

THE DEVELOPMENT OF IDENTITY IN
UNIVERSITY FRESHMEN

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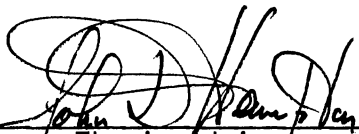
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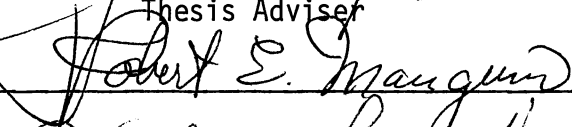
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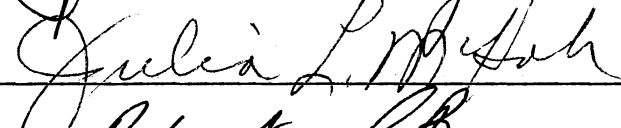
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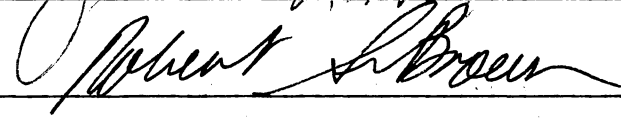
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CHAPTER I

INTRODUCTION

Introduction to the Problem

Across the nation there appears to be a growing concern regarding the impact and effectiveness of colleges and universities. This concern is being expressed by students, college faculties and administrators and governmental agencies. This concern could be the result of the student riots of the 1960's, the current competition for students among institutions and the fact that resources for higher education are becoming more contingent on "accountability." The growing number of student development programs in universities is one way in which the concern for greater effectiveness is manifesting itself. Student development is the application of human development concepts in the university setting. The student development approach is a proactive, developmental, preventive, collaborative model that is replacing the remedial counseling model of student personnel (Brown, 1972). Student development practitioners advocate actively seeking out, encountering, confronting or otherwise influencing students toward more effective solutions of their developmental problems (Ivey and Morrill, 1970). The concept of student development suggests that in higher education cognitive mastery of knowledge should be integrated with the development of persons along such dimensions of cultural awareness, development of a value system, self-awareness, interpersonal skills and community responsibility.

In educational evaluation the concept of effectiveness is a central one. The effective student development program is one that facilitates students' progress toward the intended objectives of the university. The fundamental assumption of most student development programs is that an institution of higher education will be effective only if it connects significantly with those concerns of central importance to its students (Chickering, 1971). In this context individual institutions are confronting more forthrightly three major questions. Do our students change while here and is that change congruent with our objectives? If change occurs, when does it take place? Are there human developmental principles which apply to student change in a university which might help guide decisions concerning institutional practice? The answers to these questions clearly have relevance for universities facing decisions concerning current practices or planning innovation. Developmental changes do appear to occur during the university experience. Numerous longitudinal and cross-sectional studies (Newcomb and Feldman, 1968; Trent and Medsker, 1968; Chickering and McCormick, 1973) of university students indicate that changes occur in attitudes, interests, values, future plans and aspirations, openness to impulse and emotions, personality integration and intellectual ability. This developmental period of late adolescence merits special attention as mounting evidence (Trent and Medsker, 1968) indicates that behavior patterns established at this time tend to persist long into adulthood. What is lacking now and badly needed is research concerned with the direction and extent of developmental change during the first year of the university experience.

The Problem and Purpose

The present study was concerned with the above stated need for research on the possible occurrence of developmental change in university freshmen. The purpose of the present study was to investigate if there were patterns of change in the development of identity in university freshmen. If the time and dimensions of development for entering freshman students in an institution of higher education could be identified and patterns of change described, then questions concerning the nature of experiences to be introduced and the timing and location of their introduction could be answered more effectively. Belyayev (1970) writes that "education must be understood as assisting the development of pupils, while instruction consists of enriching them with theoretical knowledge and with practical skills and abilities" (p. 3). Specifically, the type of change the present study was concerned with was the development of identity in university freshmen.

Developed in the present study is the concept that the key to the effectiveness of any institution of higher education is to be found in students, not subject matter. According to Sanford (1964), "the real test of the college is the amount of change it is able to bring about in students, whatever their level of ability" (p. 42). It is vitally important, therefore, to specify what changes need to occur to achieve the desired goals and what facets of the institution contribute toward which goals. It is also important to specify what changes occur as a result of normal late adolescent growth, how modifications in institutional programs can influence the course of a young person's development during the college years and how change can be assessed.

Theoretical Approach

Underlying the theoretical base of the present study were developmental principles to which most psychologists lend support, albeit tentative. The first principle is that development occurs according to generalizable sequences. That is to say, when a group of relatively similar persons undergo relatively similar experiences over a period of time, change occurs according to recognizable patterns (Erikson, 1959). The patterns of change differ depending upon the particular kind of change under consideration. Secondly, development occurs through sequences of differentiation and integration (Sanford, 1962). Finally, development decreases as relevant conditions become more consistent (Freedman, 1962).

Central to any theory of human development and behavior is the issue of motivation. The explanation of motivation lies in each theorist's view of the nature of man. There appears to be two unlearned, inherent aspects of man's nature. The first is that all infants have an innate latent capacity to develop a self-system. Selfhood appears to be a reflection of the fundamental human process of pressing toward a relative unification of life. Finally, a human being seems to hunger to know and comprehend his environment. This view of human nature provides the first tenet for the present frame of reference for the investigation of identity development in late adolescence and is partially based on Erikson's (1959) and Allport's (1961) theories.

A second tenet of the theoretical base that served as a frame of reference for the present study relates to the issue of motivation and was taken from Gordon Allport's (1961) description of "cognitive style."

Every human being develops a particular approach to life to meet the perennial themes and crises of human life. One must examine the motives, or internal conditions, that induce action, thought and emotion in the person. It is the individual's motives that determine his unique approach to life. Motives gradually and subtly grow and change in time and with varying conditions. There results for each individual what Allport (1961) calls a "cognitive style." According to Allport (1968), "To some extent culture slants this style, thus accounting for much of the uniformity in people's thoughts and behavior. However, in the last analysis, each person is unique in the way he blends true perceptions, culture and his own personal existence" (p. 274). The use of "cognitive style" in explaining motivation provides a background organization for the continued development and change of the individual. "Cognitive style" also allows for the complexity and uniqueness of individual human behavior. In addition "cognitive style" suggests to this investigator that conscious determinants of behavior are of overwhelming importance for the normal mature adult.

The third tenet for the frame of reference of the present study was concerned with the role of perception in human behavior. In perceptual terms, behavior is understood as a consequence of two kinds of perception: the perceptions one has about himself, and those one has about the world (Combs, 1969). People behave according to choices they make among alternatives they see available to them at that moment. At any moment a person's behavior is a consequence of all the perceptions which have a special relevance for that individual. Existing perceptions have a selecting, determining effect on further perceptions. However, not all perceptions existing for a person are of equal value to him at any

particular time. Some perceptions come to have greater importance and relevance for the individual as a consequence of his experiences. The most important of these, of course, are the perceptions an individual has of himself.

Perhaps too often educators forget that an individual's intellect cannot be separated from the rest of the personality. Sanford (1964) writes: "A person is all of a piece. If teaching affects any change in intellectual functioning, these will ramify throughout his personality, just as conversely, processes already at work in his personality will help determine what happens in the classroom" (p. 17). This holistic theory of personality points to the integration, consistency and unity of the normal person and provides the fourth tenet for the present study. Most of an individual's perceptions begin on the periphery of his experience as observations, facts or knowledge (Allport, 1969). Learning appears to be a highly personal process and knowledge by itself does not appear to produce a change in behavior.

A fifth tenet of the theoretical base that served as a frame of reference for the present study was concerned with the role of the belief system in human behavior. Attitudes, goals and beliefs cover a wide spectrum of human behavior - psychological, educational, social, political and economic. According to Spranger (1928), a person can best be understood not by his achievements but by his interests and intentions. Rogers (1969) related the belief system to his view of the self-structure, to the formulation of the "I." Belief systems accrue to the self-picture through environmental experiences as well as through adaptation from others. Experiences determine the selection and importance of certain attitudes and goals.

Basic Assumptions

The assumptions on which the present study was based are in harmony with the above described frame of reference:

1. There is an innate, latent capacity to develop a self in all human infants. As the individual develops there is generally an increase in order, owing to an increase in the complexity and differentiation of the self-system.
2. In late adolescence identity develops to be a more conscious determinant of behavior than has been previously experienced.
3. The perceptions a person has about himself appear to be the most important single influence affecting an individual's behavior.
4. Knowledge is experienced with deeper meaning and becomes more central to experience with the increasing development of identity.
5. The impact of an experience depends in part upon the belief system of the person who encounters the experience.

Definition of Terms

Identity in the present study referred to the sense of self, i.e., feelings of wholeness and sameness. The process of formulating an identity in late adolescence encompasses earlier stages of development and future processes, integrating all of one's experiences. According to Lidz (1968), "Identity involves a drawing together, a crystallization of being. It allows the individual to preserve his sense of self despite the vicissitudes of life that are yet to come" (p. 344). Identity strength in the present study was demonstrated by autonomy with minimum levels of aggression and anxiety; a flexible orientation in the area of perceiving and organizing phenomena; minimum levels of authoritarianism; and less impulsive behavior. Identity strength in the present study was measured by the Complexity (Co),

Personal Integration (PI), Religious Orientation (RO), Autonomy (Au), Social Extroversion (SE), Impulse Expression (IE), Altruism (Am) and Anxiety Level (AL) scales of the Omnibus Personality Inventory (OPI), Form F (Heist and Younge, 1968).

Development in the present study implied either movement, progression or changes that resulted from the increasing sense of self.

Development was measured by statistically significant changes in the Complexity (Co), Personal Integration (PI), Religious Orientation (RO), Social Extroversion (SE), Impulse Expression (IE), Autonomy (Au), Altruism (Am) and Anxiety Level (AL) scales of the Omnibus Personality Inventory (OPI), Form F (Heist and Younge, 1968).

Maturity was defined in the present study using the definition given by Sanford (1966) as the "predominance of the efficient, the discriminating, the differentiated, and realistic over the primitive, impulsive, the passionate" (p. 3). Sanford's definition disagrees with the popular definition of maturity given in the classical literature of developmental psychology as a discrete stage with age as the determinant.

Beliefs are predispositions that have cognitive, affective and behavioral components and that, when activated, result in preferential responses (Rokeach, 1968).

Attitudes are relatively enduring organizations of interrelated beliefs, consisting of interconnected assertions that certain things are desirable or understandable (Rokeach, 1968).

Values are identified with types of conduct. Rokeach (1968) maintains that having a value means one consistently believes in and prefers a particular behavior, goal or end-state. A value system is the individual's hierarchical ordering of his beliefs.

Late Adolescence is a period of sexual, social, ideological and vocational adjustment and of striving for independence from parents. It is a period when adjustments are made to separate child behavior from adult behavior. For the purposes of the present study the age of late adolescence was considered to be seventeen to twenty-one years (Hurlock, 1968).

Freshmen in the present study were seventeen to nineteen-year-old males and females who entered an institution of higher education for the first time in September of 1974 after graduation from high school in the spring of 1974.

Limitations of the Study

1. Results should be generalized only to similar individuals in similar institutions.
2. The present study should be considered exploratory in nature.

Research Questions

The first two research questions were generated by the need to clarify the levels of identity development of students when they enter a university. According to Newcomb (1964), the characteristics that individual students initially bring to a university are the most important influence in determining the final university product. Astin (1970) is critical of most research concerning university students because it ignores the input variable. Personalities, experiences and goals with which students start college are certainly crucial to the understanding of how students are affected by their university experience. In recent years the concept of environment has become a relevant general category

for sorting out many sources of influence within the world of the university student. However, it must be remembered that university impacts are conditioned by the personality and background of the students. A personality and a university seem best conceived as systems of interacting forces in which energy is distributed among the constituent parts. Additionally, both of these systems, the individual personality and the university environment, interact in ways which are extremely complex. To understand how different features of the university environment interact and combine to induce developmental changes in the individual, one must first understand the process of change.

The first research question focused on the need to clarify the level of identity development of students in their last semester in high school. The level of nonintellectual development in the same students in the senior year of high school and the freshman year of college is of interest. Assessment of change in levels of development from the senior year in high school to the freshman year in college could aid in delineating the course of normal late adolescent growth and development. There is a great deal of information on the entering college student in terms of academic performance and measures of achievement. What is needed is insight into how the late adolescent relates to his inner self and to the world around him. The specific research question was: Is there a significant change in the level of identity development from the end of the senior year in high school to the first week of the freshman year in college?

The second research question was concerned with the assessment of identity development of freshman students at the beginning (August) and at the end (December) of their first semester in the university. Erik

Erikson's hierarchy of psychosocial development is significant for psychologists and educators who study the development of university students. According to Erikson (1963) at each phase in the life cycle, there are "phase specific developmental tasks" to be mastered, and since "the human cycle and man's institutions have evolved together", every stage relates to a basic element of society" (p. 250). The specific research question was: Is there a change of statistical significance in identity development of the freshman entering the university and finishing the first semester of the freshman year?

The third and last research question arose because of the need to assess the course, i.e., the possible direction and extent of identity development. The literature (e.g., Katz, 1968) suggests that modifications in freshman programs can be made to influence the course of development if the change can be assessed. Assuming a continuing high rate of change in our society, Chickering (1971) may be correct in his suggestion that the goal of education should be assisting identity development rather than socialization. The premature emphasis on professional and vocational training found in many institutions of higher education legitimizes a fixation which may very well hamper the development of identity (Brawer, 1971). In addition, the competitive pressures and anxieties that characterize many university environments can produce a premature settling on one style of life, a single frame of reference as the focal point for self-organization and self-esteem, as the core of one's being. The specific research question was: Is there a statistically significant pattern of change in identity development from the end of the senior year in high school to the end of the first semester of the freshman year in a university?

CHAPTER II

A REVIEW OF THE RELATED LITERATURE

Introduction

The traditional measures of ability and previous academic performance continue to be used to describe students in higher education. These traditional measures are helpful but evaluate only narrow facets of the complex human being. In the literature concerning university students only an occasional reference is made to the student as a dynamic, whole person. Some consideration must be given to the fact that each student is a multifaceted being, not a one-dimensional object. This view of human beings is important in educational planning and in research concerning human behavior. If educational evaluation is to be useful, it cannot depend simply on measures of achievement or on a single cognitive dimension. The present study recognizes the totality of the university student and the concomitant need to view the individual as he relates to his inner self and to the world around him.

Identity

Erik Erikson (1950) has asserted that the search for identity is as important today as sexuality was in Freud's time. Erikson has made the concept of ego identity a central variable in his epigenetic theory of the development of personality. Although the concept of ego is frequently attributed to Freud, the concept may be found in the writings of

the ancient Greeks, Hebrews and Hindus. To Erikson (1964), ego is "analogous to what it was in philosophy in earlier usage: a selective, integrating, coherent and persistent agency central to personality formation" (p. 147).

More than twenty years ago Erikson (1950) asserted that "a sense of identity ... can be defined and evidence from the presence of a dominant attitude of this kind can be described behavioristically" (p. 63). However, until recently there has been little empirical evidence to the sense of ego identity. Perhaps the main explanation is to be found in the lack of clarity in Erikson's own conceptualization of the term. Erikson (1950) defined identity as the "accrued confidence that one's ability to maintain inner sameness and continuity is matched by the sameness and continuity of one's meaning for others" (p. 135). Erikson (1968) later attempted to describe his concept of identity further:

At one time it (identity) seemed to refer to a conscious sense of individual uniqueness, at another an unconscious striving for continuity of experience, and at a third, as a solidarity with a group's ideals ... Identity in its vaguest sense suggests, of course, much of what has been called ... a self-concept, a self-system... (p. 208).

In the introduction to a collection of Erikson's papers on identity, Rappaport (1959) noted that "Erikson's theory (like much of Freud's) ranges over phenomenological, specifically clinical psychoanalytic and general psychoanalytic-psychological propositions without systematically differentiating among them" (p. 16). Another writer (Becker, 1957) recognized that the concept of identity is important to understanding the maintenance of personal and social integration in a rapidly changing society and culture. In this regard, however, Becker (1957) warned that

"since at least seventeen various meanings of identity may be distinguished, it is important that its usage in a particular context be clearly determined, lest it become a mere 'fad' word" (p. 828).

Arthur Chickering (1971) attempted to clarify Erikson's abstract term of identity with his hypothesized "vectors of development," according to Chickering (1971), all seven vectors of development can be categorized under the general heading of identity formation. The seven vectors of development in Chickering's hierarchy are competence, emotions, autonomy, interpersonal relationships, purpose, identity and integrity. According to Chickering (1971), the developmental vector of identity is

... that solid sense of self that assumes form as the developmental tasks for competence, emotions, and autonomy are undertaken with some success, and which, as it becomes more firm, provides a framework for interpersonal relationships, purposes, and integrity (p. 80).

Erikson ascribed a normative "identity crisis" to the period of late adolescence. The term "crisis" is used by Erikson (1968) to designate a "necessary turning point, a crucial moment, when development must move one way or another, marshalling resources of growth, recovery and further differentiation" (p. 16). In discussing the identity versus role confusion of adolescence, Erikson (1963) made a most significant contribution to the literature on development of identity in university students:

The adolescent mind is essentially a mind of the moratorium, a psychological stage between morality learned by the child, and the ethics to be developed by the adult. It is an ideological outlook of a society that speaks most clearly to the adolescent who is eager to be affirmed by his peers, and is ready to be confirmed by rituals, creeds, and programs which at the same time define what is evil, uncanny, and inimical (p. 262-263).

Although the end of adolescence is viewed as the stage of overt identity crisis, Erikson (1959) recognized the development of identity

throughout all periods of life:

... identity formation neither begins nor ends with adolescence: it is a lifelong development largely unconscious to the individual and to his society. Its roots go back all the way to the first self-recognition: in the baby's earliest exchange of smiles there is something of a self-realization coupled with mutual recognition (p. 113).

Chickering's (1967) study of change in personal stability and integration suggests the pattern that development of identity may take during the university years. It was hypothesized in this study of identity development that scores on the Schizoid Functioning (SF) scale of the Omnibus Personality Inventory (OPI) (Heist and Yonge, 1963) would be lower for seniors than freshmen. The SF scale of the OPI was designed to reflect feelings of isolation, loneliness, rejection and hostility, as well as identity confusion, daydreaming, disorientation, restlessness or loss of control and obsessional or delusional processes. The data indicated that substantial change on the SF scale occurred in the hypothesized direction. These findings are consistent with Newcomb and Feldman's (1968) report that in studies in which the SF scale of the OPI was used, seniors consistently scored lower than freshmen on this scale. Newcomb and Feldman (1968) concluded that "all seniors are less likely to have, or to admit to having, attitudes that generally characterize socially alienated persons" (p. 39).

The present review of the literature on identity seemed to indicate that many tasks must be approached by the entering freshman student including the development of intellectual and interpersonal competence and the task of clarifying identity.

Development

"Development" in the early psychological literature seemed generally

to refer to experiences of early childhood, but in recent years behavioral scientists have become concerned with development during all stages of life. Several theorists have devised schemes intended to describe systematically the ways human beings develop. Human development is usually described within the framework of two major constructs: (a) life stages and (b) developmental tasks. Life stages are postulated stages of normal human development outlining content, level and direction of change. Each life stage is characterized by concurrent and interrelated developmental tasks. Developmental tasks are defined as those major learnings, adjustments and achievements that face all individuals in a given society. Freud's writings, with emphasis on instinctual stages, stand out as an early landmark in developmental theory. Freud hypothesized that the child passed through a series of dynamically differentiated states. Development for Freud was an ebb and flow process in which dynamic and quiescent periods alternate (Hall and Lindzey, 1957). In cognitive as well as psychosexual theories, personality is also viewed in terms of successive developmental states (Werner, 1948).

Erik Erikson's hierarchy of psychosocial development has had a particularly significant impact on educators and psychologists concerned with development in late adolescence. Erikson's theory grows out of the Freudian tradition and his own anthropological fieldwork. As Ruth Monroe (1960) has noted, Erikson demonstrates how the classic Freudian genetic scheme may be extended from its emphasis on infantile sexuality and broadened to relate to the development of deep personal and social attitudes. Each of Erikson's eight developmental stages represents further development of the ego that may be characterized in terms of

polarities: (1) trust versus mistrust; (2) autonomy versus shame and doubt; (3) initiative versus guilt; (4) industry versus inferiority; (5) identity versus identity diffusion; (6) intimacy versus isolation; (7) generativity versus self-absorption; and (8) integrity versus disgust and despair. The first two stages are concerned with very young children, the third stage with four- and five-year olds, the fourth stage with children in elementary school, and the fifth stage with adolescents. The final three stages are all concerned with adult personality. According to Erikson (1968), a person's development continues throughout his life and what happens in one stage is not irrevocable and subsequent experiences may alter a resolution of an earlier stage of development. Thus Erikson's theory differs markedly from earlier psychoanalytic theories which hold that, in general, personality is formed in early childhood.

Constantinople (1969) explains that the ego qualities postulated by Erikson

... develop as a result of the interaction between the developing potentialities of the individual and the pressures and sanctions of the social environment. At each of the eight hypothesized life stages from infancy to adulthood, a particular crisis evolves which leads to a developmental task which must be mastered. The relative success or lack of success in the resolution of each crisis leaves the individual with a residual attitude or orientation toward himself and the world which help to determine his relative success in the later stages (p. 358).

There are theoretical approaches that conceive development not as life stages in a hierarchical order, but rather as the result of environmental influences. Sanford (1966) acknowledges the concomitant need to reconcile the personal/societal nature of any interaction: "There are things about personality that do not become apparent until the individual is seen in the context of the social group" (p. 14). It

has also been suggested that personality development always takes place within social institutions (Webster, Freedman and Heist, 1962). Thus it appears that a student must be viewed not only as something other than the sum total of his parts, but also from the perspective of the university environment in which he is functioning. Another theorist (Scott, 1958) employs the critical period concept as a means of interpreting development with consideration of both environmental influences and the idea of stages. The concept of critical period emphasizes that during certain periods of development the human being is especially receptive to certain conditions in the environment.

Several writers (e.g., Sanford, 1962) have suggested that the freshman year in college can play an instrumental role in the process of student growth and development. Heath (1968) in his study of student development at Haverford College has concluded that the pattern of growth during the freshman year in college is largely set in the first few months. According to Heath, much of the later growth and development in the freshman year represents a further stabilization and integration of that growth during the first few months. This phenomena may be attributed to what Katz (1968) calls the "psychological potency" of the entering freshman. That is, the excitement and uncertainty of beginning a new experience can create a climate in which freshmen are able to explore and examine a wide range of attitudes and orientations.

Sanford (1964) contends that no stage of personality development can be defined in terms of academic status or chronological age but rather should be defined in terms of progress toward developmental goals. However, Sanford does use the concept of a freshman stage of development to emphasize the particular environment existing for some late

adolescents. The developmental tasks of the "freshman stage of development" as described by Sanford (1964) are freedom of impulse, the liberalization of values, the integration of the ego and the growth of self-awareness and empathy. Chickering (1971) agrees with Sanford and adds that the increased complexity of our society has created a developmental period extending from age seventeen or eighteen into the middle twenties that is different both from adolescence and adulthood.

Perhaps the best known study examining the American university student's professed value structure is Phillip Jacob's study (1957). Jacob systematically reviewed a wide range of data from unrelated research projects and interpreted these data to indicate that student value changes did not appear to be due to the formal educational process. The overall impressions from Jacob's study that higher education failed to counter students' anti-intellectualism prompted considerable research in the belief systems of undergraduates.

In an early study at Vassar College, Webster, Sanford and Freedman (1957) concluded that university students "moved from an authoritarian position in the direction of greater freedom of impulse and greater complexity in the functioning of the ego" (p. 324). Webster, Freedman and Heist (1962) concluded that significant developmental personality changes occur after childhood. Although these researchers distinctly emphasized the difference among students and among colleges, they suggested that students gain in the direction of greater liberalization and sophistication of political, social and religious outlooks.

Mervin Freedman (1962) reported an investigation which strongly suggests that college has a significant impact upon students. To discover the lasting effects of the changes developed during college,

Freedman studied Vassar alumni who had graduated from 1915 to 1957. He found that although change leveled off during the senior year and virtually stopped after graduation, the college changes were significantly formative of the values and attitudes maintained throughout the alumni's lives. Freedman hypothesized that there is a developmental phase, marked primarily by stabilization of personality, that begins sometime during the junior year in college and ends three or four years after graduation.

No Time For Youth (Katz, 1968) is based on a study of several thousand college students over a four-year period. Part of the investigation was concerned with the personality characteristics of students and the changes that occur during college. Six scales of the OPI and the Ethnocentrism and Authoritarianism Scales were administered to all students in the entering freshman classes at Stanford and Berkley. Four years later, the same scales were administered again to the same students as seniors. A comparison of scores of freshmen with those of seniors demonstrated that for all groups and for all scales the differences between the mean scores of the freshmen and seniors were statistically significant. According to Katz (1968) the mean score changes all reflected a movement toward a greater open-mindedness and tolerance, internalization of values, broader acceptance of human diversity and some indication of a greater capacity for feeling close to others from the freshman to the senior year in college (p. 166).

Trent and Medsker (1968) focused on the different impacts of college and employment on the values and attitudes of 10,000 high school graduates. The instruments used in this investigation were ten attitudinal scales from the OPI that measure anxiety, intellectual and social

attitudes, a questionnaire and an interview schedule. The late adolescents in this study appeared to have changed their values and attitudes following their graduation from high school. The changes in students, as measured by Trent and Medsker (1968), varied by sex, ability and family background as well as by post-high school pursuits. The students who attended college were found to be more open-minded, flexible, tolerant and objective than equally capable nonattenders. The OPI scores of college dropouts fell between the scores of college graduates and nonattenders.

Newcomb and Feldman (1968) presented an extensive review of studies from the 1920's to the 1960's which were concerned with change in college students. Some changes in students from the freshman to the senior year which were common to most studies were summarized as follows: increasing open-mindedness, decreasing conservatism in regard to public issues; growing sensitivity to aesthetic and "inner" experiences; increasing independence, dominance and confidence; and a readiness to express impulses.

Chickering and McCormick (1973) compared mean OPI scores of entering freshmen to scores of the same students as seniors. These students generally became more autonomous, aware, integrated, aesthetically sensitive, tolerant, liberal in religious views and less concerned about material possessions. According to the freshman-to-senior data in Chickering and McCormick's investigation the direction of change was basically the same despite major differences among students and the thirteen institutions.

Brawer (1973) used the OPI in her study of entering freshmen at three California community colleges. Data gained from the responses to

the OPI were used as an independent measure of similarities and differences among entering freshmen at the urban, suburban and rural community colleges and to assess changes in the freshmen at the beginning and end of their first year of college. A general increase in OPI scores from the beginning to the end of the freshman year was reported. With the exception of scores on the Impulse Expression (IE) and Practical Outlook (PO) scales of the OPI, the community college population scored below the OPI normative scores on university freshmen reported in the OPI Manual (Heist and Yonge, 1968, p. 11).

Conclusion

The present review of the literature suggests that a developmental period of late adolescence does exist. It appears that during this period certain kinds of changes occur and certain kinds of experiences may have a substantial impact on groups of students. In view of Erikson's assertion that an overt identity crisis is a normative stage during the period of late adolescence, it would seem important to investigate specifically the development of identity in students during this period. To evaluate identity development, however, Erikson's concept of identity must first be operationally defined.

Previous investigators have in general focused on changes in students from the freshman to the senior year in college. In addition, the majority of the literature concerning changes in college students has tended to ignore the characteristics that individual students initially bring to the university (Astin, 1970). Thus it would appear important to study the changes in identity development of students during their first semester at a university.

The methodology used to assess the course of identity development will be discussed in Chapter III.

CHAPTER III

DESIGN AND METHODOLOGY

Introduction

One premise of the present study was that an understanding of developmental changes in university freshmen is important for university faculty and administrators. The review of the literature indicated three key concepts that should provide the necessary framework for the basic premise. The first concept was provided by Astin's (1970) statement that characteristics of students when they enter the university have a significant impact on how students are affected by their university experience. Newcomb (1964) wrote that the input variable is the most important influence in determining the final university product.

The second concept emphasized that the university experience, especially during the freshman year, represents critical stages in the developmental process. Nevitt Sanford (1962) has written that the university "freshman is in a distinctive stage of development and that actions to promote his further development must be based in large upon an understanding of this stage" (p. 254). It has been reported (Meeth, 1972) that the first few weeks at a university are critical to students' views of themselves in the educational process throughout the remaining four years at that university.

The third concept was that student development is not the exclusive responsibility of the student personnel staff on a university campus.

According to Brown (1972), there should be an acceptance of the unified nature of each student's personality, values and intellectual functioning. Too often university faculty and administrators tend to view the student in parts with the cognitive domain belonging exclusively to the faculty and the affective domain belonging exclusively to the student personnel staff.

Institutional research must address itself to the input variables and the pattern of developmental changes in university freshmen to insure the effectiveness of educational practices. The survey of the literature suggested that the present exploratory study would contribute to the present knowledge on identity development in university freshmen. A greater understanding of developmental changes in university students might assist in determining what educational practices and policies are important and in need of further attention and what other aspects need to be changed to contribute maximally to development.

Chapter III includes a description of the subjects, the instruments and the statistical procedures used in responding to the research questions posed in Chapter I.

Subjects

All entering freshmen at Oklahoma State University attend one of the enrollment clinics at the time of their choice during May, June and the latter part of August. All high school seniors attending the half-day enrollment clinics at Oklahoma State University in May of 1974 were invited to participate in a one-semester study of their "adjustment" to the university. Of the 1700 students who attended the enrollment clinics in May, 1974, one hundred twenty-five high school seniors

volunteered for the present study. The final fall enrollment of freshmen was 3640 students. To study the development of identity as defined in the present study, over time, subjects were used as their own controls.

At the first test sessions in May each subject was asked to write his or her name, sex, birthdate, permanent home address, size of graduating high school class, academic college and major on a paper attached to but separable from the first set of test forms. To insure a degree of anonymity, a number was assigned to each subject, and these numbers were used as the sole identification of subjects in the data analysis. At each of the three test times (May, 1974; August, 1974; and December, 1974) each subject completed the Allport-Vernon-Lindzey Study of Values (1960) and the Omnibus Personality Inventory (OPI), Form F (Heist and Yonge, 1968).

Loss of subjects was, of course, expected as a potential problem in the present study since the time between testing sessions was relatively long. The investigator attempted to retain subjects by sending a letter in the summer months to thank each subject for participating in the study and to indicate the times and location of the second testing sessions. At the second test sessions during the first week of the fall academic semester (August, 1974), there were sixty-five subjects. Sixty subjects could not be tested in late August due to a variety of reasons: twelve subjects pre-enrolled in May but did not attend the university in the fall; seventeen subjects had not completed one or both tests in the first test session; sixteen of the subjects' campus addresses could not be located; and fifteen subjects were unwilling to take the tests for a second time.

At the third testing time during the last week of classes of the fall semester (December, 1974), there were forty-two subjects. From this number only thirty-nine subjects completed both the Allport-Vernon-Lindzey Study of Values (1960) and the Omnibus Personality Inventory (OPI), Form F (Heist and Yonge, 1968). Statistical analysis of the data was performed on the final thirty-nine subjects' responses on the OPI and the Study of Values. The thirty-nine subjects included twenty-six females and thirteen males. There were subjects enrolled in each of the university's six undergraduate colleges. One of the female subjects lived at home with her parents, and all other female subjects lived in university residence halls. Seven of the thirteen male subjects lived in university residence halls, and the other six male subjects lived in fraternity houses. The sizes of the subjects' high school graduating classes varied widely. The smallest graduating class reported was eighteen, and the largest was 789. Fifteen of the subjects graduated from a high school with less than one hundred graduating seniors; thirteen of the subjects graduated from a high school of one hundred or more but less than four hundred; and eleven subjects graduated from a class of four hundred or more but less than eight hundred. Twenty-five of the subjects reported participating in one or more university-sponsored extracurricular activities. In January, 1975, the investigator explained the test scores to each of the subjects individually.

Instrumentation

Allport-Vernon-Lindzey Study of Values

The Allport-Vernon-Lindzey Study of Values (1960) is a forced-

choice test that measures the relative importance to the individual of the six values summarized in Spranger's (1928) Lebensformen. Due to ipsative scoring, it is impossible to obtain a high score on all six values; a preference for certain values must always be at the expense of the other values. Spranger postulated the existence of six distinctive and separate ideal types of subjective evaluation, although his theory did not in any way imply that an individual belongs exclusively to one type. Spranger's theory provides a definite schema within which to classify individual behavior and to emphasize the indispensability of man's belief systems in the psychology of personality.

The authors of the Study of Values (1960) were primarily concerned with the manner in which personality is expressed through values. This instrument was originally designed for use with persons with "some college." Normative data for high school students and college freshmen are provided in the Study of Values Manual (1970). The scores obtained on this instrument are ipsative because every subject obtains the same total score over the six values. Because the frame of reference in ipsative scoring is the individual rather than the normative sample, the authors do not recommend the use of percentiles or other types of normative scores.

Newcomb and Feldman (1968) suggested that "this instrument provides the best single source of information about value changes during the college years" (p. 18). Other reviewers (Buros, 1970) of the Study of Values, report that

In spite of several problematic features, i.e., ipsative scoring and the associated difficulties of interpreting correlations of subscales across persons, a restricted range of usage, the poorly defined nature of 'values', the Study of Values is a surprisingly viable test (p. 356).

The scales of the Study of Value are as follows:

Theoretical. The dominant value of the theoretical person is the discovery of "truth." His interests are empirical, critical and rational. His chief aim in life is to order and systematize his knowledge.

Economic. The economic person characteristically values what is useful and practical, especially the practical affairs of the business world. He judges things primarily by their tangible utility.

Aesthetic. The aesthetic person sees his highest value in beauty form and harmony. Each experience is judged from the standpoint of grace, symmetry or fitness. He finds his chief interest in the artistic episodes of life.

Social. Originally defined as love for people, this category has been more narrowly limited in the third revision of the instrument to cover only altruism and philanthropy.

Political. The political person primarily values personal power and influence. Leadership, competition and struggle are important aspects of his interests.

Religious. The highest value of the religious person is unity. He is mystical and seeks to comprehend the cosmos as a whole, to relate himself to its embracing totality.

In the Study of Values Manual (1970), the authors attempt to establish the validity of their test instrument primarily by suggesting that educational and occupational groups have value patterns as might be expected. There are studies cited in the manual and by reviewers pertaining to the construct validity of the Study of Values. These studies include changes in values from the freshman to the senior year in college (Miller, 1959); the role of values in resistance to pressure

to conform (Vaughan and Mangan, 1963); the role of personality similarity and difference in the study of interpersonal relationships (Smith, 1957, 1958, 1960); and conditions relevant to pseudoperception (Newbigging, 1960). It is difficult to establish the construct validity of the instrument since it is based on theoretical constructs which are difficult to examine empirically. Attempts to establish concurrent and face validity were made according to ratings, correlations with other tests and differentiation of various academic and occupational groups (Buros, 1965).

In the Study of Values temporal reliability is higher than internal consistency reliability. The mean total test temporal reliability coefficients are 0.89 and 0.88 for one and two-month retest intervals, respectively (Allport, Vernon and Lindzey, 1970). Split-half reliability has a reported correlation coefficient of 0.82 (Allport, Vernon and Lindzey, 1970). According to reviewers (Buros, 1965) the Study of Values has satisfactory internal consistency and split-half reliability, as judged by the results of the studies using the instrument over the past four decades (p. 386).

Omnibus Personality Inventory (OPI) - Form F

The OPI was developed at the Center for Research and Development in Higher Education at the University of California, Berkley. The instrument was constructed as a research tool to assess selected attitudes, values and interests of college students in the areas of normal ego-functioning and intellectual activity. According to Heist and Yonge (1968), "Almost all dimensions included in the inventory were chosen either for their particular relevance to academic activity or for their

general importance in understanding and differentiating among students in an educational context" (p. 1).

The OPI, Form F consists of 385 true or false items which are divided into fourteen scales. On most scales of the OPI, a characteristic is considered applicable if the standard score is at least 60 (84th percentile), while a standard score above 70 suggests relatively accurate characterization. Standard scores are based on norms from 7,283 college freshmen (3,540 men and 3,743 women) from thirty-seven diverse institutions of higher education. The major purpose of the OPI is to provide a meaningful, differentiating description of college students and a means of assessing change over time.

The fourteen scales of the OPI, Form F are as follows:

Thinking Introversion (TI). This scale measures the tendency toward academic activities and abstract, reflective thought. Persons with a high TI score appear interested in the broad range of ideas typically expressed in art, literature and philosophy. Their thinking is less dominated by immediate situations, conditions or accepted ideas than the low scorers who, conversely prefer action and practical ideas over abstraction.

Theoretical Orientation (TO). These items reflect a tendency toward scientific, logical or critical thinking which is more restrictive than the TI scale. High scorers are characterized by a rational and critical approach to problems; they enjoy performance tasks involving restructuring.

Estheticism (Es). This scale measures interest in artistic matters and activities as well as sensitivity to esthetic stimulation. High scorers may enjoy, for example, poetry, painting, sculpture or

architecture, collecting prints or reading about artistic and literary achievements. Conversely, low scorers do not dream about having time for painting or other artistic activities, would not want to be actors or actresses and do not make friends with sensitive and artistic people nor read about literary achievements.

Complexity (Co). Flexible and experimental approaches are reflected in this scale. High scorers are tolerant of ambiguity and uncertainty. They appreciate novel situations, like to take chances on things without knowing whether they will work out and prefer complexity and diversity to simplicity and routine. Low scorers do not like the unpredictable; they prefer regulations and conservative, straightforward reasoning.

Autonomy (Au). This scale measures liberal, nonauthoritarian thinking and independence. High scorers are tolerant of viewpoints other than their own and maintain the importance of individual rights. They tend to be more mature, independent of authority, nonjudgmental, intellectually and politically liberal and realistic.

Religious Orientation (RO). High scorers are skeptical of and tend to reject most conventional religious beliefs and practices. Those scoring around the mean manifest a moderate view of religious commitment or orthodoxy. The direction of scoring on the RO scale, i.e., a high score indicates less evidence of the trait while a low score indicates more of it, was based chiefly on the correlation between the RO scale and the above listed scales.

Social Extroversion (SE). This scale reflects the preferred style of relating in social contexts. High scorers display interest in being with people, are cordial to strangers and seek social activities such as

parties and large gatherings. Low scorers do not enjoy large parties or crowds and prefer to work alone. The social "introvert" (very low scorer) tends to withdraw from social responsibilities and contacts.

Impulse Expression (IE). A general readiness to seek gratification and express impulses in either conscious thought or overt actions is measured by this scale. Very high scorers report frequent feelings of rebelliousness and aggression. High scorers attest to active imagination, value feelings and sensual reactions and often act spontaneously. Conversely, low scorers tend to be conventional in outlook, dress, opinions and actions.

Personal Integration (PI). This scale assesses admitted responses to attitudes and behaviors that frequently characterize emotionally disturbed or socially alienated persons. High scorers do not report feelings of having done wrong, being misunderstood by others or experiencing barriers between themselves and others. Low scorers admit to strange and peculiar thoughts, feel useless and "no good" and often experience feelings of such urgency that they can think of little else. They intentionally avoid people, experience hostile and aggressive feelings and feel isolated, lonely and rejected.

Anxiety Level (AL). The emphasis on denial is important in this scale and therefore a low score suggests a high level of anxiety. Low scorers claim to be happy most of the time but they are, in fact, generally high-strung, tense and often experience difficult adjustment to social environments and have a poor opinion of self. A high score suggests a low level of anxiety.

Altruism (Am). This scale measures degrees of affiliation, trust in others and ethical relations. High scorers tend to be affiliative

and strongly concerned with social issues. Low scorers are more interested in ideas than facts and tend not to consider the feelings and welfare of others.

Practical Outlook (PO). High PO scorers believe that the best theories have direct applications. They prefer factual test questions to those requiring analysis and synthesis of data. Ideas rather than facts appeal to the low scorers, who enjoy philosophical problems and do not believe that most questions have only one right answer. According to the authors of the instrument (Heist and Yonge, 1968), authoritarianism and non-intellectual interests frequently characterize the person scoring above the average on this scale (p. 5).

Masculinity-Femininity (MF). This scale assesses some attitudinal differences between university men and women. High scorers tend to deny esthetic interests and admit to few adjustment problems or feelings of anxiety or inadequacy. They tend to be more interested in scientific matters and to be less social than low scorers, who admit to greater emotionality and sensitivity and enjoy the arts, literature and poetry.

Response Bias (RB). The final scale of the OPI measures the response to test-taking items. High scorers respond similarly to persons explicitly asked to make a good impression. They state that they enjoy solving geometric or philosophical problems and that they feel close to people, while low scorers express restlessness and difficulties in their relationships with others and may make conscious efforts to leave a bad impression.

Most of the scales of the OPI have relevance to behavior in academic settings. According to Heist and Yonge (1968), "some of these scales serve as important variables by which to assess development and

change presumably related to college experiences" (p. 26). There are three major clusters of scales in the OPI: intellectual vs. non-intellectual values and interests; liberal vs. conservative attitudes; and social-emotional adjustment characteristics.

The first area of assessment consists of four measures of intellectual interests: in ideas and reflective thought (TI); in the use of abstractions and problem-solving (TO); esthetic appreciation (Es); and a stylistic measure of perception described as a flexible approach to phenomena (Co). Heist and Yonge (1968) view these scales as possible change scales but consider them fairly stable for most college students. The second area of assessment, liberal vs. conservative attitudes, is based on the premise that an authoritarian way of thinking precludes openness to learning opportunities. There are two dimensions to measure this freedom-to-learn syndrome: a measure of personal autonomy, independence of thought and judgment, and general non-authoritarian thinking (Au); and a measure of the degree of commitment to fundamentalistic religious thinking (RO). The last major area of assessment, social-emotional adjustment characteristics, includes four measures: social extroversion-introversion (SE); impulsivity (IE); the absence of emotional disturbances (PI); and the anxiety of "normal" students (AL). Heist and Yonge (1968) suggest the last two areas of assessment for longitudinal comparisons of scores. The measurement of the degree of change over time can be made on single dimensions, on clusters of two or more scales, or on more extensive profile patterns.

Validity data reported in the OPI Manual (Heist and Yonge, 1968) consists primarily of correlations with other inventories and with ratings of various academic groups. Eighty-eight percent of the items

on the OPI were taken from other similar tests. Much of the reported evidence for external validity is in the form of correlations with scales from these same tests. In particular, OPI scales are correlated with appropriate scales from the Study of Values, California Psychological Inventory, Myers-Briggs Type Indicator, Stern Activities Index and the Strong Vocational Interest Blank. This approach to establishing validity is considered as extremely provisional by some reviewers (Buros, 1970) since the obtained coefficients indicate the extent to which the measure of one test can be translated into the measures of another test. The correlations between two tests and the scales with which they share items are considered inflated. In recognition of this problem, the authors (Heist and Yonge, 1968) attempted to provide a few more direct assays of validity in the OPI Manual. The intercorrelation of the OPI scales are cited by Heist and Yonge (1968) as contributing to the construct validity of individual scales.

Two different approaches to the estimation of the reliability of the OPI, based on different samples, are presented in the OPI Manual (Heist and Yonge, 1968). Internal consistency reliability coefficients, derived by the Kuder-Richardson Formula 21 (KR21) and the corrected split-half method, range from 0.67 to 0.89 for the OPI scales (Heist and Yonge, 1968). Test-retest reliability coefficients for three- and four-week intervals range from 0.79 to 0.94 (Heist and Yonge, 1968). The majority of the test-retest reliability coefficients are above 0.85, with approximately half falling at 0.89 or above. In an overall assessment of the OPI, reviewers (Buros, 1970) have stated that "the OPI, like all inventories, is marked by certain strong points and certain weak points. In this instance the former greatly outweigh the latter,

provided the instrument is used for the purpose for which it was constructed" (p. 281).

Procedures

The null hypotheses tested by the present study were divided according to primary and secondary hypotheses. The design and procedures were based on the findings from the review of the literature and on the proposed theoretical base and assumptions of the present study.

The primary null hypotheses tested were:

1. There will be no significant ($p \leq 0.10$) differences in levels of identity development of subjects at three testing times, specifically, during their last semester of high school, at the beginning and during the last month of their first semester in a university.
2. There will be no significant ($p \leq 0.10$) differences in relative prominence of the six values as measured by the Study of Values between subjects who do and do not exhibit an increase in the development of identity from their last semester of high school to the end of their first semester in a university.

The secondary null hypotheses tested were:

3. There will be no significant ($p \leq 0.10$) differences in identity development of males and females at any of the three testing times.
4. There will be no significant ($p \leq 0.10$) differences in identity development of freshmen graduated from different-sized graduating high school classes at any of the three testing times.

Each of the null hypotheses could be rejected if the probability level associated with the observed differences was ≤ 0.10 . While the chances of rejecting a hypothesis when the hypothesis in fact is true are increased as the probability level is increased, the investigator chose to apply a criteria probability level of ≤ 0.10 to investigate

trends which might be observed in the present exploratory study.

Data Collection and Analysis

The data for the present exploratory study were collected from the thirty-nine subjects in the spring of their senior year in high school (May, 1974), at the beginning (August, 1974) and at the end of the first semester (December, 1974) of their freshman year at Oklahoma State University.

Each of the six scales of the Study of Values were used in the present study. Because of the ipsative scores of the instrument, changes on one scale must be reflected in changes in scores on the other scales. The primary use of this instrument in the present study was to investigate the possible relationships between the prominent values held by subjects on the Study of Values in May, 1974 and those subjects demonstrating increased identity development as measured by the OPI from May, 1974 to December, 1974. It was postulated that there would be a positive correlation between subjects who had two of their three highest scores on the Aesthetic, Social or Religious scales of the Study of Values and those subjects demonstrating increased identity development on the OPI.

Due to the item overlap on the scales of the Omnibus Personality Inventory (OPI) and because accurate interpretation of scores on single scales demands analyzing individual scores in the context of a cluster of other scores, the entire test was administered to the subjects at each of the three testing times. Identity development, as defined in the present study, is measured by significant increases in the Complexity (Co), Religious Orientation (RO), Autonomy (Au), Social

Extroversion (SE), Impulse Expression (IE), Personal Integration (PI), Altruism (Am) and Anxiety Level (AL) scales of the OPI. A significant decrease in the Practical Outlook (PO) scale of the OPI served as a further indication of identity development in the present study. The Response Bias (RB) was used to verify whether each test-taking occasion was a valid self-report by the subjects.

Statistical analysis of the data collected from the subjects' responses on the OPI and the Study of Values was obtained using the Friedman Two-Way Analysis of Variance. Because the research data in the present study did not meet the assumptions of the parametric statistical model, nonparametric statistical tests were selected. The Friedman Two-Way Analysis of Variance by Ranks (Siegel, 1956) was used to test the statistical significance of the difference in the test scores from the three test times. The Friedman test was obtained for the standard scores on each scale of each instrument used in the present study. Since each subject served as his own control, the subjects' scores from the three test times were considered matched samples. The three scores of each subject on a given scale were ranked, and the Friedman test was computed for each scale to determine whether there was a statistically significant difference among the mean ranks of the three matched samples obtained at the three testing times.

The Friedman Two-Way Analysis of Variance yielded data that demonstrated there were significant differences on some scales over time. To better determine where the differences were between two of three testing times, a two-sample statistical test was used. The McNemar statistical test was run on the ranked scores of the values as measured by the Study of Values. The Wilcoxon statistical test was run on all

of the standard scores on each scale of the OPI. The Wilcoxon test was selected because it considers the direction and relative magnitude of the differences.

One of the assumptions on which the present study was based is that the impact of an experience depends in part upon the belief system of the person who encounters the experience. To determine if subjects who increased in identity development, as measured by the present study, also had high ranked scores on selected values as measured by the Study of Values, further analyses of the data were obtained. A Chi-Square was calculated from a 2 x 2 contingency table in which subjects were classified according to their ranked scores on the Study of Values and the standard scores on the OPI. In classifying subjects according to their ranked scores on the Study of Values, subjects who received two of their three highest ranked scores on the Aesthetic, Social or Religious scales at the May testing time were placed into one category, while all other subjects were placed in the other category. Subjects were also classified according to whether they did or did not increase in identity development over the three testing times. A subject was considered to have increased in identity development if there was a significant change in the expected direction from the first to the final testing time on six of the eight scales of the OPI which were used to assess identity development in the present study. The Chi-Square test for two independent samples was used to determine whether a greater proportion of subjects who increased in identity development had high ranked scores on the selected values as measured by the Study of Values than was the case with those who did not increase in identity development.

The present chapter has considered the design and methodology used in the preparation and completion of the present exploratory study. Chapter IV will present the analysis of the data obtained in the present investigation.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of the present chapter is to present the results of the statistical analyses and to state the conclusions with regard to rejection of or failure to reject the null hypotheses. Following a statement of each null hypothesis, the results of the obtained analyses relevant to each hypothesis will be presented.

Primary Hypotheses

Hypothesis Number One

There will be no significant ($p < 0.10$) differences in levels of identity development of subjects at three testing times, specifically, during their last semester of high school, at the beginning and during the last month of their first semester in the university.

Identity development, as operationally defined in the present study, was measured by significant increases in the Complexity (Co), Religious Orientation (RO), Autonomy (Au), Social Extroversion (SE), Impulse Expression (IE), Personal Integration (PI), Altruism (Am) and Anxiety Level (AL) scales of the OPI. Specifically, identity development was considered to have increased if there was a significant change in the expected direction from the first to the final testing time on six of the eight above-mentioned scales of the OPI. When this specific definition of development was employed, no significant differences were

observed in the identity development of the subjects across the three testing times and the first null hypothesis could not be rejected.

The Friedman Two-Way Analysis of Variance statistical test was employed to examine the significance of differences in the standard scores of all subjects on each of the OPI scales across the three testing times. The results of the Friedman test, including Xr^2 values and means of the ranks at each of the three testing times for each OPI scale, are presented in Table I. Significant ($p \leq 0.10$) differences among the three testing times were obtained on four scales of the OPI, the Estheticism, Autonomy, Impulse Expression and Masculinity-Feminity scales.

TABLE I

Xr^2 VALUES AND THE MEANS OF THE RANKS AT EACH OF THREE TESTING TIMES FROM THE FRIEDMAN TWO-WAY ANALYSIS OF VARIANCE FOR EACH SCALE OF THE OPI FOR ALL SUBJECTS (N=39)

<u>OPI</u> SCALES	Xr^2 VALUES	MEANS OF THE RANKS		
		May	August	December
TI	2.79	2.10	1.78	2.11
TO	0.94	2.10	1.88	2.01
Es	9.28***	1.89	1.71	2.38
Co	0.86	2.02	1.88	2.08
Au	14.00***	1.51	2.20	2.28
RO	0.67	1.97	1.92	2.10
SE	0.94	1.88	2.10	2.01
IE	6.27**	1.67	2.21	2.10
PI	1.17	1.98	1.88	2.12
AL	2.21	2.15	1.82	2.02
Am	2.42	1.80	2.03	2.15
PO	1.07	1.97	2.12	1.89
MF	4.65*	2.14	2.14	1.71
RB	2.01	2.17	1.85	1.98

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$

In an attempt to determine more specifically the time period when the significant differences occurred on the Estheticism, Autonomy, and Impulse Expression scales, further statistical analyses of the data for these scales were obtained. For this purpose, the Wilcoxon Matched-Pairs Signed-Ranks test was applied to examine statistically the difference in the subjects' standard scores between each two of the three test times. The results of this analysis revealed significant ($p \leq 0.10$) differences in the standard scores between the August and the December test times on the Estheticism scale; between May and August on the Impulse Expression scale; and between May and December on the Autonomy scale. On each of these scales, the direction of the significant changes was from lower scores at the earlier test time to higher scores at the later test time. It is recognized that this procedure could have compounded chance error in that repetitive use of a two-sample test on these data likely increased the probability of a Type I error. Nevertheless, the significant differences obtained from this analysis may at least be considered trends in the data regarding the research questions.

Further trends in the data were suggested by a comparison of the means of the ranks of the standard scores among the three testing times for each OPI scale from the Friedman Two-Way Analysis of Variance (Table I). One particularly interesting trend revealed by the means of the ranks was that on several of the OPI scales where statistically significant Xr^2 values were not obtained, the lowest mean rank occurred at the August testing time. This finding suggests that, in general, the present data do not appear to indicate an orderly progressive increase in the development of identity from May to August to December in the group of

university students studied.

To obtain additional information concerning the responses of the group as a whole, the means and standard deviations of standard scores for all subjects were computed on each scale of the OPI at each of the three testing times. The obtained means and standard deviations are presented in Table II, while the mean standard scores for each scale at each testing time are graphically displayed in Figure I. Inspection of these data indicates that the overall mean standard scores tended to cluster around 50, which is the mean of the normative sample for all scales of the OPI. Thus, it would appear that the responses of the group of subjects in the present study were generally similar to the responses of the large group of subjects reported previously (Heist and Yonge, 1968). In addition, the changes in mean standard scores across time were generally small in magnitude. It is of interest to note, however, that the mean standard scores obtained at the December testing time were equal to or slightly higher than those obtained at the May or August testing times for all scales except Theoretical Orientation, Impulse Expression, Anxiety Level, Practical Outlook, Masculinity-Femininity, and Response Bias.

To summarize, differences among the three testing times in the standard scores of the OPI for the total group of subjects were statistically significant for two scales (Autonomy and Impulse Expression) of the eight scales used to measure identity development. In addition, inspection of the data suggested that in December the mean standard scores were equal to or slightly higher than those in May or August on six of the eight scales used to assess the development of identity.

TABLE II
 MEANS AND STANDARD DEVIATIONS OF STANDARD SCORES ON EACH SCALE
 OF THE OPI FOR ALL SUBJECTS AT EACH OF THREE TESTING TIMES

Test Times	<u>OPI</u> Scales													
	TI	TO	Es	Co	Au	RO	SE	IE	PI	AL	Am	PO	MF	RB
1. Mean	47	48	49	47	49	46	54	51	53	54	54	52	48	53
S.D.	8.6	10.0	7.7	9.2	7.9	7.5	8.2	8.4	8.8	7.5	8.9	8.5	8.3	9.3
2. Mean	47	46	48	47	51	45	55	54	53	53	55	52	47	51
S.D.	9.2	10.0	8.8	8.5	8.0	7.0	8.6	9.2	9.3	9.1	10.0	8.3	9.3	8.6
3. Mean	48	47	51	47	52	46	55	53	54	53	56	51	46	52
S.D.	9.3	10.0	8.0	9.2	7.6	6.9	8.5	8.6	9.7	8.3	10.0	8.8	9.8	9.9

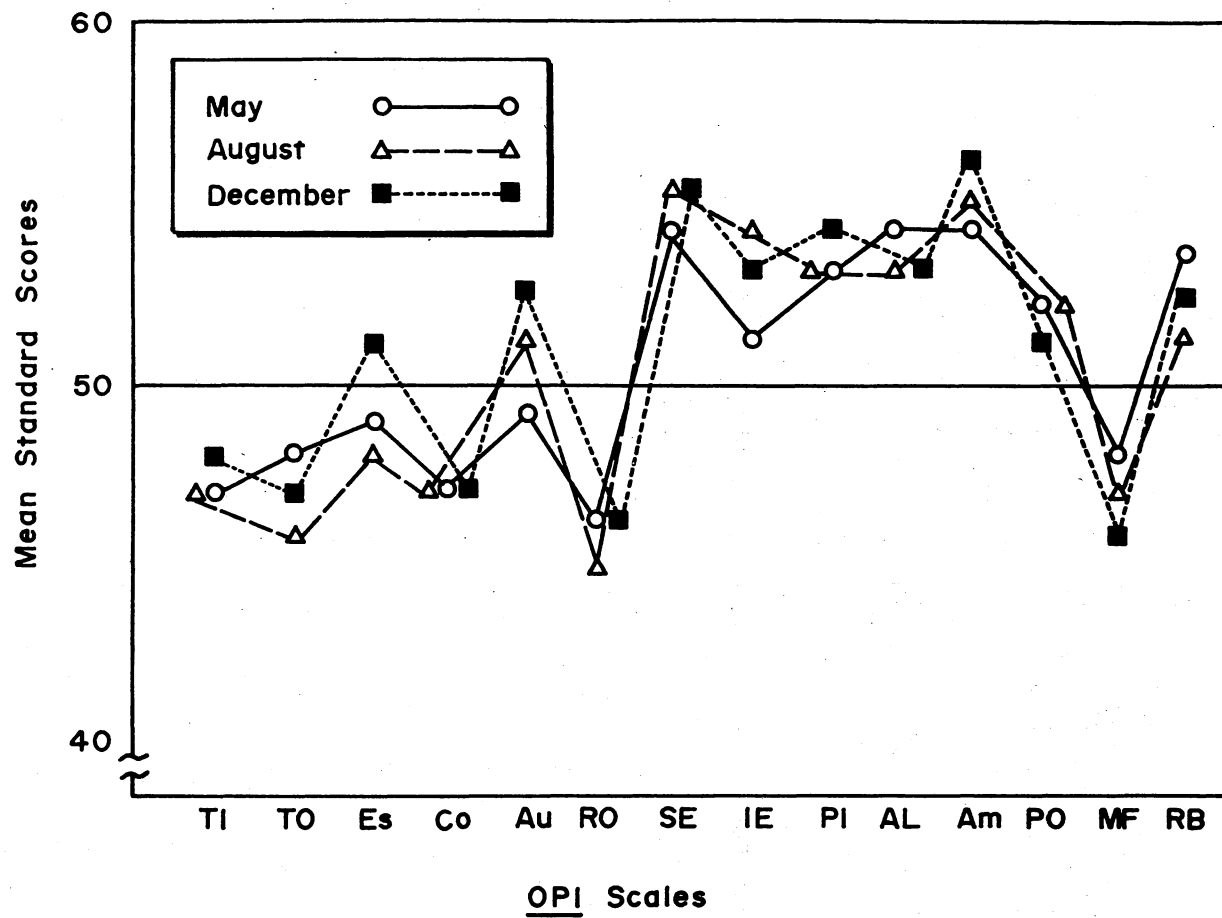


Figure 1. A Profile of the Mean Standard Scores on Each Scale of the OPI for All Subjects at Each of Three Testing Times

Hypothesis Number Two

There will be no significant ($p \leq 0.10$) differences in relative prominence of the six values as measured by the Study of Values between subjects who do and do not exhibit an increase in the development of identity from their last semester of high school to the end of their first semester in a university.

One of the basic assumptions of the present study is that the impact of an experience depends in part upon the belief system of the person who encounters the experience. Therefore, it was reasoned that subjects who had certain belief systems as measured by the Study of Values at the May testing time would be more likely to demonstrate identity development as measured by the OPI from May to December. It was postulated that subjects who in May had at least two of their three highest scores on the Aesthetic, Social or Religious scales of the Study of Values would be most likely to demonstrate increased identity development on the OPI from May to December. With the specific requirements of two of the three highest values on these scales at the May testing time and significant increases on six of the eight OPI scales used to measure identity development, the second null hypothesis could not be rejected on the basis of the evidence in the present data.

Statistical analysis of the data to test the second hypothesis consisted of calculating a two-sample Chi-Square test from a 2 x 2 contingency table in which subjects were classified according to their scores both on the Study of Values in May and on the OPI in May as compared with December. When the criterion of change on six of the eight OPI scales used to measure identity development was employed, the obtained χ^2 values were not statistically significant. This was not surprising in view of the findings reported above for the first hypothesis. Therefore, to investigate possible trends in the data concerning

the second hypothesis, a criterion of change on four of the eight scales of the OPI was selected to classify subjects on the OPI in the contingency table, and a second Chi-Square was computed. Although the statistical probability level associated with the obtained χ^2 value exceeded the 0.10 level, it is of interest to note that twenty-eight (72%) of the thirty-nine subjects' responses did change in the expected direction on at least four of the eight OPI scales which were used to measure identity development. Moreover, of the twenty-six subjects who in May obtained two of their three highest scores on the Aesthetic, Social or Religious scales of the Study of Values, twenty (76%) did increase on at least four of the eight OPI scales used to assess identity development.

An additional statistical analysis was obtained to investigate the possibility that the values held by the subjects, as measured by the Study of Values, may have changed significantly from one testing time to another. For this analysis, each subject's scores on the six scales of the Study of Values were ranked for each testing time. For each scale and for each two of the three testing times, the McNemar statistical test was computed from a 2 x 2 contingency table in which subjects were classified according to whether their score on a given scale was ranked as one of the three highest or one of the three lowest scores at each of two given test times. None of the differences between any two of the three test times were statistically significant ($p \leq 0.10$) for any scale. Thus, it would appear that the relative prominence of the values held by the group of subjects in the present study, as measured by the Study of Values, did not change significantly across the three testing times.

Secondary Hypotheses

Hypothesis Number Three

There will be no significant ($p \leq 0.10$) differences in identity development of males and females at any of the three testing times.

With the specific operational definition of identity development employed in the present study, this null hypothesis could not be rejected on the basis of the evidence in the present data. Results of the Friedman Two-Way Analysis of Variance for each scale of the OPI did, however, reveal that differences among the three testing times were statistically significant for some scales both for the male and for the female subjects. The Friedman Xr^2 values for standard scores of male subjects and for standard scores of female subjects on each OPI scale across the three testing times are presented in Table III. For the male subjects, significant ($p \leq 0.10$) differences across the three test times were found on only one scale, the Masculinity-Feminity scale. For the female subjects, however, significant ($p \leq 0.10$) differences in standard scores across the three test times were found on three scales, the Estheticism, Autonomy, and Masculinity-Feminity scales.

The means and standard deviations of the standard scores on each scale of the OPI at each of the three testing times for the male subjects are presented in Table IV. Similar data for the female subjects may be seen in Table V. In addition, a graphic comparison of the mean standard scores on each OPI scale for the males with those for the females, at each of the three testing times, is presented in Figure 2. Inspection of the data reveals that when the males and females are considered separately, the pattern of responses, as indicated by the

TABLE III

χ^2 VALUES FROM THE FRIEDMAN TWO-WAY ANALYSIS OF VARIANCE FOR EACH SCALE OF THE OPI OVER THREE TESTING TIMES FOR MALES AND FEMALES

<u>OPI Scales</u>	<u>χ^2 Values</u>	
	<u>Males</u> (N=13)	<u>Females</u> (N=26)
TI	0.61	2.48
TO	1.81	4.17
Es	2.19	7.29*
Co	1.19	1.09
Au	1.88	13.06**
RO	3.57	3.03
SE	1.07	0.25
IE	2.57	3.77
PI	0.73	0.71
AL	2.57	0.48
Am	3.50	1.40
PO	1.19	0.37
MF	7.42*	6.25*
RB	1.88	1.17

* $p \leq 0.05$; ** $p \leq 0.01$

TABLE IV

MEANS AND STANDARD DEVIATIONS OF STANDARD SCORES ON EACH SCALE OF THE OPI
AT EACH OF THREE TESTING TIMES FOR ALL MALE SUBJECTS (N=13)

Test Times		<u>OPI</u> Scales													
		TI	TO	Es	Co	Au	RO	SE	IE	PI	AL	Am	PO	MF	RB
1.	Mean	46	47	47	43	46	45	53	52	53	54	50	55	52	55
	S.D.	6.8	7.2	6.9	7.5	9.6	8.6	8.7	6.4	9.3	7.0	8.5	9.1	7.4	10.9
2.	Mean	47	48	43	43	47	44	54	55	54	50	51	57	55	53
	S.D.	7.3	8.5	6.2	7.6	8.6	7.8	9.4	9.4	11.0	10.7	10.1	7.1	7.8	10.5
3.	Mean	48	49	47	45	48	43	55	53	55	53	53	55	53	53
	S.D.	8.2	6.1	6.9	7.9	7.9	8.0	10.0	8.0	9.8	8.5	7.2	7.9	7.7	10.0

TABLE V

MEANS AND STANDARD DEVIATIONS OF STANDARD SCORES ON EACH SCALE OF THE OPI
AT EACH OF THREE TESTING TIMES FOR ALL FEMALE SUBJECTS (N=26)

Test Times	<u>OPI</u> Scales													
	TI	T0	Es	Co	Au	RO	SE	IE	PI	AL	Am	PO	MF	RB
1. Mean	48	48	51	48	51	46	55	51	53	55	56	50	46	52
S.D.	9.5	11.6	7.8	9.7	6.4	7.0	8.1	9.4	8.7	7.9	8.6	7.9	8.1	8.4
2. Mean	47	44	51	49	53	46	55	53	53	54	57	49	43	50
S.D.	10.0	11.0	9.0	8.6	7.1	6.7	8.4	9.3	8.5	8.2	9.6	7.9	7.3	7.5
3. Mean	48	46	53	49	54	46	55	53	53	53	58	49	43	51
S.D.	10.0	12.1	8.0	9.6	6.9	6.3	7.7	9.1	9.7	8.4	11.0	6.8	8.8	9.4

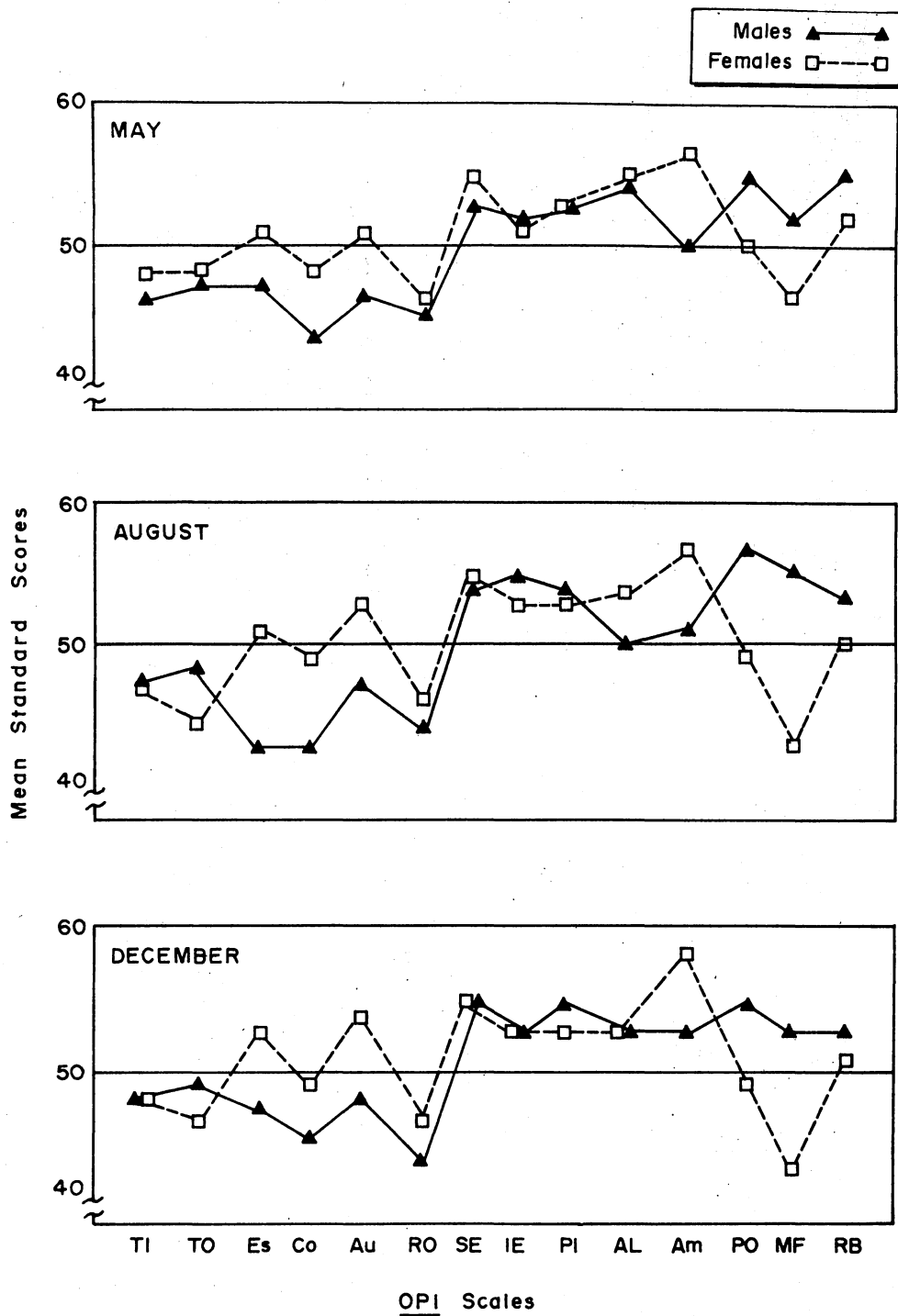


Figure 2. Profiles of the Mean Standard Scores on Each Scale of the OPI for Male (N=13) and Female (N=26) Subjects at Each of Three Testing Times.

shape of the profiles, generally tended to be similar across the three test times, both for the group of male subjects and for the group of female subjects. Thus, the differences in the mean standard scores between the male and the female subjects were similar for all three test periods, with females tending to score somewhat higher than males on the Estheticism, Complexity, Autonomy, and Altruism scales. In contrast, the group of male subjects in the present study tended generally to score somewhat higher than female subjects on the Practical Outlook, Masculinity-Femininity, and Response Bias scales at all three test times.

Hypothesis Number Four

There will be no significant ($p \leq 0.10$) differences in identity development of freshmen graduated from different-sized high school graduating classes.

With the specific operational definition of identity development utilized in the present study, this null hypothesis could not be rejected on the basis of the evidence in the present data.

Results of the Friedman Two-Way Analysis of Variance for each scale of the OPI did, however, reveal that differences among the three testing times were statistically significant for some scales for each of the three groups of subjects from different-sized high school graduating classes. The Friedman χ^2 values for standard scores of subjects from high school graduating classes of less than 100, 100 to 400, and greater than 400, on each OPI scale across the three testing times are presented in Table VI. For the subjects from high school graduating classes of less than 100, significant ($p \leq 0.10$) differences across the three test times were obtained on the Autonomy, Personal Integration and

the Altruism Scales. For the subjects from graduating classes of 100 to 400, significant ($p \leq 0.10$) differences across the three test times were obtained for the Thinking Introversion, Estheticism, Autonomy, Anxiety Level, and Masculinity-Femininity Scales. For the group of subjects from graduating classes larger than 400, standard scores across the three test times were significantly different ($p \leq 0.10$) on the Complexity and the Practical Outlook scales.

TABLE VI

X_r^2 VALUES FROM THE FRIEDMAN TWO-WAY ANALYSIS OF VARIANCE FOR EACH SCALE OF THE OPI OVER THREE TESTING TIMES FOR SUBJECTS FROM HIGH SCHOOL GRADUATING CLASSES OF EACH OF THREE SIZES

<u>OPI</u> SCALES	X_r^2 VALUES		
	<u>SIZE OF HIGH SCHOOL GRADUATING CLASS</u>		
	<u>< 100 (N=15)</u>	<u>100-400 (N=13)</u>	<u>> 400 (N=11)</u>
TI	2.43	4.96*	0.59
TO	0.53	2.34	0.86
Es	4.23	10.50***	1.27
Co	0.70	2.00	4.90*
Au	13.43***	5.69*	0.13
RO	0.70	0.27	0.95
SE	0.63	0.73	0.18
IE	0.83	3.50	2.86
PI	6.10**	2.92	2.36
AL	1.23	4.65*	0.95
Am	5.03*	1.08	0.59
PO	1.30	2.42	5.31*
MF	0.03	5.80*	2.22
RB	0.23	2.80	0.13

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$

The means and standard deviations of the standard scores on each scale of the OPI at each of the three testing times for the group of subjects from high school graduating classes of less than 100 are presented in Table VII. Similar data for the group of subjects from graduating classes of 100 to 400 and for the group of subjects from graduating classes of greater than 400 are presented in Tables VIII and IX, respectively. Furthermore, the mean standard scores on each OPI scale for the subjects from each of the three sizes of graduating classes are graphically displayed at each of the three test times in Figure 3.

As might have been expected on the basis of the results of the Friedman tests, inspection of the graphs in Figure 3 reveals that the overall pattern of the responses, as indicated by the shape of the profiles, tended generally to be similar across the three test times for each group of subjects. While differences among the three groups of subjects from different-sized graduating classes at any given test time were not usually of large magnitude, several differences among these three groups of subjects which were relatively consistent across the three test times can be seen in Figure 3. For example, across all three test times, a general tendency was noted for the mean standard scores of subjects from graduating classes of greater than 400 to be somewhat higher than those from relatively smaller graduating classes on the Thinking Introversion, Theoretical Orientation, Estheticism, Complexity, Autonomy, Religious Orientation, Social Extroversion, and Impulse Expression scales. On all these same scales with the exception of Social Extroversion, the group of subjects from graduating classes of less than 100 tended to have mean standard scores somewhat lower than

TABLE VII

MEANS AND STANDARD DEVIATIONS OF STANDARD SCORES ON EACH SCALE OF THE OPI FOR
 ALL SUBJECTS GRADUATING FROM A HIGH SCHOOL CLASS OF LESS THAN 100
 (N=15) AT EACH OF THREE TESTING TIMES

Test Times		<u>OPI</u> Scales													
		TI	T0	Es	Co	Au	RO	SE	IE	PI	AL	Am	PO	MF	RB
1.	Mean	44	44	48	42	45	44	55	51	52	52	53	57	48	51
	S.D.	8.5	9.6	6.3	7.8	7.8	8.0	7.9	9.0	8.4	6.9	8.3	7.7	7.4	7.3
2.	Mean	43	44	45	44	49	44	56	51	55	52	55	54	49	50
	S.D.	8.9	11.0	6.9	6.5	8.5	7.6	7.6	9.9	8.3	7.5	10.5	9.7	8.8	7.2
3.	Mean	44	46	47	45	50	44	56	50	57	54	57	56	50	52
	S.D.	9.8	11.0	6.7	7.2	7.9	7.5	9.6	9.3	8.7	8.2	11.8	8.1	10.6	8.3

TABLE VIII

MEANS AND STANDARD DEVIATIONS OF STANDARD SCORES ON EACH SCALE OF THE OPI FOR
ALL SUBJECTS GRADUATING FROM A HIGH SCHOOL CLASS OF 100 TO 400
(N=13) AT EACH OF THREE TESTING TIMES

Test Times	<u>OPI</u> Scales													
	TI	TO	Es	Co	Au	RO	SE	IE	PI	AL	Am	PO	MF	RB
1. Mean	47	47	50	45	51	45	53	50	54	55	54	52	47	54
S.D.	6.5	11.2	9.7	8.2	8.1	5.8	9.4	9.3	9.9	8.3	10.7	6.6	10.5	11.4
2. Mean	48	42	49	47	52	45	53	54	51	51	53	52	45	50
S.D.	7.8	9.9	9.1	9.9	8.3	6.4	9.4	8.9	8.5	10.5	7.6	7.1	10.4	10.8
3. Mean	50	44	53	48	52	46	53	53	53	51	55	50	43	50
S.D.	8.0	11.7	8.8	10.9	8.9	5.7	8.3	8.9	11.1	9.2	11.1	7.8	10.9	13.4

TABLE IX

MEANS AND STANDARD DEVIATIONS OF STANDARD SCORES ON EACH SCALE OF THE OPI FOR
 ALL SUBJECTS GRADUATING FROM A HIGH SCHOOL CLASS OF MORE THAN 400
 (N=11) AT EACH OF THREE TESTING TIMES

		<u>OPI</u> Scales													
Test Times		TI	T0	Es	Co	Au	RO	SE	IE	PI	AL	Am	PO	MF	RB
1.	Mean	52	53	51	55	53	49	56	54	54	56	56	45	49	55
	S.D.	9.2	8.5	7.0	7.0	5.6	7.9	7.5	6.7	8.5	7.6	7.8	6.5	7.4	9.1
2.	Mean	53	51	52	51	52	47	56	58	53	55	57	49	48	53
	S.D.	8.3	7.8	9.8	8.5	6.9	6.9	9.5	8.0	11.5	9.9	12.3	7.2	9.4	7.9
3.	Mean	53	53	53	51	54	48	57	56	52	54	56	46	46	54
	S.D.	7.8	5.7	7.9	9.2	5.2	7.1	7.2	6.3	9.1	7.9	8.7	8.7	5.7	7.1

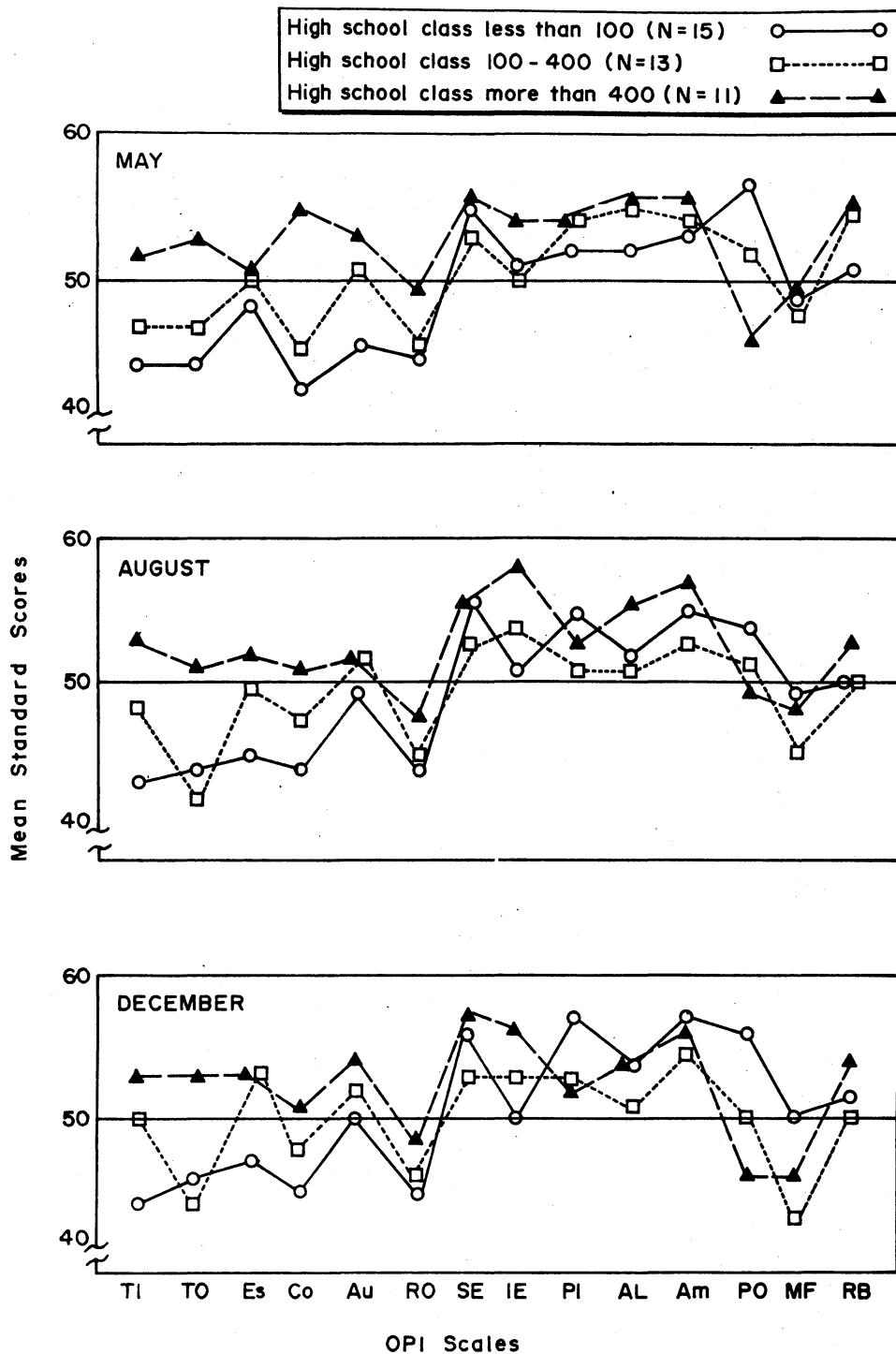


Figure 3. Profiles of the Mean Standard Scores on Each Scale of the OPI for Subjects from Different-Sized High School Graduating Classes at Each of Three Testing Times

those subjects from relatively larger graduating classes. Although a few exceptions to these generalizations occurred and the differences were not always marked, it is of interest that the above-mentioned trends were quite consistent across all of the test times. A consistent tendency was also noted for the mean standard scores of the subjects from these three sizes of graduating classes to differ rather markedly on the Practical Outlook scale across all test times. The mean scores on the Practical Outlook scale were always lowest for the group of subjects from the largest graduating classes (> 400), and the highest for the group of subjects from the smallest graduating classes (< 100). The mean scores on this scale for subjects from graduating classes of 100 to 400, however, always fell in between the two extremes.

In summary, the results of the obtained data analyses have been presented in the present chapter. In addition, some trends which were evident in the data have been reported. Further discussion of the implications of these findings will be presented in Chapter V.

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

The present study was proposed in view of the need for research concerning both the time of occurrence and the dimensions of the developmental changes which might be observed in freshman students entering an institution of higher education. Information regarding the pattern of developmental changes in university freshmen would appear important and valuable for educational planners to determine the optimum timing and nature of educational experiences which should be provided to students. Therefore, the purpose of the present study was to investigate the development of identity in university freshmen. Specifically, the present study was designed to assess changes in identity development over time from the last semester of high school to the end of the first semester in a university. Thus, an attempt was made to consider the input variable by assessing some of the characteristics of students prior to their entrance to a university.

On the basis of the theoretical frame of reference presented in Chapter I, three research questions concerning the development of identity over time in university freshmen were formulated, and the assumptions of the present study were outlined. The review of the literature was then useful both in determining ways of examining the three research questions and in formulating the specific research

hypotheses. Further, the abstract and global concept of identity was defined both theoretically and operationally, and the specific procedures and methodology employed to examine the research hypotheses were then presented.

The Omnibus Personality Inventory (OPI), Form F, was used to assess the level of identity development in university freshmen at each of three times, at the end of the senior year of high school, at the beginning and at the end of the first semester at a university. An increase in development of identity was specifically defined as a change in the expected direction on six of the eight OPI scales considered to be relevant to the development of identity. The OPI was also used to assess possible developmental changes in male and female subjects over the three testing times and in subjects according to the sizes of high school graduating classes. In addition, the Study of Values was employed to give an indication of the relative prominence of values held by students prior to coming to the university and to examine any changes which might occur in the students' value systems after entrance into the university. Statistical analyses were obtained to test each null hypothesis and to examine the trends in the data. Finally, the results of the statistical analyses relevant to each null hypothesis were presented.

The statistical analyses did not reveal sufficient evidence in the present data to allow the rejection of any of the proposed null research hypotheses. Some of the differences observed among the three test times on selected OPI scales were, however, found to be statistically significant ($p \leq 0.10$) for the total group of subjects as well as for various subject subgroups. In addition, trends which were observed in the data,

as well as the interviews conducted with the subjects, appear to offer information which is of interest to the study of patterns of developmental changes and of the effects of the university environment on freshman students. The following discussion will include a summary of the results of the present study and some implications of these results as relevant to each of the four proposed research hypotheses. In addition, a critical discussion of the methods employed and the results obtained in the present study will be presented. Finally, conclusions of the present study and recommendations for further research will be discussed.

Hypothesis Number One

Hypothesis I and all three of the research questions in the present study were concerned with the direction, extent and time of possible developmental changes from the end of the last semester in high school to the end of the first semester in the university.

When all subjects were considered as a group, their standard scores on four OPI scales, including Estheticism, Autonomy, Impulse Expression, and Masculinity-Feminity, tended to change across the three test times. The changes in the mean standard scores observed on both the Estheticism and on the Masculinity-Feminity scales would seem to suggest general increases in sensitivity to esthetic stimulation, including the arts, poetry and literature. The changes on the Impulse Expression scale would seem to indicate some general increase in the spontaneity of behavior, while the changes on the Autonomy scale may indicate an increase in the independence of thought and judgement.

The first research question focused on the identification of

possible developmental changes from the end of the last semester in high school to the beginning of the freshman year in college. The only scale of the OPI showing significant ($p \leq 0.10$) differences from May to late August was the Impulse Expression scale. The Impulse Expression scale measures a general readiness to seek gratification and express impulses either in conscious thought or in overt actions. Therefore, the observed change on the Impulse Expression scale from May to August suggests that the subjects generally tended to become somewhat less conventional in opinion and outlook during this period.

The second research question focused on the identification of possible developmental changes from the first week (August) to the last week (December) in the first semester in the university. The only scale of the OPI showing significant ($p \leq 0.10$) differences from August to December was the Estheticism scale. The Estheticism scale measures a sensitivity to esthetic stimulation, including the arts, poetry and literature. Thus, it would appear that the subjects tended to develop toward having more interest in artistic matters and activities as well as sensitivity to esthetic stimulation during this period.

The third research question focused on the identification of possible developmental changes from the end of the senior year in high school to the end of the first semester at the university. The analysis of the data indicated that the standard scores differed significantly ($p \leq 0.10$) on the Autonomy scale of the OPI. The Autonomy scale of the OPI measures liberal, nonauthoritarian thinking and independence. Thus, it would appear that the subjects generally tended to demonstrate more maturity and independence and to become less judgemental from the May to the December testing time.

In general, the trends evident in the present data do not appear to indicate an orderly progressive increase in the development of identity from May to August to December in the group of subjects studied. For example, inspection of the means of the ranks for each of the three test times from the Friedman statistical test (Table I) suggests that a number of subjects scored lower in August than in May and/or December on several OPI scales. In addition, the overall means of the standard scores tended to decrease slightly from May to August and then to increase somewhat from August to December for some of the scales on the OPI. In regard to these findings, it is of interest to note some comments made by the subjects during interviews with the investigator. Many subjects expressed the feeling that they were buffeted about by so many new experiences, opportunities, demands and challenges that it was difficult to organize their lives at the beginning of the semester. These general feelings might best be described as suggesting the presence of over-stimulation during the first month of classes. Thus, it would appear that assessment of the subjects' levels of development as measured by the OPI at the August test time may have been confounded by the effects of the university environment on the subjects during the first few weeks of their university experience.

It is interesting to speculate about possible reasons for the above-mentioned trends on the OPI at the August test time as well as the information from the interviews concerning the first few weeks of their first semester in the university. It appears that the first semester at the university presents a constellation of adjustment problems which are frequently upsetting to the entering student. It is possible that the university environment over-stimulated some of the subjects and was

disorienting to them during the early weeks of classes. It is also possible that the subjects' resolution of the identity "crisis" prior to entering the university may not have been entirely stable.

Feldman and Newcomb (1969) discuss the manner in which incongruence between the student's interpersonal environment and academic environment can create an inordinate level of dissonance. The literature indicates that the basis of a strong college impact is provided when the entering student experiences a series of not-too-threatening discontinuities which are sufficient to stimulate and challenge but not disorient him. The results of the present investigation tend to suggest that studies reported previously in the literature which compare subjects' personality characteristics during the initial weeks of college entrance with those obtained during the second, third and/or fourth years of college were using a baseline measure which was obtained at a time when the students were, perhaps, temporarily disoriented by the environment. If baseline measurements were decreased by the temporary disorientation, it would seem relatively easier to demonstrate significant changes from the baseline to results obtained at a later testing time. Thus, the use of levels of development and personality characteristics obtained at a time prior to the freshman student's arrival at the college campus for classes may be important in determining the overall pattern of developmental changes during college.

Hypothesis Number Two

Hypothesis II was concerned with the possible tendency for subjects who had certain belief systems as measured by the Study of Values at the May testing time to be more likely to demonstrate identity development

as measured by the OPI from May to December. One of the basic assumptions of the present study was that the impact of the university experience depended in part upon the belief system of the person who encounters the experience. Although there were no significant differences in the statistical analyses of the data regarding this null hypothesis, inspection of the data indicated that, of the twenty-six subjects who obtained two of their three highest scores in May on the Aesthetic, Social or Religious scales of the Study of Values, 76% also increased from May to December on at least four of the eight OPI scales used to measure identity development.

Previous studies of the value system of college students have been concerned with the changes in students' value systems. From the freshman to the senior year, the most consistent change in values reported (Feldman and Newcomb, 1970) was a decrease in Religious and an increase in Aesthetic values as measured by the Study of Values. The present study was only secondarily concerned with any changes in values, with the primary interest in the value system being the rank of specific values as measured by the Study of Values at the May testing time. It was observed, however, that no significant changes in the subjects' value systems occurred across the three testing times over a period of seven months.

Hypothesis Number Three

Hypothesis III was concerned with the possible developmental changes in male and female subjects from the end of the last semester in high school to the end of the first semester in the university.

For the females as a group, differences in the standard scores

across the three testing times were significant ($P \leq 0.10$) on the Autonomy, Estheticism, and Masculinity-Femininity scales of the OPI. The finding of a highly significant ($p \leq 0.01$) change on the Autonomy scale for females across the three testing times in the absence of a significant change on this scale for males may indicate that during this period female subjects were confronted with learning how to become more independent to a greater extent than were the male subjects. The standard scores differed significantly ($p \leq 0.10$) over the three testing time on the Masculinity-Femininity scale of the OPI both for the males and for the females. The Masculinity-Femininity scale indicated that from May to August to December, the male subjects' scores on the average increased then decreased, while the female subjects' scores decreased and then remained approximately the same. Inspection of the overall means suggested that across all three testing times, females tended to score somewhat higher than males on the Estheticism, Complexity, Autonomy and Altruism scales, while males generally tended to score somewhat higher than females on the Practical Outlook, Masculinity-Femininity, and Response Bias scales.

Hypothesis Number Four

Hypothesis IV was concerned with the development of identity over the three test times in subjects grouped according to the size of their high school graduating classes. The three categories of high school graduating classes were (1) less than 100, (2) 100 to 400, and (3) more than 400 graduating seniors.

The subgroup of subjects from the smallest-sized graduating classes tended to change across time on the Autonomy, Personal Integration, and Altruism scales of the OPI. These data would seem to indicate that the

group from graduating classes of less than 100 developed in the areas of independence, maturity and trust in others. The second subgroup of subjects, those who had graduated from a class of 100 to 400, tended to change across the three test times on the Thinking Introversion, Estheticism, Autonomy, Anxiety Level, and Masculinity-Feminity scales of the OPI. These findings would appear to suggest that the group of subjects from graduating classes of 100 to 400 generally tended to develop toward having more academic and abstract, reflective thought; more interest in artistic matters and activities as well as sensitivity to esthetic stimulation; more trust in others; as well as to admitting to adjustment problems and feelings of anxiety at times. The third subgroup was comprised of subjects who graduated from a high school class of more than 400 students. For this subgroup, differences across the three test times were significant ($p \leq 0.10$) on only two OPI scales, the Complexity scale and the Practical Outlook scale. Overall mean standard scores indicated that the group of subjects from graduating classes of more than 400 increased from May to August and decreased from August to December on the Practical Outlook scale and decreased from May to August to December on the Complexity scale. Thus, no positive developmental changes were evidenced for this third subgroup of subjects. However, the overall mean standard scores on most OPI scales for the third subgroup were higher at all the testing times than were those of the other subgroups, suggesting that subjects from graduating classes of more than 400 students may have experienced more growth and development prior to the end of their last year in high school than had subjects from relatively smaller graduating classes.

Generally, it appeared that the smaller the graduating high school

class, the lower the mean standard scores in those areas thought to be significant indicators of identity development in the present study. Based on interviews with the subjects, it is the investigator's impression that the university environment was more incongruent with the subjects' interpersonal environment for the subgroup of subjects from the relatively smallest classes than for those from larger graduating classes. Subjects who had graduated from high school classes of from 100 to 400 students appeared to experience a degree of dissonance which the investigator viewed to be optimal for personal growth. That is, these students generally seemed to be stimulated and challenged but not disoriented by their new environment. The subgroup of subjects from the relatively largest high school classes reported in interviews, however, that they were neither stimulated nor disoriented, but that they were most often bored by their university experiences. All subjects in the study were academically able students as judged by their overall high school grade-point average, and they were all residents of the state of Oklahoma.

Recommendations and Conclusions

In view of the research findings previously reported in the literature and the limited number of significant changes in the present data, an attempt has been made in the following discussion to analyze critically the methods employed and the results obtained in the present study. The review of the literature clearly indicated evidence of psychosocial growth from the freshman to the senior year in college. Further, the literature suggested that five scales of the OPI typically reflect the greatest change during the first two years of college.

These five scales are Estheticism, Complexity, Autonomy, Impulse Expression, and Practical Outlook.

In the present study, the investigator attempted the difficult task of operationally defining the abstract, global, and imprecisely defined concept of identity. The operational definition of development outlined by the investigator required significant ($p \leq 0.10$) changes on six of eight OPI scales, including the Complexity, Autonomy, Impulse Expression, Practical Outlook, Personal Integration, Religious Orientation, Social Extroversion, Anxiety Level, and Altruism scales. It appears that this operational definition of development was perhaps too stringent for the relatively short seven-month time period of the present study. That is, it was probably somewhat unrealistic to expect to be able to assess increases in development as measured by the OPI on as many as six scales during the time period studied. In addition, it is also possible that the extent of development in students during the relatively short time period studied may be too limited to be evidenced by more meaningful changes on variables as measured by the OPI.

Regardless of the problems with the operational definition or measurement of identity development over the time period studied, however, the final sample size in the present study was small and was composed of a fairly homogeneous group of academically able students. There was also a disproportionate number of females as compared to males in the present sample. In addition, the statistical analysis of time measures is a special and troublesome problem, particularly when nonparametric statistical tests must be employed. Because any subject by time interaction cannot be determined with such statistical tests, it is often necessary to inspect and describe the trends evident in the

data to interpret the obtained results appropriately. Nevertheless, the research design of the present study, wherein time was the principle variable, the input characteristics of the students were considered, and subjects served as their own controls, seems particularly well-suited to the study of development.

Another possible problem in the present study was the use of volunteer subjects which raises the question of volunteer bias or unrepresentativeness of the subjects. Rosenthal's (1975) research suggests that volunteer status may often interact with the independent variables employed in a variety of types of research studies. Rosenthal (1975) reported that, on the OPI, volunteer subjects tended to be more sociable as compared to nonvolunteers. The Response Bias scale of the OPI assesses characteristics which are perhaps most accurately described as a need to make good impression. In the present study, the mean standard scores on the Response Bias scale for all subjects at each of the three testing times were 53, 51, and 52, respectively, which compare favorably with the standardized mean of 50 based on a normative sample of 7,283 college freshmen at thirty-seven institutions. Male subjects and those subjects graduated from a high school class of more than four hundred students tended to have higher mean standard scores on the Response Bias scale of the OPI than did other subject subgroups. According to Rosenthal, several factors may contribute to a reduction in volunteer biases, including the following: (1) making the appeal for volunteers as interesting as possible; (2) making the appeal for volunteers as nonthreatening as possible; (3) stating the theoretical and practical importance of the research; (4) stating in what way the target population is particularly relevant to the research and the

responsibility of volunteers to participate in research that has potential for benefiting others; and (5) having the request for volunteering made by a person of status as high as possible, and preferably a woman. Thus, it would appear that, because most of these suggestions were followed, volunteer bias was probably not a major contributor to differences observed in the present study.

To summarize, the present study reported new data concerning the characteristics of students prior to their coming to the university environment and also raised new research questions for further study in regard to personality development in freshman university students.

The investigator, however, has some rather specific recommendations for future studies of development in university students. The first recommendation is that a research design be employed which includes a measurement of the level of the student's psychosocial development in high school. Ideally, the prospective student would take the ACT and the OPI at the same time in the fall of their senior year in high school. The suggested research design would also include a longer total period of time than that used in the present study, perhaps from the fall of the senior year in high school to the end of the freshman year in college, with other testing times included during the course of that year. In all previous studies of development using the OPI, the input variable was not measured. The results of the present study would appear to argue against and to raise a question of the validity of utilizing measurements made during the freshman student's initial adjustment period in the first few weeks of college as a supposedly stable baseline from which to judge growth and development over the college years.

A replication of the present study should, of course, include better sampling methods, especially a random selection of subjects and a larger subject sample. In addition, consideration should be given to using an instrument other than the Study of Values to measure the priorities in the value system and to determine whether the values are integrated into the personality. Subjects in the present study reported that the wording of the Study of Values was unfamiliar to them and not up-to-date. While values may be assessed in a number of ways, it is suggested that Rokeach's (1968) Terminal and Instrumental Values Scales might be useful for this purpose. Further, the OPI appears to be a suitable instrument to measure development in college students although it does share the limitation of all personality inventories in being vulnerable to changes in verbal behavior or sophistication which may be unaccompanied by more generalized behavioral changes.

The results of the present study also suggest the need for further investigation concerning ways in which the pattern of development as well as the impact of the university experience may differ according to the size of a student's high school graduating class. This particular variable of size of graduating class was not found in the related literature in the area of student development in college. This variable appeared especially important in the initial and, therefore, presumably in the subsequent impact of the educational environment on the student.

Future research should also be directed toward the study of developmental changes in the so-called "new students" or "non-traditional" students who are found more and more frequently in institutions of higher education. These are students described by Cross (1971) as typically less able, less well-prepared to meet the challenges of the

usual kinds of university programs and, thus, more in need of different types of educational experiences that are more meaningful to them and more relevant to their lives.

In the investigator's estimation, the interviews conducted at the time when the test results were interpreted to each of the subjects gave the investigator a great deal of insight into the subjects' experiences during their first semester in college. Most of the students whose individual test scores suggested a relatively greater increase in development reported that they had established close contact with at least one of their faculty members. Thus, it appears possible that close student-faculty relationships may enhance development during a freshman student's first semester. This possibility would further suggest that development in the university is influenced not only by the general emphasis or the climate of the institution and by the characteristics of the student, but that development is also influenced by the concrete experiences and behaviors generated by varied teaching practices, as well as by the frequency and quality of contact between students and faculty. The general implications of this subjective impression would appear to merit further investigation because it may suggest a need for fundamental shifts in how educators should think about university influences on personality development.

The concern for personality development, specifically identity development, has pervaded the present study. It appears particularly important that faculty and administrators understand that the furtherance of personal growth is not just a "nice" addition to present educational programs but a necessary part of those programs. Educators must confront the issue of choosing specific developmental goals for

the educational process. In conclusion, the investigator suggests that the present choice of means have implied choice of end goals in terms of academic achievement supplemented by a concern for mental health rather than the stimulation of human development. Merely proclaiming education in terms of intellectual growth is hardly sufficient. As Sanford (1966) maintains, true education must be liberating and differentiating, and if the educational process is to be successful, its participants must be different from rather than mirror images of others. Institutions of higher education must distinguish education from indoctrination, citing as their goal the

... maximum development of the individual, bringing forth as much of his potential as possible, and setting in motion a process that will continue throughout his lifetime. This goal implies a development of certain qualities in a person which exist independently of any specialized skill or knowledge, qualities which are favorable to leading a rich, productive life ... and to ... performing effectively as a citizen in a democratic society (Sanford, 1966, pp. 41-42).

SELECTED BIBLIOGRAPHY

- Allport, G.
- 1961 Pattern And Growth In Personality. New York: Holt, Rinehart and Winston.
- 1968 The Person in Psychology. Boston: Beacon Press.
- Allport, G., P. Vernon, and G. Lindzey.
- 1970 Study of Values Manual (third edition). Boston: Houghton Mifflin.
- Armitage, P.
- 1955 "Tests for Linear Trends in Proportions and Frequencies." Biometrics, 11, 375-386.
- Astin, A.
- 1970 The Methodology of Research on College Impact. Washington, D.C.: American Council on Education.
- Baker, F.
- 1971 "Measures of Ego Identity: A Multitrait Multimethod Validation." Educational and Psychological Measurement, 31, 165-173.
- Becker, A.
- 1957 "Childhood, Society and Identity: On Erik Erikson's Childhood and Society." Psyche. Heidel, 11, 821-830.
- Belyayev, B.
- 1963 The Psychology of Teaching Foreign Languages. Oxford, England: Pergamon Press.
- Brawer, F.
- 1973 New Perspectives on Personality Development in College Students. San Francisco: Jossey-Bass.

Brown, R.

- 1972 Student Development in Tomorrow's Higher Education: A Return to the Academy. Washington, D.C.: American Personnel and Guidance Association.

Buros, O. Ed.

- 1965 Sixth Mental Measurements Yearbook. Highland Park, New Jersey: Gryphon.
- 1972 Seventh Mental Measurements Yearbook. Highland Park New Jersey: Gryphon.

Chickering, A.

- 1967 "Institutional Objectives and Student Development in College." Journal of Applied Behavioral Sciences, III, 287-304.
- 1971 Education and Identity. San Francisco: Jossey-Bass.
- 1972 "Undergraduate Academic Experience." Journal of Educational Psychology, 63 (2), 134-143.

Chickering, A., J. McDowell, and D. Campanga.

- 1969 "Institutional Differences and Student Development." Journal of Education Psychology, 60, 315-326.

Chickering, A., and J. McCormick.

- 1973 "Personality Development and the College Experience." Research in Higher Education, 1, 43-53.

Cochran, W.

- 1954 "Some Methods of Strengthening the Common X^2 Tests." Biometrics, 10, 417-451.

Coelho, G., D. Hamburg, and E. Murphey.

- 1963 "Coping Strategies in a New Learning Environment: A Study of American College Freshmen." Archives of General Psychiatry, 9, 433-443.

Combs, A.

- 1969 Florida Studies in the Helping Professions. Gainesville: University of Florida Press.

Constantinople, A.

- 1969 "An Eriksonian Measure of Personality Development in College Students." Developmental Psychology, 1 (4), 357-372.

Dressel, P.

- 1971 "Values, Cognitive and Affective." Journal of Higher Education, 42 (5), 400-405.

Edwards, A., and R. Abbott.

- 1973 "Measurement of Personality Traits: Theory and Techniques." Annual Review of Psychology, 24, 241-278.

Elton, C.

- 1969 "Patterns of Change in Personality Test Scores." Journal of Counseling Psychology, 16 (2), 95-99.

Emmerich, W.

- 1968 "Personality Development and Concepts of Structure." Child Development, 39, 671-690.

Erikson, E.

- 1950 "Growth and Crisis of the Healthy Personality." Symposium on the Healthy Personality (Supplement II), M. Senn (ed.), 91-146.

- 1959 "Identity and the Life Cycle." Psychological Issues, I (1), Monograph 1. New York: International Universities Press, pp. 5-17.

- 1963 Youth: Change and Challenge. New York: Basic Books.

- 1963 Childhood and Society. New York: Norton.

- 1964 Insight and Responsibility. New York: Norton.

- 1968 Identity, Youth and Crisis. New York: Norton.

Foster, J., and D. Long (ed).

- 1970 Protest: Student Activism in America. New York: Morrow.

Freedman, M.

- 1962 "Studies of College Alumni." The American College. N. Sanford (ed). New York: Wiley, 847-886.

- Freedman, M.
1967 The College Experience. San Francisco: Jossey-Bass.
- Guilford, J.
1965 Fundamental Statistics in Psychology and Education. New York: McGraw-Hill.
- Hall, C., and G. Lindzey.
1957 Theories of Personality. New York: Wiley.
- Hannah, W.
1969 "Withdrawal from College." Journal of College Student Personnel, II (6), 397-402.
- Harrison, J. and P. Sarre.
1971 "Personal Construct Theory in the Measurement of Environmental Images." Environment and Behavior, 4, 351-374.
- Heath, D.
1968 Growing Up in College; Liberal Education and Maturity. San Francisco: Jossey-Bass.
- Heath, S.
1959 "The Reasonable Adventurer and Others: A Two Factor Model of Ego Functioning." Journal of Counseling Psychology, 6 (1), 3-14.
- Heist, P. and G. Yonge.
1968 Omnibus Personality Inventory, Form F Manual. New York: Psychological Corporation.
- Hurlock, E.
1968 Developmental Psychology, New York: McGraw-Hill.
- Ivey, A. and W. Morrill.
1970 "Confrontation, Communication and Encounter: A Conceptual Framework for Student Development." National Association of Student Personnel Administrators Journal, 7, 226-234.

- Jacob, P.
1957 Changing Values in College: An Exploratory Study of The Impact of College Teaching. New York: Harper.
- Katz, J.
1968 No Time for Youth: Growth and Constraint in College Students. San Francisco: Jossey-Bass.
- Kelman, H.
1974 "Attitudes Are Alive and Well and Gainfully Employed in the Sphere of Action." American Psychologist, 310-324.
- Keniston, K.
1965 Social Change and the Challenge of Youth. New York: Harcourt, Brace and World.
- Kohlberg, L. and R. Mayer.
1972 "Development as the Aim of Education." Harvard Educational Review, 42 (4), 449-496.
- Korn, H.
1969 "Higher Education Programs and Student Development." Review of Educational Research, 39 (2), 214-225.
- Kubit, D.
1973 "Student Development in Tomorrow's Higher Education: The Beginning of a Dialogue." Journal of College Student Personnel, 47, 77-86.
- Lidz, T.
1968 The Person: His Development Throughout the Life Cycle. New York: Basic Books.
- McLeish, J.
1973 "Changes in Students in Relation to College Environments." Research in Higher Education, 1, 245-261.
- Maxwell, A.
1961 Analyzing Qualitative Data. London: Methuen and Co., Ltd.

May, W. and R. Ilardi.

1973 "Value Changes in College Students." College Student Journal, 7 (4), 57-61.

Meeth, R.

1972 "A Developmental Approach to College Orientation." Unpublished paper. SUNY, Buffalo.

Monroe, R.

1955 Schools of Psychoanalytic Thought. New York: Dryden.

Murphy, G.

1958 Human Potentialities. New York: Basic Books.

Murphy, L.

1960 "The Students' Experience of Growth." Achievement in the College Years. New York: Harper, 91-115.

Newcomb, T.

1964 "Student Peer-Group Influence." College and Character, N. Sanford (ed), New York: Wiley.

1966 College Peer Groups; Problems and Prospects for Research. Chicago: Aldine Publishing Company.

Newcomb, T. and K. Feldman.

1968 The Impact of College on Students. Vol. 1. San Francisco: Jossey-Bass.

Nichols, R.

1967 "Personality Change and the College." American Educational Research Journal, 4, 173-190.

Rago, J.

1973 "The Influence of Undergraduate Residence Upon Student Personal Development." College Student Journal, 7, 114-175.

Rappaport, D.

1959 "A Historical Survey of Psychoanalytic Ego Psychology." Psychological Issues, 1, 5-17.

- Rogers, C.
 1969 Freedom to Learn; A View of What Education Might Become. Columbus, Ohio: Merrill.
- Rokeach, M.
 1968 Beliefs, Attitudes and Values. San Francisco: Jossey-Bass.
- Rosenthal, R. and R. Rosnow.
 1975 The Volunteer Subject. New York: John Wiley and Sons.
- Sampson, E. and H. Korn.
 1970 Student Activism and Protest. San Francisco: Jossey-Bass.
- Sanford, N.
 1962 The American College: A Psychological and Social Interpretation of the Higher Learning. New York: Wiley and Sons.
 1964 College and Character. New York: Wiley and Sons.
 1966 Self and Society: Social Change and Individual Development. New York: Atherton Press.
 1967 Where Colleges Fail: A Study of the Student as a Person. San Francisco: Jossey-Bass.
 1970 "The Goals of Individual Development." 1945-1970; Twenty-five Years of Higher Education, C. Smith (ed), San Francisco: Jossey-Bass, 131-146.
- Siegel, S.
 1956 Nonparametric Statistics. New York: McGraw-Hill.
- Spranger, E.
 1928 Types of Men. Halle (Saale): M. Niemeyer.
- Stewart, L.
 1964 "Change in Personality Test Scores During College." Journal of Counseling Psychology, 11 (3), 211-219.

Trent, J. and L. Medsker.

1968 Beyond High Schools: A Study of 10,000 High School Graduates. San Francisco: Jossey-Bass.

Wallace, W.

1964 "Institutional and Life-Cycle Socialization of College Freshmen." American Journal of Sociology, 70, 303-318.

Webster, H., N. Sanford, and M. Freedman.

1957 "Personality Development During the College Years." Journal of Social Issues, 12, 3-70.

Webster, H., M. Freedman, and P. Heist.

1962 "Personality Changes in College Students." The American College, N. Lanford (ed). New York: Wiley and Sons.

Werner, H.

1948 Comparative Psychology of Mental Development. Chicago: Follet.

White, R.

1952 Lives in Progress; A Study of the Natural Growth of Personality. New York: Dryden.

Winer, B.

1971 Statistical Principles in Experimental Design. New York: McGraw-Hill.

Yates, F.

1948 "The Analysis of Contingency Tables with Groupings Based on Quantitative Characters." Biometrika, 35, 176-181.

VITA 8

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