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A Study of Differences Between a Group of Community College Students in an Adjustment Skills Course and a Control Group on Selected Personality and Non-Academic Characteristics

Eugene L. Curtis

A STUDY OF THE DIFFERENCES BETWEEN A GROUP OF COMMUNITY COLLEGE STUDENTS IN AN ADJUSTMENT SKILLS COURSE AND A CONTROL GROUP ON SELECTED PERSONALITY AND NON-ACADEMIC CHARACTERISTICS

by

Eugene L. Curtis

B.A. in Education, Western Washington State College 1956
M.Ed. in Counseling and Guidance, University of North Dakota 1960

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This dissertation submitted by Eugene L. Curtis in partial fulfillment of the requirements for the Degree of Doctor of Education from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

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Dean of the Graduate School

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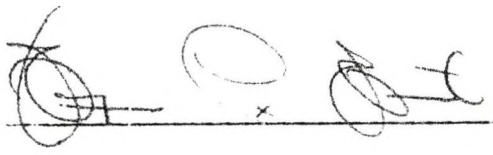
Signature 

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ABSTRACT

Problem

The purpose of this study was to ascertain the differences between a group of community college students in an Adjustment Skills course and a control group on selected personality and non-academic characteristics.

Procedure

The subjects in this study consisted of 56 freshmen males and 33 freshmen females enrolled at Wenatchee Valley College during the 1967 Fall Quarter who received a standard score less than 42 on the English Composite sub-test of the Washington Pre-College Test, or achieved a high school grade point average in English of less than 2.5. The experimental group consisted of 22 males and 17 females, while the control group consisted of 34 males and 16 females.

Three instruments, the California Psychological Inventory, the Allport-Vernon-Lindzey Study of Values, and the Heineman Forced-Choice Anxiety Scale constituted the main sources of data for this study. An Achievement Inventory, a specially constructed Biographical Characteristics Questionnaire, and existing college records provided additional data.

The statistical techniques employed in this study included analysis of variance and chi square. The .05 level was employed as the critical level for determining the significance of the obtained differences.

Findings

1. Experimental and control group females scored significantly higher than experimental and control group males on the sociability variable.

2. Experimental group females scored significantly higher than experimental group males on the self-acceptance variable. Control group males scored significantly higher than control group females on the self-acceptance variable.

3. Experimental and control group females scored significantly higher than experimental and control group males on the responsibility variable.

4. Experimental and control group females scored significantly higher than experimental and control group males on the self-control variable.

5. Experimental and control group females scored significantly higher than experimental and control group males on the good impression variable. The control group scored significantly higher than the experimental group on the variable, good impression.

6. Experimental and control group females scored significantly higher than experimental and control group males on the femininity variable. The experimental group scored significantly higher than the control group on the variable, femininity.

7. Experimental and control group males scored significantly higher than experimental and control group females on theoretical, economic, and political traits.

8. Experimental and control group females scored significantly higher than experimental and control group males on aesthetic, social, and religious traits.

9. Experimental and control group females scored significantly higher than experimental and control group males on the anxiety variable.

10. The experimental group scored significantly higher than the control group on the Achievement Inventory variable.

Conclusions

Females of each group were significantly higher than the two male groups on most of the variables where measurable differences were noted. Thus, it can be concluded that a sex difference was the major differentiating factor in the study and not treatment differences.

CHAPTER I

INTRODUCTION

Background of the Problem

It has been observed that the signing, in November 1965, of the Higher Education Act may have signified the opening phase of an educational revolution (Bowles, 1966). Universal higher education, defined by Bowles (1966) as opening the thirteenth and fourteenth grades to all high school graduates, will not undermine the foundations of higher education. It is simple recognition, and none too soon, that there is no decent employment for the high school graduate. Sanford (1962, p. 13) has stated:

> Since there is little need for young people in the world of production, a practical choice is to keep them in school for as long as possible, and college is the next step after high school.

He pointed out, however, that the real burden of mass education has fallen neither on the university nor on the state colleges, but on the junior colleges (Sanford, 1962). Gleazer (1964) pointed up the need for a dramatic expansion of the junior college establishment throughout the country in order to meet the expectations of our society. Havighurst (1964) noted that junior colleges would have to meet emergencies due to rapid expansion of the college age population that other higher institutions cannot or will not meet.

The American Association of Junior Colleges reported that seventy-four new junior colleges opened their doors during the fall of 1967, accelerating the dedication rate of one per week throughout the fifty states over the past several years (Shannon, 1966-67). Raines (1965), in his report to the Carnegie Corporation, stated that "The community college is in fact the most rapidly developing educational institution in the United States."

Mushrooming across the country, junior colleges and community colleges are coping with growing pains as they try to serve the diversity of the student body seeking entry. Two-year colleges typically have different goals than four-year colleges and Collins (1967) mentioned that junior colleges, having always been an American melting pot in miniature, were attempting to accommodate this diversity.

While measurement, analysis and understanding of the motivation and personality of bewildered junior college students is perhaps still in the "frontier" stage, it is presently possible to measure certain variables related to interest and motivation toward scholarly achievement. According to Collins (1967), the use of existing measuring devices for determining the pattern of characteristics which differentiated between successful and unsuccessful enrollees in a given program was of paramount importance in a comprehensive junior college.

Statement of the Problem

The purpose of this study was to ascertain the differences between a group of community college students in an Adjustment Skills course and a control group on selected personality and non-academic

characteristics. Specific non-academic factors incorporated in the present study included personality, values, anxiety, and socio-economic background.

Research Questions

The following research questions were tested during this investigation:

1. Are there significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of personality characteristics?
2. Are there significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of values?
3. Are there significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of anxiety?

Statistical Hypotheses

The research questions have been transformed into null hypotheses for the purposes of testing the significance of differences found. Initially, three major hypotheses were proposed. These hypotheses, stated in the null form, were as follows:

1. There are no significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of personality characteristics.

2. There are no significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of values.

3. There are no significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of anxiety.

Delimitations of the Problem

1. This study was concerned with students enrolled in a community college in Washington.

2. This study was concerned with freshmen enrolled at Wenatchee Valley College during the Fall Quarter of the 1967-68 academic year.

3. Those freshmen falling below a standard score of 42 on the English Composite of the Washington Pre-College Test, or having a high school grade point average in English of less than 2.5 were included in this study.

4. Those students for whom data were available on all the variables selected for study were included in this study.

5. The experimental group was limited to those freshmen enrolled and completing an Adjustment Skills course during Fall Quarter of the 1967-68 academic year at Wenatchee Valley College.

Limitations of the Problem

1. It was assumed that community college students forthrightly answered questions on a specifically designed Biographic Characteristics Questionnaire.

2. It was assumed that the psychological tests employed in this investigation had sufficient validity and reliability for the purpose of ascertaining the effects of an Adjustment Skills course upon students enrolled in a community college.

3. This investigation was based on the assumption that the instrument designed to specifically measure achievement in the Adjustment Skills course was a valid criterion of achievement.

4. It was assumed that the random assignment of subjects into experimental and control groups served to equate the two groups on all relevant variables.

Need for the Study

Numerous studies have been reported over the past twenty-five years in an attempt to describe our educational system during the important transitional period from high school to college. Prompted at least partly by the fear that many academically able students were being lost during this transition, a number of national studies and surveys were undertaken to answer the question, What kinds of students are enrolling in what kinds of colleges? Seibel (1966-1967) noted that none of these studies focused attention on or provided substantial information about the role of junior colleges or the nature of the students who entered

junior colleges, and concluded that the fund of information on the junior colleges and its students was quite limited.

Educators generally agree that academic success is influenced by personal traits or qualities, both intellectual and non-intellectual. Mjelde (1964) has written that despite recognized intellectual abilities, some students did not perform in high school or college as well as expected, and reasoned that a part of the discrepancy between aptitude and actual performance may be attributed to unmeasured non-academic factors. Woodman (1952, p. 275) discussed the need for non-intellectual assessment techniques on the college level:

> The high percentage of student failure to complete college careers presents a continuing problem to higher level educational administration. For a long time now, the rate of undergraduate "mortality" has ranged from approximately twenty to fifty percent, with present day figures no lower than those of twenty years ago.
>
> The many attempts to measure physical, sociological, and psychological variables are encouraging in that such measurements, when combined with scholastic aptitude tests usually increase aggregate forecasting efficiency to a higher level than any single measure can produce.

While more recent investigations have indicated that there were no significant differences between the persisters and the non-persisters on the usual intellective predictors of academic performance, relevant non-intellectual differences were apparent, and more important, these differences appeared very early. Data compiled by Thornton (1960) showed that over 50 percent of freshmen students left at the end of the first year in college. It is generally known that as many as 10 percent of college freshmen drop out between fall registration and Christmas vacation. A study by Seibel (1965, p. 20) of the first-year

college performance of 2640 students who attended two-year institutions or four-year institutions yielded the following conclusions:

> The proportion of students completing the year in good standing is smaller among junior college students than among four-year college students (61% and 78% respectively), and the proportion in academic difficulty, either on probation or dismissed, is nearly twice as great for the junior colleges (31%) as for the four-year colleges (18%).

Although most community junior colleges are concerned about the high proportion of entering students who do not successfully achieve their objectives, relatively few studies are reported that examine the reasons for unsuccessful achievement or that suggest procedures by which attrition rates may be reduced. From the research reviewed, it may be concluded that academic ability appears to be of no value in predicting successful achievement among junior college students, and that there are certain non-intellectual differences between students who successfully achieved and those who did not. These differences could be used to identify potentially unsuccessful achievers and should be given special consideration in formulating adjustment skills courses which would prove beneficial to students making the transition from high school to college.

Definition of Terms

Academic Difficulty--A student is considered to have encountered academic difficulty if he was on academic probation at the end of the Fall Quarter of the 1967-1968 academic year.

Academic Probation--A student is considered to be on academic probation at Wenatchee Valley College if he maintains a grade point

average of less than 1.50 in any quarter (Wenatchee Valley College Bulletin, 1967, p. 15).

Adjustment Skills Course--A course which considers the application of psychological findings and approaches to study habits, college orientation, self-identification, and individual adjustment.

Community College--A comprehensive, public, two-year college which offers post-high school education programs to meet the needs of the community (Blocker, Plummer, Richardson, 1965, p. 23).

Good Standing--A student is considered to be in good standing at Wenatchee Valley College if he maintains a grade point average of 1.50 or higher.

Junior College--Public or private two-year colleges whose primary emphasis is upon college-transfer courses and programs (Blocker, Plummer, Richardson, 1965, p. 23).

Open Door Policy--A policy which provides for the admission to college of all applicants who meet the minimum qualifications: high school graduation or eighteen years of age.

Two-Year Colleges--Public or private junior colleges, comprehensive community colleges, college and university extension centers, two-year branch colleges, and technical institutes providing at least two--but less than four--years of college-level work (Education Directory, United States Government Printing Office, 1962, p. 1).

Washington Pre-College Test--A test which purports to predict grade-point average for each of 42 college subject areas and overall college record (Batie, 1965, p. 1).

Organization of the Study

The remainder of the dissertation is organized into four chapters. In Chapter II, a review of literature related to the present investigation is presented. A description of the population studied, a description of the instruments utilized, and research procedures employed in pursuing this investigation are presented in Chapter III. Chapter IV reports the findings, organized in relation to the hypotheses. A summary, discussion of the conclusions and recommendations from this investigation are presented in Chapter V.

Appropriate appendices and references are included at the end of the dissertation.

CHAPTER II

REVIEW OF RELATED LITERATURE

For at least four decades the problem of determining factors related to achievement in college has been of special concern to educators. Early studies considered the use of intelligence tests, high school grade point averages, rank in graduating class, and grades in specific subjects as a means of predicting academic achievement in college. As research continued, investigators experimented with different combinations of criteria in an attempt to provide more reliable methods for the prognosis of college achievement.

A great many studies have been made using intellectual variables such as I.Q. to predict college achievement in isolated subject areas and in total college performance. However, since this study is concerned with examining non-academic factors to determine the effects of an Adjustment Skills course upon students enrolled in a community college, the present review of the literature is focused upon the non-intellective variables of personality, values, and anxiety. In addition, the pertinent literature related to community colleges is presented.

The Community College

The term "junior college" was first used by Harper in 1896 to describe the freshman and sophomore years (Eels, 1931). The name was

abandoned when the University of Chicago was reorganized in 1931, but Harper is regarded by many as the "father of the junior college." Whatever the influence of Harper, the concept gradually became accepted, and since that time the development of junior colleges has been impressive. Although the idea was conceived in the nineteenth century, the two-year junior college was a product of the twentieth century (Brick, 1963).

Brick (1963, p. 25) has called the junior college "an involving agency of democratic education." Others have called it a college for the masses. From its beginning, its proponents have seen its mission as one which is beyond the scope of high schools and as having a purpose generally neglected by colleges and universities. Thus the junior college has come to be viewed as a unique segment of American education. The current form of the junior college has been shaped by many forces and it serves a variety of functions. The wide diversity among junior colleges is partly a result of the services rendered and the nature of the support received. There are currently two-year colleges designated by the type of support received as public junior college districts, municipal districts, county districts, state systems, private, and private denominational.

Whatever the nature of the support, junior colleges have been, with few exceptions, responsive to educational demands from a rather small geographic region. Their functions have been largely shaped by the needs of the area being served. One of the reasons for the success of the two-year college has been its ability and willingness to adapt to social change. This has been possible, in part, because the

junior college curriculum has not always been clearly established nor well defined (Collins, 1967).

It is generally acknowledged that the first public junior college was organized at Joliet, Illinois in 1901 (Brick, 1963). Since that time the growth of junior colleges has been impressive. By 1922 there were 207 junior colleges; by 1930, 436, and by 1960, there were 660, of which 390 were public. Every state in the nation now has at least one two-year community or junior college. Nevada became the last state to open such a college, namely, Nevada Community College at Elko. The Elko institution was one of the 74 new junior colleges to open in 29 states during the fall of 1967. Public community colleges now number 900, with a total enrollment of 1,665,000 students, a 15 percent increase over 1967 (NEA Journal, February, 1968, p. 3).

It has been noted that the community-junior college in the United States was a product of the twentieth century. The year 1968 marked the 43rd anniversary of the community college movement in the State of Washington (Richardson, 1965). In the period 1960 to 1967 community colleges in the State of Washington have shown rapid development, both in the number of campuses and students. In 1960 ten community colleges were in existence. More than doubling the size, twenty-two institutions were in operation at the beginning of fall quarter, 1967. During this period of rapid expansion, the state legislature officially designated the junior colleges of Washington as community colleges, a term indicative of their comprehensive and community role (Richardson, 1965). Based upon official designation of courses for reimbursement purposes, students attending Washington

community colleges were classified as academic (87.4%), vocational (12.3%), and the remainder (0.3%) as adult education or community service (Metcalf, 1965).

Gleazer (1962, p. 7), in extending his observations and guidlines concerning the two-year college, its composition, objectives and role in higher education, succinctly suggested that a good community college:

1. Is a community college
2. Has an identity of its own
3. Is part of total education
4. Has a realistic program
5. Is characterized by superior teaching
6. Has an adequate financial base
7. Is effectively organized
8. Motivates
9. Plant is accessible and recognizable

In discussing how a good community college motivates, Gleazer (1962) offered evidence that placing an institution of higher learning within commuting distance of potential students markedly increased the percentage of the population going to college if the institution offered programs to meet the interests of the population. Viewing this as a distributive function requiring substantial attention to guidance, Gleazer (1962, p. 10) noted:

> A good community college acknowledges this responsibility and employs trained counselors; it studies student aptitudes and acquaints students with these data; it identifies and assists underachievers; and it seeks to ascertain that students have made vocational choices compatible with their aptitudes.

Blocker, Plummer, and Richardson (1965) reinforced this responsibility by categorically stating that students with average or below-average academic abilities must be given an opportunity to achieve their potential. They suggested that the responsibility for providing

developmental curricula for individuals with some potential for education beyond high school rested with the two-year college.

Personality

The term personality in English is derived from the Latin word persona, which most authorities agree originally meant a mask worn by the players in the ancient Roman drama. In some cases it also referred to the players who wore the mask. Lundin (1966, p. 2) has provided a working definition of personality, as follows: "Personality is that organization of unique behavior equipment that each individual has acquired under the special conditions of his development."

The personality of the college freshman has been the focus of a number of investigations. Various studies have attempted to identify personality characteristics that might be related to underachieving behavior in college. However, the majority of studies have failed to identify any consistent global personality differences between achievers and underachievers. In particular, Medsker (1965) pointed out that little was known about the personality characteristics that differentiated junior college students from those attending other types of colleges.

Snider and Linton (1964) found that the California Psychological Inventory differentiated between pairs of achievers and underachievers who were matched on the basis of ability and other pertinent data. The results of a study by Holland (1959), utilizing the CPI, indicated that achievers generally were more socially introverted, responsible, mature, and conforming to recognized societal standards

than were their underachieving counterparts. His study further revealed that positive self-attitudes were descriptive of underachievers.

In a comprehensive review of the literature Munger, Winkler, Teigland, and Kranzler (1964) concluded that such traits as a sense of responsibility, the need to achieve, and self-confidence were related to achievement at the college level. College female underachievers were reported to be less self-confident than achievers. In their review of the literature concerning personality differences between high school achievers and underachievers, they found that female achievers scored significantly higher on the scales of dominance, sociability, social presence, sense of well-being, responsibility, socialization, self-control, and achievement. The male achievers scored significantly higher than male underachievers on the scales of socialization, achievement, and femininity. These investigators concluded, however, that the relationship between achievement and personality adjustment was not clearly understood.

Utilizing the CPI, Norfleet (1968) investigated the relationship between personality characteristics and academic achievement in gifted university women. The results suggested that the achievers were more poised, responsible, mature, and tolerant than the underachievers. As defined in this study, the achieving women were more highly socialized than the underachieving women. Barger and Hall (1964) investigated the relationship of personality patterns to achievement, and dropping out of college. The results of their study indicated that personality characteristics were useful in predicting achievement and retention in college.

Recognizing that during the past 15 years there has been an ever-increasing body of research that indicated that college achievement was dependent upon something more than intellectual ability, Vaughan (1967) attempted to hold intellectual ability constant while investigating the relationship between personality factors and academic achievement. The results of his study stated that the achieving student demonstrated a greater sense of responsibility which manifested itself in a willingness to accept the consequences of personal behavior. Trustworthiness, dependability, and a sense of obligation characterized the achieving student. He concluded that the college nonachiever frequently differed from the achiever in extraversion, overactivity, a failure to learn from experience, and a disregard for social responsibility.

Sanford (1956), in a carefully controlled study at Vassar College, reported that there were marked personality differences between students as freshmen and seniors. Medsker (1964), p. 71), in considering the personality characteristics of junior college students and their implications for student personnel services, stated that "changes in personality traits and in attitudes and values during junior college years are minimum."

Wessell and Flaherty (1964) administered the CPI at the beginning and end of the freshmen year to 156 female college students. The following traits were found to be significantly higher after one year in college: capacity for status, social presence, self-acceptance, and achievement via independence. On the other hand, scores for sense of well-being, socialization, communality,

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and femininity showed a significant drop after one year exposure to the college setting.

A 4-year longitudinal study was conducted by Nichols (1967) with 432 males and 204 females attending different colleges to study changes in personality and interests during the college years. All students involved in the study were National Merit finalists. Separate analyses of the data for males and females were made under five headings: (1) changes during college, (2) reliability, (3) units of change, (4) dimensions of change, and (5) college effects. His findings were consistent with previous research that college students became more aware of their impulses and less dependent on constricting defense mechanisms.

The personality characteristics of student leaders has been studied by several researchers. A comparison of the CPI profiles of 50 student leaders and 50 nonleaders at Utah State University was made by Johnson and Frandsen (1962). They concluded that the student leaders were achievement-oriented, well-adjusted, confident, dominant, extroverted, responsible, and ingratiating. Upon the basis of sociometric ratings made by 110 seniors, 22 leaders and 22 nonleaders were selected by Flaherty (1967) for comparison on freshman test scores. She found that the leaders as freshmen scored significantly higher than did the nonleaders on five of the Class I traits of the CPI. It was concluded that Class I traits on the CPI had some validity for predicting leadership in college. Similarly, it appeared that nonleaders could be predicted by low scores on the same traits.

The relationship of sociometric indices to counselor candidate effectiveness was studied by Gade (1967). The sample consisted of 30 graduate students in counselor education at the University of North Dakota. Staff rankings of counseling effectiveness were correlated with socio-metric status and sociempathy rankings. A positive relationship was found between counselor effectiveness and sociometric status. "The relationship between rankings of counselor effectiveness and sociempathic ability was less significantly established" (Gade, 1967, p. 124). It was suggested that future studies be focused upon cognitive and affective variables associated with sociempathic ability and sociometric status.

Voeks (1964) cited some personality characteristics as limiting the ability to attain what otherwise could be attained from college. She noted that the same personality characteristics that handicapped students while in college also handicapped them for the remainder of their lives. Investigating the causes for discharge from jobs, Voeks (1964, p. 133) studied 4,000 office workers separated from 76 large firms. She found that "inadequate technical skill was listed as a cause for dismissal for only 10.1% of these people. The other 89.9% were discharged because of personality inadequacies."

A study was designed by Lichtenstein and Bryan (1966) to investigate the relationship of the Marlowe-Crowne Social Desirability Scale and the CPI on two samples of 108 male college students. They found that eight of the 18 CPI scales yielded significant correlations in both samples and the pattern of correlations was

interpreted as consistent with the theoretical description of the need for approval. Their results also indicated that the "high approval" students were better adjusted and more similar to the average college student.

Query (1966) analyzed the CPI profiles of 25 successful, fair, and unsuccessful seminary candidates. All unsuccessful candidates had been advised to cease their course of study and all successful candidates were ordained. He found that five scales (capacity for status, sociability, self-acceptance, tolerance, and flexibility) significantly differentiated among these groups and that higher standard scores were obtained by those rated successful on capacity for status, permissiveness, and flexibility.

The differences in personality and intellectual traits between four groups of 464 freshmen and sophomore women who pursued a teacher training program were investigated by Durflinger (1963). He found that women who completed the program and earned teaching credentials appeared to excel, but not significantly, on desirable personality factors. Moreover, the women who completed the program tended to indicate greater interest in "social" occupations.

Swisdak and Flaherty (1964) administered the CPI to 170 female students during their first week in college. After five years, scores of those who were graduated were compared with scores of those who were not graduated. They found that only three CPI scales (socialization, capacity for status, and achievement via conformance) showed significantly higher mean scores for the graduates than for the dropouts. A study by Astin (1964) reported equally limited success in predicting college dropouts using the CPI.

In a study of the relationships between each of the 18 CPI traits and freshman grade point average at a liberal arts college for women, Griffin and Flaherty (1964) found that 10 of the 18 traits correlated significantly with the grade point average. They suggested that the prediction of freshman grade point averages might be improved with the use of the CPI scores.

Flaherty and Reutzel (1965) studied the relation of non-intellectual aspects of the personality to intellectual achievement. At the beginning of the freshman year, the CPI was administered to 149 female college students. On the basis of grade point average calculated at the end of the freshman year, the highest ranking 25 percent of the class were labeled "high achievers" and the lowest ranking 25 percent, "low achievers." For the high achievers, the following traits were found to be significantly higher: dominance, capacity for status, sociability, self-acceptance, responsibility, tolerance, achievement via conformance, achievement via independence, intellectual efficiency, and femininity. On one scale, flexibility, a significantly higher mean was found for the low achievers. They concluded that certain CPI scales may be used as possible nonacademic predictors of achievement.

There appears to be a paucity of literature dealing specifically with the personality characteristics of the community college student. Two studies of sub-groups of junior college students by Medsker (1965) suggested that they may have certain distinguishing personality characteristics. He reported that junior college students, in general, were more conventional, less independent, less attracted

to reflective thought, and less tolerant than their peers in four-year institutions.

Cross (1968), in reporting on the personality characteristics of junior college students, stated that generalized conclusions regarding personality differences could not be drawn. There was some evidence, however, that junior college students were more cautious, prudent, and controlled, and more apprehensive and rigid in their concerns over grades and academic standing than were other college students.

Values

The Allport-Vernon-Lindzey (1960) Study of Values is a scale designed to measure the six dominant interests of personality originally postulated by Eduard Spranger and termed theoretical (interest in truth and knowledge), economic (interest in the useful or material), aesthetic (interest in form and harmony), social (interest in social welfare), political (interest in prestige and power), and religious (interest in unity with the cosmos but actually adherence to the forms of religion). (See Appendix B.) Neither Spranger nor the Allport-Vernon-Lindzey Scale imply that a given individual is characterized exclusively by one or another of these types of values. Rather, the relative ascendancy of each value in the life of the individual at a given time is ascertained.

Several years ago the Harvard Report attempted to establish the ends of higher education and succinctly summarized them as the development of the ability "to think effectively, to communicate thought, to make relevant judgments, and to discriminate among values"

(Stoltenberg, 1963, p. 25). Dealing with values was one of the four major goals of higher education, according to the Harvard Report. Values were not peripheral to the educational process but rather were viewed as being at the very heart of education.

Patterson (1959, p. 55), after reviewing definitions offered by a sociologist, a social psychologist, and a psychiatrist, concluded that "it appears that a simple, generally acceptable definition of values is difficult if not impossible to formulate." He noted that values affected our perceptions, and therefore our wants and desires. As standards or criteria, values are non-objective, in the sense that they represent preferences which are in large part socially or culturally determined. Patterson (1966, p. 23) also stated that "life is a search for a hierarchy of value commitments."

Maddi (1966) expressed a point of view in agreement with that of Patterson. Values were defined as beliefs or convictions that the individual considered important, not only for himself, but for other people as well. Williams (1951, p. 388) defined values as " . . . modes of organizing conduct--meaningful, affectively invested principles that guide human action." Furthermore, Dewey (1939, p. 2) stated, "Good sense in practical affairs is generally identified with a sense of relative values."

The values an individual practices can be the most revealing expressions of himself. This point of view has been well stated by Stoltenberg (1963), p. 27):

> Values are closely tied to an individual's most basic commitments or beliefs or "religion," which means that commitment and values will both be deeply involved in any significant process of change.

Botkin (1968) viewed culture, value, and choice as correlate ideas; hence he found it impossible to conceive of man without a value system. He reasoned that the ability to transcend blind, instinctive behavior revealed a hierarchy of values and indicated that values resulted from the interaction of maturation and learning. In a succinct summary Botkin (1968, p. 192) stated:

> Man always appears enveloped in a natural and a cultural environment, and there is no compelling reason to reduce one to the other. However, values are not easily recognized or isolated. Rather, they are the basic assumptions and meanings that undergird the actions of a society or a personality. More often than not, they have never been consciously or clearly articulated.

Suggesting that a cultured intellect was highly desirable and necessary, Kelsey (1964) pointed up a need for philosophic direction. In placing the development of man in perspective, Mill (1955, p. 55) suggested that "Men are men before they are lawyers, or physicians, or merchants, or manufacturers; and if you make them capable and sensible men, they will make themselves capable and sensible lawyers or physicians."

Blocker, Plummer, and Richardson (1965), in discussing the two-year college, concluded that the college must be cognizant of the values of society and of the implications these values have for its clientele. Values were considered important because they set the general limits of thought and behavior within which colleges could function.

The research findings that the social and economic attitudes of college students were not much different from the attitudes of those who did not go to college have been explained by Munk (1965)

as undoubtedly showing the influence of social conditioning. He viewed college as having a socializing rather than a liberalizing impact on values. Stated somewhat differently, college strengthened respect for the prevailing social order.

In a study of freshmen at Michigan State University, Lehmann and Payne (1963) were unable to identify the factors out of the total college experience which explained changes in attitudes and values. While not denying that significant changes in attitudes and values occurred during college, they stated that college instructors and courses had no impact upon student behavior. Conversely, their findings suggested that the college experience reinforced rather than modified prevailing values. Similarly, Jacob (1957) reviewed research at different institutions with respect to the impact of college on students values and concluded that, for the most part, neither courses, instructors, nor curricula had a marked impact on student values.

A general lack of well-defined values both among teaching and administrative staff in colleges and universities and among the general populace has been reported by Crane (1962). He noted that the lack of values in students may be attributed to contacts with university personnel who exhibited few clearly defined values.

In viewing changes in attitudes and values associated with college attendance, Lehmann, Sinha, and Hartnett (1966) indicated that the most dramatic changes took place during the freshmen and sophomore years. Further, they suggested that college acted as a catalyst to speed up changes that would ordinarily have occurred as the individual matured.

A study by Rossi (1964) suggested that the major change in the values of college students occurred during the initial six to eight weeks following college entrance. Riker (1966, p. 72), concurring with Rossi, recommended that "every feasible step must be taken during these early weeks to help students establish high personal standards of academic performance and productivity."

In attempting to measure some of the non-intellectual factors which may have had a significant influence upon students at Pennsylvania State University, DeSena (1964) found that achievers were more motivated toward future goals and had higher levels of aspiration than did underachievers. His study revealed that achievers were more able to exercise self-direction and self-discipline, while underachievers were reported as being less self-sufficient, less easily upset, and less submissive. He concluded that certain values can be identified which characterized the level of achievement. A study conducted by Rezler (196) at Roosevelt University compared underachievers to achievers and reported a difference in values between the groups. Her investigation indicated that achievers valued opportunity for self-expression, congenial working conditions, work independently, and getting good grades. Underachievers were found to be more interested in money and prestige, and in a business career. Underachievers did not believe that getting good grades was important. Rezler postulated that a given value system was not incidental to achievement in college.

Kelsey (1964) administered the Study of Values to 1,625 students enrolled in the first through fourth years at the University of

British Columbia. Increases in mean scores were recorded on the theoretical, political, religious, and social values. Decreases were recorded on the economic and aesthetic values. Kelsey attributed the observed changes to the temper of the times, and to the cultural patterns of thought which prevailed.

A study of students from low socio-economic groups conducted by Brazziel (1964) supported the contention that the values of the low socio-economic college matriculants were different from those of the middle and upper socio-economic students. However, Brazziel pointed out that attributing the academic success or failure of these students to their observed values would constitute an over-generalization. Moreover, as Cooper (1967) has indicated, students have tended to avoid value considerations on the ground that they were subjective and unprovable. He recommended that students be forced to think through their value systems independently, encouraged by faculty who did not seek to control the process.

Barzun (1968, p.37), in discussing the demands of earnest students that the university teach them "values," wrote:

> The wish is not so laudable as it sounds, being only the wish to have one's perplexities removed by someone else. Even if this were feasible and good, the practical question of what brand of values (i.e., what philosophy, religion, or politics) should prevail would be insoluble. It is a sufficient miracle if a college education, made up of many parts and many contacts with divergent minds, removes a little ignorance. Values (so-called) are not taught; they are breathed in or imitated. And here is the pity of the sophistication that no longer allows the undergraduate to admire some of his elders and fellows: he deprives himself of models and is left with a task beyond the powers of most men, that of fashioning a self unaided.

Anxiety

Of the non-intellectual variables studied during recent years, particularly as they related to academic achievement in the first year of college, the factor of anxiety has received increased emphasis. Ridlon (1967, p. 138) described anxiety as a regular part of a college freshman's traveling equipment.

> The student who encounters difficulties far out of proportion to those predictable from high school records, aptitude tests, and achievement tests will often be found psychologically insecure. His insecurity, produced by many different factors, manifests itself in various ways. One of the most common of these is anxiety.

Symonds (1946) differentiated anxiety from fear by defining fear as an immediate response to a present danger situation, while anxiety was defined as a fearful anticipation of a dangerous situation to be encountered in the future. He cited suspense and uncertainty as the greatest causes of anxiety.

A recent study by Krauss (1967) examined the greater usefulness of linking anxiety with a future orientation rather than with a past orientation. He concluded that most personality theorists recognized but did not stress the association of anxiety with a future event.

Stagner (1961), while recognizing anxiety as a major factor in nearly every form of personality breakdown, also acknowledged that anxiety in certain amounts was necessary and a significant component of the "normal" personality. Cohen, in a concise statement quoted by Havemann (1968, p. 186) said:

> I'm not in favor of reducing anxiety except when it gets to be disintegrating to the patient; I can't think of any kind of anxiety-free, conflict-free, challenge-free society that would be a worthy society. Muscles atrophy when they have nothing to work against, and so does the mind.

Gordon (1963, p. 562) viewed anxiety as a motivating factor, vitally essential in "an increasingly complex and achievement-driven society." Moreover, in a study involving 51 university students, Pratap and Filella (1966) partially confirmed their hypothesis that the influence of anxiety as a motivating drive tended to increase the activity level, and that even in normal people anxiety was not always motivating.

An influential aspect of Freud's theory extended the view that much motivation was unconscious, and that the individual himself often was unaware of the needs he was trying to meet through his behavior. In regard to unconscious motivation, Goodenough and Tyler (1959, p. 247) noted:

> There has come a focusing of attention on anxiety as a source of many diverse kinds of behavior. Anxiety differs from fear in its lack of connection with any particular kind of stimulus. It is vague, diffuse, intangible.

While recognizing that the indirect effects of anxiety often gave the appearance of behavioral confusion, Lazarus (1961) pointed out that, in reality, anxiety had important organizing properties.

In considering anxiety as it related to achievement, the findings of researchers have indicated that a relationship was not consistently found. A study by Groom and Endler (1960, p. 304) reported no significant differences in achievement between high anxious and low anxious subjects. They concluded that "there is no direct significant relationship between test anxiety and academic achievement. Similarly,

Knight and Chansky (1964) found a negligible relationship between anxiety and achievement measures. Further, they noted that data on the relationships between anxiety and achievement were meager.

The interrelationship between anxiety and first-semester college achievement was investigated by Stix (1967). He found that a moderate level of anxiety appeared to be optimally conducive to first-semester over-achievement for female students, while too little anxiety appeared to be more "disruptive." His report indicated that highly anxious male students adjusted satisfactorily to their initial semester while, conversely, nonanxious males experienced academic difficulty.

In a study designed to explore the interrelationships among measures of anxiety, authoritarianism, and attitude toward departmental control of college students, Bendig and Hountras (1959) found that covertly anxious males preferred instructors who exercised complete control over course procedures, while covertly anxious females preferred that the courses be structured by the department. The study suggested that most college courses had male instructors and male students felt greater confidence and empathy with instructors of their own sex. Another possibility extended was that males who were significantly more authoritarian than females empathized more easily and trusted the authoritarian figure of the course instructor, regardless of instructor sex. Female students tended to distrust the control of predominantly male instructors over course procedures, and preferred departmental restrictions over course structure. The authors concluded that the covertly anxious females, being lower in

authoritarianism, distrusted the authoritarian image of instructors and preferred the socially more distant departmental control.

Frost (1965, p. 282), in an extensive review of the literature concluded that "few, if any, of these 'anxiety' studies have been adequate tests of the various theoretical explanations to be expected between 'anxiety' and achievement." Further, he noted that "both the Taylor-Spence theory and the Sarason theory predict that anxiety will interfere with complex learning."

Johnson and Medinnus (1965, p. 475) reported that, despite some contradictory results, there has been a consistent negative correlation between anxiety and school achievement at the elementary level. They postulated that anxiety impaired a child's intellectual functioning "as though so much of his attention and effort were diverted to coping with his problems that he could not apply himself sufficiently to other tasks."

Furneaux (1962) found that anxiety correlated positively with achievement in university students (a high intelligence group), while Child (1964) found anxiety to be negatively correlated with achievement in school children with limited intelligence.

In a study by Spielberger and Katzenmeyer (1959, p. 278), it was stated that "high aptitude students tended to obtain good grades regardless of their anxiety level." In a subsequent study Spielberger (1962) found that students of low intellectual ability earned low grades, irrespective of anxiety level. There was a negative relationship between anxiety and achievement for students of medium intelligence. For the highly intellectual students, however, anxiety facilitated performance.

A study of 210 male, college freshmen grouped as high, middle, and low anxiety students was conducted by Malnig (1964) to determine differences in the effectiveness of aptitude test scores in predicting grades. He noted that in no case did the correlation for the high anxiety students attain significance, while for the low anxiety students every correlation was significant.

Raygor (1957) found that 50 percent of the students at the University of Minnesota Educational Skills Clinic reported some loss of effectiveness due to anxiety during final examinations. He concluded that improvement in study skills increased self-confidence and resulted in a reduction in anxiety. Conversely, Symonds (1946, p. 151) stated "that there is almost no relation between anxiety concerning examinations and success with them." He reported cases in which persons who had intense anxiety prior to an examination were, nevertheless, consistently successful.

In a study by Harkey and Howell (1963) low anxiety and high anxiety college students were given three forms of the Gorham Proverb Test. It was found that the high anxiety group scored lower on the Proverb Test and that males had lower proverb scores than did the females. The authors concluded that a high level of anxiety impaired verbal abstract ability.

Taylor (1964, p. 82), in a review of the literature concerning personality traits and achievement, found that the over-achiever had less deep underlying anxiety, but more inner tension with better outer control than the under-achiever. He concluded that "the degree to which a student is able to handle his anxiety is directly related to his level of achievement."

These studies have suggested that mild anxiety facilitated performance, while high anxiety lowered performance. Even though there was fundamental agreement that conflict produced anxiety, which interfered with the normal processes of learning and development, there was also evidence that anxiety, if properly directed, was a potent motivating factor.

This chapter has reviewed the professional literature relevant to this investigation. In Chapter III attention will be given to the methods and procedures employed in the investigation.

CHAPTER III

DESIGN AND METHODOLOGY

Source of Data

Data used in this study were gathered at Wenatchee Valley College (WVC), a community college located in Wenatchee, Washington. Enrollment in 1966-67 totaled 1,679 in full-time and part-time academic and vocational programs. Full-time faculty numbered 61 and there were 48 professional people involved in part-time programs designed to meet specific educational needs. An indication of the continued expansion is evident from a study of student body growth during recent years: The 1967 graduating class of 160 was 25 percent greater than the class of 1966. In 1960 the enrollment at Wenatchee Valley College totaled 535 students.

The variety in the curriculum offered in 1966-67 was apparent from the more than 250 courses available in 37 general subject areas. As part of the evening adult-education program, another 50 classes were offered each quarter.

Wenatchee Valley College was established in 1939 to provide post-high school education opportunities to residents of the North Central Washington area. Its beginning was marked by solid community support and 77 enthusiastic students (Wenatchee Valley College Bulletin, 1967). In 1941 the Washington State Legislature approved the

Junior College Bill and Wenatchee Valley College became part of the State's public educational system. In 1951 Wenatchee Valley College moved to its present 47-acre campus. The liberal arts and agricultural science buildings were the first structures completed. A student center, physical education center, additional classroom facilities and two dormitories were opened in 1962. A new arts-mechanical building was completed in 1967. Future plans call for a 2.5 million dollar expansion program designed to provide more facilities for a rapidly growing student body.

With the approval of the Community College Act of 1967, the general service area of Wenatchee Valley College was expanded to include all of North Central Washington. The legislative action separated the college from the common school district and created the 15th Community College District of Chelan, Douglas, and Okanogan Counties. The action cleared the way for continued growth of Wenatchee Valley College and an extension of additional educational services to the surrounding communities. Arthur D. Little, Inc. (1966) forecasted enrollments of 1,800 students by 1970; 2,300 by 1975; 2,500 by 1980, and 3,600 by 1985.

Research Population

During the fall quarter of the 1967-68 academic year at Wenatchee Valley College, 700 freshmen (260 females and 440 males) were enrolled. Of this number 288 freshmen received a standard score less than 42 on the English Composite sub-test of the Washington Pre-College Test, or achieved a high school grade point average in English of less than 2.5. The 288 students were randomly assigned

to an experimental group (N=144) and a control group (N=144).

Participation in the study was completely on a voluntary basis. Complete data on all the variables selected for study were available for 39 subjects in the experimental group and for 50 subjects in the control group. The experimental group consisted of 22 males and 17 females, while the control group consisted of 34 males and 16 females.

Upon the completion of high school, the experimental group had grade point averages ranging from 1.56 to 2.60 (A=4.0), with a mean of 2.09 and a standard deviation of .29; grade point averages for the control group ranged from 1.00 to 2.96, with a mean of 2.06 and a standard deviation of .42. (See Table 39.)

The age distribution of the experimental and control groups are shown in Tables 1 and 2. It is interesting to note that in the control group a range of 26 years was found, while in the experimental group a range of 9 years was obtained. It may also be noted that the majority of the subjects in both groups were 18 years of age or younger.

Treatment

The 39 students in the experimental group were registered in a section of the Adjustment Skills course conducted at Wenatchee Valley College. These sections were limited in number to 15 students each. The classes met three times weekly for 12 weeks. Class sessions were 50 minutes in duration. The first two class meetings each week were didactic and more formal in nature, while the third meeting was utilized as a group counseling session.

The content of the course followed the format of The Psychology of Human Behavior by Kalish (1966), a textbook designed specifically

TABLE 1

AGE DISTRIBUTION OF EXPERIMENTAL GROUP

Age (M=18.43)	Number	Percent
26	1	2.5
24	1	2.5
19	8	20.0
18	24	62.0
17	5	13.0
Total	39	100.0

TABLE 2

AGE DISTRIBUTION OF CONTROL GROUP

Age (M=19.48)	Number	Percent
43	1	2.0
33	1	2.0
26	1	2.0
25	1	2.0
22	1	2.0
20	3	6.0
19	11	22.0
18	29	58.0
17	2	4.0
Total	50	100.0

for an Adjustment Skills course. Emphasis in the textbook was placed upon orientation to college, study methods, human needs, personality development, emotions and stress, career planning and the world of work, the importance of values, and the individual and his groups.

Instruments

Five instruments, the California Psychological Inventory, the Allport-Vernon-Lindzey Study of Values, the Heineman Forced-Choice Anxiety Scale, a specially constructed Biographic Characteristics Questionnaire, and an Achievement Inventory constituted the main sources of data for this study. In addition, the Office of the Registrar made available the college transcripts of the students in the study.

The California Psychological Inventory (CPI) by Gough (1957) was developed to make possible the comprehensive, multi-dimensional assessment of normal persons in a variety of settings. It is a descendant of the MMPI specifically designed for relatively normal high-school and college students, and its scales are addressed principally to personality characteristics important for social living and social interaction (Cronbach, 1960).

The inventory is grouped into four broad categories as follows: measures of poise, ascendancy, and self-assurance; measures of socialization, maturity, and responsibility; measures of achievement potential and intellectual efficiency; and measures of intellectual and interest modes. Each category contains related scales, totaling 18 different characteristics. A total of 480 items contributed to the 18 scores which are derived from the CPI. (For description of

the scales, see Appendix A.) The instrument is largely self-administering; however, for the purposes of this study the directions were clarified and the answer sheets were scored by the researcher.

Anastasi (1961, p. 506) noted that the CPI has been termed "the sane man's MMPI," and reported that data were presented on test-retest reliability but not on split-half reliability. Standard score norms on over six thousand cases for both sexes were provided for a wide range of ages, socio-economic groups, and geographical areas.

Test-retest reliabilities based on 200 male prisoners retested after one to three weeks ranged from .49 to .87, with a median of .80. For high school subjects tested after one year, the median test-retest correlation was .65 for males and .68 for females. Thorndike (Buros, 1959) stated that application of Kuder-Richardson formula 21 to some of the data reported in the Manual suggested that split-half reliabilities would likely be in the .70's.

In the CPI Manual the author presented evidence on validity for each of the 18 different characteristics. Kelly (Buros, 1965, p. 169) has stated that "each of the scales has some validity when judged against life performance criteria." Furthermore, the Manual has presented considerable data bearing on the validity of the CPI, but emphasized that the evidence presented was drawn from cross-validational studies of the inventory. Kelly (Buros, 1965) observed that while about half of the 18 CPI scales correlated .50 or higher with scores on Bernreuter's Personality Inventory, the intercorrelations between the CPI and the MMPI scales tended to be quite low in spite of the fact that the two inventories had approximately 200 items in common.

Shaffer, in The Fifth Mental Measurements Yearbook (1959, p. 100), wrote that a wealth of information existed on the validity of the scales and on the interpretation of single scales, interactions, and profiles. He stated that the CPI appeared to "be a major achievement," and predicted that it would receive wide use both in practice and for research purposes.

Items for the Study of Values (AVL), by Allport, Vernon, and Lindzey (1960), were first formulated on the basis of the theoretical framework provided by Spranger. The criterion for final item selection was internal consistency within each of six areas: theoretical, economic, aesthetic, social, political, and religious. (See description of the six types in Appendix B). The Study of Values is an instrument especially adapted to the college-going or the college graduate population. While the authors stated that the test is self-administering and self-scoring, the way in which the self-scoring is achieved probably increased its "transparency."

Split-half reliabilities reported in the Manual (N=100) were theoretical .84, economic .93, aesthetic .89, social .90, political .87, and religious .95. The average total test reliabilities for the different sub-scales were .89 and .88 (one and two-month retest) and .82 (split-half).

In The Sixth Mental Measurements Yearbook (1965, p. 386) Radcliffe conceded that the Study of Values "as it is, has satisfactory reliability, both internal consistency and split-half, for group use."

Validity of the AVL has been checked by the method of contrasted groups. Anastasi (1961) wrote that the profiles of various educational and occupational samples exhibited significant differences in the expected directions. For example, medical students obtained their highest scores in the theoretical areas, whereas theological students were highest in the religious area.

In The Sixth Mental Measurements Yearbook, Hundleby (1965, p. 385) stated:

> With college or college graduate populations where concern is with dimensions of interest and value broader than those of, say the Strong Vocational Interest Blank or Kuder Preference Record, the Study of Values is quite likely to prove a helpful tool.

The measure of general anxiety used in this study was the Heineman Forced-Choice Anxiety Scale (HFCAS) (Key 2, FC-1). In his doctoral dissertation Heineman (1953) developed a forced choice form of the Taylor A-Scale revision (1953) designed to reduce the possible effect of conscious or unconscious tendencies or value judgments concerning the social desirability of particular responses. The fifty forced choice items consist of three statements each, an anxiety statement and a nonanxiety statement of comparable social favorability, and a second nonanxiety statement differing in social favorability from the two matched statements. The HFCAS is particularly useful in reducing the distortion toward social favorability when the subjects are of widely varying intellectual ability.

Taylor (1955, p. 374) has stated:

> It would appear that while more intelligent individuals were better able to "outguess" the true-false version (Taylor Manifest Anxiety Scale) and present themselves in a better light than were the less intelligent, use of the

> forced-choice scale eliminated the distortion of scores toward the direction of greater favorability and hence the (negative) correlation between intelligence and (general) anxiety measures.

The reliability of Key 2, FC-1 of the Heineman Scale, as obtained for 209 subjects by the use of the Kuder-Richardson formula 21, was .69 as compared with a reliability of .85 for the Taylor A-Scale as determined by the same procedure (Heineman, 1953).

The correlation between Heineman's Scale and Taylor's A-Scale was .60 (Heineman, 1953). Evidence that Heineman's Scale can be regarded as a valid measure of manifest anxiety as defined by English and English (1958) was presented by Heineman (1953). On the basis of available evidence, Cronbach (1950) concluded that the forced choice technique was relatively free from the influence of response sets and, therefore, its predictive value was increased.

An achievement inventory, to serve its purpose, should be a valid evaluation of student performance, even though it is recognized that such validity is only relatively possible. An inventory should also serve to motivate a student to study and to integrate the various aspects of a course. Further, it should communicate to a student how well he understands the course material while also communicating to the instructor how well he has succeeded in his teaching. Finally an achievement inventory should be a learning opportunity in and of itself.

By special arrangements with the publishers of The Psychology of Human Behavior (Kalish, 1966) test items provided by the author of the textbook were selected for inclusion in the Achievement Inventory administered in the Adjustment Skills course. Since the test items

were developed at approximately the same time that the textbook was published, no opportunity to ascertain their validity was available. However, selected instructors of the Adjustment Skills course have adjudged the 55 multiple choice and 20 true-false questions comprising the Achievement Inventory to be representative of the content covered in the course. A copy of the Achievement Inventory appears as Appendix C.

A suitable questionnaire to measure biographic characteristics of students enrolled in a community college was constructed by Neufeld (1968). Necessary modifications of the Neufeld questionnaire were made for the purposes of the present investigation. It was assumed that the questionnaire possessed sufficient content validity to be a useful measure. A copy of the questionnaire appears as Appendix D.

This brief questionnaire was administered to students in both the experimental and control groups. Chi square analyses revealed no significant differences between these groups, as would be expected from a random assignment procedure. The biographic characteristics of the students in this study are indicated below.

Nearly half (47%) of the student sample reported that they came from communities of 5,000 population or larger. A majority (69%) of the students surveyed were graduated in high school classes numbering 100 or more, while only 4% indicated that they were graduated in small classes (under 25). Fifty-eight percent (50) stated they were from families with from one to three children; 43% (38) reported that they were the oldest child.

While 15% (13) of the students indicated a parental income of less than $5,000 annually, 62% (55) reported their annual family income to be in excess of $7,000. Approximately two-thirds (52) of the student's fathers were occupationally located in an urban area, and a substantial percentage (46%) of the mothers were reported to be gainfully employed.

The percentage of mothers and fathers who had graduated from high schools was similar (37% and 40%, respectively), whereas more mothers (38%) attended college than did fathers (33%). In addition, parental influence was cited by a majority (49%) of students as being the reason they had decided to attend college. Friends (16%) and school staff members (13%) were less influential. Eighteen percent of the students attributed the decision to attend college to themselves.

While 29% (26) of the students reported that they provided less than half of the finances toward their college education, 27% (24) indicated that they were completely self-supporting. A large percentage (61%) of the men indicated that they planned to fulfill their military obligation after college graduation, while 18% reported that they intended to avoid military service. Only 12% had completed their military obligation.

Chi square tables concerning the foregoing biographic characteristics are found in Appendix E.

Procedures

The 288 students in the original research population were randomly assigned either to the experimental group or to the control group.

Letters were sent to these students inviting them to participate in a research project. (See Appendix F.) A return self-addressed post-card was enclosed and the selected subjects were requested to indicate whether they would volunteer to participate in the research project. Of the number indicating that they would participate, 45 in the experimental group and 57 in the control group actually appeared and completed the Biographic Characteristics Questionnaire. At the time of administration, the subjects were informed that the results would be kept in confidence and would be used only if the individual sought assistance in educational or vocational planning.

The Biographic Characteristics Questionnaire was administered during freshmen orientation week and prior to registration. All subjects completed the questionnaire within fifteen minutes. Subsequently, during advisement and registration, subjects in the experimental group were assigned to a section of the Adjustment Skills course. Subjects were given a free choice of class hours within the limits of academic scheduling and enrollment for each class.

Prior to the Thanksgiving recess letters were sent to all research participants requesting their presence during the eleventh week of classes to complete research testing. (See Appendix G.) A subsequent reminder was mailed in order to reach the research participants on the first day of their return to classes following the Thanksgiving recess. (See Appendix H.) On the post-course testing date 39 of the experimental group and 50 of the control group appeared and completed the post-course testing. Post-course testing included all of the instruments employed in this study, with the exception of

the Biographic Characteristics Questionnaire which was administered during freshmen orientation week. Testing time totaled two and one-half hours. Experimental and control groups were tested in separate areas.

Statistical Techniques

The principal statistical techniques employed in this investigation included chi square (Hountras, 1957), and a standard two-way analysis of variance for equal or unequal cell counts (Lindquist, pp. 108-120). Hypotheses one through three inclusive were tested using two-way analysis of variance. The .05 confidence level was employed to determine the significance of obtained differences. Data were processed through the facilities of the University of North Dakota Computer center, IBM System 360, Mod 30.

Chapter III has described the methods and procedures employed in the study. Chapter IV will present the findings of the present investigation.

CHAPTER IV

ANALYSIS OF THE DATA

Major Findings

The analysis of the data and findings will be presented in the order of the null hypotheses presented in Chapter I. Tables summarizing the data concerning the specific hypotheses tested are also included.

Null Hypothesis No. 1. There are no significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of personality characteristics.

Table 3 includes the means and standard deviations for the California Psychological Inventory variables for experimental and control group males. Differences in the means for the California Psychological Inventory variables among the experimental and control group males were minimal, with the exception of the traits of dominance and good impression. For these traits control group males had means which were approximately three points higher than the means for experimental group males.

TABLE 3

MEANS AND STANDARD DEVIATIONS FOR CALIFORNIA PSYCHOLOGICAL INVENTORY VARIABLES FOR EXPERIMENTAL AND CONTROL GROUP MALES

	Experimental N=22		Control N=34	
Variable	M	S.D.	M	S.D.
CLASS I.				
1. Dominance (Do)	22.95	5.68	25.18	6.36
2. Capacity for Status (Cs)	15.68	4.12	16.44	4.45
3. Sociability (Sy)	20.86	5.01	21.85	6.49
4. Social Presence (Sp)	35.23	4.99	35.00	6.87
5. Self-Acceptance (Sa)	18.73	4.42	20.65	3.61
6. Sense of Well-Being (Wb)	29.77	5.46	32.09	6.50
CLASS II				
7. Responsibility (Re)	24.77	4.68	23.68	5.79
8. Socialization (So)	34.23	6.10	34.03	5.49
9. Self-Control (Sc)	19.68	7.18	20.29	7.09
10. Tolerance (To)	17.14	5.44	17.88	6.12
11. Good Impression (Gi)	10.45	4.66	13.47	5.18
12. Communality (Cm)	24.95	3.23	24.15	3.54
CLASS III				
13. Achievement via Conformance (Ac)	21.36	4.22	22.03	5.62
14. Achievement via Independence (Ai)	15.04	2.90	14.88	4.89
15. Intellectual Efficiency (Ie)	31.73	5.07	32.59	7.10
CLASS IV				
16. Psychological-Mindedness (Py)	9.50	2.73	8.85	2.57
17. Flexibility (Fx)	9.64	3.65	9.06	3.76
18. Femininity (Fe)	15.95	3.90	14.73	3.69

Table 4 includes the means and standard deviations for the California Psychological Inventory variables for experimental and control group females. Differences in the means for the California Psychological Inventory variables among the experimental and control group females were minimal, with the exception of the traits of sense of well-being, tolerance, and intellectual efficiency. For these traits control group females had means which were approximately three points higher than the means for the experimental group females.

Table 5 includes the means and standard deviations for the California Psychological Inventory variables for total experimental and control groups. Differences in the means for the California Psychological Inventory variables among the total experimental and control groups were minimal, with the exception of the trait of good impression. For this trait the control group had a mean which was approximately three points higher than the mean for the experimental group.

Table 6 presents the analysis of the data for the variable, dominance. The scores for this trait did not discriminate significantly between the experimental and control groups. The null hypothesis was retained.

TABLE 4

MEANS AND STANDARD DEVIATIONS FOR CALIFORNIA PSYCHOLOGICAL INVENTORY VARIABLES FOR EXPERIMENTAL AND CONTROL GROUP FEMALES

Variable	Experimental N=17		Control N=16	
	M	S.D.	M	S.D.
CLASS I				
1. Dominance (Do)	25.65	5.93	25.25	5.37
2. Capacity for Status (Cs)	16.59	4.75	17.87	3.87
3. Sociability (Sy)	24.94	3.40	23.56	4.85
4. Social Presence (Sp)	35.82	5.17	34.94	5.07
5. Self-Acceptance (Sa)	21.59	3.11	19.69	4.18
6. Sense of Well-Being (Wb)	30.29	8.12	33.44	4.34
CLASS II				
7. Responsibility (Re)	26.71	4.66	28.69	5.71
8. Socialization (So)	34.18	5.56	36.94	7.49
9. Self-Control (Sc)	22.06	7.93	23.37	8.31
10. Tolerance (To)	17.12	6.96	20.06	5.67
11. Good Impression (Gi)	13.76	4.86	15.62	5.29
12. Communality (Cm)	24.65	3.43	24.81	3.39
CLASS III				
13. Achievement via Conformance (Ac)	23.65	5.57	23.94	4.20
14. Achievement via Independence (Ai)	16.18	4.45	16.56	4.58
15. Intellectual Efficiency (Ie)	33.00	6.68	36.19	6.87
CLASS IV				
16. Psychological-Mindedness (Py)	8.94	2.86	8.81	3.21
17. Flexibility (Fx)	9.18	3.76	9.44	2.89
18. Femininity (Fe)	23.12	3.29	23.31	3.10

TABLE 5

MEANS AND STANDARD DEVIATIONS FOR CALIFORNIA PSYCHOLOGICAL INVENTORY VARIABLES FOR TOTAL EXPERIMENTAL AND CONTROL GROUPS

Variable	Experimental N=39 M	Experimental N=39 S.D.	Control N=50 M	Control N=50 S.D.
CLASS I				
1. Dominance (Do)	24.13	5.94	25.20	6.06
2. Capacity for Status (Cs)	16.08	4.43	16.90	4.33
3. Sociability (Sy)	22.64	4.83	22.40	6.06
4. Social Presence (Sp)	35.49	5.08	34.98	6.35
5. Self-Acceptance (Sa)	19.97	4.15	20.34	3.83
6. Sense of Well-Being (Wb)	30.00	6.75	32.52	5.93
CLASS II				
7. Responsibility (Re)	25.62	4.77	25.28	6.22
8. Socialization (So)	34.21	5.87	34.96	6.35
9. Self-Control (Sc)	20.72	7.61	21.92	7.87
10. Tolerance (To)	17.13	6.15	18.58	6.07
11. Good Impression (Gi)	11.90	5.02	14.16	5.31
12. Communality (Cm)	24.82	3.32	24.36	3.51
CLASS III				
13. Achievement via Conformance (Ac)	22.36	4.98	22.64	5.28
14. Achievement via Independence (Ai)	15.54	3.70	15.42	4.85
15. Intellectual Efficiency (Ie)	32.28	5.86	33.74	7.23
CLASS IV				
16. Psychological-Mindedness (Py)	9.26	2.80	8.84	2.79
17. Flexibility (Fx)	9.44	3.71	9.18	3.51
18. Femininity (Fe)	19.08	5.09	17.48	5.32

TABLE 6

ANALYSIS OF VARIANCE FOR THE DOMINANCE VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	27.51	27.51	.74
Groups	1	25.17	25.17	.68
Interaction	1	42.07	42.07	1.14
Error	85	3144.78	37.00	
Total	88	3239.53		

The findings on the variable, capacity for status, are presented in Table 7. The null hypothesis was retained, since no significant difference was found. Capacity for status scores did not discriminate between groups identified as experimental or control.

TABLE 7

ANALYSIS OF VARIANCE FOR THE CAPACITY FOR STATUS VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	23.74	23.74	1.21
Groups	1	14.84	14.84	.76
Interaction	1	6.50	6.50	.33
Error	85	1671.03	19.66	
Total	88	1716.11		

Table 8 presents the findings on the variable, sociability. The difference between the means of the experimental and control groups was not significant at the .05 level. The null hypothesis, therefore, was retained. However, the two-way analysis of variance did reveal a significant difference between experimental and control group males, and experimental and control group females.

TABLE 8

ANALYSIS OF VARIANCE FOR THE SOCIABILITY VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	163.77	163.77	5.45*
Groups	1	1.27	1.27	.04
Interaction	1	27.46	27.46	.91
Error	85	2555.74	20.07	
Total	88	2748.25		

*Significant at the .05 level.

The findings on the trait, social presence, are reported in Table 9. The null hypothesis was retained. Social presence scores did not discriminate between experimental or control groups.

TABLE 9

ANALYSIS OF VARIANCE FOR THE SOCIAL PRESENCE VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	1.88	1.88	.05
Groups	1	5.63	5.63	.16
Interaction	1	1.56	1.56	.04
Error	85	3010.31	35.52	
Total	88	3028.38		

Table 10 reports the findings on the variable, self-acceptance. The groups mean difference was not significant at the .05 level; therefore, the null hypothesis was retained for this variable. There was a significant groups by sex interaction, however. This means that the females in the experimental group differed significantly from the males in self-acceptance, with the females scoring higher. The males in the control group differed significantly from the females on the variable, self-acceptance, with the males scoring higher.

TABLE 10

ANALYSIS OF VARIANCE FOR THE SELF-ACCEPTANCE VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	12.43	12.43	.80
Groups	1	2.93	2.93	.19
Interaction	1	76.08	76.08	4.91*
Error	85	1317.69	15.50	
Total	88	1409.13		

*Significant at the .05 level.

The data pertaining to the variable, sense of well-being, are reported in Table 11. The null hypothesis was retained. Sense of well-being scores did not discriminate between the experimental and control groups.

TABLE 11

ANALYSIS OF VARIANCE FOR THE SENSE OF WELL-BEING VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	8.50	8.50	.21
Groups	1	139.13	139.13	3.36
Interaction	1	13.88	13.88	.33
Error	85	3516.13	41.37	
Total	88	3677.63		

Table 12 presents the analysis of the data for the trait, responsibility. The difference between the means of the experimental and control groups was not significant at the .05 level. The null hypothesis, therefore, was retained. However, the two-way analysis of variance did reveal a significant difference between experimental and control group males, and experimental and control group females.

TABLE 12

ANALYSIS OF VARIANCE FOR THE RESPONSIBILITY VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	263.08	263.08	8.89*
Groups	1	2.46	2.46	.08
Interaction	1	45.96	45.96	1.55
Error	85	2514.28	29.58	
Total	88	2825.78		

*Significant at the .01 level.

The data pertaining to the trait, socialization, are presented in Table 13. The scores for this variable did not discriminate between experimental and control groups. The null hypothesis was retained.

TABLE 13

ANALYSIS OF VARIANCE FOR THE SOCIALIZATION VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	41.19	41.19	1.07
Groups	1	12.50	12.50	.32
Interaction	1	50.88	50.88	1.32
Error	85	3266.25	38.43	
Total	88	3370.81		

The findings on the variable, self-control, are reported in Table 14. The differences between the means of the experimental and control groups was not significant at the .05 level. The null hypothesis, therefore, was retained. However, the two-way analysis of variance did reveal a significant difference between experimental and control group males, and experimental and control group females.

TABLE 14

ANALYSIS OF VARIANCE FOR THE SELF-CONTROL VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	271.06	271.06	4.59*
Groups	1	31.66	31.66	.54
Interaction	1	63.99	63.99	1.08
Error	85	5018.53	59.04	
Total	88	5385.24		

*Significant at the .05 level.

The data pertaining to the variable, tolerance, are reported in Table 15. The null hypothesis was retained. Tolerance scores did not discriminate between the experimental or control groups.

TABLE 15

ANALYSIS OF VARIANCE FOR THE TOLERANCE VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	18.98	18.98	.49
Groups	1	46.18	46.18	1.20
Interaction	1	32.73	32.73	.85
Error	85	3262.83	38.39	
Total	88	3360.72		

Table 16 presents the analysis of the data for the trait, good impression. A significant difference between the experimental and control groups was found. The null hypothesis, therefore, was rejected. A significant difference between the experimental and control group males, and the experimental and control group females was also found.

TABLE 16

ANALYSIS OF VARIANCE FOR THE GOOD IMPRESSION VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	117.71	117.71	4.47*
Groups	1	112.16	112.16	4.26*
Interaction	1	37.87	37.87	1.44
Error	85	2238.74	26.34	
Total	88	2506.47		

*Significant at the .05 level.

The findings on the variable, communality, are presented in Table 17. The scores for this trait did not discriminate between the experimental and control groups. The null hypothesis was retained.

TABLE 17

ANALYSIS OF VARIANCE FOR THE COMMUNALITY VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	1.43	1.43	.12
Groups	1	4.64	4.64	.38
Interaction	1	4.29	4.29	.35
Error	85	1039.54	12.23	
Total	88	1049.91		

Table 18 presents the findings on the trait, achievement via conformance. The null hypothesis was retained, since no significant difference was found. Achievement via conformance scores did not discriminate between the groups identified as experimental and control.

TABLE 18

ANALYSIS OF VARIANCE FOR THE ACHIEVEMENT VIA CONFORMANCE VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	84.73	84.73	3.17
Groups	1	1.73	1.73	.64
Interaction	1	4.89	4.89	.18
Error	85	2274.89	26.76	
Total	88	2366.23		

The data pertaining to the variable, achievement via independence, are presented in Table 19. The scores for this trait did not discriminate between experimental and control groups. The null hypothesis was retained.

TABLE 19

ANALYSIS OF VARIANCE FOR THE ACHIEVEMENT VIA INDEPENDENCE VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	41.71	41.71	2.12
Groups	1	.30	.30	.02
Interaction	1	1.27	1.27	.06
Error	85	1668.90	19.63	
Total	88	1712.18		

Table 20 indicates the analysis of the data for the trait, intellectual efficiency. The null hypothesis was retained. Intellectual efficiency scores did not discriminate between the experimental and control groups.

TABLE 20

ANALYSIS OF VARIANCE FOR THE INTELLECTUAL EFFICIENCY VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	109.44	109.44	2.45
Groups	1	46.56	46.56	1.04
Interaction	1	47.06	47.06	1.05
Error	85	3795.06	44.65	
Total	88	3998.13		

The findings on the trait, psychological-mindedness, are presented in Table 21. The scores for this variable did not discriminate between experimental and control groups. The null hypothesis was retained.

TABLE 21

ANALYSIS OF VARIANCE FOR THE PSYCHOLOGICAL-MINDEDNESS VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	1.08	1.08	.13
Groups	1	3.80	3.80	.47
Interaction	1	1.93	1.93	.24
Error	85	691.14	8.13	
Total	88	697.96		

Table 22 reports the findings on the variable, flexibility. Since no significant difference was found, the null hypothesis was retained. Flexibility scores did not discriminate between the groups identified as experimental or control.

TABLE 22

ANALYSIS OF VARIANCE FOR THE FLEXIBILITY VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	.00	.00	.00
Groups	1	1.43	1.43	.11
Interaction	1	3.59	3.59	.27
Error	85	1147.38	13.50	
Total	88	1152.41		

Table 23 presents the analysis of the data for the trait, femininity. A significant difference between the experimental and control groups was found. The null hypothesis, therefore, was rejected. A significant difference between the experimental and control group males, and the experimental and control group females was also found.

TABLE 23

ANALYSIS OF VARIANCE FOR THE FEMININITY VARIABLE ON THE CALIFORNIA PSYCHOLOGICAL INVENTORY

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	1328.18	1328.18	99.49**
Groups	1	55.88	55.88	4.18*
Interaction	1	- 35.71	- 35.71	- 2.67
Error	85	1134.78	13.35	
Total	88	2483.13		

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

Table 24 presents a summary of personality characteristics that differentiated experimental and control groups, males and females, and experimental and control group males and experimental and control group females It may be noted that five scales differentiated males from females: sociability, responsibility, self-control, good impression, and femininity. Three traits, namely, sociability, self-control and good impression were significant at the .05 level. The traits of responsibility and femininity were significant at the .01 level.

Two scales differentiated experimental and control groups at the .05 level: good impression and femininity. Furthermore, the scale of self-acceptance differentiated experimental and control group males and experimental and control group females at the .05 level of significance.

TABLE 24

SUMMARY OF SIGNIFICANT F VALUES FOR CALIFORNIA PSYCHOLOGICAL INVENTORY CHARACTERISTICS (N=89)

Trait	F
Sex Variation	
Sociability	5.45*
Responsibility	8.89**
Self-Control	4.59*
Good Impression	4.47*
Femininity	99.49**
Groups Variation	
Good Impression	4.26*
Femininity	4.18*
Interaction Variation	
Self-Acceptance	4.91*

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

Null Hypothesis No. 2. There are no significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of values.

To test this hypothesis 89 community college students were given the Allport-Vernon-Lindzey Study of Values. The means and standard deviations for experimental and control group males are reported in Table 25. Differences in the means for the Study of

Values variables among the experimental and control group males were minimal, with the exception of the religious trait. For this trait control group males had a mean which was approximately three points higher than the mean for the experimental group males.

TABLE 25

MEANS AND STANDARD DEVIATIONS FOR STUDY OF VALUES TRAITS FOR EXPERIMENTAL AND CONTROL GROUP MALES

	Experimental N=22		Control N=34	
Trait	M	S.D.	M	S.D.
1. Theoretical	40.54	7.43	41.91	5.81
2. Economic	46.14	6.65	44.03	7.50
3. Aesthetic	36.00	5.61	35.91	6.85
4. Social	36.54	4.66	36.32	5.03
5. Political	46.00	5.70	44.26	5.03
6. Religious	34.41	6.98	37.53	9.80

Table 26 includes the means and standard deviations for the Study of Values traits for experimental and control group females. Differences in the means for the Study of Values traits among the experimental and control group females were minimal, with the exception of aesthetic and social traits. For the aesthetic trait the control group had a mean which was approximately five points higher than the mean for the experimental group. The experimental group had a mean which was approximately four points higher than the mean for the control group on the social trait.

TABLE 26

MEANS AND STANDARD DEVIATIONS FOR STUDY OF VALUES TRAITS FOR EXPERIMENTAL AND CONTROL GROUP FEMALES

	Trait	Experimental N=17 M	Experimental N=17 S.D.	Control N=16 M	Control N=16 S.D.
1.	Theoretical	36.65	6.00	35.50	6.18
2.	Economic	38.59	5.43	38.81	7.57
3.	Aesthetic	39.35	6.82	44.31	7.87
4.	Social	44.29	5.73	39.75	8.50
5.	Political	39.06	6.59	38.31	5.58
6.	Religious	42.06	8.84	43.50	8.65

Table 27 includes the means and standard deviations for the results obtained on the Study of Values traits for total experimental and control groups. Differences in the means for the Study of Values traits among the total experimental and control groups were minimal in all cases.

TABLE 27

MEANS AND STANDARD DEVIATIONS FOR STUDY OF VALUES TRAITS FOR TOTAL EXPERIMENTAL AND CONTROL GROUPS

	Experimental N=39		Control N=50	
Trait	M	S.D.	M	S.D.
1. Theoretical	38.85	7.11	39.86	6.64
2. Economic	42.85	7.20	42.36	7.91
3. Aesthetic	37.46	6.39	38.60	8.19
4. Social	39.92	6.43	37.42	6.55
5. Political	42.97	7.01	42.36	5.91
6. Religious	37.74	8.72	39.44	9.85

Table 28 presents the analysis of the data for the theoretical trait. The difference between experimental group and control group means is not significant at the .05 level. The null hypothesis was retained. Table 28 also shows a significant difference between experimental and control males and experimental and control females.

TABLE 28

ANALYSIS OF VARIANCE FOR THE THEORETICAL TRAIT ON THE STUDY OF VALUES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	579.75	579.75	13.74*
Groups	1	22.44	22.44	.53
Interaction	1	13.31	13.31	.32
Error	85	3586.13	42.19	
Total	88	4201.63		

*Significant at the .01 level.

Table 29 presents the findings on the economic variable. The difference between experimental group and control group means is not significant at the .05 level. The null hypothesis was retained. Table 29 also shows a significant difference between experimental and control males and experimental and control females.

TABLE 29

ANALYSIS OF VARIANCE FOR THE ECONOMIC TRAIT ON THE STUDY OF VALUES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	787.94	787.94	15.55*
Groups	1	5.13	5.13	.10
Interaction	1	54.56	54.56	1.08
Error	85	4306.19	50.66	
Total	88	5153.81		

*Significant at the .01 level.

Table 30 reports the analysis of the data for the aesthetic trait. The difference between experimental group and control group means is not significant at the .05 level. The null hypothesis was retained. Table 30 also shows a significant difference between experimental and control males and experimental and control females.

TABLE 30

ANALYSIS OF VARIANCE FOR THE AESTHETIC TRAIT ON THE STUDY OF VALUES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	701.19	701.19	14.64*
Groups	1	28.38	28.38	.59
Interaction	1	174.50	174.50	3.64
Error	85	4070.06	47.88	
Total	88	4974.13		

*Significant at the .01 level.

Table 31 presents the findings on the social trait. The difference between experimental group and control group means is not significant at the .05 level. The null hypothesis was retained. Table 31 also shows a significant difference between experimental and control males and experimental and control females.

TABLE 31

ANALYSIS OF VARIANCE FOR THE SOCIAL TRAIT ON THE STUDY OF VALUES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	669.94	669.94	18.67*
Groups	1	137.25	137.25	3.83
Interaction	1	33.63	33.63	.94
Error	85	3049.44	35.88	
Total	88	3890.25		

*Significant at the .01 level.

Table 32 reports the analysis of the data for the political trait. The difference between experimental group and control group means is not significant at the .05 level. The null hypothesis was retained. Table 32 also shows a significant difference between experimental and control males and experimental and control females.

TABLE 32

ANALYSIS OF VARIANCE FOR THE POLITICAL TRAIT ON THE STUDY OF VALUES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	810.94	810.94	24.50*
Groups	1	8.25	8.25	.25
Interaction	1	36.56	36.56	1.10
Error	85	2813.06	33.09	
Total	88	3668.81		

*Significant at the .01 level.

Table 33 presents the findings on the religious trait. The difference between experimental group and control group means is not significant at the .05 level. The null hypothesis was retained. Table 33 also shows a significant difference between experimental and control males and experimental and control females.

TABLE 33

ANALYSIS OF VARIANCE FOR THE RELIGIOUS TRAIT ON THE STUDY OF VALUES

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	864.88	864.88	10.71*
Groups	1	63.00	63.00	.78
Interaction	1	84.19	84.19	1.04
Error	85	6864.75	80.76	
Total	88	7876.81		

*Significant at the .01 level.

Table 34 presents a summary of the traits that differentiated males from females. It may be noted that the six traits differentiated males from females at the .01 level of significance.

TABLE 34

SUMMARY OF SIGNIFICANT F VALUES FOR ALLPORT-VERNON-LINDZEY TRAITS ACCORDING TO SEX (N=89)

Trait	F
Theoretical	13.74*
Economical	15.55*
Aesthetic	14.64*
Social	18.67*
Political	24.50*
Religious	10.71*

*Significant at the .01 level.

Null Hypothesis No. 3. There are no significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of anxiety.

Table 35 reports the means and standard deviations for the anxiety variable for experimental and control groups according to sex.

TABLE 35

MEANS AND STANDARD DEVIATIONS FOR THE ANXIETY VARIABLE FOR EXPERIMENTAL AND CONTROL GROUPS ACCORDING TO SEX

	Experimental			Control		
Sex	N	M	S.D.	N	M	S.D.
Male	22	25.50	6.63	34	26.65	6.44
Female	17	31.23	6.12	16	29.75	3.47
Total	39	28.00	7.02	50	27.64	5.84

Table 36 shows that no significant difference was found between the experimental group and the control group on the variable, anxiety. The null hypothesis, therefore, was retained. However, experimental and control males did differ significantly from experimental and control females.

TABLE 36

ANALYSIS OF VARIANCE FOR THE HEINEMAN FORCED-CHOICE ANXIETY SCALE VARIABLE

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	387.25	387.25	10.26*
Groups	1	2.81	2.81	.07
Interaction	1	32.94	32.94	.87
Error	85	3207.38	37.73	
Total	88	3630.38		

*Significant at the .01 level.

Other Findings

Certain additional findings emerged which, while not related to the hypotheses proposed at the outset of the study, were considered of sufficient importance by the investigator to be included in this chapter.

Table 37 reports the means and standard deviations for experimental and control group males on the Achievement Inventory. Also included are the high school grade point average and the 1967 Fall Quarter grade point average. On the Achievement Inventory the experimental group males had a mean approximately five points higher than the

mean for the control group males. Differences between the male experimental and control groups on the other two variables were minimal.

TABLE 37

MEANS AND STANDARD DEVIATIONS FOR HIGH SCHOOL GRADE POINT AVERAGE, ACHIEVEMENT INVENTORY, AND 1967 FALL QUARTER GRADE POINT AVERAGE FOR EXPERIMENTAL AND CONTROL GROUP MALES

	Experimental N=22		Control N=34	
Variable	M	S.D.	M	S.D.
High School GPA	2.07	.31	2.04	.36
Achievement Inventory	52.23	5.62	47.38	7.81
1967 Fall Quarter GPA	1.92	.66	1.97	.70

Table 38 presents the means and standard deviations for experimental and control group females on the Achievement Inventory. It also includes the 1967 Fall Quarter grade point average and the high school grade point average. On the Achievement Inventory the experimental group females had a mean approximately four points higher than the mean for the control group females. Differences between the female experimental and control groups on the other two variables were minimal.

TABLE 38

MEANS AND STANDARD DEVIATIONS FOR HIGH SCHOOL GRADE POINT AVERAGE, ACHIEVEMENT INVENTORY, AND 1967 FALL QUARTER GRADE POINT AVERAGE FOR EXPERIMENTAL AND CONTROL GROUP FEMALES

	Experimental N=17		Control N=16	
Variable	M	S.D.	M	S.D.
High School GPA	2.11	.26	2.09	.54
Achievement Inventory	51.53	6.21	47.56	5.35
1967 Fall Quarter GPA	2.18	.41	2.24	.77

Table 39 reports the means and standard deviations for the Achievement Inventory for the total experimental and control groups. It also includes the 1967 Fall Quarter grade point average and the high school grade point average. On the Achievement Inventory the experimental group had a mean approximately four points higher than the mean for the control group. Differences between the total experimental and control groups on the other two variables were minimal.

TABLE 39

MEANS AND STANDARD DEVIATIONS FOR HIGH SCHOOL GRADE POINT AVERAGE, ACHIEVEMENT INVENTORY, AND 1967 FALL QUARTER GRADE POINT AVERAGE FOR TOTAL EXPERIMENTAL AND CONTROL GROUPS

	Experimental N=39		Control N=50	
Variable	M	S.D.	M	S.D.
High School GPA	2.09	.29	2.06	.42
Achievement Inventory	51.92	5.89	47.44	7.12
1967 Fall Quarter GPA	2.03	.57	2.06	.73

It may be noted from the data presented in Tables 37, 38, and 39 that the differences in the means for the 1967 Fall Quarter grade point average and high school grade point average for experimental and control group males, experimental and control group females, and total experimental and control groups were minimal.

Table 40 presents the analysis of the data for the Achievement Inventory. The scores for this inventory discriminated experimental from control groups. The F-ratio of 9.64 was significant at the .01 level.

TABLE 40

ANALYSIS OF VARIANCE FOR THE ACHIEVEMENT INVENTORY VARIABLE

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	2.19	2.19	.05
Groups	1	440.38	440.38	9.64*
Interaction	1	2.88	2.88	.06
Error	85	3884.13		
Total	88	4329.56		

*Significant at the .01 level.

The findings concerning the variable, 1967 Fall Quarter grade point average, are presented in Table 41. The scores for this variable did not discriminate between the experimental and control groups.

TABLE 41

ANALYSIS OF VARIANCE FOR THE 1967 FALL QUARTER GRADE POINT AVERAGE VARIABLE

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	1.33	1.33	2.93
Groups	1	.02	.02	.03
Interaction	1	.05	.05	.12
Error	85	38.51	.45	
Total	88	39.91		

Table 42 presents the analysis of the data for the variable, high school grade point average. The high school grade point average variable did not discriminate between experimental and control groups.

TABLE 42

ANALYSIS OF VARIANCE FOR THE HIGH SCHOOL GRADE POINT AVERAGE VARIABLE

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Sex	1	.05	.05	.37
Groups	1	.02	.02	.14
Interaction	1	- .01	- .01	.05
Error	85	12.19	.14	
Total	88	12.25		

Chapter IV has presented an analysis of the data. Chapter V presents a summary of the investigation, the conclusions which emerged, a discussion of the findings, and implications for further research.

CHAPTER V

SUMMARY, DISCUSSION AND CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to ascertain the differences between a group of community college students in an Adjustment Skills course and a control group on selected personality and non-academic characteristics. The following three null hypotheses were proposed and investigated in this study.

1. There are no significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of personality characteristics. The personality traits investigated were those measured by the California Psychological Inventory.

2. There are no significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of values. The scale of values was obtained from the Allport-Vernon-Lindzey Study of Values.

3. There are no significant differences between students who completed an Adjustment Skills course and students who did not complete such a course on the factor of anxiety. The measure of general anxiety was obtained from the Heineman Forced-Choice Anxiety Scale.

The original population consisted of 1967 Fall Quarter freshmen enrolled at Wenatchee Valley College who received a standard score

less than 42 on the English Composite sub-test of the Washington Pre-College Test, or achieved a high school grade point average in English of less than 2.5. A letter was sent to the two hundred eighty-eight students who met these criteria. (Appendix F.)

The 288 students in the original research population were randomly assigned to an experimental group and a control group. Of those who volunteered for the study and for whom adequate records were available, 89 students (56 males and 33 females) completed all the instruments and comprised the final research population.

A specially constructed, two-page, Biographic Characteristics Questionnaire was administered to the research population on September 19, 1967. The California Psychological Inventory, the Allport-Vernon-Lindzey Study of Values, the Heineman Forced-Choice Anxiety Scale, and an Achievement Inventory were administered to the research population on November 28, 1967. The secretarial staff in the Office of the Registrar compiled the high school and First Quarter 1967 grade point averages. Data for each subject were recorded on IBM Fortran Coding Forms preparatory to analysis by electronic computer.

Experimental and control students were compared by subjecting the data to analysis in accordance with the appropriate statistical methods. For the Biographic Characteristics Questionnaire, the chi square technique was selected for the statistical treatment of the data. Separate analyses by sex were made for the experimental group and the control group.

The nature of the data derived from the administration of the California Psychological Inventory, the Allport-Vernon-Lindzey Study

of Values, the Heineman Forced-Choice Anxiety Scale, the Achievement Inventory, and the grade point averages for high school and community college, dictated the use of analysis of variance to determine differences between experimental and control students. Separate analyses by sex were made for the experimental group and the control group. The .05 level of significance was employed as the criterion in evaluating the significance of obtained differences.

The findings which emerged from the investigation are listed below:

1. There were no significant differences found on the variables of dominance and capacity for status between the experimental and control groups.

2. There was a significant difference between the sexes on the variable, sociability. The females in the experimental and control groups differed significantly from the experimental and control group males on the variable, sociability, with the females scoring higher.

3. There were no significant differences found on the variables of social presence, sense of well-being, and socialization between the experimental and control groups.

4. There was a significant interaction of group and sex on the variable, self-acceptance. The females in the experimental group differed significantly from the males in self-acceptance, with the females scoring higher. The males in the control group differed significantly from the females on the variable, self-acceptance, with the males scoring higher.

5. There was a significant difference between the sexes on the variable, responsibility. The females in the experimental and control groups differed significantly from the experimental and control group males on the variable, responsibility, with the females scoring higher.

6. There was a significant difference between the sexes on the variable, self-control. The females in the experimental and control groups differed significantly from the experimental and control group males in self-control, with the females scoring higher.

7. There was a significant difference between the sexes on the variable, good impression. The females in the experimental and control groups differed significantly from the experimental and control group males on the variable good impression, with the females scoring higher. A significant difference was also found between the experimental and control groups on the variable good impression, with the latter scoring higher.

8. There were no significant differences found between the experimental and control groups on the variables of tolerance, communality, achievement via conformance, achievement via independence, intellectual efficiency, psychological-mindedness, and flexibility.

9. There was a significant difference between the sexes on the variable of femininity. The females in the experimental and control groups differed significantly from the experimental and control group males on the variable, femininity, with the females scoring higher. A significant difference was also found between the experimental and control groups on the variable, femininity, with the former scoring higher.

10. There was a significant difference between the sexes on the theoretical trait. The males in the experimental and control groups differed significantly from the experimental and control group females on the theoretical trait, with the males scoring higher.

11. There was a significant difference between the sexes on the economic trait. The males in the experimental and control groups differed significantly from the experimental and control group females on the economic trait, with the males scoring higher.

12. There was a significant difference between the sexes on the aesthetic trait. The females in the experimental and control groups differed significantly from the experimental and control group males on the aesthetic trait, with the females scoring higher.

13. There was a significant difference between the sexes on the social trait. The females in the experimental and control groups differed significantly from the experimental and control group males on the social trait, with the females scoring higher.

14. There was a significant difference between the sexes on the political trait. The males in the experimental and control groups differed significantly from the experimental and control group females on the political trait, with the males scoring higher.

15. There was a significant difference between the sexes on the religious trait. The females in the experimental and control groups differed significantly from the experimental and control group males on the religious trait, with the females scoring higher.

16. There was a significant difference between the sexes on the variable, anxiety. The females in the experimental and control

groups differed significantly from the experimental and control group males, with the females having a higher level of anxiety.

17. There was a significant difference between experimental and control groups on the Achievement Inventory variable, with the experimental group scoring higher.

18. There were no significant differences found between the experimental and control groups on the variables of 1967 Fall Quarter grade point average and high school grade point average.

Discussion and Conclusions

This study has examined the differences between a group of community college students in an Adjustment Skills course and a control group on selected personality and non-academic characteristics. Although there were far more similarities than differences between experimental and control group students on the measured variables, some definite differences were found.

Analysis of the results of the CPI scores indicated that the personality characteristics of sociability, responsibility, self-control, good impression, and femininity differentiated significantly between males and females. Females were differentiated from the males on the variable, sociability, at the .05 level of significance. This finding suggested that the females were more outgoing, enterprising, competitive, original, and fluent in thought than were the males.

The females also differed from males at the .01 level of significance on the variable, responsibility. This may indicate that the females were more thorough, progressive, conscientious and dependable, resourceful and efficient; alert to ethical and moral issues.

The males, on the other hand, were more immature, moody, and disbelieving. It would seem logical, therefore, that the males with a lower sense of responsibility would tend to be influenced more by personal bias, and to be under-controlled and more impulsive in behavior.

The females differed from the males at the .05 level of significance on the variable, self-control. This finding suggested that the females were more calm, practical, self-denying, thoughtful, and deliberate than were the males. The male students were more apt to be impulsive, irritable, self-centered, and uninhibited; aggressive and assertive; and overemphasizing personal pleasure and self-gain.

The females differed from the males at the .05 level of significance on the variable, good impression. The control group also differed from the experimental group on the same variable. Because of higher scores on the CPI, it was concluded that the females and the total control group were more cooperative, outgoing, sociable, warm, and helpful; concerned with making a good impression; and diligent and persistent. It was concluded that the females and the control group would respond positively to an Adjustment Skills course. The males and the experimental group, on the basis of their lower CPI scores, were considered to be more inhibited, cautious, wary, shrewd, aloof, and resentful; cool and distant in their relationship with others; and self-centered and less concerned with the needs and interests of others. These conclusions coincided with those reported by Medsker (1965) and Cross (1968) in their studies concerning the personality characteristics of junior college students.

The females also differed from the males at the .01 level of significance on the variable, femininity. The experimental group differed also from the control group on the same variable at the .05 level of significance. This indicated that the females and the experimental group were more patient, appreciative, helpful, persevering, and sincere; respectful and accepting of others; and conscientious and sympathetic. These were the more common characteristics of high scorers on the CPI. The males and the total control group, on the other hand, were more outgoing, ambitious, masculine, active, and restless. They tended to be manipulative and opportunistic in dealing with others; direct and blunt in thinking and action, and impatient with delay, reflection, and indecision. These were the more common traits of those scoring low on the CPI.

The experimental group females and the control group males differed from the experimental group males and control group females at the .05 level of significance on the variable, self-acceptance. This may indicate that the experimental group females and the control group males were more intelligent, sharp-witted, outspoken, aggressive, and self-centered. These two groups were viewed as being more persuasive and verbally fluent; and as possessing more self-confidence and self-assurance. Conversely, the experimental group males and the control group females appeared to be more conservative, dependable, conventional, quiet, and easygoing. They were given toward more feelings of guilt and self-blame; and they were passive in action and narrow in interests.

The males differed from the females at the .01 level of significance on the theoretical trait. This identifies the males as being interested in the discovery of truth. In addition, the males were more critical, rational, empirical, and concerned with organizing and systematizing their knowledge.

On the economic trait the males differed from the females at the .01 level of significance. The economically oriented male was more apt to be characteristically interested in what is useful. Higher scores on the AVL indicated that the males embraced the practical affairs of the business world, and were thoroughly "practical" and conforming to the prevailing stereotype of the average American businessman.

The females differed from the males on the aesthetic trait at the .01 level of significance. This identified the females as placing a high value upon form and harmony. Females found their chief interest in the artistic episodes of life, and judged each single experience from the standpoint of symmetry, grace, or fitness.

On the social trait the females differed from the males at the .01 level of significance. Because of higher scores on the AVL, it was concluded that the females prized other persons as ends, and were, therefore, kind, unselfish, and sympathetic.

The males differed from the females on the political trait at the .01 level of significance. The males, on the basis of their higher AVL scores, were considered to be more interested in competition, power, and roles of leadership.

The females differed from the males on the religious trait at the .01 level of significance. Females tended to be more interested in comprehending the cosmos as a whole, and attempted to relate to its embracing totality. They valued unity highly.

Significant differences were found on the anxiety variable between males and females. There was a higher level of anxiety among the females, as measured by the HFCAS. The range of the scores on the variable, anxiety, among the males was 7 to 42; for the females, 19 to 44, with a mean of 27.85 (N=89). As reported by Ridlon (1967) it appeared logical to view such manifest anxiety as an indication of psychological insecurity, and an integral part of the travelling equipment of a college freshman. Within the theoretical framework provided by Stix (1967), a moderate level of anxiety may be optimally conducive to first quarter college achievement for females. Scharf (1969) suggested that anxiety proneness was related to certain broader personality tendencies, and hypothesized that anxious individuals were lower in self-esteem, possessed less curiosity, and were more prone to feelings of guilt. It was concluded that female students, as postulated by Bendig and Hountras (1959), may have distrusted the authoritarian instructor image and hence reacted more anxiously in a classroom situation than did their male counterparts. Perhaps females could profit from a less structured environment and less guidance and direction.

It can be concluded that sex differences were a major influence on the personality and non-academic variables. However, significant differences between groups did occur on two variables. It was

further implied that the community college counselor ought to be keenly aware of the personality characteristics of entering freshmen. It should be concomitantly recognized, however, as Murphy (1964) has hypothesized, that the difficulty of understanding the "whole" personality is related to the fact that half of what is determining it at any given time is situationally defined and the other half is tied up with almost invisible inner processes.

The differences in the Achievement Inventory scores between experimental and control groups were significant at the .01 level. The scores for the experimental group ranged from 40 to 64, and the range for the control group was 30 to 63. A mean score of 51.92 (N=39) was obtained by the experimental group on the Achievement Inventory. The control group mean score on the Achievement Inventory was 47.44 (N=50). The significant difference obtained can be attributed to an exposure to and mastery of materials presented in the Adjustment Skills course.

Recommendations

The following recommendations are presented in an effort to provide guidance for future research in the improvement and use of Adjustment Skills courses:

1. Desirable non-academic traits could be developed by students, under the guidance of their teachers in Adjustment Skills courses, as worthy goals of education. Therefore, the investigation of the nature and development of desirable non-academic traits and their more accurate measurement should be continued, toward the eventual formulation of a planned teaching program of student personality development.

2. It is recommended that the present investigation be replicated and expanded to include other appropriate student groups. Such studies would provide additional evidence concerning the nature of the relationship between non-academic variables and Adjustment Skills courses. Moreover, studies designed to investigate the use of Adjustment Skills courses in the prediction of academic achievement are recommended.

3. It would be interesting to do a longitudinal follow-up study on the research population of this study to determine non-academic characteristics of students who were actually graduated from community college; non-academic characteristics of students who were subsequently awarded a baccalaureate; and non-academic characteristics of students who were unsuccessful in their college careers.

4. An enlargement of the present study is suggested to include a greater geographic sampling of community college students, perhaps on a statewide or even Pacific Coast basis. Furthermore, a comparison of community college and four-year students employing the variables included in this study should be undertaken.

5. A study to ascertain the reasons for the relatively insignificant influence of school staff members on the college attendance decision-making process of students is recommended. It might be well to study the effects of high school counseling services provided freshmen having low high school grade point averages. Of particular interest is whether counseling results in a high grade point average during the freshmen year in college.

6. It is recommended that a study be undertaken to identify the factors contributing to the high degree of anxiety which characterizes freshmen females. Additional expanded studies employing the Heineman Forced-Choice Anxiety Scale might provide informative data on the differences in anxiety between freshmen males and freshmen females.

7. Finally, a further study might involve the detailed investigation of Adjustment Skills course content to determine which specific factors contribute positively to academic success and adjustment in college.

APPENDIX A

DESCRIPTION OF THE CALIFORNIA PSYCHOLOGICAL INVENTORY

DESCRIPTION OF CALIFORNIA PSYCHOLOGICAL INVENTORY

CLASS I. Measures of Poise, Ascendency, and Self-Assurance

1. Dominance (Do). To assess factors of leadership ability, dominance, persistence, and social initiative. HIGH SCORERS: aggressive, confident, out-going, planful, having initiative; verbally fluent, self-reliant. LOW SCORERS: retiring, inhibited, commonplace, indifferent, silent, slow in thought and action; avoiding situations of tension and decision; lacking in self-confidence.

2. Capacity for Status (Cs). To serve as an index of an individual's capacity for status (not his actual or achieved status). The scale attempts to measure the personality qualities and attributes which underlie and lead to status. HIGH SCORERS: active, ambitious, forceful, insightful, resourceful, and versatile; ascendant and self-seeking; effective in communication; having personal scope and breadth of interests. LOW SCORERS: apathetic, shy, conventional dull, simple, and slow; stereotyped in thinking; restricted in outlook and interests; uneasy and awkward in new or unfamiliar social situations.

3. Sociability (Sy). To identify persons of outgoing, sociable, participative temperment. HIGH SCORERS: confident, enterprising, ingenious, and outgoing; competitive and forward; original and fluent in thought. LOW SCORERS: awkward, conventional, quiet, submissive, detached and passive in attitude; suggestible and overly influenced by others' reactions and opinions.

4. Social Presence (Sp). To assess factors such as poise, spontaneity, and self-confidence in personal and social interaction. HIGH SCORERS: clever, enthusiastic, imaginative, quick, informal, spontaneous, active, and vigorous, having an expressive, ebullient nature. LOW SCORERS: deliberate, moderate, patient, self-restrained, and simple; vaccilating and uncertain in decision; literal and unoriginal in thinking and judging.

5. Self-Acceptance (Sa). To assess factors such as sense of personal worth, self-acceptance, and capacity for independent thinking and action. HIGH SCORERS: intelligent, outspoken, cool, versatile, witty, aggressive, and self-centered; possessing self-confidence and self-assurance. LOW SCORERS: methodical, conservative, dependable, conventional, easy-going and quiet; self-abasing and given to feelings of guilt and self-blame; passive in action and narrow in interests.

6. Sense of Well-Being (Wb). To identify persons who minimize their worries and complaints, and who are relatively free from self-doubt and disillusionment. HIGH SCORERS: ambitious, alert, and versatile; productive and active; valuing work and efforts for its own sake. LOW SCORERS: unambitious, leisurely, cautious, apathetic, and conventional; self-defensive and apologetic; constricted in thought and action.

CLASS II. Measures of Socialization, Maturity, and Responsibility

7. Responsibility (Re). To identify persons of conscientious, responsible, and dependable disposition and temperament. HIGH SCORERS: responsible, thorough, progressive, capable, dignified, and independent, conscientious and dependable; alert to ethical and moral issues. LOW SCORERS: awkward, changeable, immature, moody, lazy, and disbelieving; influenced by personal bias, spite, and dogmatism; undercontrolled and impulsive in behavior.

8. Socialization (So). To indicate the degree of social maturity, probity, and rectitude which the individual has attained. HIGH SCORERS: honest, industrious, obliging, sincere, modest, steady, conscientious, and responsible; self-denying and conforming. LOW SCORERS: defensive, demanding, opinionated, resentful, headstrong, rebellious, and undependable; guileful and deceitful; given to excess, ostentation, and exhibition in behavior.

9. Self-Control (Sc). To assess the degree and adequacy of self-regulation and self-control and freedom from impulsivity and self-centeredness. HIGH SCORERS: calm, patient, practical, self-approving, thoughtful and deliberate; strict and thorough in their own work and in their expectations for others; honest and conscientious. LOW SCORERS: impulsive, shrewd, excitable, irritable, self-centered, and uninhibited; aggressive and assertive; overemphasizing personal pleasure and self-gain.

10. Tolerance (To). To identify persons with permissive, accepting and non-judgmental social beliefs and attitudes. HIGH SCORERS: enterprising, informal, quick, tolerant, clear-thinking, resourceful; intellectually able; having broad and varied interests; LOW SCORERS: inhibited, aloof, wary and retiring; passive and overly judgmental in attitude; disbelieving and distrustful in personal and social outlook.

11. Good Impression (Gi). To identify persons capable of creating a favorable impression, and who are concerned about how others react to them. HIGH SCORERS: cooperative, enterprising, outgoing, warm and helpful; diligent and persistent. LOW SCORERS: inhibited, shrewd, wary, and resentful; cool and distant in their relationships, self-centered and too little concerned with the needs and wants of others.

12. Communality (Cm). To indicate the degree to which an individual's reactions and responses correspond to the modal (common) pattern established for the inventory. HIGH SCORERS: moderate, tactful, reliable, sincere, patient, steady, and realistic; honest and conscientious; having common sense and good judgment. LOW SCORERS: impatient, changeable, complicated, nervous, restless, and confused; guileful and deceitful inattentive; and forgetful; having internal conflicts.

CLASS III. Measures of Achievement Potential and Intellectual Efficiency

13. Achievement via Conformance (Ac). To identify those factors of interest and motivation which facilitate achievement in any setting where conformance is a positive behavior. HIGH SCORERS: capable, cooperative, organized, responsible, stable, and sincere; persistent and industrious; valuing intellectual activity and achievement. LOW SCORERS: coarse, stubborn, awkward, insecure, and opinionated; easily disorganized under stress or pressures to conform; pessimistic about their occupational futures.

14. Achievement via Independence (Ai). To identify those factors of interest and motivation which facilitate achievement in any setting where autonomy and independence are positive behaviors. HIGH SCORERS; mature, forceful, dominant, demanding, and foresighted; independent and self-reliant; having superior intellectual ability and judgment. LOW SCORERS: inhibited, anxious, cautious, dissatisfied, dull; submissive and compliant before authority; lacking in self-insight and self-understanding.

15. Intellectual Efficiency (Ie). To indicate the degree of personal and intellectual efficiency which the individual has attained. HIGH SCORERS: efficient, clear-thinking, intelligent, progressive, thorough, and resourceful; alert and well-informed; placing a high value on intellectual matters. LOW SCORERS: confused, cautious, easy-going, defensive, shallow, and unambitious; conventional and stereotyped in thinking; lacking in self-direction and self-discipline.

CLASS IV. Measures of Intellectual and Interest Modes

16. Psychological-Mindedness (Py). To measure the degree to which the individual is interested in, and responsive to, the inner needs, motives, and experiences of others. HIGH SCORERS: outgoing, spontaneous, quick, resourceful, changeable; verbally fluent and socially ascendant; rebellious toward rules, restrictions, and constraints. LOW SCORERS: apathetic, serious, and unassuming; slow and deliberate in tempo; overly conforming and conventional.

17. Flexibility (Fx). To indicate the degree of flexibility and adaptability of a person's thinking and social behavior. HIGH SCORERS: insightful, informal, adventurous, humorous, rebellious, idealistic, assertive, and egotistic; sarcastic and cynical; concerned with personal pleasure and division. LOW SCORERS: deliberate, worrying, industrious, guarded, mannerly, methodical, and rigid; formal and pedantic in thought; deferential to authority, custom, and tradition.

18. Femininity (Fe). To assess the masculinity or femininity of interests. (High scores indicate more feminine interests, low scores more masculine.) HIGH SCORERS: appreciative, patient, helpful, gentle, moderate, persevering and sincere; respectful and accepting of others; behaving in a conscientious and sympathetic way. LOW SCORERS: hard-headed, ambitious, masculine, active, robust, and restless; manipulative and opportunistic in dealing with others; blunt and direct in thinking and action; impatient with delay, indecision, and reflection.

APPENDIX B

DESCRIPTION OF THE ALLPORT-VERNON-LINDZEY STUDY OF VALUES

DESCRIPTION OF THE ALLPORT-VERNON-LINDZEY STUDY OF VALUES

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

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

The economic attitude frequently comes into conflict with other values. The economic man wants education to be practical, and regards unapplied knowledge as waste. Great feats of engineering and application result from the demands economic men make upon science. The value of utility likewise conflicts with the aesthetic value, except when art serves commercial ends. In his personal life the economic man is likely to confuse luxury with beauty. In his relation with people he is more likely to be interested in surprassing them in wealth than in dominating them (political attitude) or in serving them (social attitude). In some cases the economic man may be said to make his religion the worship of Mammon. In other instances, however, he may have regard for the traditional God, but inclines to consider Him as the giver of good gifts, of wealth, prosperity, and other tangible blessings.

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

The aesthetic attitude is, in a sense, diametrically opposed to the theoretical; the former is concerned with the diversity, and the latter with the commonality of experience. The aesthetic man either chooses, with Keats, to consider truth as equivalent to beauty, or agrees with Mencken, that, "to make a thing charming is a million times more important than to make it true." In the economic sphere

the aesthetic man sees the process of manufacturing, advertising, and trade as a wholesale destruction of the values most important to him. In social affairs he may be said to be interested in persons but not in the welfare of persons; he tends toward individualism and self-sufficiency. Aesthetic people often like the beautiful insignia of pomp and power, but oppose political activity when it makes for the repression of individuality. In the field of religion they are likely to confuse beauty with purer religious experience.

4. Social. The highest value for the social type is love of people. In the Study of Values it is the altruistic or philanthropic aspect of love that is measured. The social man prizes other persons as ends, and is therefore himself kind, sympathetic, and unselfish. He is likely to find the theoretical, economic, and aesthetic attitudes cold and inhuman. In contrast to the political type, the social man regards love as itself the only suitable form of human relationship. Spranger added that in its purest form the social interest was selfless and tended to approach the religious attitude.

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

6. Religious. The highest value of the religious man may be called unity. He is mystical, and seeks to comprehend the cosmos as a whole, to relate himself to its embracing totality. Spranger defined the religious man as one "whose mental structure is permanently directed to the creation of the highest and absolutely satisfying value experience." Some men of this type are "immanent mystics," that is, they find their religious experience in the affirmation of life and in active participation therein. A Faust with his zest and enthusiasm sees something divine in every event. The "transcendental mystic," on the other hand, seeks to unite himself with a higher reality by withdrawing from life; he is the ascetic, and, like the holy men of India, finds the experience of unity through self-denial and meditation. In many individuals the negation and affirmation of life alternate to yield the greatest satisfaction.

APPENDIX C

ACHIEVEMENT INVENTORY

ACHIEVEMENT INVENTORY

DIRECTIONS

On the answer sheet which is provided you please print your name, age, sex, group, and the date, in the blanks provided.

Part I - Multiple-Choice

This inventory contains fifty-five (55) multiple choice questions, numbered from one (1) to fifty-five (55). Read each item and decide which choice best answers the question.

Mark your answers on the separate answer sheet. MAKE NO MARKS ON THE TEST BOOKLET. Indicate your answer to the multiple-choice questions by blacking out on the answer sheet the letter corresponding to your choice. That is, if you think that choice B is the best answer to item 1, black out the B in the row after number 1 on your answer sheet.

Part II - True-False

This inventory also contains twenty (20) true-false questions numbered from fifty-six (56) to seventy-five (75). Read each of the true-false statements carefully.

Mark your answers on the separate answer sheet beginning with number fifty-six (56). MAKE NO MARKS ON THE TEST BOOKLET.

If the statement is completely true, blacken out A on your answer sheet.

If all or any part of the statement is false, blacken out B on your answer sheet.

MULTIPLE CHOICE

1. Psychology is the scientific field that attempts to
   A. influence, describe, understand, and psychoanalyze behavior.
   B. influence, describe, understand, and predict behavior.
   C. describe, understand, predict, and psychoanalyze behavior.
   D. influence, understand, psychoanalyze, and predict behavior.

2. If the test you are now taking is reliable, it will
   A. be just as good ten years from now as today.
   B. produce approximately the same scores if the class were to take it again next week.
   C. be easy and readable.
   D. measure what you know about the material you have had in the course.

3. If the test you are now taking is valid, it will
   A. be just as good ten years from now as today.
   B. produce approximately the same scores if the class were to take it again next week.
   C. be easy and readable.
   D. measure what you know about the material you have had in the course.

4. Which of the following is <u>not</u> a survival need?
   A. Hunger (need for food).
   B. Sex
   C. Fatigue (need for rest).
   D. Oxygen.

5. An example of a high level of aspiration is
   A. a freshman who wants to become a sophomore.
   B. a gambler who has just won $10,000.
   C. a recent army draftee who expects to become a general.
   D. a business executive who will retire shortly with a comfortable income.

6. Unconscious motivation is said to occur when
   A. you are unconscious.
   B. your behavior occurs without your being aware of the underlying causes.
   C. your motives are not well understood by your friends.
   D. you do something you feel you should not have done.

7. Which of the following pairs do <u>not</u> go together?
   A. Kinesthetic sense - movement.
   B. Vestibular sense - balance.
   C. Internal senses - thirst.
   D. Auditory sense - odor.

8. Which of the following is not a skin sense?
   A. Pressure.
   B. Hunger.
   C. Pain.
   D. Warmth.

9. When hungry students and less hungry students were shown blurred pictures, the hungry students
   A. were more likely to see food.
   B. were less likely to see food.
   C. were more likely to see emotionally upsetting images.
   D. were less likely to see emotionally upsetting images.

10. The more reinforcement that occurs,
   A. the more likely the response will cease.
   B. the more likely the learning will become confused.
   C. the more likely the response will follow the stimulus.
   D. the more likely forgetting will occur.

11. The difference between insight learning and other forms of problem-solving is that insight learning does not occur
   A. through sudden realization.
   B. by novel solutions.
   C. before actually beginning the task.
   D. through trial and error.

12. Which of the following statements is true?
   A. Meaningful material is remembered longer than non-meaningful material.
   B. Having an active set inhibits learning.
   C. Knowledge of results has little or no effect upon learning.
   D. Learning how to concentrate on two different tasks at the same time is possible for well-motivated people, and will lead to improved study effectiveness.

13. Human beings
   A. are better able than any other creature to change the environment to please themselves.
   B. rarely show signs of rigidity.
   C. are very adept at finding ways to stop wars.
   D. are more successful in improving their personal and social world than in improving their physical and technological world.

14. It is true that
   A. people find it easy to communicate their feelings to those they love.
   B. communicating across time is difficult for modern man.
   C. man is the only organism that can communicate across hundreds of miles.
   D. people rarely allow emotions to inhibit their ability to communicate with others.

15. The self concept is
    A. how you see yourself.
    B. how you would like to see yourself.
    C. how you think your friends see you.
    D. how you would like your friends to see you.

16. The ideal self is
    A. how you really are.
    B. how you would like to be.
    C. how you think you are.
    D. how you expect to be in the future.

17. Infants who are not breast fed
    A. will probably suffer in later life.
    B. will probably not suffer in the least, if their early feeding is accompanied by physical warmth, love, and affection.
    C. are being cheated of the only really healthy and safe form of milk.
    D. end up stronger and happier in the long run.

18. Which is the following is <u>not</u> normally considered a factor of intelligence?
    A. Verbal ability.
    B. Memory ability.
    C. Mechanical ability.
    D. Hearing ability.

19. Jack's parents are Martha and George; his brothers are Terry and Bob; his closest friends are Edward, Mickey, June, Mabel, and Pete; his cousins are Jim and Mae. His siblings are
    A. Martha and George.
    B. Terry and Bob.
    C. Edward, Mickey, June, Mabel, and Pete.
    D. not listed above.

20. The better your self-concept is, the
    A. better-looking you will think you are.
    B. the homelier you will think you are.
    C. the less you will worry about your physical attractiveness.
    D. the better-looking you will actually be.

21. Adolescents form their own society with its own rules and customs because
    A. they feel they are wiser than adults.
    B. they do not respect adults.
    C. they dislike adults.
    D. they are given no place in adult society.

22. When asked what contributed most to making them feel important and useful, teen-age boys most frequently mentioned
    A. having money.
    B. sex activities
    C. being allowed adult responsibilities and opportunities.
    D. being allowed to live exactly as they pleased, without parental intervention.

23. A major difference between the way high school students and college students are treated is the
    A. difficulty of examinations.
    B. number of courses taken.
    C. freedom from supervision.
    D. opportunity to cheat.

24. If you were assigned the task of finding out which students in the freshman class had the best chance of graduating, your best basis for prediction would be
    A. high school grades.
    B. scores on college entrance tests or comparable tests.
    C. ratings by high school adviser.
    D. intensive interview with student.

25. Students who do well in college
    A. tend to reject the values of college students in general.
    B. place great emphasis upon social relationships.
    C. have a positive attitude toward college.
    D. have serious personality problems, which usually serve the purpose of increasing their motivation.

26. People who enter into early marriages are likely to be
    A. very much interested in college.
    B. lacking in job skills and training.
    C. from stable homes.
    D. of well above average intelligence.

27. Early marriages are more likely to end in divorce than later marriages; those who married before 21 were more likely to wish they had waited than those married later.
    A. Both statements are true.
    B. The first statement is true; the second is false.
    C. The second statement is true; the first is false.
    D. Both statements are false.

28. Maturation and personal growth
    A. cease when a person reaches his mid-twenties.
    B. cease when a person reaches his late fifties.
    C. cease when a person reaches his mid-sixties.
    D. may continue throughout the life span.

29. As people move into their forties and fifties, their intelligence
    A. decreases.
    B. increases.
    C. remains the same.
    D. Some types of intellectual abilities decrease, while others do not.

30. According to college students, the characteristic most important for advancement is
    A. luck
    B. hard work.
    C. knowing the right people.
    D. having a college degree.

31. Anxiety differs from fear in that anxiety
    A. occurs when an airplane takes off.
    B. is felt when you have an illogical fear.
    C. occurs when you are concerned about what might take place, rather than what did occur.
    D. is felt by emotionally disturbed people, while fear is felt by normal people.

32. An example of frustration is
    A. you are trying to get to the movie on time; you are caught in a traffic jam.
    B. you have the alternative of going to an interesting party with a dull date or to a dull party with an interesting date.
    C. you honked your horn to get a friend's attention, and he was hit by another car when he turned to see who was honking.
    D. you are trying to finish your studying for the examination and you are not sure you will do it in time.

33. Good parents will see that their children
    A. avoid all forms of stress.
    B. meet all stress that comes their way with a minimum of adult help.
    C. learn to cope with normal day-to-day stress.
    D. seek stress wherever possible, to learn more about it.

34. Another term for enuresis is
    A. extreme fatigue.
    B. psychosomatic problem.
    C. undue emotional stress.
    D. bedwetting.

35. In order to withdraw, people turn to (1) sleep, (2) tranquilizers, (3) alcohol, (4) recreation, and (5) their jobs.
    A. Not quite: they may turn to the first three to withdraw, but not the last two.
    B. Definitely not: none of these are really used for withdrawing.
    C. Definitely: all of these can be used for withdrawing.
    D. Not quite: they may turn to the last two for withdrawing, but not the first three.

36. Defense mechanisms
    A. are used to protect your self-concept.
    B. are used to change what other people think of you.
    C. are used only by emotionally disturbed people.
    D. are used only when faced with failure.

37. Defense mechanisms
    A. are worthwhile and should be maintained.
    B. are destructive and should be eliminated.
    C. are neither worthwhile nor destructive, but are neutral.
    D. are often necessary until the individual is able to function without them.

38. A person is often placed in a mental hospital when
    A. he might harm himself.
    B. he might harm others.
    C. he can no longer take care of himself.
    D. for any of the above reasons.

39. An example of a phobia would be
    A. before I go to bed at night, I take off my clothes in the same order, first trousers, then shirt, then underwear, then left shoe and sock, and finally right shoe and sock.
    B. don't look at me like that--you frighten me.
    C. whenever a cat touches me, I break out with hives, my heart pounds furiously, and I feel like screaming.
    D. the world is a horrible, horrible, horrible place.

40. A job field in which the four-year college graduate would have considerable advantage over the two year college graduate would be
    A. stock brokering.
    B. commercial art.
    C. television repair.
    D. mechanical engineering.

41. The major influence parents have upon the vocational field their children enter probably stems from
    A. direct pressures, such as bribes and demands.
    B. indirect pressures operating through values that have been internalized.
    C. part-time jobs which the parents allow their children to take.
    D. hobbies, which the parents encourage.

42. Over the past thirty years, the social status of jobs
    A. has changed a great deal.
    B. has changed relatively little.
    C. has become much more important to people.
    D. has become much less important to people.

43. The real purpose of career planning is to help you
    A. earn as much money as possible.
    B. get as much education as possible.
    C. be as satisfied with your career as possible.
    D. gain as much job status as possible.

44. Conformity is said to occur
    A. when a person does what he is told.
    B. when a person does what he thinks he should do.
    C. when a person's behavior is dominated by what others think, rather than by his own values.
    D. when a person does what everyone else does.

45. The true individualist is the person who
    A. rarely does what the group demands of him.
    B. usually behaves in such ways that others criticize him.
    C. does anything he pleases.
    D. acts according to his own values.

46. Compared to lower-class people, middle-class people tend to express aggression
    A. less.
    B. more.
    C. more verbally.
    D. more physically.

47. An example of a conflict in values is
    A. wanting to go to a movie but not having any method of transportation available.
    B. having a high fever and wanting to go on your vacation.
    C. wanting to keep the extra change the store clerk accidentally gave you and feeling it should be returned.
    D. wanting to be considered mature but not wanting to be really old.

48. When values are changed by persuasion, it usually happens
    A. through one dramatic incident.
    B. through a sudden flash of insight.
    C. through constant reminders in the press and on television.
    D. through slow and continuous persuasion affecting many aspects of life.

49. It is true that
    A. some prejudices require no learning, but occur naturally.
    B. prejudices, except in emotionally disturbed people, can readily be altered by good logic.
    C. prejudices bear no real relationship to needs.
    D. everyone has some prejudices.

50. Questioning of religious values begins
    A. in childhood.
    B. in adolescence.
    C. in maturity.
    D. in old age.

51. Religious beliefs may both increase and diminish guilt.
    A. True.
    B. False--they can only increase guilt.
    C. False--they can only diminish guilt.
    D. False--they can neither increase nor diminish guilt.

52. The healthy personality enjoys laughing
    A. when others are embarrassed.
    B. when others are criticized.
    C. when others have misfortune.
    D. at none of the above situations.

53. The healthy personality
    A. is willing to take responsibility when he makes the wrong decision.
    B. almost never makes the wrong decision.
    C. is reluctant to make decisions.
    D. is able to avoid making decisions.

54. During the past 30 years, student interest in on-campus extra-curricular participation has
    A. increased.
    B. decreased.
    C. remained about the same.
    D. increased but only for social activities.

55. Students who receive counseling
    A. get better grades than those of comparable ability who are not counseled.
    B. end up more confused than those who do not.
    C. would have been better off spending the time doing extra studying.
    D. almost always end up by graduating from college.

TRUE-FALSE

56. If observation shows that students who own automobiles get lower grades than students who do not own automobiles then it follows that owning an automobile causes low grades.

57. Human beings differ from lower animals in that humans seem to have a psychological need to grow, to improve, and to make the most of their potential capacities.

58. Dreams may be an expression of feelings you cannot admit, even to yourself, when you are in full control of your functioning.

59. Thinking is communicated from one person to another only by verbal symbols.

60. Toilet training is often the first behavior requiring a real learning effort that the child does to please his parents.

61. Losing control of their elimination processes is one way children express anger and aggression toward adults.

62. Even when they are well fed and cared for physically, children placed in institutions that isolate them from their parents have a higher mortality rate.

63. When children are punished frequently and harshly, they are usually better off in the long run, because their behavior becomes better, and they, therefore, become happier.

64. One appropriate method of motivating children to improve their performance is to let them know how much better their older brothers or sisters were.

65. One of the major problems to be overcome during adolescence is getting the answer to the question "Who am I--really?"

66. Although a very high proportion of college graduates would go to college, if they have it to do over again, over half of these would prefer to attend a different college.

67. Countries in which marriages are arranged by parents have higher divorce rates than countries in which marriage is based upon love.

68. When you really love another person, you can almost always recognize it correctly as love.

69. The more successful a person is in his work, the more likely he is to be personally and emotionally stable.

70. Emotions often provide motivation for behavior.

71. A reasonably intelligent person can determine who is homosexual and who is not by observing someone for a few minutes.

72. Anyone who displays some obviously non-normal behavior is in need of immediate psychological help.

73. The confusion students encounter as the result of learning about new ideas in college is often helpful in developing maturity and self-understanding.

74. Outside of the area of church and religion, Americans do not utilize rituals.

75. Even moderate consumption of alcoholic beverages will have a long-range harmful effect upon the health.

APPENDIX D

BIOGRAPHIC CHARACTERISTICS QUESTIONNAIRE

1. NAME _____
(Please print) Last First Middle

2. AGE _____ SEX: Male _____ Female _____

3. FOR THE GREATEST PART OF YOUR LIFE WHERE WERE YOU BROUGHT UP?

_____ 1. on a farm
_____ 2. in a community, population less than 1,500
_____ 3. in a community, population between 1,500 and 5,000
_____ 4. in a community, population more than 5,000

4. WHAT WAS THE SIZE OF YOUR HIGH SCHOOL GRADUATING CLASS?

_____ 1. 24 or fewer
_____ 2. 25 - 49
_____ 3. 50 - 74
_____ 4. 75 - 99
_____ 5. 100 or more

5. WHAT IS YOUR AVERAGE ANNUAL FAMILY INCOME?

_____ 1. $3000.00 or less
_____ 2. $3001.00 - $5000.00
_____ 3. $5001.00 - $7000.00
_____ 4. $7001.00 - $9000.00
_____ 5. $9001.00 or more

6. WHAT IS YOUR FATHER'S OCCUPATION? _____

7. WHAT IS YOUR MOTHER'S OCCUPATION? _____

8. WHAT IS THE EXTENT OF YOUR:

Father's Education	(check one for each)	Mother's Education
_____	1. Less than high school	_____
_____	2. Some high school but not a graduate	_____
_____	3. High school graduate	_____
_____	4. Some post-high school education	_____
_____	5. Graduate of a four-year college or higher	_____

9. NUMBER OF BROTHERS Older _____ Younger _____
SISTERS Older _____ Younger _____

10. WHICH ONE OF THE FOLLOWING WERE MOST INFLUENTIAL IN HELPING YOU TO DECIDE TO ATTEND WENATCHEE VALLEY COLLEGE?

_____ 1. Parent(s)
_____ 2. Friends
_____ 3. Brothers or sisters or other relatives
_____ 4. School personnel
_____ 5. Other - please indicate _____

11. WHAT PART OF YOUR EDUCATION DO YOU FINANCE YOURSELF?

_____ 1. none
_____ 2. less than half
_____ 3 half or more
_____ 4. all

12. WOMEN ONLY WHICH OF THE FOLLOWING BEST DESCRIBES YOUR VOCATIONAL PLANS?

_____ 1. full-time homemaking
_____ 2. full-time career
_____ 3. a combination of homemaking and career

13. MEN ONLY MILITARY STATUS

_____ 1. I plan to enter military service right after the end of this school year.
_____ 2. I have fulfilled my military obligations
_____ 3. I plan to get my degree before fulfilling my military obligations
_____ 4. I hope to avoid military service
_____ 5. Other - please specify _____

APPENDIX E

CHI SQUARE TABLES OF

BIOGRAPHIC CHARACTERISTICS

TABLE 43

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN SIZE OF COMMUNITY AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

Size of Community	Males			Females		
	Experimental	Control	Total	Experimental	Control	Total
Farm	6	8	14	4	4	8
Under 5,000	8	11	19	3	3	6
5,000 or More	8	15	23	10	9	19
Total	22	34	56	17	16	33

χ^2 needed for $p \leq .05$ at 2 df = 5.99.
Computed χ^2 for males = .33; for females, .02.

TABLE 44

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN SIZE OF HIGH SCHOOL GRADUATING CLASS AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

Size of High School Graduating Class	Males			Females		
	Experimental	Control	Total	Experimental	Control	Total
Under 25	2	1	3	0	1	1
25 - 99	5	11	16	4	4	8
100 or More	15	22	37	13	11	24
Total	22	34	56	17	16	33

χ^2 needed for $p \leq .05$ at 2 df = 5.99.
Computed χ^2 for males = 1.40; for females, 1.14.

TABLE 45

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN PARENTAL INCOME AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

Parental Income	Males			Females		
	Experimental	Control	Total	Experimental	Control	Total
Under $5,000	4	7	11	0	2	2
$5,001 - $7,000	4	8	12	5	3	8
$7,001 or More	13	19	32	12	11	23
Total	21	34	55	17	16	33

χ^2 needed for $p \leq .05$ at 2 df = 5.99.
Computed χ^2 for males = .22; for females, 2.51.

TABLE 46

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN PATERNAL OCCUPATIONAL LOCATION AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

Paternal Occupational Location	Males			Females		
	Experimental	Control	Total	Experimental	Control	Total
Urban	15	14	29	13	10	23
Rural	7	12	19	4	4	8
Total	22	26	48	17	14	31

χ^2 needed for $p \leq .05$ at 1 df = 3.84.
Computed χ^2 for males = .51; for females, .10.

TABLE 47

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN EMPLOYMENT STATUS OF MOTHER AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

Employment Status of Mother	Males			Females		
	Experimental	Control	Total	Experimental	Control	Total
Employed	9	13	22	10	9	19
Not Employed	13	21	34	7	7	14
Total	22	34	56	17	16	33

χ^2 needed for $p \leq .05$ at 1 df = 3.84.
Computed χ^2 for males = .04; for females, .02.

TABLE 48

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN LEVEL OF PATERNAL EDUCATION AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

Level of Paternal Education	Males			Females		
	Experimental	Control	Total	Experimental	Control	Total
Elementary School	4	7	11	1	1	2
High School Attendance	3	3	6	3	2	5
High School Graduation	8	11	19	9	7	16
College	7	12	19	4	6	10
Total	22	33	55	17	16	33

χ^2 needed for $p \leq .05$ at 3 df = 7.81.
Computed χ^2 for males = .42; for females, .82.

TABLE 49

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN LEVEL OF MATERNAL EDUCATION AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

Level of Maternal Education	Males			Females		
	Experimental	Control	Total	Experimental	Control	Total
Elementary School	2	7	9	2	1	3
High School Attendance	3	6	9	1	0	1
High School Graduation	12	8	20	8	5	13
College	5	13	18	6	10	16
Total	22	34	56	17	16	33

χ^2 needed for $p \leq .05$ at 3 df = 7.81.
Computed χ^2 for males = 5.83; for females, 3.00.

TABLE 50

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN NUMBER OF CHILDREN AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

Number of Children in Family	Males			Females		
	Experimental	Control	Total	Experimental	Control	Total
1 or 2	5	11	16	5	4	9
3	6	10	16	4	5	9
4	3	2	5	4	4	8
5	5	3	8	2	1	3
6	1	5	6	0	1	1
7 or More	1	2	3	2	0	2
Total	21	33	54	17	15	32

χ^2 needed for $p \leq .05$ at 5 df = 11.07.
Computed χ^2 for males = 4.51; for females, 3.44.

TABLE 51

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN POSITION IN THE FAMILY AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

Position in Family	Males			Females		
	Experimental	Control	Total	Experimental	Control	Total
First	11	14	25	7	6	13
Second	5	11	16	6	6	12
Other	6	9	15	4	4	8
Total	22	34	56	17	16	33

χ^2 needed for $p \leq .05$ at 2 df = 5.99.
Computed χ^2 for males = .67; for females, .05.

TABLE 52

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN SOURCE OF INFLUENCE FOR ATTENDING WENATCHEE VALLEY COLLEGE AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP ACCORDING TO SEX

Source of Influence for Attending WVC	Males		
	Experimental	Control	Total
Parents	13	12	25
Friends	5	5	10
Relatives	0	2	2
School Staff	2	7	9
Self	2	8	10
Total	22	34	56
	Females		
Parents	10	9	19
Friends	2	2	4
Relatives	1	0	1
School Staff	2	1	3
Self	2	4	6
Total	17	16	33

χ^2 needed for $p \leq .05$ at 4 df = 9.49.
Computed χ^2 for males = 6.13; for females, 2.02.

TABLE 53

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN AMOUNT OF SELF-FINANCING AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP ACCORDING TO SEX

Amount of Self-Financing	Males		
	Experimental	Control	Total
None	1	8	9
Less than Half	7	8	15
Half or More	7	6	13
All	7	12	19
Total	22	34	56
	Females		
None	5	6	11
Less than Half	3	8	11
Half or More	5	1	6
All	4	1	5
Total	17	16	33

χ^2 needed for $p \leq .05$ at 3 df = 7.81.
Computed χ^2 for males = 4.54; for females, 6.81.

TABLE 54

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN PLANS FOR MILITARY SERVICE AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP FOR MALES

Plans for Military Service	Experimental	Control	Total
Commitment Completed	2	5	7
After Graduation	15	19	34
Seek to Avoid	3	7	10
Other	2	3	5
Total	22	34	56

χ^2 needed for $p \leq .05$ at 3 df = 7.81.
Computed χ^2 = 1.03.

TABLE 55

CHI SQUARE ANALYSIS OF THE RELATION BETWEEN AGE AND MEMBERSHIP IN EXPERIMENTAL OR CONTROL GROUP

	Males			Females		
Age	Experimental	Control	Total	Experimental	Control	Total
17	1	2	3	4	0	4
18	12	16	28	12	13	25
19	7	9	16	1	2	3
20 or Over	2	7	9	0	1	1
Total	22	34	56	17	16	33

χ^2 needed for $p \leq .05$ at 3 df = 7.81.
Computed χ^2 for males = 1.43; for females, 5.35.

APPENDIX F

INVITATION TO PARTICIPATE IN STUDY

WENATCHEE VALLEY COLLEGE

September 7, 1967

Dear Student:

Wenatchee Valley College Student Personnel Services is pleased to announce that you have been selected to represent the Freshman Class of 1967 in a research project.

Research testing will be administered September 19th, and you are scheduled for testing from 2:00 - 5:00 p.m. on that date in Room 716 of the Arts-Mechanical building. Please retain this letter as a reminder of your appointment; it will also serve to admit you as a research participant.

Because a minimum number of students have been selected to represent your freshman class, it is important that maximum participation be assured. Therefore, please check the appropriate box on the enclosed stamped, self-addressed postcard and return immediately.

A willingness to serve as a selected research participant will contribute significantly to the many progressive endeavors of Wenatchee Valley College, and your cooperation is sincerely appreciated.

Cordially,

Eugene L. Curtis
Dean of Students

ELC:jg

Encl.

APPENDIX G

INVITATION TO POST-COURSE TESTING

WENATCHEE VALLEY COLLEGE

November 15, 1967

Dear Student:

As a research participant selected to represent the Freshman Class of 1967, you were administered a series of tests prior to the beginning of this quarter.

To complete this research it is necessary that you be present for testing in the Arts-Mechanical Building, Room 716, at 1:00 p.m. on Tuesday, November 28, 1967. Please be prompt. Attendance will be taken.

The cooperation and support of WVC instructors has been secured; therefore, you have been officially excused from all afternoon classes on November 28th, and your instructor has been so informed.

If, for any reason, you are unable to attend on November 28th, please advise the Counseling Center immediately, and you will be scheduled for make-up testing on Thursday, November 30th. Make-up testing will begin promptly at 1:00 p.m. in Room 716 of the Arts-Mechanical Building.

It is imperative that all research participants be tested on one of the dates mentioned above. Your cooperation is sincerely appreciated.

Cordially,

Eugene L. Curtis
Dean of Students

ELC:ls

APPENDIX H

LETTER OF REMINDER

WENATCHEE VALLEY COLLEGE

November 21, 1967

Dear Research Participant:

Just a brief reminder that your presence is required in Room 716 of the Arts-Mechanical Building at 1:00 p.m. on Tuesday, November 28, 1967.

This research project has attracted considerable attention on campus and throughout the State of Washington, so please be prompt. To insure that you will not be called in individually at a later date, be sure to have your name checked off when you arrive for testing.

See you Tuesday!

Cordially,

Eugene L. Curtis
Dean of Students

ELC/ljs

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