the median attained educational levels of both groups are equal. The average

Table 2
Sex, Age, and Educational Level of Samples

Variable	Regular students	Retired persons
<u>n</u>	240	121
Sex^a		
Male	77 (32.1%)	37 (30.6%)
Female	152 (63.3%)	82 (67.8%)
Age		
Range	18--54	54--84
Median	22	67
Educational level		
Range	13--20	8--20
Median	16	16

^aEleven students and two retired persons did not respond to this item.

individual in each group has completed a four year college program or is currently at the senior level. This relatively high educational attainment for the retired group can be explained in two ways. First, questionnaires related to educational pursuits appear to elicit returns from individuals who already have attained a high degree of education. Secondly, since the Differential Value Profile was designed for use with college students, its vocabulary level would discourage responses from individuals at a lower level of education.

Table 2 indicates that the age range in each group spans approximately three decades, with the regular students showing a somewhat greater range (36 years) as compared with the retired group (29 years). The male-female ratio in both groups is similar, with males representing approximately one-third of the membership in each sample.

The age and educational level distributions of subgroups in both samples are presented in Tables 3 and 4. The regular students are described according to class membership. Educational statistics, a class open to both undergraduate and graduate students, showed the widest range in both age and educational level. Students in English were primarily freshman and were homogeneous in both variables.

The retired persons are subclassified into two groups: those who had enrolled in postsecondary programs during the

Table 3
Age Distribution of Subgroups

Subgroup	<u>n</u>	Age data	
		Range	Median
Regular students			
Advanced statistics	18	23--54	28
Educational psychology	39	18--34	20
Educational statistics	99	19--53	26
English	27	18--22	18
Introductory psychology	36	18--46	22
Sociology	21	20--24	22
Retired persons			
Retired persons with recent education	41	54--81	61
Retired persons with no recent education	80	55--84	69

Table 4
Educational Level Distribution of Subgroups

Subgroup	<u>n</u>	Educational level	
		Range	Median
Regular students			
Advanced statistics	18	17--20	19
Educational psychology	39	13--17	14
Educational statistics	99	14--20	17
English	27	13--14	13
Introductory psychology	36	13--14	13
Sociology	21	15--17	16
Retired persons			
Recent education	41	11--20	17
No recent education	80	8--20	16

past 10 years, and those with no recent postsecondary enrollment. While there is little disparity in the range of age and education for the two retired subgroups, the retired individuals with recent educational participation show a median age eight years younger and a median educational level one year higher than the subgroup with no recent educational enrollment.

In order to provide data for a subgroup comparison of values held by retired teachers and regular students who are teachers or planning teaching careers, vocational data are categorized as shown in Table 5. The teaching professions include elementary, secondary and higher education; curriculum and supervision; and specialty areas, such as music education and health education. The behavioral professions include psychology, counseling, social work and criminal justice. Health-related fields are nursing, medical technology, physical and occupational therapy, dietetics, and medicine.

A larger proportion of the retired persons (39%) indicated other vocations as compared with the regular students (20%). The older group included such diverse careers as homemaker, postal worker, farmer, and seamstress --areas which students currently planning careers would certainly not identify as a vocational choice. The reality of experience appears to create vocational diversity.

Overall, then, the two samples were comparable in educational level and in male-female ratio. There was a

Table 5
Vocations or Vocational Objectives of
the People in the Samples

Vocation	Regular students		Retired persons	
	<u>n</u>	Percentage	<u>n</u>	Percentage
Teaching professions	104	43.3	43	35.5
Behavioral professions	45	18.8	9	7.4
Health-related professions	22	9.2	12	9.9
Other vocations or vocational objectives	47	19.6	47	38.8
No response	22	9.2	10	8.3
Total	240	100.1	121	99.9

four decade gap in the median age of the two groups, but within each sample a three decade age range existed. A substantial proportion of each group indicated teaching as actual or intended or previous careers (43% of the regular students and 36% of the retired adults). The retired group showed more vocational diversity than the regular students.

Procedures

Data Collection

Before administering the Differential Value Profile to the selected samples, the following preliminary procedures were completed.

1. Department chairpersons were contacted for approval of student participation in the study and for suggestions as to the classes to be included in the sample. The criterion for the selection of classes was the attainment of diversity in program levels and specialty areas.

2. Preliminary arrangements were made with the director of enrollment services for mailing instruments to currently enrolled students over 54 years of age.

3. The presidents of three Tuscaloosa chapters of national retirement organizations were contacted relative to the participation of chapter membership in the research. All three presidents agreed to cooperate in the distribution of instruments during their organizational meetings.

4. A gross examination of the published DVP scale by gerontology specialists suggested that the exceptionally small type used in the published instrument might create visual difficulties for older respondents. In order to assess such potential problems, a pretest was conducted at Clara Verner Towers, a Tuscaloosa, Alabama residence for retired persons. Eight residents, who were not included in subsequent sample, completed the pretest, which consisted of two forms of the instrument: the original published test with a separate answer sheet and a typewritten copy in pica type with provision for the answer following the item. Each participant was requested to complete one page of items from each form. To minimize response bias created

by presentation order, the published test was administered first to four of the respondents and the typewritten copies administered first to the remaining four. Seven of the eight preferred the typewritten form, primarily because of the small print in the published test, but also because of the difficulties in using a separate answer sheet. It was decided to use the typewritten form for testing the retired group (see Appendix B).

5. Approval for reproducing the scale items in pica type was obtained from the author and publisher of the DVP (see Appendix C).

Following the preliminary arrangements, the scales were administered to both groups. Instruments were distributed to selected university classes by the investigator, except for the educational statistics classes. The instructor in the educational statistics course distributed the instruments to the students. In all classes, the students were informed that the study was concerned with the assessment of values, and their cooperation was requested in completing the take-home anonymous questionnaire and returning it during a subsequent class period. Instruments were given to those who volunteered to participate. While no attempt was made to record the number of individuals present during instrument distribution, it was estimated that approximately 50% of the membership of all the classes contacted participated in the study.

Respondents were requested to supply the following information in the answer sheet margin: sex, age, educational level, educational major, and vocation or vocational choice.

The retirement groups were contacted during their monthly luncheon meetings. Questionnaire packets were distributed at each place setting and an announcement was made briefly explaining the project and requesting the cooperation of members in completing the questionnaire. Included in each packet were: (a) a cover sheet explaining the general purpose of the survey and requesting information on sex, age, educational attainment, vocation, and recency of enrollment in postsecondary education courses; (b) instructions for completing the questionnaire; (c) the reproduced instrument; and (d) a stamped return envelope. As follow-up, the investigator attended the next regular monthly meeting, requested returns from those who had not as yet completed the instrument, and distributed additional questionnaires to those members who were not present during the previous meeting.

Following preliminary discussions with the director of enrollment services, computerized mailing labels were supplied for students enrolled in the 1977 spring semester whose year of birth was prior to 1923. This group of older age students received the same questionnaire packet as was distributed during organizational meetings. An additional small group of miscellaneous returns was completed by

University of Alabama Continuing Education contacts and colleagues of the investigator. These individuals were over 54 years of age and responded on the reproduced instrument. Approximately 45% of the instruments distributed to the retired group were returned and available for analysis.

Scoring

As developed by Thomas (1970, 1972), the Differential Value Profile provides ipsative scores on six value dimensions. Brown (1970) clarified the nature of ipsative inventories as follows:

Because responding to the inventory items requires a choice between alternatives and because alternative responses are scored on different scales, any response will increase the score on one scale but consequently limit the maximal possible score on another scale.
(p. 398)

The preferences indicated by each individual's scores on the DVP are therefore of a relative nature. One value dimension is preferred over another.

According to Thomas (1970), value theory demands ipsative formats for value assessment. He contended that values evolve under conditions of conflict; that in order for an individual to demonstrate a value, a decision must be made relative to alternative choices. Furthermore, he contended that simple agreement with a statement merely reflects a belief response. Therefore, most of the statements in the DVP "were written so that agreement would

be keyed to one value factor and disagreement would be keyed to an alternative value factor." However, a few items were constructed "to simply index a singular value factor and were keyed in one direction only" (p. 64).

In completing the Differential Value Profile the respondent indicates a choice of strongly agree, agree, strongly disagree, disagree on 134 items. The four category modified Likert format offered a decided advantage for this investigation, since selecting from four alternatives is less confusing for older individuals than the more complicated response modes of other similar value instruments; e.g., the Study of Values.

Although the DVP format was preferred for this study, a problem arose in that the item choices do not allow for an undecided alternative. Thomas contended that an undecided category was not always construed as a midpoint, but often was used to avoid commitment. However, individuals in this investigation, especially among the older age sample, insisted on occasionally undecided responses. This would be indicated by notations on the questionnaire stating, "I like them equally well" or "Neither interests me." In such cases, scoring methods were used as recommended by Kerlinger (1973) and Likert (1967, chap. 11). Statements with omitted responses were scored as midpoint alternatives.

A second problem resulted from procedures for improving scale legibility. By reproducing the items

in larger type for the older age group, it was necessary to use 10 pages to accommodate the 134 items. Occasionally, pages were skipped by the respondent. Three persons skipped 4 pages, 2 persons skipped 3 pages, 6 persons omitted 2 pages, and 13 persons skipped 1 page. In all, 24 individuals in the older age group omitted one or more pages. Since the problem appeared to be more related to spatial perception of pages rather than undecided alternatives, it was scored differently from the occasionally omitted item response. The item means for the entire older age group were computed, using an item analysis program and missing data on skipped pages were replaced by the item means.

The method of scoring, as developed by Thomas (1972), uses weights of +2 (strongly agree or strongly disagree) or +1 (agree or disagree) for the response choice. Since agreement is keyed to one value and disagreement keyed to an alternative value, both response directions are given positive weights.

The Thomas method of scoring was modified for the present research for greater utility with statistical techniques. Thomas (1970) indicated that construct validity through factor analysis had not been established for the DVP. In this investigation, a potential validity problem is surmounted by first conducting a factor analysis. Because the raw scores would be factor analyzed, the following

weights were assigned: strongly agree, 5; agree, 4; disagree, 2; strongly disagree, 1. In addition, as discussed above, no response items were assigned a midpoint score of 3.

Statistical Methods

The statistical techniques used to test the hypotheses were factor analysis, discriminant analysis, and multiple regression. Computer programs developed by H. R. Barker and B. M. Barker (1977) were used to process the data.

Factor analysis, according to Horst (1966), attempts to bring order out of chaos. It attempts to solve a basic problem in the behavioral sciences wherein each investigator defines "the variables which interest him in any way he pleases" (p. 143). Factor analysis reduces the number of variables by identifying the basic items that account for the variance in a dimension. The dimensions are then labeled or defined according to the content of the variables which load on the factor.

Horst's view of the importance of factor analysis in defining dimensions is shared by other researchers and statisticians. Cooley and Lohnes (1962), for example, pointed out that factor analysis "finds ways of identifying fundamental and meaningful dimensions of a multivariate domain" (p. 153). Ferguson (1971) noted that factor analysis "reduces the original set of variables to a smaller number of variables, called factors, which are amenable to interpretation" (p. 404).

To summarize the above, factor analysis can parsimoniously identify dimensions that emerge from an analysis of a correlation matrix, thus establishing construct validity for a measure. The loadings or correlations of the items with the factors offer empirical evidence for the description of these factors. The empirical information extracted can be used to support, supplement, or reject logically postulated dimensions. In the present investigation, the derived dimensions were used for testing the postulated value factors.

Factor analysis of the Differential Value Profile was accomplished by the CORR12 computer program developed by H. B. Barker to accommodate large data matrices. The program computes principal axis eigenvalues and factor loadings and rotates them to simple structure by means of a varimax criterion.

Among the requirements for a factor analytic design, Cattell (1966b, chap. 6) listed the following: (a) use of 100 or more subjects than variables, and (b) two or more tests of the number of factors. The first requirement was easily satisfied, since this investigation employed 361 subjects and 134 variables. In order to satisfy the second requirement, two tests as described below were used.

Harman (1967) recommends Kaiser's rule as a practical method for identifying the necessary number of factors. This rule states that "the number of factors should be

equal to the number of eigenvalues greater than one of the correlation matrix" (p. 198).

The second criterion for identifying factor cut-off was Cattell's scree test. Cattell (1966b, chap. 6) developed this method as a realistic approach to the number of factors problem. In the scree, the eigenvalues of the unrotated factors are plotted graphically, resulting in a polygon which usually shows a sharp decline, a curvilinear middle, and then a long linear tail. The merging of the curvilinear area and the tail is viewed as the "scree" of small factor debris and becomes the cut-off for the number of factors used.

The design for the DVP factor analysis thus met the technical requirements relative to the number of subjects and the use of factor cut-off tests.

Scores derived from the factors were used for discriminant analysis. In order to attain the derived scores, individual raw scores for those items loading significantly on a factor were submitted to an item analysis program, which yielded factor scores based on unit weight.

Tatsuoka (1971) succinctly described discriminant analysis as a method for determining "a linear combination of...predictor variables that shows large differences in group means" (p. 157). As applied to this study, the predictor variables were scores derived from the factor

analysis and the groups were the regular students and retired persons. The discriminant analysis was concerned with the following question: Do held values differentiate age groups?

The statistical procedure yields a Wilks Lambda, which tests the ability of the variables to separate the groups and an F ratio, which indicates the statistical significance of the Wilks Lambda. The discriminant analysis yields roots or dimensions with eigenvalues in a descending order of magnitude; that is, the first dimension has the largest achievable eigenvalue, with each succeeding root of lesser magnitude, since it is derived from variance not accounted for by the previous dimension. Chi-square is used to test the significance of each root.

Discriminant analysis in addition to the above statistics, also yields (a) discriminant weights, which can be used to compute individual scores for predicting group membership and (b) centroids which indicate the group mean on discriminant scores. In the present research, discriminant analysis was used to test the ability of the Differential Value Profile to separate age groups.

Multiple regression assesses the relationship between two or more independent variables and a dependent variable. In the present study, the technique was used to answer the question: Is there a relationship between age (the dependent variable) and scores on the Differential Value Profile (the independent variables)?

Multiple regression, through a series of iterations, generates beta weights for each independent variable that maximally contribute to the multiple R . The beta weights can be examined to assess the relative contribution of each variable to the multiple R . In this investigation, the multiple correlation coefficient was used to evaluate the relationship between age and the DVP variables. Beta weights are examined to assess the relative contribution of each DVP factor to the multiple correlation coefficient.

Chapter III has presented an overview of the methodology used in the study. Included were (a) a discussion of the instrument used in the survey and its evaluation by the author and by test evaluators; (b) a description of the sample groups and subgroups as to a number of descriptive variables; and (c) a discussion of the procedures for conducting the study, including data collection, scoring, and statistical methods.

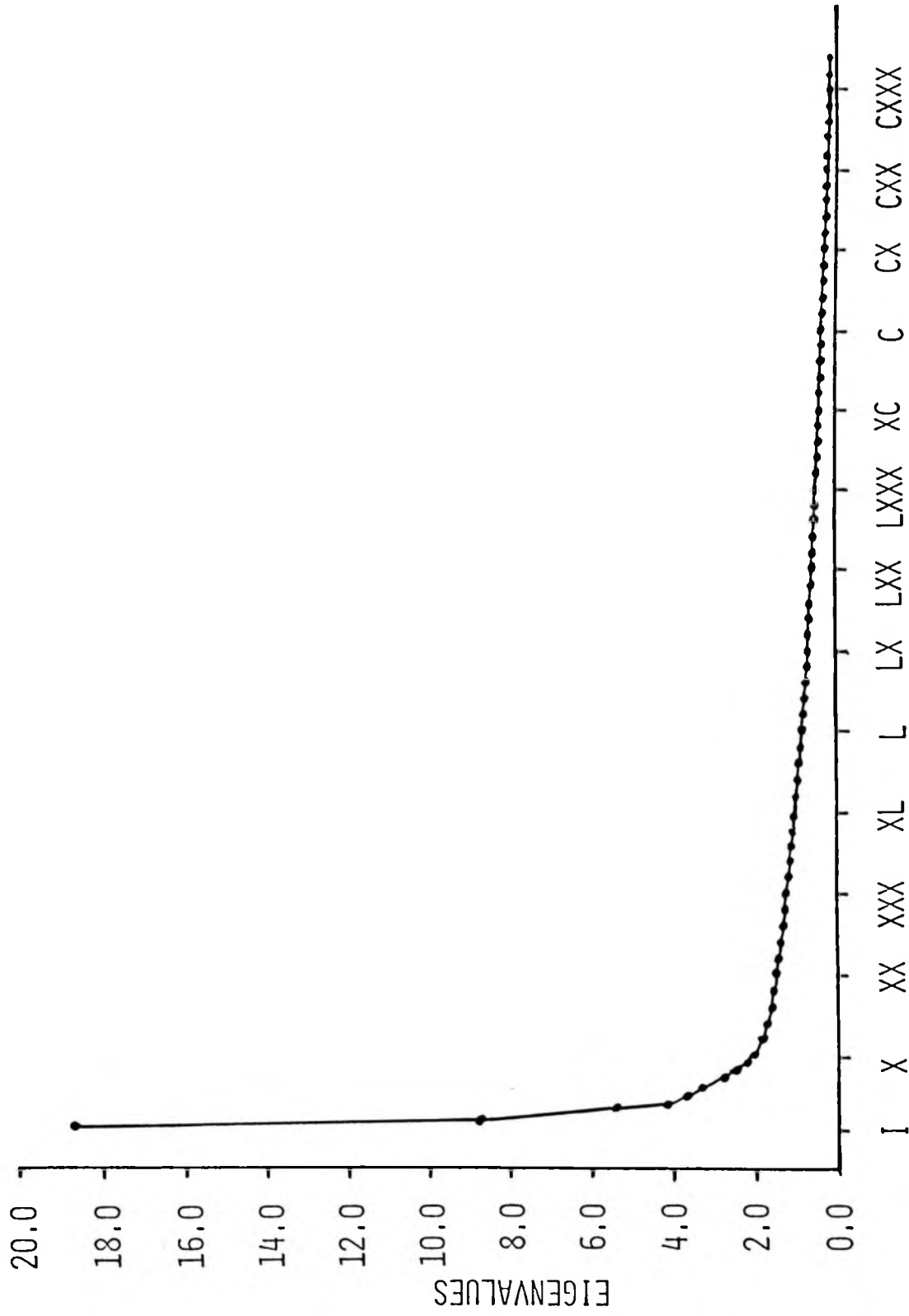
CHAPTER IV
RESULTS AND DISCUSSION

This study compared the values of regular university students and retired persons, using the Thomas Differential Value Profile (1970, 1972). The present chapter reports the results. The data are analyzed in terms of the hypotheses to be tested and the chapter concludes with a discussion of the findings.

Hypothesis I

A factor analysis was first conducted to establish construct validity for the Differential Value Profile. Hypothesis I, which was formulated to validate the instrument, stated, Factor analysis reveals the following six dimensions postulated by Thomas to be present in the Differential Value Profile: Aesthetic, Humanitarian, Material, Intellectual, Power and Religious.

Initial retention of factors was guided by Kaiser's rule (Harman, 1967) and Cattell's scree (Cattell, 1966b). The unreduced 134 principal axis eigenvalues are entered in Appendix D. Kaiser's stipulation of an eigenvalue greater than one for factor retention would have permitted the retention of 37 factors. This number was reduced by the scree (see Figure 2), which suggested nine dimensions. When



PRINCIPAL AXIS FACTORS

FIGURE 2. SCREE TEST ON EIGENVALUES OF DIFFERENTIAL VALUE PROFILE

the nine principal axis factors were submitted to varimax rotation, three factors were undefined. Several varimax rotations were done to determine how many to ultimately retain. Attempts at interpretation indicated that six factors should be retained for varimax rotation.

The following method described by Wadsworth, Barker, and Barker (1977) was used in selecting items that defined the dimensions: "A criterion loading of greater than or equal to .3 on only one factor identified items...used in naming the individual factors" (p. 451). Of the 134 items in the DVP, 95 met this criterion. As presented in Table 6, 37 items were significantly loaded on Factor I, 18 on Factor II, 10 on Factor III, 9 on Factor IV, 11 on Factor V, and 10 on Factor VI.

In order to identify the factor from its loadings, the content of the items with significant loadings on each factor were examined. Items with significant loadings on Factor I are listed in Table 7.

It is clear that the items in Factor I relate to religious preferences and the factor is labeled "Religious." The items in this dimension are all included in the DVP religious scale, with the exception of Item 21, which is listed in the DVP power scale. An examination of the religious direction of the items may explain the loading of Item 21, pertaining to a child's respect for parents, on Factor 1. The items appear to be primarily associated with traditional, Biblical religion that approaches

Table 6

Factor Loadings of Differential Value Profile Items

Item No.	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI
1						.45
2	-.67					
3		-.47				
4						-.47
7		-.41				
9	-.58					
10		-.45				.46
12						
13					.32	
14	-.49					
15					.33	
16		-.43				
17	-.59					
18					.36	
20		.31				
21	-.41					
23		-.31				
24			.35			
25						
26	-.73			-.55		
27						
28		-.42				.38
31				-.45		
33	-.78					
34				.34		
35	.49					
36					.32	

Table 6 (continued)

Item No.	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI
38						
39	-.77			-.42		
40			.32			
42		-.44				
43	.42					
45	.46					
46				.32		
48		-.38				
49		-.40				
50	-.70					
51	.63					
52		-.32				
53				.38		
54						-.48
55	.66					
56						
57		-.44				
59	.38					
61		-.56				
62	-.69					
63						-.44
64	.30					
65					.34	
66	.55					
69	.67					
71	.58					
73						
74			.33			.56
75		-.56				

Table 6 (continued)

Item No.	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI
76				.58		
77		-.40				
78					.31	
79	-.82					
80	-.71					
81						.43
82	-.77					
83					-.39	
84			.43			
86			.49			
87					.60	
88	.51					
89	-.69					
91			.30			
92						-.49
93			.35			
94			.39			
95	-.74					
96						.38
97		-.46				
98	-.80					
99		-.52				
101	-.60					
102					.39	
103	-.64					
108					.47	
113	-.49					
114		-.35				
117			.48			

Table 6 (continued)

Item No.	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI
118	-.70					
120	-.68					
121			.44			
125			.46			
127	.47					
128						.55
131	.53					
132	-.70					
133	-.71					
134	-.74					

Table 7

Differential Value Profile Items With
Significant Loadings on Factor 1

Item No.	Factor Loadings	Statement
2	-.67	It is only when a person devotes himself to a religious ideal or cause that life becomes meaningful.
9	-.58	The ability of a person to worship God is more important than the ability to help others.
14	-.49	A person who is deeply religious is greater than a person who is deeply concerned about serving his fellowman.
17	-.59	Many events in human history took place only because a Supreme Being stepped in to make them happen.
21	-.41	A child should not be allowed to talk back to his parents, or else he will lose respect for them.
26	-.73	The Bible is the word of God.
33	-.78	My faith in God supersedes all other allegiances.
35	.49	I would judge a person more by his power and position than by his religious preference.
39	-.77	Every explanation of man and the world is incomplete unless it takes into account God's will.
43	.42	Napoleon was a greater man than Apostle Paul.
45	.46	When I view a great cathedral I am more impressed by the architectural features, stained glass, and beautiful art than by a pervading sense of reverence and worship.

Table 7 (continued)

Item No.	Factor Loadings	Statement
50	-.70	God created man.
51	.63	I would rather spend my extra time listening to a good classical orchestra than listening to a good religious sermon.
55	.66	I get more satisfaction from listening to fine music than from reading the Bible.
59	.38	The success of a civilization can best be measured by its material advances rather than by its religious preferences.
62	-.69	No task is too great or too difficult when we know that God is on our side.
64	.30	Socrates was a greater man than Martin Luther.
66	.55	I would be more interested in the newspaper headline that read, "New Scientific Theory Announced" than "Protestant Leaders to Meet on Reconciliation."
69	.67	I would appreciate the Bible more for its beauty, style, and form than for its religious teachings.
71	.58	If I had the necessary qualifications, I would rather be the mayor of a medium-sized city than the minister of a medium-sized church.
79	-.82	Belief in God is the most important thing in life.
80	-.71	Religion should be considered more authentic than science.
82	-.77	Other things being equal, I would rather be religious and spiritual than intellectual.
88	.51	If I could influence the educational policies of the public schools, I would promote intellectual vigor rather than the study of religion.

Table 7 (continued)

Item No.	Factor Loadings	Statement
89	-.69	The Apostle Paul was a greater man than Albert Einstein.
95	-.74	I would rather be a church member than a member of a strong political party.
98	-.80	I would accept the teachings of the Bible before the teachings of science and philosophy.
101	-.60	If I had the necessary qualifications, I would rather be a religious minister than a powerful judge.
103	-.49	I would appreciate an object more for its religious significance than for its aesthetic significance.
113	-.49	It is more desirable for a person to possess piety and reverence than power and authority.
118	-.70	I would rather be religious than wealthy.
120	-.68	I would rather be a church member than own reliable shares in the stock market.
127	.47	The Red Cross is more important than the church.
131	.53	I would like to be the type of person who devotes his life to improving the opportunities for less fortunate people than to studying about God and religion.
132	-.70	I would rather work for the church than for the Red Cross.
133	-.71	I would rather spend time listening to a good religious sermon than visiting a good art exhibit.
134	-.74	I ought to be more concerned with faith and religion than with money and finance.

fundamentalism. The content of Item 21 suggests views of child rearing that are consonant with traditional religion.

The Factor I loadings offer clear support for Thomas' religious value factor. However, although Thomas has described this factor as encompassing cosmic interests and transcendent purposes along with conventional religion, the item content suggests traditional Judeo-Christian religious values only.

As presented in Table 8, the value statements in Factor II show a high materialistic content. Thirteen of the 18 items are included in the DVP material value dimension. Four of the items (16, 28, 75, and 77) are included in the DVP power scale. One statement (Item 20), although included in the DVP aesthetic scale, is suggestive of authority. The combination of material and power items is similar to the Philistine factor identified by Lurie (1937) in his factor analysis of the Study of Values. Lurie labeled the factor "the Philistine type, aggressive, go-getting, utilitarian" (p. 30) because of the combination of economic and political items loading on it. Since Factor II of the present investigation resembles the factor described by Lurie, it is named Philistine. Although 72% of the items loading on Factor II are from the DVP material scale, the small group of power items leads to a modified interpretation somewhat different from the DVP material dimension.

Of the six dimensions, Factor III is the least well-defined and the least consistent with the Differential Value

Table 8

Differential Value Profile Items With
Significant Loadings on Factor II

Item No.	Factor Loadings	Statement
3	-.47	The most important function of education is its preparation for practical achievement and financial reward.
7	-.41	J. P. Morgan was a greater man than Martin Luther.
12	-.45	Material possessions are a rather good measure of success in life.
16	-.43	Obedience and respect for authority are the most important virtues children should learn.
20	-.31	Teenagers would do well to learn to appreciate the beauties of classical music.
23	-.31	It is a worthy ambition to want to make a great deal of money, assuming that it is done legitimately.
28	-.42	In any organization if you lay down a rule it must be obeyed.
42	-.44	I would not remain in any location which did not afford good opportunities for being most successful financially.
48	-.38	I've secretly had the ambition to own a Cadillac.
49	-.40	J. P. Morgan was a greater man than Albert Schweitzer.
52	-.32	A medical doctor should refuse to give of his services without appropriate remuneration.

Table 8 (continued)

Item No.	Factor Loadings	Statement
57	-.44	I would rather give myself to a going business enterprise than to science and the "pushing back" of the fields of knowledge.
61	-.56	Other things being equal, I would rather be above average financially than above average intellectually.
75	-.56	Competitiveness and power are more desirable qualifications to possess than intellectual depth of thought.
77	-.40	In the final analysis, it's the man who can appropriate and use power that will be the better man, not the man who has given himself to intellectual pursuits.
97	-.46	To be intellectually brilliant isn't worth much if it doesn't "bring in the cash."
99	-.52	The ability to handle money profitably is no doubt a more important quality to possess than to think deeply and intellectually.
114	-.35	I would rather hold a position that had a tremendous salary than a position with a lot of authority.

Profile factors, as described by Thomas. A number of the items (see Table 9) are of a theoretical nature, but of an abstract philosophical quality rather than the rational search for truth postulated in the DVP intellectual dimension or the Study of Values theoretic scale. Eight of the 10 items are found in the humanitarian and intellectual scales of the Differential Value Profile. One item is from the aesthetic scale and another is from the power scale. Preferences are indicated for aesthetic creativity, depth of thought, big universities, service to the underprivileged, Aristotle and Socrates. These interests are congruent with the dictionary definition of culture and Factor III is labeled "General Cultural."

The nine items that load on Factor IV (see Table 10) are descriptive of humanitarian values. All of them are included in the DVP humanitarian scale and there is no reason to change the name of this factor. Factor IV retains the DVP label and is termed "Humanitarian."

Factor V items are presented in Table 11. Six of the 11 statements are included in the DVP power scale and suggest the power value in one polarity of this factor. The other polarity suggests peaceful pursuits: service to society, an appreciation of others, need for great thinkers. Although the factor might be termed "Aggressive," the peace polarity strongly resembles a factor identified by Brogden (1952) as "Antiaggression" and Factor IV is labeled an Antiaggressive dimension.

Table 9

Differential Value Profile Items With
Significant Loadings on Factor III

Item No.	Factor Loadings	Statement
24	.35	Socrates was a greater person than Florence Nightingale or Albert Schweitzer.
40	.32	To lay down your life for a friend--this is the summit of a good life.
84	.43	Aesthetic creativity and expression are more vital to happiness than material security.
86	.49	A person should be judged more by his depth of thought than by his position and power.
91	.30	If power and wealth were independent of one another, and I were forced to choose one or the other, I would choose power rather than wealth.
93	.35	I am more interested in reading accounts of Aristotle, Socrates, and Kant than accounts of Alexander, Julius Caesar, and Charlemagne.
94	.39	A person should sacrifice his desires to be an accomplished pianist or artist if it meant he could be of better service to the underprivileged in some other vocation.
117	.48	The Red Cross is more important than Wall Street.
121	.44	A person should be judged more on his depth of thought than on his wealth and material possessions.
125	.46	Our big universities are more important than Wall Street.

Table 10

Differential Value Profile Items With
Significant Loadings on Factor IV

Item No.	Factor Loadings	Statement
25	-.55	I would rather be a college professor than a social worker.
31	-.45	Our big universities are more important than the Red Cross.
34	.34	My greatest aim is to help people to be charitable to others.
38	-.42	Modern society would benefit more from greater knowledge of the fundamental laws of human behavior than from greater concern for the rights and welfare of citizens.
46	.32	Volunteer social or public welfare work is a good way to spend one's leisure time.
53	.38	My goal is to go into work which involves trying to understand and help people.
56	-.37	If I had more than enough income for my needs I would rather invest it in stocks than give it to some charitable organization.
74	.33	The Red Cross is more important than our big universities.
76	.58	If I had the necessary qualifications, I would rather be a social worker than a college professor.

Table 11

Differential Value Profile Items With
Significant Loadings on Factor V

Item No.	Factor Loadings	Statement
13	.32	We really need more great thinkers than great entertainers.
15	.33	To be appreciated in our society a person usually needs a little of "this world's goods."
18	.36	You can tell the real greatness of a man by the amount he helps others.
36	.32	Leonardo da Vinci was a greater man than Julius Caesar.
65	.34	Albert Schweitzer was a greater man than Socrates.
73	.56	If I had the necessary qualifications, I would rather be an Albert Einstein than a General McArthur.
78	.31	An appreciation of others is more important than an appreciation of the fine arts.
83	-.39	I would rather be a great war general than a well-to-do businessman.
87	.60	Dr. Albert Schweitzer was a greater man than General Douglas McArthur.
102	.39	I would rather have the benefits of being a J. P. Morgan than the benefits of being a great war general.
108	.47	If I could have my choice, I would rather be known for my service to society than for being a mighty war general

As described in Table 12, all 10 of the items with loadings on Factor VI reveal aesthetic content. The 10 items are included in the DVP aesthetic scale. Factor VI is named "Aesthetic" and confidently supports the validity of the aesthetic dimension in the DVP.

As a result of the factor analysis, Hypothesis I is partly supported. Six dimensions were identified after varimax rotation, in accordance with the hypothesis. Only three factors, however (Religious, Humanitarian, Aesthetic), are equivalent to the DVP factors. Factor II of this study, although including 13 items from the material dimension in the DVP, also included a small group of power items that described this factor as Philistine. Factor III was General Cultural rather than intellectual. Factor V, although somewhat congruent with the DVP power dimension, contained a strong peace preference polarity that described this factor as Antiaggressive.

Hypothesis II

Three hypotheses were concerned with the differentiation of age-related groups. Hypothesis II stated: Scores derived from factor loadings distinguish between groups of regular students and retired persons. Individual raw scores for those items loading significantly on a factor were submitted to an item analysis program. The program computed and punched a subtotal individual score based on unit weight

Table 12

Differential Value Profile Items with
Significant Loadings on Factor VI

Item No.	Factor Loadings	Statement
1	.45	Life finds its most wonderful expression in the fine arts.
4	-.47	A busy person could better spend his leisure time trying to educate himself by reading serious books than by going to an orchestral concert or art exhibit.
10	.46	I enjoy magazines of arts and decorations.
27	.38	If I had sufficient leisure and money I would like to make a collection of fine sculpture and paintings.
54	-.48	If I were a university professor I would rather teach chemistry or physics than art or music.
63	-.44	Teenagers would do well to learn to think more intellectually about the meaning of life than to learn to appreciate the beauties of classical music and other fine arts.
81	.43	I would rather listen to a good long-playing album of classical music than read a good non-fiction book discussing some crucial issue.
92	-.49	I would rather be regarded by my friends as a capable leader than as an accomplished musician.
96	.38	If I had the money to give college scholarships, I would rather help a potential musician than a potential nurse.
128	.55	I would rather be a member of a classical orchestra than a member of a debating society discussing philosophical problems.

for each factor. The derived factor scores were then submitted to the discriminant analysis computer program to test group differentiation.

Hypothesis II was concerned with comparisons of the total regular student group and the total retired group. Discriminant analysis revealed the following: The Wilks Lambda, which indicates the ability of the variables to separate the groups in discriminant space, was statistically significant beyond the .0001 level, as tested by the F ratio. One root was extracted (the program yields one fewer root than the number of groups) and was tested for significance by the chi square statistic. Again, it tested beyond the .0001 significance level. It would appear that scores derived from the DVP reliably separated the total student group and the total retired group.

The discriminant correlation coefficient (DS-R) indicates the relative contribution of each variable to group separation. As presented in Table 13, the Antiaggressive factor showed the largest contribution, with a .76 coefficient. The Religious factor is the next important with a .49 coefficient.

The discriminant analysis computer program also yields univariate analysis of variance data and group means for each variable. The information on univariate comparisons corroborates the above analysis of factor contributions to group differences (see Table 14). There is a highly

Table 13
Discriminant \underline{R} in Total Group
Differentiation

Variable	DS- \underline{R} *
Religious	.49
Philistine	-.23
General Cultural	.01
Humanitarian	-.15
Antiaggressive	.76
Aesthetic	-.23

*
 $\underline{r}_{.05} = .20$

Table 14
Univariate Analysis of Value Factors
in Total Groups

Factor	MS-B	MS-W	\underline{F}	\underline{p}^a	Eta square
Religious	7296.19	738.06	9.89	.0022	.91
Philistine	161.83	77.98	2.08	.1467	.67
General Cultural	.16	24.81	.01	.9330	.01
Humanitarian	24.09	25.68	.94	.6651	.48
Antiaggressive	646.29	26.06	24.80	.0000	.96
Aesthetic	70.73	31.78	2.23	.1326	.69

^a $\underline{df} = 1, 359$

significant difference between the groups in the Antiaggressive and Religious factors. The groups are the most similar in the General Cultural and Humanitarian factors. The eta square column indicates that in four univariate tests (Religious, Philistine, Antiaggressive, and Aesthetic) the value factor accounts for more than 50% of the variance.

Table 15 shows the means for the total groups in the six factors. A comparison of the factor means reveals that the retired group scored higher in Antiaggressive and Religious factors.

Table 15
Factor Means for Total Groups

Factor	Mean	
	Regular students ^a	Retired persons ^b
Religious	131.65	141.17
Philistine	48.62	47.20
General Cultural	31.13	31.17
Humanitarian	33.20	32.65
Antiaggressive	39.53	42.36
Aesthetic	34.95	34.02

$${}^a \underline{n} = 240$$

$${}^b \underline{n} = 121$$

Hypothesis II is supported. There is statistically significant separation of groups of regular students and retired persons, according to value scores derived from the DVP. Antiaggressive and Religious factors are the highest contributors to group differentiation, with retired persons scoring higher in both dimensions. However, there was similarity in group responses to two dimensions: General Cultural and Humanitarian.

Hypothesis III

A second use of discriminant analysis was in the differentiation of age-related groups when each group has current educational experience. Hypothesis III stated: Scores derived from factor loadings distinguish between regular students and retired persons who have enrolled in university programs during the past ten years. The latter group can thus be regarded as retired students.

In the discriminant analysis, both the F ratio of the Wilks Lambda and the chi square of the root was statistically significant beyond the .005 level, again indicating reliable group separation. The relative contributions of the variables to group separation differs from that indicated in the total group comparisons. As presented in Table 16, although the Antiaggressive factor continued to show the largest contribution, the Religious factor is of lesser importance than in the comparisons of the regular students and the total group of retired people. Additionally, in

Table 16
Discriminant R in Differentiation of Regular
and Retired Student Groups

Variable	DS-R*
Religious	.14
Philistine	.56
General Cultural	.14
Humanitarian	.50
Antiaggressive	-.66
Aesthetic	-.18

* $r_{.05} = .20$

Table 17
Univariate Analysis of Value Factors in
Regular and Retired Student Groups

Factor	MS-B	MS-W	F	p ^a	Eta square
Religious	274.00	753.72	.36	.5543	.27
Philistine	464.23	79.72	5.82	.0156	.85
General Cultural	9.45	25.19	.38	.5479	.26
Humanitarian	114.70	25.21	4.55	.0317	.82
Antiaggressive	222.32	27.25	8.16	.0049	.89
Aesthetic	18.61	32.52	.57	.5434	.36

^adf = 1, 279

this comparison, the Philistine and Humanitarian factors show larger contributions to the discriminant function.

The univariate tests (see Table 17) show significant group differences in Factors II, IV, and V. Additionally, the eta squares indicate that each of these three factors account for more than 50% of the variance. The group means in Table 18 indicate that the retired group continued to score higher in Antiaggressive values, whereas the regular students scored higher in the Philistine and Humanitarian dimensions. There were no significant differences in group responses to Religious, General Cultural, and Aesthetic factors.

Table 18
Factor Means for Regular Students
and Retired Students

Factor	Mean	
	Regular students ^a	Retired students ^b
Religious	131.65	128.85
Philistine	48.62	44.98
General Cultural	31.13	30.61
Humanitarian	33.20	31.39
Antiaggressive	39.53	42.05
Aesthetic	34.95	35.68

^a_n = 240

^b_n = 41

Hypothesis III is supported. Scores derived from DVP responses differentiate groups of regular students and retired students at the .005 level of confidence. Group similarities are present, however, in three factors. The Antiaggressive factor is the highest contributor to group separation, with retired students scoring higher in this value.

Hypothesis IV

A third discriminant analysis tested the differentiation of age-related groups with similar vocational interests. Hypothesis IV stated: Scores derived from factor loadings distinguish between regular students who are teaching or planning teaching careers and retired educators. Again, statistics relative to group separation indicate significance beyond the .0001 level. And, as with the other group comparisons, the Antiaggressive factor is the largest contributor to the discriminant function. The pattern of lesser contributions differs from the other comparisons, with the Aesthetic and Philistine factors the next most important.

Table 19 presents the discriminant correlations and Table 20 the univariate statistics. The latter table reveals statistically significant probability levels for group differences in the Antiaggressive, Aesthetic, and Philistine factors. Only one factor (Humanitarian) accounted for less than 50% of the variance in the univariate tests.

Table 19

Discriminant \underline{R} in Differentiation of Education
Students and Retired Teachers

Variable	DS- \underline{R} *
Religious	.22
Philistine	-.37
General Cultural	.31
Humanitarian	-.13
Antiaggressive	.80
Aesthetic	-.46

* $\underline{r}_{.05} = .20$

Table 20

Univariate Analysis of Value Factors in Education
Students and Retired Teacher Groups

Factor	MS-B	MS-W	\underline{F}	p ^a	Eta square
Religious	1187.06	731.15	1.62	.2016	.62
Philistine	266.38	56.54	4.71	.0296	.82
General Cultural	77.77	23.80	3.27	.0691	.76
Humanitarian	13.43	23.84	.56	.5393	.35
Antiaggressive	519.16	21.09	24.62	.0000	.96
Aesthetic	240.43	33.71	7.13	.0083	.88

^a $\underline{df} = 1, 145$

Table 21 shows that the retired educators remained higher in the first dimension and the education students (teaching or planning teaching careers) in the Aesthetic and Philistine factors. Hypothesis IV is supported. There appears to be both statistical and substantive significance in the differentiation of education students and retired educators, according to DVP responses.

Table 21
Factor Means for Education Students
and Retired Educators

Factor	Mean	
	Regular students ^a	Retired students ^b
Religious	136.29	142.53
Philistine	49.03	46.07
General Cultural	30.75	32.35
Humanitarian	33.55	32.88
Antiaggressive	39.40	43.53
Aesthetic	35.35	32.53

^a_n = 104

^b_n = 43

The three hypotheses tested by discriminant analysis are all supported, but with qualifications. There are statistically significant group separations based on factor

scores derived from Differential Value Profile responses. However, in each analysis, there were group similarities in one or more values.

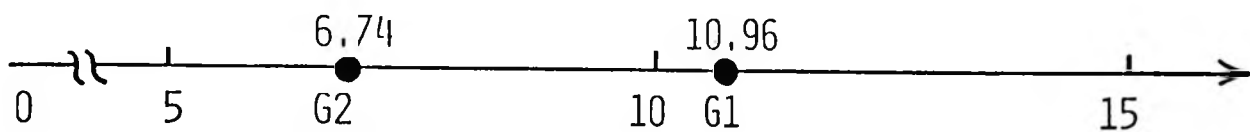
Group differences can be illustrated by plotting the centroids or group means on discriminant scores (see Figure 3). When compared by total group, and when educational experience or vocational interests are controlled, the retired persons and regular students show wide separation in group centroids.

Hypothesis V

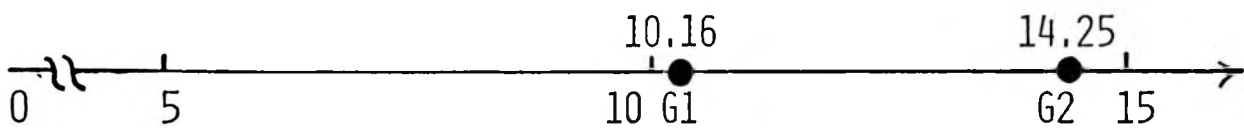
An alternative approach to testing value-age relationships was generated by an additional hypothesis. Hypothesis V stated: There is a statistically significant relationship between scores based on DVP factors and age. Multiple regression was used to test this hypothesis.

When multiple regression and discriminant analysis process the same data, they yield equivalent results if two groups are analyzed. Findings from multiple discriminant analysis differ from multiple regression. Although age in this multiple regression program was treated as a continuous variable and in the discriminant analysis as a dichotomous variable, the results of both programs were similar, since two groups were used.

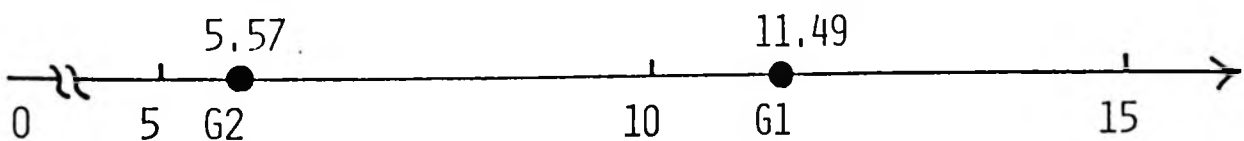
The multiple regression computer program, through a series of iterations, arrives at standardized beta weights that indicate the relative contribution of each independent



NOTE. G1 = RETIRED PERSONS
G2 = REGULAR STUDENTS



NOTE. G1 = RETIRED STUDENTS
G2 = REGULAR STUDENTS



NOTE. G1 = RETIRED TEACHERS
G2 = STUDENTS IN TEACHING

FIGURE 3. GROUP CENTROIDS IN THREE DISCRIMINANT
FUNCTION ANALYSES

variable to a composite predictor score. In this case, the independent variables are the value factors and the beta weights indicate the contribution of each value to the prediction of age (see Table 22). An examination of the beta weights indicate that they are proportional to the discriminant R coefficients in the discriminant analysis program that compared total groups. The most important predictor, with a beta weight of .2523, was the Antiaggressive factor. The second highest predictor was the Religious factor, with a beta weight of .2050. The order of these predictors was equivalent to the order of the discriminant R in testing Hypothesis II.

Table 22
Beta Weights for Value Factors

Value Factor	Beta Weight
Religious	.2050
Philistine	-.1223
General Cultural	-.0838
Humanitarian	-.1348
Antiaggressive	.2523
Aesthetic	-.0930

The multiple regression program yields a multiple correlation coefficient (multiple R) and an F ratio which

tests the reliability of the multiple R. In this case, the multiple R of .36 was statistically significant beyond the .001 level of confidence, thus supporting Hypothesis V.

Additionally, the program offers the R square statistic, which gives information on the degree of substantive significance. In the present investigation, the R square of .13 indicated that 13% of the variance in value scores can be accounted for by the age variable.

Discussion

A factor analysis was conducted to determine construct validity for the Differential Value Profile (Thomas, 1972) prior to using the items for age-group hypotheses testing. Thomas had tested the items for intrascale consistency. However, as indicated in Chapter III, he had constructed the items rationally, after a review of literature on value theory and factor analytic studies of other Spranger-based instruments. Thomas (1970) felt that "Future factor analysis will be needed to make conclusions pertaining to the present instrument" (p. 63). The present study can offer a number of conclusions based on factor analysis.

Three scales were found to measure what they purport to measure. Factor I was clearly a Religious factor, albeit the items suggested conventional, Biblical religion rather than a cosmic perspective. The item content was congruent with a primary purpose of DVP development: the comparison of values held by students in state-supported and

church-supported colleges. Factor IV was clearly a Humanitarian dimension and Factor VI an Aesthetic dimension. These three factors were consistent with DVP hypothesized dimensions and were given DVP factor labels.

Factor II, although primarily a materialistic factor, also contained a small group of DVP power items. Because the factor content resembled the Philistine dimension found by Lurie (1937) in a Study of Values factor analysis, Factor II was termed "Philistine." Factor V had two defined polarities. Preferences on the one end were consonant with the DVP power scale. The other polarity showed a strong peace preference content. Additionally, this end included three items keyed in one direction only. The strength of the peace polarity was suggestive of the Antiaggressive factor found by Brogden (1952) in his Study of Values factor analysis and Factor V was labeled Antiaggressive. Factors II and V only partially confirmed the material and power dimensions of the DVP.

Factor III was the least well-defined of the dimensions and was not equivalent to the remaining DVP value: intellectual. Although half of the items were of a theoretical nature, a number of aesthetic and humanitarian statements also loaded on this factor. Because it resembled the dictionary definition of culture, it was termed General Cultural.

The weakness of the DVP intellectual dimension can be compared with the earlier development of the Study of Values

(Allport et al., 1960), in which it was found that the social scale was less reliable than the other dimensions. Later revision improved the reliability of this scale. Similarly, if validity studies continue to show defects in the DVP intellectual scale, revisions may be indicated.

Hypothesis I was partially supported. Factor analysis confirmed three postulated DVP dimensions, partly confirmed two additional factors, but was unable to identify a sixth DVP factor.

The three hypotheses testing separation of age groups were all supported. Based on scores derived from DVP factors, there is a statistically significant differentiation between the total groups of retired persons and regular students, between retired persons with recent education and regular students, and between retired teachers and students in teaching or planning teaching careers.

The Antiaggressive factor was the primary contributor to group separation in each test. However, the contributions of other values varied. Religious values were important contributors to total group separation. The Philistine and Humanitarian factors were second and third to the Antiaggressive factor in discriminating retired students and regular students. Aesthetic and Philistine were second and third to Antiaggressive in discriminating between regular students who are teaching or planning teaching careers and retired educators. Thus, the groups were similar in some values and different in others. In

addition, one value, General Cultural, was of no importance in any of the discriminant analyses.

An additional hypothesis tested the relationship of value scores, as independent variables, and age as a dependent variable. A statistically significant multiple R supported this hypothesis.

In all four tests of group comparisons, it was found that Factor V, termed Antiaggressive was the highest contributor to differentiation and to prediction. The older groups placed higher values on people like Albert Schweitzer and Albert Einstein over Julius Caesar and General McArthur. They regard service to society as important and do not believe that appreciation of people depends on having a little of "this world's goods."

This involvement with peaceful and ideological relationships rather than power and control is comparable to the Christie and Geis (1970) findings on Machiavellianism. Their investigations showed that younger individuals were more inclined to use strategy and control in personal relationships, whereas older people were more inclined to be affectively involved in relating with others. Christie and Geis attributed these differences to increasing urbanization, wherein complex relationships fostered manipulative and control tendencies. It may be that the same social change is reflected in the higher scores of older adults in Factor V, in their preference for peaceful

relationships and affective involvement rather than power and control. Younger individuals, having experienced a more urban and complex environment, have included the use of strategy, power, and control in their value systems.

In summary, data analysis has partially confirmed that the DVP demonstrates significant differences in age groups and that older people have some values different from those of younger people.

CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of the study was to compare the values of retired persons and regular university students. Two samples were selected for the investigation: (a) individuals 55 years of age or older, operationally defined as the retired persons group; and (b) University of Alabama students under 55 years of age, operationally defined as the regular student group. The retired group was selected from a number of sources: students over 54 years of age enrolled in University of Alabama programs, the National Retired Teachers Association, the American Association of Retired Persons, the National Association of Retired Federal Employees, and a small miscellaneous subgroup.

The Differential Value Profile (Thomas, 1970, 1972) was used to assess group values. The instrument was distributed to the regular students in their classes, mailed to enrolled retired students, and distributed to organization members during their monthly meetings. The emphasis was on diversity of respondents in order to attain maximum variance. It was estimated that approximately 50% of the regular students in the university classes contacted volunteered to participate and complete the questionnaire.

Approximately 45% of the questionnaires distributed to the older group were completed and returned. Because of potential visual problems, the published scale was reproduced in larger type for the retired group.

Supplementary data completed by both groups offered the following descriptive information:

1. Of the 121 retired persons, 82 were female and 37 were male. Of the 240 regular students, 152 were female and 77 were male. Eleven students and two retired persons did not respond to this item. The male female-ratio was proportional in both groups.

2. The median age for the regular students was 22. The median age for the retired persons was 67.

3. The median educational level was 16 years or 4 years of college for both groups.

4. Of the regular students, 104 were either teachers or interested in teaching careers; of the older group, 43 were retired educators.

5. Of the older group, 41 had enrolled in university classes during the past 10 years.

The data were analyzed in terms of the hypotheses to be tested. The hypotheses and results are as follows:

Hypothesis I: Factor analysis reveals the following six dimensions postulated by Thomas (1972) to be present in the Differential Value Profile: Aesthetic, Humanitarian, Material, Intellectual, Power, and Religious. The purpose of the factor analysis was to establish construct validity

for the Differential Value Profile (DVP), a comparatively recent and untested instrument. The results supported the hypothesis only in part. Three factors of the hypothesized six emerged that were equivalent to DVP scales; two factors were similar, but with important differences; and the sixth factor was not comparable to the DVP postulated dimension.

Hypothesis II: Scores derived from factor loadings distinguish between groups of regular students and retired persons. The discriminant function analysis indicated a statistically significant differentiation of groups according to held values. Hypothesis II was supported. The Antiaggressive and Religious factors were the most important contributors to the discriminant function. In the univariate analysis, the other four factors did not differ significantly between the two groups.

Hypothesis III: Scores derived from factor loadings distinguish between regular students and retired persons who have enrolled in university programs during the past 10 years. Discriminant analysis indicated reliable separation of the two groups. Hypothesis III was supported. Again, the Antiaggressive factor was the prime contributor to group separation, with the Philistine and Humanitarian factors second and third in importance. The univariate tests showed no significant difference in Religious, General Cultural, and Aesthetic factors between the two groups.

Hypothesis IV: Scores derived from factor loadings distinguish between regular students who are teaching or planning teaching careers and retired educators. Statistics indicated reliable group separation according to DVP values. The Antiaggressive factor remained the primary contributor to the discriminant function, with Aesthetic and Philistine factors second and third in importance. Religious, General Cultural, and Humanitarian values did not differ significantly between the two groups on univariate tests.

Hypothesis V: There is a statistically significant relationship between scores based on DVP factors and age. Multiple regression was used to test this hypothesis. The results corroborated the discriminant analysis and showed a statistically significant multiple correlation between the values and the dependent variable of age. In the multiple regression as well as in the discriminant analysis, the Antiaggressive factor was the prime contributor to group differentiation and prediction. Religion was second in importance, as found in the discriminant analysis of total groups.

Conclusions

The factor analysis demonstrated that the DVP has some potential for value assessment. Several of the factors require revised descriptions and one dimension may require

restructuring. But, for the most part, five of the six factors were equivalent or similar to the DVP postulated dimensions.

The significant results in the discriminant analysis and multiple regression indicated that some DVP scores differentiate groups of regular students and retired persons. Statistically significant differentiation exists in subgroups as well as in total groups: Group separation was also present between regular students and retired adults with recent education; and between regular students in teaching careers and retired educators.

However, further interpretation of the results may suggest that age-related differences are not clear-cut. The R square of .13 indicated that the dependent variable of age accounted for only 13% of the total variance. Furthermore, in each univariate analysis, there were similarities as well as differences.

The values which were important contributors to group separation varied according to the subgroups. In this investigation, the Antiaggressive factor, with its peace-power polarities, was the primary contributor to group separation.

In intergenerational studies, the unresolved issue is the developmental versus the historical explanation of generational differences. Do the retired group's approval of antiaggressive and ideological involvement differ from the younger group's approval of strategy and power because

of social and historical experiences? Christie and Geis (1970) would reply affirmatively, since their studies showed that the complexities of urbanization contribute to the valuing of power and control over others. Erikson (1973) and Kohlberg (1973), on the other hand, would hold that older individuals are in stages of human development associated with integrity and principled moral reasoning.

Since the factor analysis indicated that the Religious factor accounted for a substantial proportion of the variance, the impact of this variable on the discriminant analysis warranted perusal. When total groups were compared, the Religious dimension was second in importance to the Antiaggressive factor. But when the retired sample was limited to comparisons involving retired students and retired teachers, the Religious variable was of little impact in age-group separation. Thus religious values held by older individuals closer to classroom participation do not differ significantly from those held by younger students.

Some value differences are present among age-related groups, but they have varied patterns, according to the nature of the group. In planning age-integrated educational programs, a wider diversity of student values may need to be considered. Educational objectives and program content may require revision to accommodate value diversity.

Such revisions would serve to enrich educational programs for both older and younger students. Programs

that take into account the motivations of retired students, that utilize their broad experiences and the values generated by these experiences, also have much to offer younger students. Programs that provide for the values and motivations of younger students offer the understanding necessary for generating change in older individuals and avoiding the tendency toward intolerance of the new, as described by Asimov (1976). In summary, all age groups have much to gain from educational programs that provide for the diversity of values present.

Recommendations

Recommendations generated by this investigation include those pertaining to instrument validation, to study replication, and to lifespan education.

Instrument Validation

It is recommended that further validation studies be conducted with identifying dimensions in the Differential Value Profile. Because the instrument is of comparatively recent vintage, it has not received the widespread testing of older scales. Yet, its simplified Likert type format and re-usable booklets hold promise as a practical instrument for value assessment. It is a potentially useful Spranger-based test and warrants the validation necessary to improve its technical characteristics.

Study Replication

The limitations of this study mitigate against generalization, and therefore replications are recommended with more representative samples. The students and retired persons were volunteers from a number of classes and organizations. Since there was no systematic selection or randomization, the responses cannot be regarded as representative of either a student population or a retired population. Replications with random samples would offer information that could be generalized.

It is recommended that value comparisons be conducted using different instruments, in order to determine whether differences found were related to the type of scale used.

It is recommended that a similar study be conducted using multiple age groups and multiple discriminant analysis in order to assess differences between other age levels.

Lifespan Education

Because a wider range of values may be present in age-integrated classes, it is recommended that value assessment instruments be administered to university classes that include a wide age range of students. It is recommended that course objectives and curriculum content be re-examined in light of values revealed through the value assessments.

It is recommended that long range educational planning include the diversity necessary to accommodate values of a wide age range of potential students.

APPENDIX A

THE DIFFERENTIAL VALUE PROFILE

FORM A

by

WALTER L. THOMAS, Ed.D.

PROJECT ON STUDENT VALUES

DIRECTIONS

This survey consists of 134 statements which are designed to sample certain of your personal opinions. There are no right or wrong answers. What is wanted is your own individual feeling about the statements. Read each statement carefully and then decide how YOU feel about it. Mark your answer on the proper space on the answer sheet.

- If you **Strongly Agree**, blacken the space under SA.
- If you **Agree**, blacken the space under A.
- If you **Disagree**, blacken the space under D.
- If you **Strongly Disagree**, blacken the space under SD.

Think in terms of the general situation. There is no time limit, but do not spend too much time on any one item. Please respond to every statement.



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Achievement Motivation Program (AMP)
111 E. Wacker Drive
Chicago, Illinois 60601
Printed in the United States of America.

1. Life finds its most wonderful expression in the fine arts.
2. It is only when a person devotes himself to a religious ideal or cause that life becomes meaningful.
3. The most important function of education is its preparation for practical achievement and financial reward.
4. A busy person could better spend his leisure time trying to educate himself by reading serious books than by going to an orchestral concert or art exhibit.
5. It is sympathetic love among persons which alone gives significance to life.
6. There should be a definite hierarchy in an organization, with definite duties for everybody.
7. J. P. Morgan was a greater man than Martin Luther.
8. Science and philosophy hold most of the answers to life.
9. The ability of a person to worship God is more important than the ability to help others.
10. I enjoy magazines of arts and decorations.
11. While the use of force is wrong by and large, it is sometimes the only way possible to advance a noble ideal.
12. Material possessions are a rather good measure of success in life.
13. We really need more great thinkers than great entertainers.
14. A person who is deeply religious is greater than a person who is deeply concerned about serving his fellowman.
15. To be appreciated in our society a person usually needs a little of "this world's goods."
16. Obedience and respect for authority are the most important virtues children should learn.
17. Many events in human history took place only because a Supreme Being stepped in to make them happen.
18. You can tell the real greatness of a man by the amount he helps others.
19. Contemplation is the highest form of human activity.
20. Teenagers would do well to learn to appreciate the beauties of classical music.
21. A child should not be allowed to talk back to his parents, or else he will lose respect for them.
22. I feel most at ease when I am in charge.
23. It is a worthy ambition to want to make a great deal of money, assuming that it is done legitimately.
24. Socrates was a greater person than Florence Nightingale or Albert Schweitzer.
25. I would rather be a college professor than a social worker.
26. The Bible is the word of God.
27. If I had sufficient leisure and money I would like to make a collection of fine sculpture and paintings.
28. In any organization if you lay down a rule it must be obeyed.
29. I would like a position where I could influence large numbers of people.
30. Modern art can give genuine enjoyment to a person.
31. Our big universities are more important than the Red Cross.
32. I would like to be the type of person who devotes his life to diligent study of a vital subject that needs intellectual exploration rather than to improving the opportunities for less fortunate people.
33. My faith in God supersedes all other allegiances.
34. My greatest aim is to help people to be charitable to others.
35. I would judge a person more by his power and position than by his religious preference.
36. Leonardo da Vinci was a greater man than Julius Caesar.
37. If I had to choose, I would choose money rather than popularity.
38. Modern society would benefit more from greater knowledge of the fundamental laws of human behavior than from greater concern for the rights and welfare of citizens.
39. Every explanation of man and the world is incomplete unless it takes into account God's will.
40. To lay down your life for a friend—this is the summit of a good life.
41. I'm more interested in reading accounts of Aristotle, Socrates, and Kant than accounts of Johann Strauss, Frederic Chopin, and Leonardo da Vinci.
42. I would not remain in any location which did not afford good opportunities for being most successful financially.
43. Napoleon was a greater man than the Apostle Paul.
44. A person should not be expected to surrender his power and authority if they are necessary for him to help the underprivileged and less fortunate.
45. When I view a great cathedral I am more impressed by the architectural features, stained glass, and beautiful art than by a pervading sense of reverence and worship.
46. Volunteer social or public welfare work is a good way to spend one's leisure time.
47. I would rather be a great war general than a renowned university professor.

Go on to the next column

Go on to the next page

48. I've secretly had the ambition to own a Cadillac.
49. J. P. Morgan was a greater man than Albert Schweitzer.
50. God created man.
51. I would rather spend my extra time listening to a good classical orchestra than listening to a good religious sermon.
52. A medical doctor should refuse to give of his services without appropriate remuneration.
53. My goal is to go into work which involves trying to understand and help people.
54. If I were a university professor I would rather teach chemistry or physics than art or music.
55. I get more satisfaction from listening to fine music than from reading the Bible.
56. If I had more than enough income for my needs I would rather invest it in stocks than give it to some charitable organization.
57. I would rather give myself to a going business enterprise than to science and the "pushing back" of the fields of knowledge.
58. I would rather be a professional athlete for the financial rewards than for the competitiveness involved.
59. The success of a civilization can best be measured by its material advances rather than by its religious preferences.
60. I would rather be a person of power and authority than a person of unusual artistic skill.
61. Other things being equal, I would rather be above average financially than above average intellectually.
62. No task is too great or too difficult when we know that God is on our side.
63. Teenagers would do well to learn to think more intellectually about the meaning of life than to learn to appreciate the beauties of classical music and other fine arts.
64. Socrates was a greater man than Martin Luther.
65. Albert Schweitzer was a greater man than Socrates.
66. I would be more interested in the newspaper headline that read, "New Scientific Theory Announced" than "Protestant Leaders to Meet on Reconciliation."
67. Our society should make more of its works of art than its strength.
68. If I had the necessary qualifications, I would rather be a banker than a clergyman.
69. I would appreciate the Bible more for its beauty, style, and form than for its religious teachings.
70. I would rather hold an important job or office than work in social service.
71. If I had the necessary qualifications, I would rather be the mayor of a medium-sized city than the minister of a medium-sized church.
72. I would rather be known for my thoughtfulness for others than for my deep thought and intellectual stature.
73. If I had the necessary qualifications, I would rather be an Albert Einstein than a General MacArthur.
74. The Red Cross is more important than our big universities.
75. Competitiveness and power are more desirable qualifications to possess than intellectual depth of thought.
76. If I had the necessary qualifications, I would rather be a social worker than a college professor.
77. In the final analysis, it's the man who can appropriate and use power that will be the better man, not the man who has given himself to intellectual pursuits.
78. An appreciation of others is more important than an appreciation of the fine arts.
79. Belief in God is the most important thing in life.
80. Religion should be considered more authentic than science.
81. I would rather listen to a good long-playing album of classical music than read a good non-fiction book discussing some crucial issue.
82. Other things being equal, I would rather be religious and spiritual than intellectual.
83. I would rather be a great war general than a well-to-do businessman.
84. Aesthetic creativity and expression are more vital to happiness than material security.
85. I would rather be an accomplished nurse than an accomplished pianist or artist.
86. A person should be judged more by his depth of thought than by his position and power.
87. Dr. Albert Schweitzer was a greater man than General Douglas MacArthur.
88. If I could influence the educational policies of the public schools, I would promote intellectual vigor rather than the study of religion.
89. The Apostle Paul was a greater man than Albert Einstein.
90. If I had the necessary qualifications, I would rather be an artist than a social worker.
91. If power and wealth were independent of one another, and I were forced to choose one or the other, I would choose power rather than wealth.
92. I would rather be regarded by my friends as a capable leader than as an accomplished musician.

Go on to the next column

Go on to the next page

93. I am more interested in reading accounts of Aristotle, Socrates, and Kant than accounts of Alexander, Julius Caesar, and Charlemagne.
94. A person should sacrifice his desires to be an accomplished pianist or artist if it meant he could be of better service to the underprivileged in some other vocation.
95. I would rather be a church member than a member of a strong political party.
96. If I had the money to give college scholarships, I would rather help a potential musician than a potential nurse.
97. To be intellectually brilliant isn't worth much if it doesn't "bring in the cash."
98. I would accept the teachings of the Bible before the teachings of science and philosophy.
99. The ability to handle money profitably is no doubt a more important quality to possess than to think deeply and intellectually.
100. Napoleon commands more of my admiration than Leonardo da Vinci or Beethoven.
101. If I had the necessary qualifications, I would rather be a religious minister than a powerful judge.
102. I would rather have the benefits of being a J. P. Morgan than the benefits of being a great war general.
103. I would appreciate an object more for its religious significance than for its aesthetic significance.
104. If I were certain to see my choice come true, I would choose to be an intellectually successful person rather than a financially successful person.
105. I would rather have a position working for the Red Cross than a position in politics.
106. If I had enough leisure time I would rather spend it mastering a favorite artistic skill than volunteering for public service work.
107. I would prefer a society that made more of its fine arts than of its material possessions.
108. If I could have my choice, I would rather be known for my service to society than for being a mighty war general.
109. If I had the necessary qualifications, I would rather be a social worker than a banker.
110. Professional musicians are in their chosen field more for the enjoyment of the art of music than for the financial benefits.
111. I would prefer to possess the ability to exercise power and authority than the ability to appreciate the aesthetic and beautiful.
112. Beethoven, Wagner, and Byron have contributed more to the advancement of society than Socrates, Aristotle, and Kant.
113. It is more desirable for a person to possess piety and reverence than power and authority.
114. I would rather hold a position that had a tremendous salary than a position with a lot of authority.
115. I would rather visit a well-known evangelist than a well-known artist or musician.
116. I would rather think of myself as being important for some deed I have done for society than as a person of much financial means.
117. The Red Cross is more important than Wall Street.
118. I would rather be religious than wealthy.
119. I would rather be a successful business person than an accomplished musician or artist.
120. I would rather be a church member than own reliable shares in the stock market.
121. A person should be judged more on his depth of thought than on his wealth and material possessions.
122. Most homes need a piano for their children more than a television.
123. If I had a valuable painting in my possession to do with as I pleased, I would rather sell it for the money it was worth than keep it for the purpose of admiring and enjoying it.
124. An organization should be judged more for its concern for humanity than its concern for the church and religion.
125. Our big universities are more important than Wall Street.
126. I would rate an object more on its economic value than on its beauty and aesthetic qualities.
127. The Red Cross is more important than the church.
128. I would rather be a member of a classical orchestra than a member of a debating society discussing philosophical problems.
129. If my ability and other conditions permitted it, I would prefer to spend part of my next summer vacation writing and publishing an original scientific essay or article than getting experience in some new line of business.
130. I consider unselfishness and sympathy more desirable character traits than reverence and piety.
131. I would like to be the type of person who devotes his life to improving the opportunities for less fortunate people than to studying about God and religion.
132. I would rather work for the church than for the Red Cross.
133. I would rather spend time listening to a good religious sermon than visiting a good art exhibit.
134. I ought to be more concerned with faith and religion than with money and finance.

Go on to the next column

End

APPENDIX B

THE UNIVERSITY OF ALABAMA
UNIVERSITY, ALABAMA 35486

Dear Friend:

Many people are returning to the classroom after retirement. Educators tell us that future school systems will include opportunities for life-long learning. It is important in planning life-span education to know the values and preferences of retired people. Such information is needed in planning educational programs.

We are anxious to have your opinions in this regard. Please fill out the attached anonymous questionnaire and return it in the stamped envelope. The results will be reported for groups and not individually.

We would appreciate your completing the following information. It will help us arrive at important group data.

1. Number of years you completed in the following schools.

Elementary School _____

High School _____

College _____

2. Have you enrolled in any college or junior college courses during the last ten years?

Yes _____ No _____

If Yes, in what year did you last take a course? _____

3. Occupation before retiring _____

4. Age at last birthday _____

5. Male _____ Female _____

Thank you for your cooperation. Your responses will be highly valued.

Lillian R. Greenstein
Phone: 553-6704

Opinion Survey

This survey consists of 134 statements, which represent different personal preferences. What is wanted is your individual feeling about the statements. There are no right or wrong answers.

Read each statement carefully and decide how YOU feel about it. Then indicate the extent to which you agree or disagree by circling the letters following each statement. An example and the meanings of the letters are indicated below.

Example

I would rather read a book about Thomas Edison than
about Theodore Roosevelt. SA A D SD

If you Strongly Agree, circle SA.

If you Agree, circle A.

If you Disagree, circle D.

If you Strongly Disagree, circle SD.

Think in terms of the general situation. There is no time limit, but do not spend too much time on any one item. Please give your opinion on every statement by circling the one choice that best represents your feelings.

1. Life finds its most wonderful expression in the fine arts. SA A D SD
2. It is only when a person devotes himself to a religious ideal or cause that life becomes meaningful. SA A D SD
3. The most important function of education is its preparation for practical achievement and financial reward. SA A D SD
4. A busy person could better spend his leisure time trying to educate himself by reading serious books than by going to an orchestral concert or art exhibit. SA A D SD
5. It is sympathetic love among persons which alone gives significance to life. SA A D SD
6. There should be a definite hierarchy in an organization, with definite duties for everybody. SA A D SD
7. J. P. Morgan was a greater man than Martin Luther. SA A D SD
8. Science and philosophy hold most of the answers to life. SA A D SD
9. The ability of a person to worship God is more important than the ability to help others. SA A D SD
10. I enjoy magazines of arts and decorations. SA A D SD
11. While the use of force is wrong by and large, it is sometimes the only way possible to advance a noble ideal. SA A D SD
12. Material possessions are a rather good measure of success in life. SA A D SD
13. We really need more great thinkers than great entertainers. SA A D SD
14. A person who is deeply religious is greater than a person who is deeply concerned about serving his fellowman. SA A D SD
15. To be appreciated in our society a person usually needs a little of "this world's goods." SA A D SD

16. Obedience and respect for authority are the most important virtues children should learn. SA A D SD
17. Many events in human history took place only because a Supreme Being stepped in to make them happen. SA A D SD
18. You can tell the real greatness of a man by the amount he helps others. SA A D SD
19. Contemplation is the highest form of human activity. SA A D SD
20. Teenagers would do well to learn to appreciate the beauties of classical music. SA A D SD
21. A child should not be allowed to talk back to his parents, or else he will lose respect for them. SA A D SD
22. I feel most at ease when I am in charge. SA A D SD
23. It is a worthy ambition to want to make a great deal of money, assuming that it is done legitimately. SA A D SD
24. Socrates was a greater person than Florence Nightingale or Albert Schweitzer. SA A D SD
25. I would rather be a college professor than a social worker. SA A D SD
26. The Bible is the word of God. SA A D SD
27. If I had sufficient leisure and money I would like to make a collection of fine sculpture and paintings. SA A D SD
28. In any organization if you lay down a rule it must be obeyed. SA A D SD
29. I would like a position where I could influence large numbers of people. SA A D SD
30. Modern art can give genuine enjoyment to a person SA A D SD

Go on to the next page

31. Our big universities are more important than the Red Cross. SA A D SD
32. I would like to be the type of person who devotes his life to diligent study of a vital subject that needs intellectual exploration rather than to improving the opportunities for less fortunate people. SA A D SD
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43. Napoleon was a greater man than the Apostle Paul. SA A D SD

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44. A person should not be expected to surrender his power and authority if they are necessary for him to help the underprivileged and less fortunate. SA A D SD
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46. Volunteer social or public welfare work is a good way to spend one's leisure time. SA A D SD
47. I would rather be a great war general than a renowned professor. SA A D SD
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50. God created man. SA A D SD
51. I would rather spend my extra time listening to a good classical orchestra than listening to a good religious sermon. SA A D S.
52. A medical doctor should refuse to give of his services without appropriate remuneration. SA A D SD
53. My goal is to go into work which involves trying to understand and help people. SA A D SD
54. If I were a university professor, I would rather teach chemistry or physics than art or music. SA A D SD
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56. If I had more than enough income for my needs, I would rather invest it in stocks than give it to some charitable organization. SA A D SD
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72. I would rather be known for my thoughtfulness for others than for my deep thought and intellectual stature. SA A D SD
73. If I had the necessary qualifications, I would rather be an Albert Einstein than a General MacArthur. SA A D SD
74. The Red Cross is more important than our big universities. SA A D SD
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83. I would rather be a great war general than a well-to-do businessman. SA A D SD

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98. I would accept the teachings of the Bible before the teachings of science and philosophy.
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99. The ability to handle money profitably is no doubt a more important quality to possess than to think deeply and intellectually.
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104. If I were certain to see my choice come true, I would choose to be an intellectually successful person rather than a financially successful person.
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SA A D SD
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SA A D SD
107. I would prefer a society that made more of its fine arts than of its material possessions.
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108. If I could have my choice, I would rather be known for my service to society than for being a mighty war general.
SA A D SD

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112. Beethoven, Wagner, and Byron have contributed more to the advancement of society than Socrates, Aristotle, and Kant. SA A D SD
113. It is more desirable for a person to possess piety and reverence than power and authority. SA A D SD
114. I would rather hold a position that had a tremendous salary than a position with a lot of authority. SA A D SD
115. I would rather visit a well-known evangelist than a well-known artist or musician. SA A D SD
116. I would rather think of myself as being important for some deed I have done for society than as a person of much financial means. SA A D SD
117. The Red Cross is more important than Wall Street. SA A D SD
118. I would rather be religious than wealthy. SA A D SD
119. I would rather be a successful business person than an accomplished musician or artist. SA A D SD
120. I would rather be a church member than own reliable shares in the stock market. SA A D SD
121. A person should be judged more on his depth of thought than on his wealth and material possessions. SA A D SD

Go on to the next page

122. Most homes need a piano for their children more than a television. SA A D SD
123. If I had a valuable painting in my possession to do with as I pleased, I would rather sell it for the money it was worth than keep it for the purpose of admiring and enjoying it. SA A D SD
124. An organization should be judged more for its concern for humanity than its concern for the church and religion. SA A D SD
125. Our big universities are more important than Wall Street. SA A D SD
126. I would rate an object more on its economic value than on its beauty and aesthetic qualities. SA A D SD
127. The Red Cross is more important than the church. SA A D SD
128. I would rather be a member of a classical orchestra than a member of a debating society discussing philosophical problems. SA A D SD
129. If my ability and other conditions permitted it, I would prefer to spend part of my next summer vacation writing and publishing an original scientific essay or article than getting experience in some new line of business. SA A D SD
130. I consider unselfishness and sympathy more desirable character traits than reverence and piety. SA A D SD
131. I would like to be the type of person who devotes his life to improving the opportunities for less fortunate people than to studying about God and religion. SA A D SD
132. I would rather work for the church than for the Red Cross. SA A D SD
133. I would rather spend time listening to a good religious sermon than visiting a good art exhibit. SA A D SD
134. I ought to be more concerned with faith and religion than with money and finance. SA A D SD

APPENDIX C

W. CLEMENT & JESSIE V. STONE FOUNDATION

*Dedicated to help
make this a
better world in
which to live*

March 25, 1977

Ms. Lillian Greenstein
4527 - 18th Avenue East #802
Tuscaloosa, AL 35401

Dear Ms. Greenstein:

Please forgive the delay in replying to your letter. It was mislaid and only now discovered.

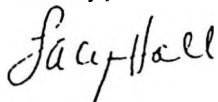
You have our permission to use the Differential Value Profile as you state in your letter, as long as it is to be used in research only, and not for sale.

We are enclosing a form which we would like you to complete and return to us, merely so that we would have it in our files, even though you already have our permission to use the material.

We also will need a couple of copies of your reprint for our files, and hope you will share the results of your study with us.

Again, we are sorry about the delay, and hope that it is not too late to be of use to you.

Sincerely,



Lacy Hall, Ed.D.
Director
Achievement Motivation Program

CF LH/et

Enclosure

(Transcribed and signed in Dr. Hall's absence)

MEMORANDUM

ROLLINS COLLEGE

From W. L. Thomas

Date 2/15/77

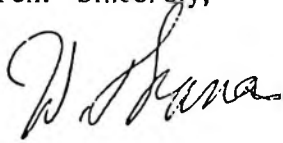
To Lillian R. Greenstein

Copies To

Subject Use of DVP

The publisher has forwarded your letter to me. You are free to reprint the DVP as needed, although copyright laws prohibit any distribution for sale or otherwise.

Please advise me if I can be of any assistance to you and please keep me informed of your research. Sincerely,



APPENDIX D

Unreduced Principal Axis Eigenvalues

18.8008	1.3144	.8397	.5715	.3651	.2064
8.8202	1.2938	.8357	.5370	.3518	.2024
5.4451	1.2596	.8116	.5328	.3429	.1959
4.1973	1.2367	.8104	.5292	.3392	.1918
3.6365	1.1911	.7892	.5242	.3314	.1821
3.3685	1.1609	.7809	.5195	.3204	.1801
2.7624	1.1489	.7732	.4899	.3118	.1729
2.5167	1.1360	.7382	.4841	.3037	.1631
2.2429	1.1194	.7338	.4794	.3019	.1599
2.0376	1.0967	.7198	.4695	.2905	.1498
1.9686	1.0705	.7148	.4635	.2890	.1463
1.8529	1.0586	.6910	.4513	.2803	.1391
1.8269	1.0411	.6690	.4396	.2755	.1373
1.6667	1.0096	.6637	.4335	.2623	.1312
1.6483	.9886	.6558	.4306	.2609	.1289
1.5934	.9798	.6376	.4197	.2546	.1236
1.5256	.9636	.6251	.4110	.2464	.1148
1.5173	.9425	.6160	.4033	.2409	.1113
1.5002	.9214	.5994	.3837	.2319	.1085
1.4463	.9066	.5962	.3775	.2240	.1018
1.4386	.8896	.5839	.3764	.2154	.0899
1.3845	.8715	.5786	.3688	.2070	.0853
1.3210	.8524				

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