THE RELATIONSHIP OF ENVIRONMENTAL CHANGE TO STUDENT PERFORMANCE AND ATTRITION

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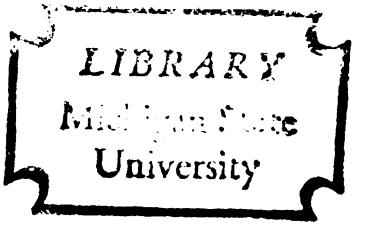

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ABSTRACT

THE RELATIONSHIP OF ENVIRONMENTAL CHANGE
TO STUDENT PERFORMANCE AND ATTRITION

by Donald H. Voss

The Problem

Little is known about the impact of the community college upon its students. Even less is known about the effects of the change in environment involved in the transition from high school to a community college. The purpose of this investigation was to study the relationship of environmental change (in the transition from high school to a community college) upon the performance and rates of attrition of community-college students.

The following research hypotheses were investigated in the study:

1. High schools will differ from the community college in the amount of demand made upon the students in both intellectual and non-intellectual areas.
2. The demands made upon the students in the high schools will differ in the amount of emphasis placed upon such factors as academic achievement, group life, vocational

emphases compared to the emphases upon such factors at the community college.

3. Negative change in goodness of fit between environmental demands and student preferences in the transition from high school to community college will be related to increased student attrition.
4. Change in goodness of fit between the individual's preferences and the relative emphases in his new environment (at the community college) will be related to performance: positive change to better performance, negative change to worse performance.
5. Goodness of fit at the community college between an individual's preferences and the college's emphases will be related to attrition. That is, good fit will be related to retention; poor fit to attrition.
6. Goodness of fit at the community college between individual's preferences and the college's emphases will be related to performance. That is, good fit wlll be related to good performance; poor fit to poor performance.
7. An individual's previous experience with "poor fit" will modify the effects of "poor fit" at the community college:

a. Subjects who experience poor fit at the community college but who previously experienced good fit at the high school level will leave the college and not continue their education elsewhere more frequently than poor-fit students who previously experienced poor fit in high school.

b. Students who experience poor fit at the community college but who experienced poor fit in high school will perform at a higher level than poor-fit students who experienced good fit in high school.

Methods and Procedures

One hundred and seventy-two Lansing (Michigan) Community College students were randomly selected from required orientation classes. The subjects were all first-time, full-time (12 quarter hours or more) students in the fall of 1965.

Samples were also selected from the senior classes of eight high schools in the service area (an area with a radius of approximately 30 miles) of the community college. All the high-school subjects were volunteers within two months of high school graduation. Each high school sample consisted of 36 subjects.

The college subjects were given the Activities Index and the Evening College Characteristics Index developed by George G. Stern.[1]

The community-college subjects were also given a brief (ten-question) questionnaire which paralleled and paraphrased the eleven major emphases of the environmental indexes.

The high-school subjects were given the High School Characteristics Index also developed by Stern.[2]

The three Index test forms consist of 300 parallel items. The Activities Index items refer to common activities for which the individual indicates his "like" or "dislike." The environmental-index items refer to pressures, demands, rewards and activities common in an educational setting. The parallel nature of the environmental and personal questionnaires permits assessment of the "fit" between the individual's preferences and his environment's demands.

The major analyses of performance used cumulative (fall + winter) grade point averages. The attrition-rate analyses used retention and dropout data for the entire academic year.

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[1]George G. Stern, Preliminary Manual: Activities Index-College Characteristics Index (Syracuse, New York: Psychological Research Center, 1958); George G. Stern, Scoring Instructions and College Norms: Activities Index-College Characteristics Index (Syracuse, New York: Psychological Research Center, 1963).

[2]Ibid.

Comparisons were made between the "fit" of students' preferred activities (as determined from the Activities Index) and the demands made upon them in high school and at the community college. (The community-college subjects were all graduates of one of the eight high schools studied.) Subjects were assigned to four levels of environmental continuity. Assignment to these categories was made on the basis of major or minor positive or negative change in "fit" between the individual's needs and his environment's demands in the transition from high school to the community college. (Cattell's[1] r_p pattern analysis statistic was used to express these relationships.)

Several methods were used in the computation of "fit" or congruence at the community college. All employed Cattell's r_p pattern analysis statistic. Pattern congruence was defined as congruence between an individual's need (preferences) pattern and the pattern of demands in his environment in which all standard score differences were used in the computation of the r_p statistic. Deviation pattern congruence used only those standard score differences which exceeded one standard deviation (above or below) the mean of student perceptions of press at the institution. Expressed congruence was computed using the differences between the individual's reported perceptions of his

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[1] J. L. Horn, "Significance Tests for Use with r_p and Related Profile Statistics," Educational and Psychological Measurement, XXI, No. 2 (1961), 363-379.

environment's demands and his stated preferences. Private Beta congruence (in contrast to Adjusted and Pattern congruence which used the means of students' perceptions of press or demands) was computed by using the individual's own profile of needs and his own perceptions of environmental demands. Adjusted pattern congruence was computed using only deviations below the means of the samples' perceptions of demands in the intellectual area and above the means in the non-intellectual area.

The "objective" measures (Pattern, Deviation pattern, and Adjusted pattern congruence) were more highly related to performance and attrition than the "subjective" measures (Expressed and Private Beta congruence). Deviation pattern congruence was more highly related to retention and Adjusted pattern congruence was more highly related to performance measures.

Major Findings

The following were the major findings of the study:

1. The community college's (perceived) demands differed significantly from those at the eight high schools in the intellectual area. In the non-intellectual area the greatest perceived change was a decrease in the emphasis upon play (organized social life) in the community-college setting.
2. The patterns of perceived high school demands did not differ from the patterns of demands at

the community college (using Cattell's r_p pattern analysis statistic) although differences in relative emphases were found when rank-order correlation was used.

3. Negative change in goodness of fit was related to the transfer intentions of high achievement students and to the attrition rates of low achievement students (dropout).
4. Change in goodness of fit between the individual's preferences and the demands of his environment was significantly related to the performance of low achievement students. Positive change in goodness of fit was related to improved performance by high achievement students.
5. Goodness of fit at the community college between an individual's preferences and the college's emphases was related to the transfer intentions of high achievement students and the attrition (dropout) of low achievement students.
6. Goodness of fit at the community college between an individual's preferences and the college's emphases was related to performance by both high and low achievement subjects.
7. a. Subjects who experienced poor fit at the community college following poor fit in high school dropped out of the college more frequently than those who had previously

experienced good fit. This relationship was the opposite of the one predicted.

b. Subjects who experienced poor fit at the community college following poor fit in high school did not perform at a significantly higher level than those who had previously experienced good fit. (Improvement of fit was related to higher performance. This relationship had not been predicted.)

8. The pattern of demands at the community college fits the "average" student's pattern of preferences very well. Any drastic changes initiated in order to "fit" the institution's demands to the individuals who do not "fit" the current environment would result in a less satisfactory "fit" for the majority of the student body.

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The investigator is particularly grateful to his wife, Betty, and to his parents for their support and their assistance in a significant portion of the clerical work involved. To paraphrase a statement made by the author of a related research project, "they seldom knew what it all meant, but they know what it all means."

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CHAPTER I

THE PROBLEM

A prominent recent trend in American higher education has been an increase both in numbers and in percentages of students who begin their college education in a community or junior college. The trend is considered by many educational experts to be one which will become even more pronounced. In view of this trend, it seems strange that behavioral scientists concerned with education have done little research in community or junior colleges. If it is true that there is less fundamental research on the operation of colleges and universities than almost any other social or economic institution,[1] it is markedly true of the community college. The observation was made in a recent report that the book, The American College, which is self-described as a "psychological and social interpretation of the higher learning," contains only ten references to community or junior colleges in its more than 1,000 pages.[2]

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[1]Commission on Goals for Higher Education in the South, Within Our Reach (Atlanta, George: Southern Region Education Board, 1961), p. 43.

[2]James M. Richards, Jr., Leonard P. Rand, and Lorraine M. Rand, "A New Way to Measure Environment," Junior College Journal, 36 (1966), p. 18.

Carpenter[1] noted (in his 1966 presidential address to the American Higher Education Association) the following needs among the many he discovered in a survey of research requirements in the South: 1) studies of the "presses" and pressures of college environments upon students, 2) research on the interaction of high schools and colleges, and 3) the interactions of junior or community colleges with other institutions of higher education. Although Carpenter did not specify research into the interaction between high schools and community colleges, such a need seems apparent in view of the increasing importance of the community college in higher education.

Community or junior colleges offer programs which include adult education courses, short-term specialized vocational programs, "terminal" curricula leading to sub-baccalaureate degrees, and the traditional "transfer" curricula designed to prepare the student to continue his education at a four-year college. Representative studies indicate that at least two-thirds of the entering students indicate intention to transfer to four-year institutions. Approximately one-third of those who indicate intention to transfer actually do transfer. Many drop out for strictly academic reasons. Others leave for reasons that are better described as psychological, social, parental or financial.

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[1]C. Ray Carpenter, "Reflections on Research on Higher Education: Strategies and Tactics," AHE: College and University Bulletin, 18, No. 11 (1966), p. 5.

The attrition rate involves more than academic failure. It may also involve failure to meet the psychological, social or economic demands of the college situation. There is a need for further research on these non-academic factors which may contribute to the current rate of academic attrition.[1]

In spite of the fact that many of the students who indicate intention to transfer to a four-year institution do not do so, little is known about the comparative characteristics of those who transfer and those who do not.[2] Still less is known about the effect upon students of the change in environment in the transition from high school to college. Previous research has been centered on students who made the transition from a community college to a four-year institution.[3]

The community colleges are apparently effective with their transfer and terminal students. The "latent terminal" with transfer intentions does not fall into either category. These students terminate their formal education while in

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[1]John Summerskill, "Dropouts from College," The American College, ed. N. Sanford (New York: John Wiley & Sons, 1962), pp. 637-649.

[2]Dorothy M. Knoell and Leland L. Medsker, Factors Affecting Performance of Transfer Students from Two- to Four-Year Colleges (Berkeley, California: Center for the Study of Higher Education, 1964), p. 32.

[3]George G. Stern, "Continuity and Contrast in the Transition from High School to College," Orientation to College Learning: A Reappraisal, ed. Nicholas C. Brown (Washington, D. C.: American Council on Education, 1961), pp. 37-68.

college, but they do so while pursuing transfer work. The modal student in the community college is neither the terminal nor the transfer student, but the "latent terminal." It is hoped that this study will serve as a preliminary investigation of the effects of environmental variables upon these "latent terminal" students in particular.

Purpose

The purpose of this investigation is to study the relationship of environmental change (in the transition from high school to a community college) to the performance and rates of attrition of community-college students.

The objective is to study the effects of the community-college environment upon differing kinds of students with different high school environmental backgrounds to determine whether variable environmental factors are associated with levels of student performance and rates of attrition. The effects of continuity and contrast in environments as the student moves from high school to the community college will be studied.

Research Hypotheses

I. High schools will differ from the community college in the amount of demand made of students in both intellectual and non-intellectual areas.

II. The demands made upon the students in the high schools will differ in the amount of emphasis placed upon such factors as academic achievement, group life, and

vocational emphases compared to the emphases upon such factors at the community college.

III. Negative change in goodness of fit between environmental demands in such areas as academic achievement, group life, vocational emphases and the individual's preferences for such emphases will be related to increased student attrition. That is, if the student's needs (preferences) fit the environmental demands less well at the community college than they did in high school, such change will be associated with increased rates of student attrition.

IV. Change in goodness of fit between the individual's preferences and the relative emphases in his school environment upon such factors as academic achievement, group life, play-work and vocational emphases will be related to levels of performance. That is, a student whose pattern of preferences resembles more closely the demand-pattern at the community college than the pattern in his high school (a positive environmental change) will perform at a higher level than the student whose preferences for environmental demands fit the pattern at the community college less well than at his high school (a negative change).

V. Goodness of fit between the individual's preferences in such areas as academic achievement, group life, play-work and vocational emphases and the

environmental demands or relative emphases in such areas will be related to attrition. That is, "good fit" will be related to retention; poor fit to attrition.

VI. Goodness of fit between the individual's preferences in such areas as academic achievement, group life, play-work and vocational emphases and environmental demands or relative emphases in such areas will be related to performance. That is, "good fit" will be related to better performance; "poor fit" to poorer performance.

VII. Previous experience with "poor fit" or lack of correspondence between the individual's preferences for emphasis upon such factors as academic achievement, group life, play-work, and vocational emphases and the actual levels of demand in such areas made upon him by his environment will modify the effects of "poor fit" at the community college.

1. Students who experience "poor fit" between their preferences and environmental emphases at the community college but who experienced "good fit" at the high school level will leave the college at a higher rate than students who experience "poor fit" at the community college but who experienced "poor fit" in high school.
2. Students who experience "poor fit" at the community college but who experienced "poor fit"

in high school will perform at a higher level than students who experience "poor fit" at the community college but who experience "poor fit" at the community college but who experienced "good fit" in high school.

Theory

Social scientists are giving increasing attention to some of the more subtle, but highly significant factors in student learning. The physical environment in which the student lives, the kind of college community in which he finds himself and the social structures and processes of which he is a part are examples of the new emphasis. Studies of these factors offer increasing evidence of the importance of the college's "climate of learning" as a potent force in determining the outcome of educational programs.

The following set of generalizations can be made from college environment studies:[1]

1. An educational institution has its own distinctive atmosphere or climate which appears to remain fairly stable from year to year.
2. Peer group and faculty-student interaction outside of the classroom are important variables affecting student values. These may be stronger

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[1]James G. Rice, "The Campus Climate: A Reminder," Higher Education: Some Newer Developments, ed. Samuel Baskin (New York: McGraw-Hill, 1965), p. 307.

determinants of student attitudes and values than what occurs in the classroom.

3. Many "outside" activities such as extra-curricular programs, academic advising programs, and campus events have effects upon both the mastery of subject matter and the perceived relevance of learning.

If the above generalizations are warranted concerning the college student in a residential setting, they are perhaps even more applicable to the community- or junior-college student. Although the community-college student's environment typically does not change as dramatically between high school and college because he ordinarily remains at home, he is not "typical college material." Collins[1] states that the community-college student comes from a lower-middle class home and bears the mark or influence of this background. He has a low level of educational background and academic achievement. Many studies have indicated that he has a more modest academic potential than his four-year-college counterpart. Workers in the community college suspect, however, that his intellectual energy level, his valuing of education and his time-perspective may be even more important factors. The distant "pay off" of education may not be sufficient to motivate him

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[1]Charles C. Collins, "Critical Problems of Students," Junior College Journal, 36, No. 7 (1966), pp. 32-36.

in his day-to-day academic efforts. It may be that the impact of the community-college student's environment, while not as encompassing as that of his peers at a residential school, may be fully as great upon his performance and his decision to continue his education. Because he takes his education in a "cafeteria" setting, it is even easier for him to express his dissatisfaction than for his residential-college counterpart. He can more readily withdraw psychologically, if not physically, from an environment which he finds distasteful. He is more free, in Reisman's terminology, to "drop in and drop out."

Argyris'[1] theory concerning the problem of integrating the individual and his organization is applicable to the problem of this study. His fundamental postulate is that there is a lack of congruency between the needs of healthy individuals and the demands of formal organizations. He states that, at best, society may hope to "satisfice" the relationships between the individual and the organization. That is, society may simply be able to meet a set of criteria which describe minimally satisfactory alternatives rather than trying to work toward some ideally, maximally satisfying arrangement.

Although Argyris believes that organizations and individuals cannot be completely congruent, it is possible that incongruence between an individual and his organization may

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[1]Chris Argyris, Integrating the Individual and the Organization (New York: John Wiley & Sons, 1964).

provide the basis for a challenge which may enhance growth. Lack of congruence, however, may also cause individual frustration at too high a level because the individual's self-expression is blocked. He will then tend to experience "failure" and short time-perspective because he will not be able to define his own goals.

Argyris believes that it is impossible to understand the individual without understanding the organization in which he finds himself. It is extremely difficult, however, to describe either human personality or organizational environments with precision. In order to begin work on the primary objective of understanding the individual and the organization, extended discussions will have to be sacrificed and selections made of those factors which seem most relevant to the understanding of both the individual and his environment.

Although Argyris' theory has led to an increasing amount of research and thereby proven its viability, it does not as yet involve the development of instrumentation which permits the direct comparison of individuals and their organizational environments. A significant portion of current environmental research which does involve such comparison is based upon the theory of Henry A. Murray.[1] Murray believes that the individual's environment largely determines his behavior. Because environment changes, often

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[1]Henry A. Murray, Explorations in Personality (New York: Science Editions, 1962).

abruptly, one cannot formulate or understand the individual's behavior without first describing his environmental situation.

Murray uses the term press to designate a directional tendency in an object or situation. He distinguishes between alpha press (the environment's demands as they actually exist as far as scientific inquiry can determine them), and beta press--the subject's own interpretation of the environment's demands as he perceives them. Press, then, are dynamically pertinent attributes of a particular environment in terms of benefits offered to particular needs or the frustrations imposed upon other needs. The process in which the subject at any moment says, "this is good," or "that is bad," Murray calls pressive perception. Pressive perception is an egocentric process which almost always gives rise to adaptive behavior on the individual's part. Actually, the individual does not find most stimulus situations directly effective. Most situations are effective behavior-stimulators because they let the individual know what is coming. The individual becomes more involved with pressive apperception--the realization that the object or stimulus may do something if he remains passive or something else if he becomes active.

The press of an object or situation, then, is what it can do to or for the subject. The subject may not even be aware of the press being exerted upon him. Murray believes that the process of pressive apperception is largely

unconscious--the organism merely reacts to a stimulus. If an individual apperceives a constellation of stimuli as harmful, he may find his current environment unsatisfying or threatening. He may not be aware of the specific reasons for his feeling.

Corresponding to press in the environment, Murray posits the concept of need within the individual. A need is a hypothetical process which is asserted in order to account for certain objective and subjective facts. These needs may be psychogenic or viscerogenic. Their importance varies for the individual according to the ease or difficulty he discovers in seeking to satisfy them. Each reaction to an environmental press has a fortune which may be measured in degrees of gratification or realization. If gratification of a need is defined as success, frustration of a need as a failure; it may be added that success and failure are of major importance in establishing the status of an organism in its community.

Murray's conceptualization of need-press interaction has made possible the development of instrumentation which permits comparison of the congruence or "fit" between an individual's needs and his environment's press. These instruments, developed by George G. Stern, C. Robert Pace and others, will be used in this study of the effects of environmental change upon student behavior. The section which follows includes definitions of terms descriptive of major dimensions of the Stern instruments and terms which

pertain to this study alone. (Definitions of the thirty sub-scales of the Stern instruments and the first-order factors derived from them are given in Appendix I.)

Definition of Terms

The following definitions pertain to the major dimensions of the instruments used in this study:[1]

1. Intellectual Climate.--This dimension represents the more conventional aspects of academic program including staff and facilities. It also includes standards of achievement set by students and faculty, and opportunities for the development of self-assurance.

2. Non-intellectual Climate.--This dimension represents the level of organization of academic and student social affairs. It also includes the emphasis upon technical and vocational courses.

3. Emotional Expression.--This dimension of individual needs represents high levels of social participation and emotional spontaneity. It also involves the individual's level of self-assertiveness.

4. Educability.--This dimension of individual needs includes elements of both intellectuality and submissiveness. Scores on this dimension indicate extent of interest in intellectual activities coupled with orderliness and conformity.

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[1]George G. Stern, Scoring Instructions and College Norms: Activities Index - College Characteristics Index (Syracuse, New York: Psychological Research Center, 1963).

5. Common Beta Press.--The mean or average of a group's perception of press in a given setting. The Common Beta Press may be expressed in terms of sub-scale-, first- or second-order factor dimensions. (In this study, first-order factors are used.)

The following definitions pertain to the terminology indirectly related to the instruments used in the study or to usage peculiar to this study alone.

1. Community College.--A two-year public institution of higher education located in Lansing, Michigan. It offers curricula in the arts and sciences (the traditional "transfer" curricula), and certain business, technical, and health sciences curricula.

2. Service Area.--The area served by the college which includes a radius of approximately 30 miles.

3. Area High School.--Any high school located in the above area. Those included in the study were of the following types:

   a. Local public. A high school located in the same city as the community college and which is publicly governed and tax-supported.

   b. Non-local public. A high school located outside of the city in which the community college is located and which is publicly governed and tax-supported.

c. Parochial. A high school which is privately financed and governed under religious auspices.

4. Full-time student.--A community-college student enrolled for 12 term credits or more during a given term.

5. Grade-point average.--Numerical average of grades received in academic subjects.

a. In high school. English, foreign languages, mathematics, science, and social science.

b. In the community college. Those subjects which ordinarily received transfer credit: those which are acceptable for college credit at a four-year institution and which are accepted by it as credit earned toward graduation.

6. Achievement.--Academic achievement as indicated by the above numerical designation (grade-point average):

a. High achievement. Those students whose high school grade-point average was above the median for high school students beginning work at the community college as full-time freshmen students.

b. Low achievement. Those students whose high school grade point average was below the median for high school students beginning work at the community college as full-time freshmen students.

7. Dropout.--A student who discontinued his education at the community college and who did not continue his education at another educational institution.

8. Intended Transfer.--A student who indicated in reply to questionnaire surveys that he or she intended to transfer to another educational institution prior to completing requirements for an Associate-in-Arts degree at the community college.

Overview

In Chapter II, the review of the literature includes a brief survey of environmental studies and a more detailed description of several studies most similar to and therefore most relevant to this one.

The methodology and procedures, including the statistical methods used and the assumptions underlying them, are described in Chapter III.

In Chapter IV the results of the study are analyzed.

The results of the study are discussed in Chapter V.

Chapter II, which follows, begins with a brief statement about assessment in educational settings as an introduction to the topic of environmental studies in particular.

CHAPTER II

REVIEW OF THE LITERATURE

In thousands of high schools and colleges every year hundreds of thousands of students take batteries of tests designed to measure their personal and academic qualities, and to assess their curricular and vocational choices. In a similar manner studies[1] are made of academic organizations. These include investigations of social structure, human and financial input and output, community and regional contexts and many other variables. All of this research is concerned with what might be termed "goodness of fit" or congruence between the categories being assessed.

Because the literature about the above concerns is far too broad in scope to be covered adequately, the review which follows will be limited to: 1) a brief survey of research on the impact of different environments upon students, 2) a survey of representative studies using Pace and Stern instruments, and 3) a more detailed review of closely related studies.

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[1]C. Robert Pace, "Methods of Describing College Cultures," Teachers College Record, 63, pp. 267-277.

Environmental Assessment: General

Farris (in a mimeographed study cited by Argyris[1]) investigated Argyris' theory that the "fit" of an individual and the institution in which he finds himself will effect the individual's motivation, affective job experiences and his performance. Farris developed quantitative indices for motivation and provision for self-actualization, status and social congruency. These indices were given to a group of research scientists.

Measures of "objective congruence" (the individual's motive on a given dimension compared to the average perception of provision for that motive by members of his department) did not correlate significantly with intensity of motivation. Measures of "perceived congruency" (the individual's motive compared to his perception of the institution's provision for that motive) did correlate significantly with motivation. Neither measure correlated significantly with performance.

Thistlethwaite[2] investigated the effects of college press on the study plans of talented students. The study included 987 men and 513 women at 327 different American colleges and universities. Thistlethwaite found that college environments characterized by faculty affiliation,

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[1]Argyris, op. cit., pp. 42-47.

[2]Donald L. Thistlethwaite, "College Press and Changes in Study Plans of Talented Students," Journal of Educational Psychology, 51, No. 4 (1960), pp. 222-234.

enthusiasm, emphasis upon achievement or independence are associated with increased motivation to seek advanced degrees in the arts, humanities and social sciences. College environments characterized by a lack of faculty emphasis upon student compliance are associated with increased motivation to seek advanced degrees in the natural or biological sciences.

Astin[1] described 248 colleges and universities and their entering classes in the fall of 1961 using six characteristics: intellectualism, estheticism, status, leadership, masculinity, and pragmatism. Astin concluded that the characteristics of the entering freshmen classes were highly related to characteristics of the colleges. He felt that the aspirations of the entering students were well-suited to the curricular offerings of the institutions.

Knoell and Medsker[2] investigated the performance of junior-college transfer students. They found in their nationwide survey both institutional and individual factors related to differences in the performance of the students who transferred from two-year to four-year institutions. Probability of "on time" graduation, for example, was

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[1]Alexander W. Astin, "Distribution of Students Among Higher Educational Institutions," Journal of Educational Psychology, 55 (1964), pp. 276-87; Alexander W. Astin, "Some Characteristics of Student Bodies Entering Higher Educational Institutions," Journal of Educational Psychology, 55 (1964), pp. 267-275.

[2]Dorothy M. Knoell and Leland L. Medsker, Articulation Between Two-Year and Four-Year Colleges (Berkeley, California: Center for the Study of Higher Education, 1964).

related to choice of major field, choice of four-year college and to sex differences (which were related in part to choice of major). Knoell and Medsker conclude that most junior-college transfer students could be successful in achieving their degree goals if they would choose institutions and major fields appropriate to their ability levels and previous achievement.

Richards, Rand and Rand[1] have developed a relatively simple method of describing junior or community colleges in terms of an institutional profile with six dimensions: cultural affluence, technological specialization, size, age, transfer emphasis and business orientation. Their goal was the development of a profile which could be used in research studies of the effects of junior colleges on students. They made no suggestions, however, about criteria for the measurement of these effects or the relationship between the six variables they described and student characteristics. They conclude that previous work has not sought to develop detailed descriptions of junior-college environments and that no attempt to study the impact of junior colleges on students has been made.

Environmental Assessment: Pace and Stern Instrumentation

Until the time of Pace and Stern's development of The College Characteristics Index no objective measure of

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[1]Richards, loc. cit., pp. 18-20.

environmental press was available.[1] The Index has since been used extensively by Pace and Stern and others.

Stern[2] used the College Characteristics Index in a study which involved 1076 students at 23 different colleges. Six factors associated with different types of schools were identified in this investigation. The elite liberal arts colleges were found to score high on the "Intellectual Orientation" and "Social Effectiveness" factors. Several large state and private universities scored high on the "Play" factor. "Friendliness" (informal social organization) was characteristic of a mixed group of schools. Denominational colleges were characterized by high scores on the "Constraint" factor. State teachers colleges were characterized by the "Dominance-Submission" (custodial-care) factor.

The correlation between the "Intellectual Climate" factor at 37 colleges and the per cent of graduates receiving the Ph.D. degree between 1937 and 1956 was .76. The correlation between the "Intellectual Climate" factor and the National Merit Scholarship Qualifying Test means at 38 schools was .71.

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[1] A copy of the index is included in Appendix II.

[2] George G. Stern, "Characteristics of the Intellectual Climate in College Environments," Harvard Educational Review, 33 (1963), pp. 5-41.

Pace[1] described the colleges he studied using three basic patterns of institutional press: high intellectual, high practical and high social. Stern[2] analyzed the data from 32 schools in which both the College Characteristics Index and its parallel instrument (The Activities Index) had been administered and found that the differences among the institutional environments were markedly greater than the differences among the student bodies involved. He found that students tended to be enrolled in institutions in which the environmental press was compatible with their inventoried personality needs.

Related Studies

Schwartz[3] sought to determine the effects of congruence and incongruence between individual needs and environmental press upon academic performance. His sample included 108 sophomores at the New York University School of Commerce, Accounts and Finance.

Schwartz investigated the relationships between (1) intellectual, dependency, and emotional expression needs and press and (2) congruence between needs and press on

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[1]C. Robert Pace, "Five College Environments," College Entrance Examination Board Review, 41 (1960), pp. 24-28.

[2]George G. Stern, "Congruence and Dissonance in the Ecology of College Students," Student Medicine, 8 (1960), pp. 304-309.

[3]Ronald M Schwartz, "Congruence Between Needs of Individuals and Environmental Press as Related to Performance and Adjustment in a Large Organization" (unpublished Ph.D. Thesis, New York University, New York, 1964).

these dimensions. The relationship of these variables to performance and academic adjustment was studied. Intellectual and dependency press were related to total academic adjustment but not to performance. Emotional expression press was unrelated to performance or academic adjustment. Neither intellectual needs nor dependency needs were related to academic adjustment or performance. Emotional expression needs were negatively related to performance and total academic adjustment. Congruence of needs and press was not related to performance, but those whose needs were congruent with the prevailing press were less well adjusted (adjustment measured by The Inventory of Academic Adjustment) than those for whom there was less congruence. This finding was the opposite of what had been predicted.

In discussing his results, Schwartz stated that a possible explanation for the negative correlation between congruence and academic adjustment can be found in his perception of the environment of the School of Commerce as highly authoritarian, rigid, cold and unfriendly. The lack of positive relationship between congruence and performance might be explained in part, Schwartz felt, by the observation that at the beginning of the sophomore year the population of students becomes somewhat restricted in range due to dismissal of students for academic failure during the freshman year.

In a similar study, Keith[1] administered the same instruments (The College Characteristics Index and The Activities Index) to a sample of undergraduate students who had completed at least four semesters of work in residence at the University of Alabama. Keith used an average correlation coefficient of need and press factor scores in each of the divisions of the university as a measure of the congruency between expressed needs and perceived presses in each division.

No significant relationships were found between the congruency index scores and academic success or reported personal satisfaction with the institution. Keith observed that the congruency index scores were usually low and that variance and range were restricted. The low level of congruency and the restriction of range may have caused the lack of significant correlation, Keith felt.

The most relevant local study was one done by Campbell[2] at Lansing Community College and Michigan State University in 1963-64. Cambell compared need and press scores in samples of 90 "area" students using the Activities Index

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[1]James A. Keith, "The Relationship of the Congruency of Environmental Press and Student Need Systems to Reported Personal Satisfaction and Academic Success"(unpublished Ph.D. Thesis, University of Alabama, University, Alabama, 1964).

[2]Paul S. Campbell, "Personality Needs of Community College and University Students and Their Perceptions of Their Institutions: An Experimental Investigation"(unpublished Ph.D. Thesis, Michigan State University, East Lansing, Michigan, 1964).

and the College Characteristics Index. He found significant differences between the two samples both in mean scores of need factors and of perceptions of press at the two institutions.

Herr[1] used the high school form of the indexes (The High School Characteristics Index) to study the relationship between differing levels of academic achievement and extracurricular participation as these related to different perceptions of press in a high school environment. Significant relationships were found between these variables and perceptions of press. For example, high achievement students perceived greater press for achievement than did low achievement students.

The High School Characteristics Index and the College Characteristics Index have been administered to the same sample of college students. Stern[2] administered the two instruments to 2000 freshmen students during orientation week at a major eastern university. Students were instructed to typify their high school experience and their expectations for the university. Stern pulled four subgroups from this sample: private preparatory (N = 103), parochial (N = 89), local public (N = 96) and non-local

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[1]Edwin M. Herr, "An Examination of Differential Perceptions of 'Environmental Press' by High School Students as Related to Their Achievement and Participation in Activities" (unpublished Ed.D. Thesis, Columbia University, New York, 1963).

[2]Stern, "Continuity and Contrast. . . ," op. cit., pp. 33-58.

public (N = 29). He found significant differences between the four types of high school environments. Stern felt that the differences would probably become even more sharply delineated if the range of school samples were broadened to include different types of high schools and students who did not intend to go on to college. He also discovered that freshman intellectual press expectancy was unrealistic (compared to college seniors' perceptions of press on this dimension). Stern made the suggestion that student apathy might be the consequence of unfulfilled expectations in the transition from high school to college rather than the cause.

Discussion

None of the above studies have followed Fishman's[1] suggestion to develop research which involves different types of high schools, different types of high school environments and types of college environments. Fishman also suggested that research efforts be concentrated upon seeking to determine whether environmental differences have different effects upon different students. This has not been done except in a general way in junior-college transfer-student studies.

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[1]Joshua A. Fishman, "Some Social-psychological Theory for Selecting and Guiding College Students," The American College, ed. N. Sanford (New York: John Wiley & Sons, 1962), pp. 666-689.

The studies cited in the review of the literature which investigated the effects of congruence between needs and press upon performance and adjustment have not considered a factor which may be important. It is possible that students' previous experience with incongruence (lack of fit between their individual needs and the environment's demands) might modify the effects of subsequent similar experience. In addition, the subjects studied (college sophomores and juniors) may have reached a level of adaptation to incongruency within the college environment itself which might modify the impact of such incongruence. The research designs, in other words, did not permit the study of the possible effects of past experience upon current experiences with incongruency. If, however, psychological stimuli are judged partially on the basis of residuals of past experience with similar stimuli,[1] it seems reasonable to hypothesize that the effect of disparity might vary according to the individual's level of adaptation (to a given set of stimuli). Although it is difficult to give such previous experience precise experimental treatment, it is possible to consider it. For example, descriptions of high school environments could be obtained from students involved in a college study.

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[1]H. Helson, "Adaptation Level Theory," Sensory, Perceptual and Physiological Formulations, Vol. I of Psychology: A Study of a Science, ed. S. Koch (New York: McGraw-Hill, 1959).

It is also likely that the restriction of range discovered in several of the studies was caused in part by student attrition--both through students leaving the environment to continue their education elsewhere or to leave higher education altogether. It would seem advisable with such a possibility in mind to design a study which would include students early in their college careers. Such research (involving freshmen) would permit examination of a broader range of students and increase the probability of finding significant relationships between environmental demands and student performance and/or attrition.

In addition to the above, none of the studies reviewed gave differential treatments to levels or directions of disparities between individual's needs and environmental press or demands. All units of disparity were treated as equal. A need score which fell below an environmental press score was treated in the same way as one which was above the press score. It is difficult to weight such differences in amount or direction of disparity with precision, but certain disparities may be excluded in the treatment of the data. Other differences which exceed a certain range can be emphasized. Such treatment of need-press disparity follows more closely Murray's[1] theory that needs differ in importance to the individual according to the ease or difficulty he encounters in fulfilling a given need.

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[1]Murray, op. cit., pp. 54-115.

Murray clearly insisted that hierarchies of need and relevance of press be considered in press-need studies. None of the above investigations took into account the effects of different levels of disparity. One unit of disparity was treated as equal to any other unit. Directionality of differences was not considered. Individual need greater than press was treated in the same way as need less than press.

Summary

The studies included in the review of the literature are summarized briefly in the chart on page 30.

The design of the investigation which is described in the following chapter incorporated ways of treating the data which included broad assessment of the individual's level of adaptation to lack of fit between his needs and his environment's demands. The design also involved consideration of directionality and extent of disparity in the assessment of congruency or fit between an individual's needs and his environment's demands.

Author(s)	Institutional Level	Findings or Conclusions
Farris (Argyris, 1964)	Research Organization	Scientists' perceptions of their needs and institutional provisions for meeting these needs were related to motivation but not to performance.
Thistlethwaite (1960)	College	Different faculty variables were found to be associated with increased motivation to seek advanced degrees in the arts and social sciences compared to the natural and biological sciences.
Astin (1964)	College	Student characteristics and aspirations were considered well-suited to the institutions involved.
Knoell & Medsker (1964)	College	Most junior-college transfer students could reach their degree goals if they chose appropriate majors and transfer institutions.
Richards, Rand & Rand (1966)	College	No previous work has attempted to develop detailed descriptions of junior college environments or to study such environments' impact upon students.
Pace & Stern (1958)	College	There were more marked differences among college environments than among college student bodies; students tended to be found at institutions in which the press was compatible with their needs.
Schwartz (1964)	College	A significant negative correlation was found between emotional expression needs and academic performance. Congruence between needs and press was found to be negatively related to academic adjustment.
Keith (1964)	College	Congruence between needs and press was not found to be related significantly to performance.
Campbell (1964)	Community College and University	Significant differences were found between need scores and perceptions of press in the two settings.
Herr (1964)	High School	Differential perceptions of press were related to both academic achievement and extra-curricular participation.
Stern (1961)	College	Distinct differences in college freshmen's remembered high school environments were found. Freshmen were also discovered to have unrealistic expectations of intellectual demands at the university.

CHAPTER III

DESIGN

The nature of the samples included in the study, the nature of the instruments used and the statistical methods employed in analyzing the data are discussed in this chapter.

The Sample(s)

The Lansing Community College students selected were first-time, full-time students. They were 1965 graduates of service-area high schools (within a radius of 30 miles of the college) who had not attended college elsewhere. All of the students were enrolled for a minimum of 12 term-credits during the fall term in which they were tested.

The students were enrolled in orientation classes required of all full-time freshmen. Assignment to sections in these orientation classes was made entirely on the basis of convenience in class scheduling. Because of this "randomization," no further attempt was made to randomize the sample. An inspection of the curricular and vocational choices of the students was made. The assumption of randomization through scheduling appeared tenable.

Three hundred and forty students were tested in the initial test period. This group included approximately

one-half of the full-time freshmen enrolled in the college in the fall of 1965. Those students for whom comparative (high school) background information was available were pulled from the original group. These 172 students (90 male, 82 female) constituted the final community-college sample.

The high school students who took part in the study were all seniors in high schools in the service area of Lansing Community College. All of the students volunteered to take part in the study. School staff members (teachers, guidance counselors and principals) who assisted in securing subjects indicated that the samples were broadly representative. The volunteers were atypical in that they were somewhat above average in ability. In addition, the subjects' post high school plans included some form of further education more frequently than was typical at the high school involved.

The sample sizes varied from school to school within the range of 36 to 42 subjects. Samples which contained more than 36 subjects were treated as follows: each subject's test was numbered and a table of random numbers was entered to select the necessary (one to six) subjects to be eliminated to equalize the samples. The final sample at each of the eight high school included 36 subjects.

The schools in the study were all located within a radius of 30 miles of Lansing. There were three local public high schools, one parochial school, and four non-local public schools. The eight high-school samples

included the following ranges of male and female subjects: males: 14-21; females: 15-22. (A table listing the exact composition of the community college and high school samples is included in Appendix III as Table III.1. A table is also included in Appendix III, as Table III.5, which gives the final sample sizes for the instrumentation discussed in the following section.)

Instrumentation: The Activities Index

Stern, Stein and Bloom[1] have offered a conceptual scheme for describing the phenomena which are relevant to interaction between individuals and their environmental situations. This conceptualization is based upon Murray's need-press schema.

This same source[1] describes the development of the Activities Index, a multi-dimensional inventory for measuring personality needs. In its present form, the instrument consists of 30 ten-item scales corresponding to 18 unidimensional and 12 bipolar needs adapted from Murray. Each item describes a common daily activity or feeling for which the individual indicates his like or dislike. The individual's needs are inferred from his responses to these items. This method of measurement and its underlying logic is similar to that involved in many psychological

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[1]George G. Stern, Morris K. Stein, and Benjamin J. Bloom, Methods in Personality Assessment (Glencoe, Illinois: Free Press, 1956).

instruments.[1] (A copy of the Activities Index is included in Appendix II.)

Reliability

Stern's[2] initial statements about the reliability of the Activities Index related to profile patterns obtained by means of vector analysis. He stated that inspection of the patterns of test-retest profiles suggested that a correlation based on a multi-variate surface corresponding to the profile determinants should be quite high.

The most extensive investigation of the reliability of the Activities Index is reported by Stern.[3] This investigation was based on the data from 1078 Activities Index test profiles from students at 32 schools. The average sub-scale reliability was .69. (A complete listing of the 30 sub-scales' reliability coefficients as reported in Stern's investigation is included as Table III.2 in Appendix III.)

Validity

Stern[3] also cited several research studies in his article which pertain to the validity of the Activities Index. The following generalizations can be made from

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[1]George G. Stern, "Environments for Learning," The American College, ed. N. Sanford (New York: John Wiley & Sons, 1963), p. 703.

[2]George G. Stern, Preliminary Manual: Activities Index - College Characteristics Index (Syracuse, New York: Syracuse University Psychological Research Center, 1958), p. 30.

[3]Stern, "Environments. . . ," op. cit., pp. 690-730.

these studies: 1) descriptions of behavior which may or might be expected from individual students, psychiatric patients, and industrial personnel derived from need profiles appear recognizable (by peers, psychiatrists and administrators); 2) similar behavior patterns are related to similar profiles; 3) students or professionals in the same field have been found to have need profiles that differ significantly from those of students or professionals in other fields.

Stern and Scanlon[1] found significant relationships between need scale profiles and career choice. Haring, Stern and Cruckshank[2] used the Activities Index to discriminate between four groups of teachers in a workshop designed to change teachers' attitudes toward exceptional children. The assessment made by the Index was confirmed by independent analysis of workshop transcriptions.

Stern[3] also cited several unpublished studies which he claimed supported the validity of the Activities Index. One such study used the Strong Vocational Interest Blank as the independent criterion. Another used the Rorschach,

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[1]George G. Stern and J. S. Scanlon, "Pediatric Lions and Gynecological Lambs," Journal of Medical Education, 33 (1958), pp. 12-18.

[2]N. G. Haring, G. G. Stern and W. M. Cruckshank, Attitudes of Educators Toward Exceptional Children (Syracuse, New York: Syracuse University Press, 1958).

[3]Stern, Preliminary Manual. . . , op. cit.

the Thematic Apperception Test, and Sentence Completion responses as the independent criteria.

Stern[1] implied that the studies which related to the validity of the Activities Index would be discussed fully in a later manual. A revised manual has not been published. When the revised manual is published, it will no doubt include more complete substantiation of the validity of the Activities Index.

Instrumentation: The Environment Indexes

The environment indexes (The College Characteristics Index, The Evening College Characteristics Index, The High School Characteristics Index, and The Organizational Climate Index) were developed as direct parallels to the Activities Index. The 30 ten-item scales of the two types of instruments are given the same definitions. (Definitions of the sub-scales and factor-scales of the indexes are given in Appendix I.)

The environment indexes consist of 300 statements about the demands, pressures and characteristics of organizations and their personnel. The three which were developed specifically for use in educational institutions include items which describe characteristics of the students at the institution as well. The individual using the indexes to describe his educational environment is instructed to mark the items "True" or "False" (characteristic or not

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[1] Ibid.

characteristic of his institution). (Samples of the instruments used in the study are included in Appendix II.)

Reliability

The most extensive treatment of the reliability of the College Characteristics Index is that previously cited in connection with the Activities Index.[1] The average reliability reported for the 30 sub-scales was .65. (The reliability for the 30 sub-scales is given in Table III.3 of Appendix III.)

Because The Evening College Characteristics Index was used instead of The College Characteristics Index, further studies of the reliability of the latter will not be cited.

Fifty students enrolled in introductory psychology courses at the community college were given The Evening College Characteristics Index. The subjects were freshmen or sophomores who had not been part of the original sample. The 50 subjects were re-tested after a period of 30 days. The reliability coefficients were computed using the 11 environmental factor scales. The average scale-reliability was .83. The complete results of this reliability check are given in Table 3.1.

Because The Evening College Characteristics Index is a new form of the environmental assessment instruments, a second check was made of its reliability. Reliability coefficients were computed on a small sample (N = 50) of

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[1]Stern, "Environments. . . ," op. cit., pp. 690-730.

test protocols selected at random from the original sample's test returns (N = 250). The split-half (odd-even) technique was used. The formula was supplemented by the Spearman-Brown Prophecy Formula to give an estimation of the reliability of the test corrected to full length. The average scale reliability computed in this way for the 11 first-order factors was .85. (The complete listing of these reliability coefficients is given in Appendix III, Table III.4.)

TABLE 3.1--Test-retest reliability coefficients for the factor scales of The Evening College Characteristics Index.

Subjects: 50 Introductory Psychology Students
Interval: 30 Days

Scale	Reliability
Aspiration Level	.80
Intellectual Climate	.94
Student Dignity	.58
Academic Climate	.86
Academic Achievement	.88
Self-Expression	.98
Group Life	.83
Academic Organization	.90
Social Form	.83
Play-Work	.80
Vocational Climate	.70
MEAN	.83

Herr[1] reported an average sub-scale reliability (for the 30 sub-scales of the High School Characteristics Index) of .5. He used a split-half, odd-even technique. He noted an increasing reliability on many of the scales as the students progressed from the ninth through the twelfth grades.

Because the 11 environmental factor scales were used in this study, separate reliability estimates were made. It was not possible to obtain enough time in any of the high schools in which the students were tested for a test-retest procedure. All of the High School Characteristics Index test forms from the eight schools were numbered consecutively. A table of random numbers was entered to select 50 of these tests for examination. Split-half, odd-even reliability coefficients were computed on the 11 factor scales. The correlational formula was supplemented by the Spearman-Brown Prophecy Formula to give an estimation of the test's reliability when corrected to full length. The average scale-reliability computed in this way was .74. The complete results of this reliability check are given in Table 3.2.

Validity

The difficulty of establishing criteria for testing the validity of personality tests is well-known. The criteria themselves are plagued with reliability and validity

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[1]Herr, op. cit.

problems. A frequently-used approach is that of correlating a new instrument with existing, established instruments. In environmental assessment this technique cannot be used. The environmental assessment instruments which have been developed do not measure directly comparable dimensions.

TABLE 3.2.--Reliability Coefficients for the factor scales of the High School Characteristics Index.

Scale	(Split-half, odd-even--supplemented by the Spearman-Brown Prophecy Formula) Reliability
Aspiration Level	.58
Intellectual Climate	.76
Student Dignity	.70
Academic Climate	.64
Academic Achievement	.75
Self-Expression	.84
Group Life	.94
Academic Organization	.64
Social Form	.83
Play-Work	.81
Vocational Climate	.65
MEAN	.74

Pace and Stern[1] suggested comparing the judgments of different individuals within the same environment to determine whether or not they agree in their perceptions of environmental pressures, rewards and demands. The

[1]C. Robert Pace and George G. Stern, "An Approach to the Measurement of Psychological Characteristics of College Environments," Journal of Educational Psychology, 49 (October, 1958), pp. 269-277.

unpublished studies cited by Stern[1] related to the validity of the College Characteristics Index used this validity assessment. The studies cited may be summarized as follows:

1. Academic participants and observers appear able to recognize and confirm descriptions of college environments based solely on press profiles.

2. The press profiles obtained from student responses are consistent with those obtained from faculty and administrators at the same institution.

3. Students describe their own institutions in terms of press in ways that are significantly more alike than the corresponding press descriptions at other institutions.

4. The average level of specific needs among students tends to match the average level of corresponding press at the same institutions.

In one of the initial studies relating to the validity of the College Characteristics Index, Pace and Stern[2] computed a rank-order correlation between the mean scores of student responses to the Index and the mean scores of faculty responses. For the two colleges with the largest number of faculty respondents, the rank order coefficients were .96 and .88.

Thirty faculty members at the community college completed the Evening College Characteristics Index. A rank order correlation coefficient was computed between the mean scores of the faculty responses and the mean scores of student responses. The correlation coefficient was .90.

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[1]Stern, "Environments. . . ," op. cit., pp. 709-716.

[2]Pace and Stern, "An Approach to the Measurement. . ," loc. cit., pp. 269-277.

Because all of the testing was done during a single year, the analysis of the data involved the assumption of environmental consistency at the high school level for at least one year. Two checks were made on this assumption. A sample of students (N = 30) at the community college were given the College Characteristics Index. A rank order correlation coefficient was computed between the means of the students' perceptions of press at the community college with those found in Campbell's[1] 1963 study. The rank order coefficient was .87.

Three groups of students at the community college were tested with the High School Characteristics Index. All the students were 1964 or 1965 graduates of the three local public high schools included in the study. The students were instructed to characterize their high school environment as they remembered it. For the first group (High School #1, N = 21), the rank order correlation between the samples' mean perceptions of press and the means of the 1966 seniors' perceptions of press in that school was .99. For the second group (High School #2, N = 15), the coefficient was .94. For the third group (High School #3, N = 22), the coefficient was .96.

A rank order correlation coefficient was also computed between the means of students' perceptions of press at the community college and their Activities Index scores

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[1]Campbell, op. cit.

converted to press equivalents. (The process of this conversion of scores is described in the section on procedures below.) The rank order coefficient computed in this way was greater than .99.

Procedures

The Activities Index was administered to 340 students in six sections of required freshmen orientation classes at Lansing Community College. The sample included approximately one-half of the full-time freshmen enrolled during the fall quarter of 1965.

At the same session at which the Activities Index was given, the students were given the Evening College Characteristic Index with instructions on how to complete it. They were asked to complete the Index and return it to the next session of the orientation class. (The take-home procedure was used because it was not possible to obtain further time for the administration of the instruments during class meetings.) Stern[1] stated that the environment indexes may be administered in this fashion without loss of reliability or validity.

As a check on the above assumption, one-half of the sample of students involved in the test-retest procedure with the Evening College Characteristics Index (Table 3.1 above) were given the test during a regular meeting of a

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[1]Stern, Preliminary Manual. . . , op. cit.

spring term psychology class. The other half of the sample was given the instrument with instructions to complete it and bring it back to the next class session. Visual inspection of the test-retest results revealed no marked skewing of scores so the two groups were merged for computation of the final coefficients.

Because the Evening College form of the indexes was being given, an explanation of its use was given verbally and in writing to enhance the face validity of the test. The students were told that although no form of the environmental indexes had been developed specifically for the community colleges, the questions in the Evening College form of the test were applicable to a community college so this form was being used. (A copy of the written statement which was attached to the test booklets is included in Appendix IV.)

A personal data form was also attached to the environmental index booklets. The form requested information about the student's educational background, status (full- or part-time student), educational goals and plans about transferring to a four-year college or university, and certain family data. (A copy of this personal data form is included in Appendix II.)

The subjects were also asked to complete a brief (ten-question) questionnaire which included questions which paralleled and paraphrased the emphases of the 11 first-order factors of the environmental indexes. Subjects were

asked to indicate their perceptions of the levels of the environment's demands and to state their preferences for each of these 11 areas. (A copy of the Expressed Preference questionnaire is included in Appendix II. The use of the Expressed Preference questionnaire is described in Appendix IV.)

Late in the spring term the students who took part in the original testing in the fall term orientation classes were sent a brief questionnaire adapted from the personal data form described above. The questionnaire requested information about the student's current educational and occupational status as well as his educational plans. (A copy of this follow-up questionnaire is included in Appendix II.)

Background information (below) was obtained for 172 of the 340 original subjects. The subjects became these community-college final sample. A total of 117 of the final-sample subjects returned the personal data form; 101 returned the mail questionnaire. Registrar's Office records were examined to secure data on the subjects who did not return either or both forms.

During the second semester ten high schools from the service areas of the community college were contacted and given a brief description of the study. Permission was requested to test samples of 30-50 seniors. Permission was granted in eight of the ten schools. The High School Characteristics Index was given to samples of from 36 to 42 volunteer seniors in the eight schools. All of the

testing was done within two months of the seniors' graduation dates.

In two of the schools members of the guidance services staff administered the tests. Brief conferences were held with these individuals prior to their administration of the instrument. In the other six schools the tests were given with the assistance of teachers, principals or guidance staff members.

Score Transformations

In order to make the pattern statistics (Cattell's r_p) more readily usable in other computations such as the assignment to congruence and continuity categories, all were transformed to their equivalent z-scores.

The 172 Activities Index forms were first scored in the regular fashion and totals computed for the second-order factors: Intellectual Orientation, Dependency Needs, Emotional Expression and Educability. These were computed in the manner prescribed in Stern's[1] scoring instructions. (The definitions of these second-order factors are given in Appendix I.)

In order to make direct comparison with each student's environment possible, the Activities Index sub-scale scores were transformed into the corresponding environmental press measure by combining the 30 scale scores into the factors as defined for the environment indexes. This procedure is

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[1]Stern, Scoring Instructions. . . . op. cit.

the same as that used in Keith's[1] study. (The definitions of the 11 first-order factors are given in Appendix I.)

Definitions

The following definitions pertain to the analysis and interpretations of the data derived from the Activities Index tests at the community college. They also pertain to the environment indexes used at the community college and the high schools.

1. Common Beta Press.--This press form is the mean of student or faculty responses describing the press of an institution (on the 11 first-order factor dimensions). The high school samples each included 36 subjects. One hundred and seventeen of the community college sample students completed the environmental index describing the college. These tests were numbered consecutively and a table of random numbers entered to select 18 male and 18 female "volunteers" for Common Beta Press comparisons with the high school samples.

2. Private Beta Press.--This press form is the individual's own perception of press on the 11 first-order factors of the environment indexes.

3. Deviation pattern congruence.--An assessment of the individual's congruence or fit with the institution's press. Individual's scores on the Activities Index were

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[1]Keith, op. cit.

transformed into press equivalents. These transformed scores were compared to the means of the sample's perceptions of press on these dimensions (Common Beta Press). The pattern comparisons were expressed mathematically using Cattell's r_p pattern analysis statistic. In this measure of congruence only those deviations in excess of one deviation from the Common Beta Press were used in the computation of the r_p pattern analysis statistic.

4. Adjusted pattern congruence.--An assessment of congruence or fit between the individual's needs and the institution's press computed in the same way as (3) above, except that only deviations which were below the mean of the Common Beta Press on the intellectual dimension or above the mean on the non-intellectual dimension were used in computing the r_p statistic.

5. Expressed congruence.--A questionnaire assessment of the individual's stated perceptions of press and his stated preferences. (A copy of this brief, ten-question questionnaire is included in Appendix II. The method of use is described in Appendix IV.)

6. Pattern congruence.--An assessment of fit between the individual's needs and the environment's press which was computed using the raw score differences between the individual subject's converted need scores and the press scores of the institution. Direction of deviation was not considered.

7. Private Beta Press congruence.--This measure of fit was computed in the same way as Pattern congruence (6 above) but the individual's own perception of the institution's press (Private Beta Press) was used in the comparison of his need score profile to the institution's press profile.

8. Continuity.--Continuity was defined as the continuation or change in press-need profile congruence. Subjects were assigned to four groups:

a. Positive discontinuity: major improvement of fit or congruence;

b. Essential Continuity II: minor positive change;

c. Essential Continuity I: minor negative change;

d. Negative discontinuity: major negative change of fit or congruence.

9. Adaptation Level.--The subject's level of adaptation to incongruence or lack of fit between his needs and environmental press was inferred from his congruence score at his high school (Appendix IV). Subjects were assigned to four levels of adaptation (High to Low).

The following are Stern's[1] definitions of the Intellectual or Non-Intellectual dimensions of his environmental indexes and the 11 (first-order) factors which make up these two dimensions.

Intellectual Climate.--This dimension includes the more conventional aspects of academic program including

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[1]Stern, Scoring Instructions. . . , op. cit.

(a) staff and facilities, (b) standards of achievement set by students as well as faculty, and (c) opportunities for the development of self-assurance. The intellectual climate is also marked by (d) non-custodial student personnel practices and (e) an absence of vocationalism.

The first-order factors included are:

1. Aspiration Level. A high score on this factor indicates that the high school or college encourages students to set high standards for themselves in a variety of ways. (Score Sum: Counteraction, Change, Fantasied Achievement, and Understanding.)

2. Intellectual Climate. All of the items contributing to this factor reflect the qualities of staff and plant specifically devoted to scholarly activities in the humanities, arts and social sciences. (Score Sum: Reflectiveness, Humanities-Social Sciences, Sensuality, Understanding, and Fantasied Achievement.)

3. Student Dignity. This factor is associated with institutional attempts to preserve student freedom and maximize personal responsibility. (Score Sum: Objectivity, Assurance, Tolerance.)

4. Academic Climate. This factor stresses academic excellence in staff and facilities in the conventional areas of natural science, social science and the humanities. (Score Sum: Humanities-Social Science, Science.)

5. Academic Achievement. Schools high on this factor set high standards of achievement for their students. (Score Sum: Achievement, Energy, Understanding, Counteraction, and Conjunctivity.)

6. Self-Expression. Schools high on this factor offer students opportunities for the development of leadership potential and self-assurance through such activities as public discussions and debates, student drama and music. (Score Sum: Ego achievement, Emotionality, Exhibitionism and Energy.)

Non-Intellectual Climate.--This dimension shares Self-Expression with the preceding (Intellectual Climate) dimension. The highest loadings, however, are connected with three factors involving a high level of organization of student affairs, both academic and social. The remaining factors are associated with student play and an emphasis on vocational and technical courses.

7. Group Life. The four scales on this factor are concerned with various forms of mutually supportive group activities among the student body. (Score Sum: Affiliation, Supplication, Nurturance, and Adaptability.)

8. Academic Organization. The various components of this factor may be regarded as environmental counterparts for an individual's need for orderliness and submissiveness. (Score Sum: Blame Avoidance, Order, Conjunctivity, Deliberation, Deference and Narcissism.)

9. Social Form. Factor 9 is related to Factor 7 (Group Life) but emphasizes the welfare components of group life: opportunities for interpersonal assistance. (Score Sum: Narcissism, Nurturance, Adaptability, Dominance and Play.)

10. Play-Work. Schools high on this factor offer opportunities for participation in a form of social life reminiscent of the popular culture of the 1920's. (Score Sum: Sexuality, Risk-taking, Play and Impulsiveness.)

11. Vocational Climate. The items of this factor emphasize practical, applied activities; the rejection of aesthetic experiences, and a high level of orderliness and conformity in the student's relationships with the faculty, his peers and his studies. (Score Sum: Practicalness, Puritanism, Deference, Order and Adaptiveness.)

(Definitions of each of the 30 sub-scales mentioned in the "Score Sum" sections above are given in Appendix I.)

Statistical Hypotheses

The following are the hypotheses of this study stated in testable form:

I. Hypotheses pertaining to Press at the High Schools and the Community College.

1. No differences will be found between the Intellectual Press dimension at the high schools and the community college.
2. No differences will be found between the Non-Intellectual Press dimension at the high schools and the community college.
3. No differences will be found between the Patterns of press at the high schools and the community college.
4. No differences will be found between the Rank Order of press factors at the high schools and the community college.

II. Hypotheses pertaining to Environmental Continuity.

1. Negative discontinuity students will leave the community college and not continue their education elsewhere at a significantly higher rate than positive discontinuity students.

Alternate Hypotheses:

a. High achievement, negative discontinuity students will indicate intention to transfer to another institution prior to completing an Associate-in-Arts

degree at the community college at a significantly higher rate than high achievement, positive discontinuity students.

b. Low achievement, negative discontinuity students will leave the community college and not continue their education elsewhere at a significantly higher rate than low achievement, positive discontinuity students.

2. Positive discontinuity students will perform at a significantly higher level than negative discontinuity students at the community college.

Alternate Hypothesis:

a. Low achievement, positive discontinuity students will perform at a significantly higher level than low achievement, negative discontinuity students.

III. Hypotheses pertaining to Congruence at the Community College.

1. Students who are low in Deviation pattern congruence will leave the community college and not continue their education elsewhere at a significantly higher rate than high Deviation pattern congruence students.

Alternate Hypotheses:

a. Low Deviation pattern congruence, high achievement students will indicate intention to transfer to another institution prior to completing requirements for an Associate-in-Arts degree at the community college at a significantly higher rate than high Deviation pattern congruence, high achievement students.

b. Low Deviation pattern congruence, low achievement students will leave the community college and not continue their education elsewhere at a significantly higher rate than high Deviation pattern congruence, low achievement students.

c. High Achievement, low Deviation pattern congruence students who are low in educability will indicate intention to transfer to another institution prior to completing requirements for an Associate-in-Arts degree at the community college at a significantly higher rate than high achievement, low Deviation pattern congruence students who are high in educability.

d. Low achievement, low Deviation pattern congruence students who are low in educability will leave the community college and not continue their education elsewhere at a significantly higher rate than low achievement, low Deviation pattern congruence students who are high in educability.

2. High Adjusted pattern congruence students will perform at a significantly higher level than low Adjusted pattern congruence students at the community college.

Alternate Hypotheses:

a. Low Adjusted pattern congruence students who are high in educability will perform at a significantly higher level than low Adjusted pattern congruence students who are low in educability.

b. High Adjusted pattern congruence, positive discontinuity students will perform at a significantly higher level than low Adjusted pattern congruence, negative discontinuity students.

IV. Hypotheses pertaining to Adaptation Level.

1. Low Deviation pattern congruence students at the community college who are low in Adaptation level (to incongruence) will leave the college and not

continue their education elsewhere at a significantly higher rate than low Deviation pattern congruence students who are high in Adaptation level.

2. Low Adjusted pattern congruence students at the community college who are high in Adaptation level will perform at a significantly higher level than low Adjusted pattern congruence students who are low in Adaptation level.

Alternate Hypothesis:

a. Low achievement, low Adjusted pattern congruence students who are high in Adaptation level will perform at a significantly higher level than low achievement, low Adjusted pattern congruence students who are low in Adaptation level.

V. Exploratory Hypotheses.

The two exploratory hypotheses were added to the study to examine more fully the relationship between environmental continuity or discontinuity and academic performance. Because these hypotheses were not constructed prior to the initiation of the study they cannot be considered testable within the framework of the design of the study. They held such promise for further conceptualization, however, that they were

added during the course of the analysis. The findings, of course, must be considered tentative and suggestive only.

1. There will be significant differences among correlations between high school grade point averages and community college grade point averages according to the degree of similarity between the two environments. That is, the correlations between high school performance and college performance (as measured by grade point averages) will be significantly different for students from a high school in which environmental demands are similar to those at the community college compared to the correlation for students from a high school in which the demands are unlike those at the community college.
2. The correlation between high school performance and college performance (as indicated by grade point averages) will be significantly higher for students whose environmental demands-personal need "fit" (or congruence) remains relatively constant compared to that for students who experience distinct positive or negative change.

Analysis

In the following section the assumptions underlying the statistical models used in analyzing the data are presented and discussed.

Assumptions: t-test

In the evaluation of the difference between two means through the use of the t-test, the implicit assumption is made that the population variances from which the samples are drawn are equal. In rejecting the null hypothesis, the assumption is made that the true difference lies between the means and not in the variances involved.[1]

Although the senior author of the test instruments used in this study uses the t-test routinely in his analysis of press-press and press-need differences,[2] F-tests will be used to detect any radical departures from homogeneity of variance.

In addition, the use of the t-test involves the assumption of normal distribution of the "numerator" variable. Edwards,[3] however, states that departures from normality are not crucial so long as the number of observations in each sample is sufficiently large. The smallest samples involved in the basic use of the t-test in this study include 36 subjects. With groups of this size, departures from normality should not invalidate the conclusions drawn.

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[1]Allen L. Edwards, Statistical Methods for the Behavioral Sciences (New York: Rinehart and Co., 1954), pp. 270-271.

[2]Stern, Scoring Instructions. . . , op. cit.

[3]Allen L. Edwards, Experimental Design in Psychological Research (New York: Holt, Rinehart and Winston, 1960), p. 112.

Assumptions: Cattell's r_p

Cattell's r_p profile or pattern analysis statistic is based upon two restrictions: (1) that the dimensions be independent in the population, and (2) that the scores be in standardized form. That is, that each variable, regardless of its metric, be given equal weight.

Horn[1] indicated that when the assumption of independence is not warranted r_p will be inflated and therefore (using the significance tables provided) appear to be more noteworthy than it is. He added that the psychologist will often find it difficult to justify the assumption that the K dimensions are, in fact, independent. The fact that the 11 first-order factors used in the principal analysis of the data were derived from factor analysis is relevant here. Such factor independence supports the use of the statistic with such data. It does not, however, preclude the possibility that the dimensions are not independent. The principal uses of the statistic in this study were: (1) to assign subjects to broad categories of "conguence" or fit between their expressed needs and environmental demands and (2) to measure dissimilarity between patterns of institutional demands in intellectual and "social" areas.[2] In such

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[1] J. L. Horn, "Significance Tests for use with r_p and Related Profile Statistics," Educational and Psychological Measurement, XXI, No. 2 (1961), pp. 363-370.

[2] The above (r_p) statistic is described more fully and several levels of Horn's significance tables reproduced in Appendix IV.

broad classification or in expressing dissimilarity, the "inflationary" effect of non-independence between the K-dimensions should not invalidate the use of the statistic.

Assumptions: Rank-Correlation Coefficient

The rank-correlation coefficient has the advantage that no assumptions are made about the distributions of X or Y. It does involve the implicit assumption that the objects, items or persons ranked be ranked by the same individual or individuals. This implicit assumption was met in the use of the coefficient with data from three high schools and the community college. In the cases in which the assumption was not met, the analysis was made and the exceptions noted.

Assumptions: Point-biserial correlation coefficient

The chi-square statistic was used in several of the major analyses of the data. The null hypothesis was accepted or rejected in each case on the basis of the outcome of the chi-square test. The relationship was, however, explored further in several cases through the use of the point-biserial correlation coefficient.

Use of the point-biserial correlation coefficient involves no assumption as to the distribution of the dichotomous variable. Generalization is made only to a universe of samples of size N having the same fixed number of cases

N_0 and N_1 in the dichotomous categories.[1] It is also assumed that Y is normally distributed within each X category and that the two Y distributions have the same variance.

The point-biserial correlation coefficient was used in an exploratory and supplemental manner. Because the statistic was not used in basic hypotheses-testing, the assumptions were tested informally through inspection of the data. The inspection did not reveal any serious departures from these assumptions.

Assumptions: Product-moment correlation

The use of the product-moment correlation assumes linearity of regression, homoscedasticity, and normal distributions for the variables.[2] Again as above, the product-moment correlation was used in an exploratory and supplemental manner. An informal inspection of the data did not reveal any radical departures from these assumptions.

Assumptions: Analysis of Variance

Four basic assumptions are made when the analysis of variance is used:[3]

1. Observations within groups must be mutually independent; that is, each observation is in no way related to other observations.

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[1]Helen M. Walker and Jospeh Lev, Statistical Inference (New York: Henry Holt and Co., 1953), p. 271.

[2]Quinn McNemar, Psychological Statistics (2d ed.; New York: John Wiley and Sons, 1955), pp. 122-143.

[3]E. F. Lindquist, Design and Analysis of Experiments in Psychology and Education (Boston: Houghton-Mifflin Co., 1963), pp. 73-78.

In this study, each of the sub-groups were from hypothetically different treatment populations, and students were randomly selected to make up the samples for each part of the study.

2. The variance of the criterion measures is the same for each of the treatment populations. This assumption of homogeneous variance can be violated without serious risk, as shown by the Norton study cited in Lindquist.[1] This assertion is supported by Hayes,[2] under the condition that the number of cases in each sample is the same. In the major analyses of the data (those involving four levels of environmental continuity and four levels of congruence) the subjects were divided into four equal groups.

3. The distribution of the criterion measures for each treatment must be normal. Both Lindquist[3] and Hayes[2] have stated, however, that the normality assumption is not important if the $\underline{n}$ in each sample is large. In this study, the principal sub-groups contain 43 cases.

4. The mean of the criterion measures must be the same for each of the treatment populations (the null hypothesis).

The analysis of variance indicates whether or not differences exist between the means of groups being studied, but it does not indicate which means are different. Duncan has developed one of the tests that can accomplish this purpose: Duncan's New Multiple Range Test. This test uses the square root of the error mean square of the analysis of variance in the computation of the standard error of the mean. The difference between any given set of means must exceed the significant studentized range for that pair of

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[1] Ibid., pp. 78-90.

[2] William L. Hayes, Statistics for Psychologists (New York: Holt, Rinehart and Winston, 1963), p. 379.

[3] Lindquist, op. cit.

means (the means having been arranged in order of magnitude) multiplied by the standard error of the mean.[1]

Summary

A sample of 340 first-time, full-time freshmen students were tested with Stern's Activities Index in fall orientation classes at the community college. The parallel environmental index (The Evening College Characteristics Index) was given to the students during the same orientation period with instructions to return it to the next class session.

A ten-item questionnaire composed of questions which paraphrased the 11 first-order factors of the environmental indexes was also administered. Subjects were asked to report their perceptions of the level of environmental demands and to express their preferences for emphases in these areas.

High school environmental background data was obtained for 172 subjects from the above sample. The information was obtained through testing at the high school level. Samples of 36-42 volunteer seniors at eight service area high schools were administered The High School Characteristics Index, an instrument developed to parallel Stern's other environmental indexes.

Personal data forms were used to obtain information concerning the students' family background, educational plans and plans to remain at the community college or to

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[1]Edwards, Experimental Design. . . ,op. cit., pp. 136-140.

transfer to another institution prior to completing a full two years' work. A follow-up questionnaire was mailed to the entire sample (N = 340) in the spring term to obtain information about changes in the students' status. Registrar's records were used to supplement the mailed-returns.

A local validity check was made by comparing faculty and student responses to the Evening College Characteristics Index. A rank order correlation was computed between the means of faculty responses (N = 30) on the 11 first-order factors of the index and the means of student responses. The resulting coefficient was .90.

A sample of 50 students was given the Evening College Characteristics Index in spring-term psychology classes and retested after a period of 30 days. The test-retest coefficients for the 11 first-order factors averaged .83. A small sample (N = 50) of tests from the original sample were selected and checked using a split-half, odd-even procedure. The average first-order factor scale reliability was .85 (when the correlational formula was supplemented with the Spearman-Brown Prophecy Formula).

Although sub-scale reliabilities (for the 30 sub-scales) averaging .5 had been reported for the High School Characteristics Index, a separate reliability check was made. The 11 first-order factors of the index were used. A split-half, odd-even technique was used and the formula supplemented with the Spearman-Brown Prophecy Formula. The average first-order factor scale reliability was .74.

Thirty students were given the College Characteristics Index. The mean factor scores of this sample were compared to a 1963 sample studied with the same instrument at the community college. The rank-order correlation coefficient between the 11 factor scale means in the two samples was .87.

Three groups of students (N = 21, 15, and 22) at the community college who were 1964 or 1965 graduates of three local high schools were given the High School Characteristics Index. The samples' mean scores on the 11 factors were compared to the mean responses of 1966 seniors tested in the same three schools. The rank-order correlations for the three schools were .99, .94 and .96.

Statistical hypotheses concerning differences in press amounts and patterns in the high schools were presented. Predictions of significant difference in intellectual and non-intellectual demands made upon students in the high school compared to the community college environments were made. Predictions of significant differences in performance and rates of attrition were made for varying levels of environmental continuity, congruence and levels of adaptation. Specifically, differences were predicted in both performance levels and attrition rates for students whose personal preferences fit the demands of the community college better than his high school's demands or worse than his high school's demands. Predictions were also made with reference to the students' "fit" (correspondence of his

preferences to the institution's demands) at the community college level both for performance and rates of attrition. Predictions were also made that the student who had experienced demands not to his liking at the high school level would react differently to such lack of fit at the college level (compared to the student who had liked the demands of his high school environment).

The statistical methods used in the analysis of the data were presented and the assumptions underlying them discussed.

CHAPTER IV

ANALYSIS OF RESULTS

Section I of this chapter includes the analysis of differences in perceptions of environmental demands in the high schools and at the community college. (Definitions of environmental factors are given in Appendix I.)

The data in Section II were obtained through comparisons made between the congruence ("fit") of the individual's preferences to the demands in his high school environment compared to that at the community college. (The assignment of subjects to environmental continuity categories is dexcribed in Appendix IV.)

In Section III the individual's congruence or fit at the community college is analyzed in relationship to performance and attrition. In the measures of student dropout (attrition), Deviation pattern congruence (as defined in Chapter III, supra, p. 47) was used. Adjusted pattern congruence (as defined in Chapter III, supra, p. 48) was employed with the measures of student performance. In both the investigation of performance and attrition the relationship between patterns of individual needs and environmental demands was expressed mathematically using Cattell's r_p pattern analysis statistic. (This statistic is described in Appendix IV.)

The results of the investigation of Adaptation level (as defined in Chapter III, supra, p. 49) are presented in Section IV. (See Appendix IV for details of the process used to assign subjects to Adaptation level categories.)

Two exploratory hypotheses are presented in Section V relating to environmental continuity and performance.

The .05 level is used throughout the analyses as the criterion for the rejection of the null hypothesis.

The continuity, congruence and adaptation level measures were related to performance for fall and winter quarters. That is, these variables were related to performance as expressed by cumulative (fall + winter) grade point averages. All assessments of attrition rates were based upon the entire academic year.

Section I which follows involved the testing of hypotheses pertaining to press at the eight high schools and the community college.

Section I: Press

Comparisons were made between perceptions of environmental press in eight high schools and in Lansing Community College (as defined in Chapter I, supra, p. 14). The subjects in the high schools were seniors within two months of graduation. The high school subjects were given The High School Characteristics Index. The community college subjects were freshmen who were tested late in the fall quarter. The community college subjects were given The Evening

College Characteristics Index, an instrument which parallels the high school form.

Summaries of the comparisons on the two second-order and the 11 first-order dimensions for each of the eight high schools are presented in Appendix IV (in raw data form).

Comparisons were made between perceptions of environmental press or demands at each of eight high schools within the service area of the community college and the perceptions of press or demands at the community college. In each of the eight sets of comparisons, the two second-order and the 11 first-order factors defined above were compared.

The null hypothesis tested for each of the comparisons, states symbolically, was: H_o: $\mu_1 = \mu_2$. The alternate hypothesis, stated symbolically, was: H_A: $\mu_1 \neq \mu_2$.

I. Hypotheses pertaining to Press at the High Schools and the Community College.

1. No differences will be found between the Intellectual Climate dimension at the high schools and the community college.

Significant differences were found between the Intellectual Climate dimensions in each of the eight comparisons between the high schools and the community college using the t-test (See Table 4.1). All eight of the differences were significant beyond the .05 level. The null hypothesis in each case was rejected.

TABLE 4.1.--Total Intellectual Press comparisons (each of the eight high schools compared to the community college).

	t values
School #1 (Local Public)	-4.15**
School #2 (Local Public)	-5.76**
School #3 (Local Public)	-4.19**
School #4 (Parochial)	-3.39**
School #5 (Non-local Public)	-6.03**
School #6 (Non-local Public)	-6.69**
School #7 (Non-local Public)	-6.42**
School #8 (Non-local Public)	-7.46**

Legend:

**Significant at .01 (Community College press greater)

*Significant at .01 (Community College press greater)

++Significant at .01 (High School press greater)

+Significant at .05 (High School press greater)

a. No differences will be found between the Aspiration Level factor at the high schools and the community college.

b-f. Ibid for Intellecutal Climate, Student Dignity, Academic Climate, Academic Achievement, Self-Expression.

Significant differences (at the .05 level or beyond) were found between the perceptions of press in the high schools compared to the community college in 32 of the 48

comparisons using the t-test. In every case the community college press was perceived as greater than the high school press.

The results of the analyses on the 48 first-order factors are summarized in Table 4.2.

2. No differences will be found between the Non-Intellectual Press dimension at the high schools and the community college.

Significant differences were found between the Non-Intellectual Press dimension in two of the eight comparisons using the t-test. Both of these differences were significant at the .05 level. In one case (School #2), the community college press was greater. In the other comparison (School #4), the high school press was greater.

The results of the analysis on this dimension are presented in Table 4.3.

a. No differences will be found between the Group Life factor at the high schools and the community college.

b-f. Ibid. for Academic Organization, Social Form, Play-Work and Vocational Climate. (Self-Expression is shared by the two second-order dimensions. It is included in the Non-Intellectual dimension table, but was not re-analyzed.)

Significant differences (at the .05 level or beyond) were found between the press at the high schools and the

TABLE 4.2.--First-order factor comparisons for the six scales of the Intellectual Press dimension: eight high schools - community college.

FACTOR			
ASPIRATION LEVEL			
School #1**	School #3**	School #5**	School #7**
School #2**	School #4**	School #6**	School #8**
INTELLECTUAL CLIMATE			
School #1 =	School #3 =	School #5*	School #7**
School #2 =	School #4 =	School #6**	School #8**
STUDENT DIGNITY			
School #1**	School #3**	School #5**	School #7**
School #2**	School #4**	School #6**	School #8**
ACADEMIC CLIMATE			
School #1 =	School #3 =	School #5*	School #7*
School #2 =	School #4*	School #6**	School #8**
ACADEMIC ACHIEVEMENT			
School #1*	School #3 =	School #5**	School #7**
School #2**	School #4 =	School #6**	School #8**
SELF EXPRESSION			
School #1 =	School #3 =	School #5 =	School #7 =
School #2 =	School #4 =	School #6 =	School #8**

Legend: (t-values)

*Significant at .05 (Community College greater)
**Significant at .01 (Community College greater)
= Difference not significant

community college on 25 of the 48 comparisons (including the one difference on factor #6, Self-Expression, referred to above) using the t-test.

TABLE 4.3.--Total Non-Intellectual Press comparisons (each of the eight high schools compared to the community college).

	t values
School #1 (Local Public)	.12 =
School #2 (Local Public)	-2.37 *
School #3 (Local Public)	.99 =
School #4 (Parochial)	2.26 +
School #5 (Non-local Public)	-1.52 =
School #6 (Non-local Public)	-1.87 =
School #7 (Non-local Public)	- .57 =
School #8 (Non-local Public)	-1.21 =

Legend:

* Significant at .05 (Community College greater)

\+ Significant at .05 (High School Greater)

= Difference not significant

The community college press was perceived as greater than the high school press on the Group Life factor for each of the schools except School #4 (difference not significant). The community college press was greater than the high school press on the Academic Organization factor for Schools #2, 5, 6, 7 and 8. (Differences were not significant for

Schools #1, 3 and 4.) The community college press was seen as greater than the high school press on the Social Form factor for Schools #3 and 7. The press at School #4 was greater than the community college press on the Social Form factor. (Differences on the Social Form factor were not significant for Schools #1, 2, 5, 6, and 8.) The Play-Work factor was perceived as significantly greater in each of the high schools than at the community college. Differences on the Vocational Climate factor were not significant at any of the schools except School #2. The community college press was greater for the Vocational Climate factor than at School #2.

The results of the analysis on the 48 first-order factors of the Non-Intellectual dimension are presented in Table 4.4.

3. No differences will be found between the patterns of press at the high schools compared to the community college.

The 11 first-order factors were used in these comparisons. The means of the high school seniors' perceptions of press were used to establish the "pattern" of press at the high school in question. (Data obtained through the use of the High School Characteristics Index.) The means of the community college freshmen sample's perceptions of press at the community college were used to establish the "pattern" of press at the community college. (Data obtained through the use of the Evening College Characteristics Index.)

TABLE 4.4.--First-order factor comparisons for the six scales of the Non-Intellectual Press dimension: (Each of the eight high schools compared to the community college.)

FACTOR			
SELF-EXPRESSION			
School #1 =	School #3 =	School #5 =	School #7 =
School #2 =	School #4 =	School #6 =	School #8**
GROUP LIFE			
School #1*	School #3*	School #5**	School #7**
School #2**	School #4 =	School #6**	School #8**
ACADEMIC ORGANIZATION			
School #1 =	School #3 =	School #5**	School #7*
School #2**	School #4 =	School #6**	School #8**
SOCIAL FORM			
School #1 =	School #3**	School #5 =	School #7*
School #2 =	School #4--	School #6 =	School #8 =
PLAY-WORK			
School #1++	School #3++	School #5++	School #7++
School #2++	School #4+	School #6++	School #8++
VOCATIONAL CLIMATE			
School #1 =	School #3 =	School #5 =	School #7 =
School #2**	School #4 =	School #6 =	School #8 =

Legend: (t-values)

*Significant at .05 (Community College greater)
**Significant at .01 (Community College greater)
= Difference not significant.
+Significant at .05 (High School greater)
++Significant at .01 (High School greater)

The scores were standardized using the means and standard deviations of perceptions of press on each of the 11 factors. The mean and deviations were computed using the data from all of the high schools and the community college. This standardization was necessary because the use of Cattell's r_p statistic requires that all scores be in standard score form.

The null hypothesis tested for each of the eight comparisons, stated symbolically, was: H_o: $r_p \geq -.311$. (This value of r_p is required for significant dissimilarity by Horn's[1] tables of significance at the .05 level (for pattern comparisons involving 11 dimensions).[2] The alternate hypothesis, stated symbolically, was: H_A: $r_p < -.311$.

No significant differences were found in the predicted direction. The r_p coefficients for the schools were: School #1 (Local Public): .36; School #2 (Local Public: .18; School #3 (Local Public): .57; School #4 (Parochial): .71; School #5 (Non-local Public): .30; School #6 (Non-local Public): .28; School #7 (Non-local Public): .14; and School #8 (Non-local Public): .19.

The correlation for School #3 (Local Public) (.57) was significantly positive at the .02 level. The correlation for School #4 (Parochial) (.71) was significantly

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[1]Horn, op. cit., pp. 363-370.

[2]The r_p statistic is described more fully in Appendix IV.

positive at the .01 level. The null hypothesis was accepted in each of the eight comparisons.

The results of the analysis of patterns of press at the high schools (compared to the community college) are presented in Table 4.5.

TABLE 4.5.--Comparisons of patterns of press at the eight high schools to the pattern of press at the community college--using Cattell's r_p profile or pattern analysis statistic.

School	r_p coefficient	Significance
#1 - Local Public	.36	=
#2 - Local Public	.18	=
#3 - Local Public	.57	+
#4 - Parochial	.71	+
#5 - Non-local Public	.30	=
#6 - Non-local Public	.28	=
#7 - Non-local Public	.14	=
#8 - Non-local Public	.19	=

Legend:

= Difference not significant

- Difference significant at .05, dissimilarity

+ Correlation significant at .05, similarity

4. No differences will be found between the rank order of press factors at the high schools and the community college.

Rank order correlations were computed between the order of press factors of the Common Beta Press (means of the samples' perceptions of press on the 11 environmental index factors) at the eight high schools and the community college.

The null hypothesis tested for the eight schools, stated symbolically, was: H_o: $r_s \geq -.29$. The alternate hypothesis, stated symbolically, was: H_A: $r_s < -.29$.

Significant differences were found between the rank order of press factors in six of the eight high schools when these were compared (individually) to the rank order of the same factors at the community college. The (r_s) were significantly negative in these six cases. The null hypotheses, then, were rejected in six cases; accepted in two. The correlations were as follows: School #1, -.39; School #2, -.41; School #3, -.32; School #4, -.37; School #5, .07; School #6, -.39; School #7, .03; and School #8, -.87.

The results of the analyses of the rank order of press factors are given in Table 4.6. (All of the rank-order comparisons were made using the means of the eight high school samples' perceptions of press at the high schools and the community-college sample's perceptions of press at the community college.)

TABLE 4.6.--Comparisons of the rank-order of press factors at the eight high schools and the community college.

School		Significance
School #1 - Local Public	$r_s = -.39$	-
School #2 - Local Public	$r_s = -.41$	-
School #3 - Local Public	$r_s = -.32$	-
School #4 - Parochial	$r_s = -.37$	-
School #5 - Non-local Public	$r_s = .07$	=
School #6 - Non-local Public	$r_s = -.39$	-
School #7 - Non-local Public	$r_s = .03$	=
School #8 - Non-local Public	$r_s = -.87$	-

Legend:

- Difference significant at the .05 level

= Difference not significant

Section II: Continuity

Section II which follows deals with the data obtained through environmental comparisons (in the transition from the high school to the community college). Environmental continuity (as defined in Chapter III, supra, p. 49) was related to measures of performance and attrition. The subjects were divided into two groups, low and high achievement (as defined in Chapter I, supra, p. 15) for the major

analyses. (Details of the method used to assign subjects to continuity categories are given in Appendix IV.)

II. Hypotheses pertaining to Environmental Continuity.

The following hypotheses pertaining to the effects of environmental continuity and discontinuity upon attrition were tested.

1. Negative discontinuity students will leave the community college and not continue their education elsewhere at a significantly higher rate than Positive discontinuity students.

Subjects' need profiles converted to press equivalents were compared to the press at their respective high schools and to the press at the community college. Cattell's r_p pattern analysis statistic was used to express this relationship mathematically. Subjects were divided into four groups or levels of "goodness of fit." Those who remained in the same category of "goodness of fit" at the community college were described as experiencing Essential (environmental) continuity. Those who were classified in a higher category of fit at the community college (than in high school) were classified as Positive discontinuity students. Those who were classified in a lower category of fit were described as Negative discontinuity students.

The null hypothesis, stated symbolically, was: H_o: $\chi^2 \leq \chi^2_{.05}$. The alternate hypothesis, stated

symbolically, was: $H_A: \chi^2 > \chi^2_{.05}$ (or 7.80). The value of chi-square was .884. The null hypothesis was accepted.

Alternate Hypotheses:

a. High achievement, Negative discontinuity students will indicate intention to transfer to another institution prior to completing requirements for an Associate-in-Arts degree at a significantly higher rate than high achievement, Positive discontinuity students.

High achievement was defined as having a cumulative high school grade point average above the median for entering freshmen at the community college; low achievement, having a cumulative grade point average below the median. Only academic subjects were considered: English, foreign languages, mathematics, science and social science. Negative and Positive discontinuity were defined as indicated in (1) above.

The null hypothesis, stated symbolically, was: $H_o: \chi^2 \leq \chi^2_{.05}$. The alternate hypothesis, stated symbolically, was: $H_A: \chi^2 > \chi^2_{.05}$ (or 7.80). The computed value of chi-square was 5.18. The null hypothesis was accepted.

b. Low achievement, Negative discontinuity students will leave the community college and not continue their education elsewhere at a significantly higher rate than low achievement, Positive discontinuity students.

The null hypothesis, stated symbolically, was: $H_o: \chi^2 \leq \chi^2_{.05}$. The alternate hypothesis, stated symbolically, was: $H_A: \chi^2 > \chi^2_{.05}$ (or 7.80). The computed value of chi-square was 9.02. The null hypothesis was rejected.

2. Positive discontinuity students will perform at a significantly higher leven than Negative discontinuity students at the community college.

Students were divided into four groups on the basis of their congruence scores in high school. These pattern congruence scores were compared to the pattern congruence scores at the community college. Subjects were assigned to four groups on the basis of the relative similarity of their scores in the two settings (continuity). Those whose scores changed significantly (positively or negatively) were assigned to separate categories. The four groups were: Positive discontinuity (significant positive change in fit); Essential continuity II (some improvement); Essential continuity I (some deterioration): and Negative discontinuity (significant negative change). (The details of this assignment process are described in Appendix IV.)

The null hypothesis, stated symbolically, was: $H_o: \mu_1 = \mu_2$. The alternate hypothesis, stated symbolically, was: $H_A: \mu_1 > \mu_2$.

An analysis of variance was computed using the four continuity levels and cumulative (fall + winter) grade point averages. The F ratio of 8.1 was significant beyond the .05 level. The mean of the Positive discontinuity group

was 2.44; of the Negative discontinuity group: 2.36. The shortest significant range was .30. The null hypothesis was accepted.

The results of the analysis of variance are presented in Table 4.7. The results of Duncan's New Multiple Range Test[1] are presented in Table 4.8.

TABLE 4.7.--Analysis of variance - continuity (4 levels) and cumulative (fall + winter) grade point average.

Source	Sums of Squares	df	Mean Square	F Ratio
Category Means	9.01	3	3.00	6.02*
Within	83.69	168	.4982	

*Significant at .001

2. Low achievement, Positive discontinuity students will perform at a significantly higher level than low achievement, Negative discontinuity students at the community college.

The four divisions were continued in this analysis (Positive discontinuity, Essential continuity II, Essential continuity I, and Negative discontinuity) but the subjects were divided further on the basis of achievement. (High and low achievement having been defined as being above or

[1]Edwards, op. cit., pp. 136-140.

below the median of entering freshmen in terms of high school grade point average.)

TABLE 4.8.--Duncan's New Multiple Range Test applied to the differences between four means (continuity - fall + winter G.P.A.)

Group II	Group I	Group IV	Group III	(Range**)
2.54	2.44	2.36	2.10	
	.10			(.30)
		.18		(.31)
			.44	(.32)

**Shortest Significant Range

Any two means not underscored with the same double line (═══) are significantly different.

Groups are numbered from I (Highest) to IV (Lowest) continuity

The null hypothesis, stated symbolically, was: H_o: $\mu_1 = \mu_2$. The alternate hypothesis, stated symbolically, was: H_A: $\mu_1 > \mu_2$.

An analysis of variance was computed using the four levels of continuity and cumulative (fall + winter) grades. The F ratio of 2.58 was significant beyond the .05 level. The Positive discontinuity group mean was 2.25 for the low achievement students. The Negative discontinuity group mean was 1.86 for the low achievement students. This difference (.39) exceeded the difference required at the .05

level applying Duncan's New Multiple Range Test adapted for use with unequal numbers of replications.[1] The null hypothesis, therefore, was rejected.

The results of the analysis of variance are presented in Table 4.9. The results of the application of Duncan's New Multiple Range Test adapted for use with groups with unequal numbers of replications are presented in Table 4.10.

TABLE 4.9.--Analysis of variance - continuity (4 levels) and achievement (2 levels) X performance (indicated by cumulative (fall + winter) grade point average).

Source	Sums of Squares	df	Mean Square	F Ratio
Category Means	9.08	7	1.30	2.58*
Within	82.62	164	.5038	

*Significant at .025

[1]Clyde Young Kramer, "Extension of Multiple Range Tests to Group Means with Unequal Numbers of Replications," Biometrics, 12 (1956), pp. 307-310.

TABLE 4.10.--Duncan's New Multiple Range Test (adapted for use with unequal replications) applied to Low Achievement students' performance in terms of cumulative (fall + winter) grade point average. Subjects stratified by 4 levels of continuity.

Group I	Group II	Group III	Group IV	Shortest Significant Range
2.25	2.13	1.99	1.86	
	.12			(.31)
		.26		(.33)
			.39	(.34)

Any two treatment means not underscored by the same double (═══) line are significantly different.

Section III: Congruence

Levels of congruence or fit between subject's inventoried activities preferences (Activities Index) and environmental demands as expressed by the Common Beta Press (means of the samples' perceptions of press on the 11 Evening College Characteristics Index factors) are related to performance and rates of attrition in Section III.

III. Hypotheses pertaining to Congruence at the Community College.

1. Students who are low in Deviation pattern congruence will leave the community college and not continue their education elsewhere

at a significantly higher rate than high Deviation pattern congruence students.

Deviation pattern congruence was computed as follows: congruence between students' converted need scores (converted to press equivalents) were compared to the community college environmental demands (Common Beta Press). Deviations which exceeded one standard deviation above or below the perceptions of press were included in the computations. Scores which fell within one deviation of the mean were not computed as deviant. The statistic used was Cattell's r_p pattern or profile analysis statistic (in the pattern comparisons).

The null hypothesis, stated symbolically, was: H_o: $\chi^2 \leq \chi^2_{.05}$. The alternate hypothesis, stated symbolically, was: H_A: $\chi^2 > \chi^2_{.05}$ (or 7.80). The computed value of chi-square was 6.26. The null hypothesis was accepted.

Alternate Hypotheses:

a. Low Deviation pattern congruence, high achievement students will indicate intention to transfer to another institution prior to completing requirements for an Associate-in-Arts degree at the community college at a significantly higher rate than high Deviation pattern congruence, high achievement students.

The null hypothesis, stated symbolically, was: $H_o: \chi^2 \leq \chi^2_{.05}$. The alternate hypothesis, stated symbolically, was: $H_A: \chi^2 > \chi^2_{.05}$ (or 7.80). The computed value of chi-square was 7.82. The null hypothesis was rejected.

b. Low Deviation pattern congruence, low achievement students will leave the community college and not continue their education elsewhere at a significantly higher rate than high Deviation pattern congruence, low achievement students.

The null hypothesis, stated symbolically, was: $H_o: \chi^2 \leq \chi^2_{.05}$. The alternate hypothesis, stated symbolically, was: $H_A: \chi^2 > \chi^2_{.05}$ (or 7.80). The computed value of chi-square was 5.01. The null hypothesis was accepted.

c. High achievement, low Deviation pattern congruence students who are low in Educability will indicate intention to transfer to another institution prior to completing requirements for an Associate-in-Arts degree at a significantly higher rate than high achievement, low Deviation pattern congruence students who are high in Educability.

Educability as defined by Stern[1] combines elements of both intellectuality and submissiveness. This dimension

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[1]Stern, Scoring Instructions. . . , op. cit.

of the Activities Index reflects a strong interest in intellectual activities coupled with a need for orderliness and conformity.

The null hypothesis, stated symbolically, was: H_o: $\chi^2 \leq \chi^2_{.05}$. The alternate hypothesis, stated symbolically, was: H_A: $\chi^2 > \chi^2_{.05}$ (or 7.80). The computed value of chi-square was 1.38. The null hypothesis was accepted.

d. Low achievement, low Deviation pattern congruence students who are low in Educability will leave the community college and not continue their education elsewhere at a significantly higher rate than low achievement, low Deviation pattern congruence students who are high in Educability.

The null hypothesis, stated symbolically, was: $\chi^2 \leq \chi^2_{.05}$. The alternate hypothesis, stated symbolically, was: $\chi^2 > \chi^2_{.05}$ (or 7.80). The computed value of chi-square was 6.13. The null hypothesis was accepted.

2. High Adjusted pattern congruence students will perform at a significantly higher level than low Adjusted pattern congruence students at the community college.

Subjects' converted need scores were compared to the means of the environmental press scores of the first-order factors of the environmental index at the community college. Converted press scores above the mean of the intellectual dimension factors or below the mean of the non-intellectual

factors were disregarded. Only those deviations which were below the means on the intellectual dimension factors or above the means on the non-intellectual dimension factors were included in the computations (using Cattell's r_p pattern analysis statistic).

Subjects were divided into four groups in terms of their Adjusted pattern congruence coefficients. Scores were assigned to these groups on the following basis: Group IV (highest) - 4, Group III - 3, Group II - 2, and Group I (lowest) - 1.

An analysis of variance was computed using the four levels of congruence and the cumulative grade point averages for the first two terms' work (fall + winter term). Subjects were not separated according to levels of previous academic achievement in this analysis.

The null hypothesis, stated symbolically, was: $\mu_1 = \mu_2 = \mu_3 = \mu_4$. The alternate hypothesis, stated symbolically, was: H_A: $\mu_1 > \mu_2, \mu_3, \mu_4$. The F ratio for the four congruence groups was 3.34, significant beyond the .05 level.

Group IV (highest congruence) mean grade point average was 2.60, Group III (third highest) was 2.34; Group II, 2.26 and Group I (lowest congruence) was 2.10. The differences between the means of Group I and Group II as well as the difference between the means of Group I and Group IV exceeded the shortest significant ranges of Duncan's New Multiple Range test beyond the .05 level. The null hypothesis was rejected.

The results of the analysis of variance (four levels of congruence and fall + winter cumulative grade point average) are given in Table 4.11. The results of Duncan's New Multiple Range Test applied to the category means are presented in Table 4.12.

TABLE 4.11.--Analysis of variance of congruence (4 levels) and cumulative grade point average for fall + winter quarters.

Source	Sums of Squares	df	Mean Square	F Ratio
Category Means	5.20	3	1.73	3.34*
Within	87.50	168	.5208	

*Significant at .025.

Alternate Hypotheses:

a. Low Adjusted pattern congruence students who are high in Educability will perform at a significantly higher level than low Adjusted pattern congruence students who are low in Educability.

The null hypothesis, stated symbolically, was: H_o: $\mu_1 = \mu_2$. The alternate hypothesis, stated symbolically, was: H_A: $\mu_1 > \mu_2$. Subjects were divided into two groups on the basis of congruence (high and low) and subdivided into two groups of Educability. Achievement was not considered. That is, students were not separated according to levels of previous achievement.

TABLE 4.12.--Duncan's New Multiple Range Test applied to the differences between 4 treatment means--congruence and fall + winter G.P.A.

Group I	Group III	Group II	Group IV	Shortest Significant Ranges
2.60	2.34	2.26	2.10	
	.26			(.31)
		.34		(.33)
			.50	(.34)

(Group I: High Congruence, Group IV: Lowest Congruence.)

Treatment means not underscored by the same double line (═══) are significantly different.

The performance measure used in the analysis of variance was fall + winter (cumulative) grade point average. The F ratio in the analysis of variance was 2.83, significant at the .05 level. The category means were: High congruence, high Educability: 2.51; high congruence, low Educability: 2.32; low congruence, high Educability: 2.39; and low congruence, low Educability: 2.10. The shortest significant range[1] was .31 for the difference between two means. The difference between the low congruence, high Educability and low congruence, high Educability group means was .29. The null hypothesis, therefore, was accepted.

[1]Kramer, loc. cit., pp. 307-310.

The results of the analysis of variance are presented in Table 4.13. The results of the analysis applying Duncan's New Multiple Range Test adapted for use with unequal groups are presented in Table 4.14.

TABLE 4.13.--Analysis of variance - congruence (2 levels) and Educability (2 levels) and fall + winter cumulative grade point average.

Source	Sums of Squares	df	Mean Square	F Ratio
Category Means	4.47	3	1.49	2.83*
Within	88.33	168	.5257	

*Significant at .05

b. High Adjusted pattern congruence, Positive discontinuity students will perform at a significantly higher level than low Adjusted pattern congruence, Negative discontinuity students.

Subjects were divided into four groups on the basis of Adjusted pattern congruence. These four groups were subdivided into three groups on the basis of continuity: Positive discontinuity (significant positive change in environment), Essential continuity, and Negative discontinuity (significant negative change). An analysis of variance was computed using the resulting ten groups. (There were no subjects who were classified as Positive discontinuity

subjects in the lowest (Group I) category of congruence nor any classified as Negative discontinuity in the highest (Group IV) category of congruence.) Cumulative (fall + winter) grade point averages were used in the analysis of variance. Subjects were not, however, subdivided on the basis of previous (high school) levels of achievement.

TABLE 4.14.--Duncan's New Multiple Range Test applied to 4 treatment means: congruence (2 levels) and Educability (2 levels) and cumulative (fall + winter) grade point average.

Group I	Group II	Group III	Group IV	Shortest Significant Ranges
2.52	2.32	2.39	2.10	
	.20			(.31)
		.13		(.33)
			.42	(.35)

Group I: High Congruence - High Educability
Group II: High Congruence - Low Educability
Group III: Low Congruence - High Educability
Group IV: Low Congruence - Low Educability

Treatment means not underscored by the same double line (═══) are significantly different.

The analysis of variance F ratio of 2.04 was significant at the .05 level. The difference between the Positive discontinuity, Congruence IV (Highest) and the Negative discontinuity, Congruence I (Lowest) groups (.54) was not equal to the required difference for significance at the

.05 level using Duncan's New Multiple Range Test (difference required was .60). The null hypothesis was accepted.

The results of the analysis of variance are presented in Table 4.15. The category means for the ten groups are presented in Table 4.16.

TABLE 4.15.--Analysis of variance: congruence (4 levels) and continuity (3 levels) and cumulative (fall + winter) grade point averages.

Source	Sums of Squares	df	Mean Square	F Ratio
Category Means	9.46	9	1.05	2.04*
Within	83.24	162	.5138	

*Significant at .05

TABLE 4.16.--Group means - congruence (4 levels) X continuity (3 levels) and cumulative (fall + winter) G.P.A.

Congruence Level	Continuity Level		
	Positive	Essential	Negative
4 (High)	2.49	2.65	
3	2.48	2.17	2.48
2	2.24	2.01	2.46
1 (Low)		1.98	1.95

Section IV: Adaptation Level

Students were divided into four groups on the basis of congruence or fit between their needs and the

environmental press at their high schools. The inference was made that students who had experienced low level of fit between their needs and environmental demands (press) at the high school level would be high in level of adaptation to such lack of fit (incongruence). The subject's Adaptation Level assignment thus was the inverse of his congruence level score.

For the purposes of the analysis of variance, the subjects were divided into two groups on the basis of Adaptation level (high and low) and subdivided into four groups by using high and low Adjusted pattern congruence. Previous levels of achievement were not used to further subdivide the groups.

IV. Hypotheses pertaining to Adaptation Level.

1. Low Deviation pattern congruence students at the community college who are low in Adaptation level to incongruence will leave the college and not continue their education elsewhere at a significantly higher rate than that for low Deviation pattern congruence students who are high in Adaptation level.

The null hypothesis, stated symbolically, was: H_o: $\chi^2 \leq \chi^2_{.05}$ (or 7.80). The alternate hypothesis, stated symbolically, was: H_A: $\chi^2 > \chi^2_{.05}$ (or 7.80). The computed value of chi-square was 2.92. The relationship, however, was in the opposite direction of the predicted one. That is, high Adaptation level, low congruence students

dropped out of the college and did not continue their education elsewhere more frequently than low Adaptation level, low congruence students. The null hypothesis was accepted.

2. Low Adjusted pattern congruence students at the community college who are high in Adaptation level will perform at a significantly higher level than low Adjusted pattern congruence students who are low in Adaptation level.

The null hypothesis, stated symbolically, was: H_o: $\mu_1 = \mu_2$. The alternate hypothesis, stated symbolically, was: H_A: $\mu_1 > \mu_2$. The analysis of variance F ratio of 1.79 was not significant. The group means were: High congruence, high Adaptation level: 2.53; High congruence, low Adaptation level: 2.32; Low congruence, high Adaptation level: 2.23; Low congruence, low Adaptation level: 2.22. A range test was not computed. The null hypothesis was accepted.

Section V: Exploratory Hypotheses

Students from the four high schools supplying the greatest number of students to the community college were pulled from the study. These high schools were schools #1, 2, 3, and 4 of the original group. The samples were arranged in order in terms of similarity of high school pattern of demands to that at the community college. Each of the sub-groups' high school grade point averages were

correlated with their cumulative (year's) grade point averages at the community college.

Secondly, subjects were separated on an individual basis according to their personal continuity scores. That is, Positive discontinuity (significant positive change in "fit" between individual preferences or needs and environmental demands in the transition from high school to community college), Essential continuity (neither significant positive or negative change), and Negative discontinuity (significant negative change) were separated. The three groups' subjects high school grade point averages were correlated with their community college (year's) cumulative grade point average.

V. Exploratory Hypotheses pertaining to Continuity.

1. There will be significant differences among correlations between high school grade point averages and community college grade point averages according to the degree of similarity between the two environments.

The null hypothesis, stated symbolically, was: H_o: $r_1 = r_4$. The alternate hypothesis, stated symbolically, was: H_A: $r_1 \neq r_4$.

Systematic variations were found in the correlation coefficients. The coefficients were: .49, .56, .63, and .88. The two coefficients for the schools most and least similar to the community college in terms of patterns of demands (.88 and .49) were significantly different beyond

the .05 level of confidence. The null hypothesis, therefore, was rejected.

The results of this analysis are presented in Table 4.17.

TABLE 4.17.--Correlations of cumulative high school grade point averages with cumulative (first year's) grade point averages at the community college: (Subjects separated according to level of similarity of their high school's pattern of demands to that at the community college.)

High School	Number of Subjects	Pattern Similarity Coefficient	High School G.P.A. to College G.P.A. Correlation
#2 - Local Public	(N=34)	.18	.49
#1 - Local Public	(N=35)	.36	.56
#3 - Local Public	(N=61)	.57	.63
#4 - Parochial	(N=11)	.71	.88

2. The correlation between high school performance and college performance (as indicated by grade point averages) will be significantly higher for students whose environmental demands--personal needs "fit" remains relatively constant compared to that for students who experience significant positive or negative change.

The students were separated into the four continuity groups previously used: Positive discontinuity, Essential continuity II, Essential continuity I and Negative

discontinuity. The two Essential continuity groups were combined for this analysis. Correlations were computed between high school (cumulative) grade point averages and college (cumulative year's) grade point averages for each of the sub-groups.

The null hypothesis, stated symbolically, was: H_o: $r_1 = r_2 = r_3$. The alternate hypothesis, stated symbolically, was H_A: $r_2 > r_1; r_3$.

The correlation coefficients for the three groups were:

1. Positive discontinuity (Group 1): .43
2. Essential continuity (Group 2): .50
3. Negative discontinuity (Group 3): .62

The differences between the Essential continuity group's coefficient and those of the other two groups were not significant. The null hypothesis was accepted.

Table 4.18 which follows contains a summary of the major hypotheses including the models used and the results found.

TABLE 4.18.--Summary of results of major hypotheses tested.

Hypothesis	Model	Results
I. Hypotheses pertaining to Press at the High Schools compared to the Community College.		
A. Differences will be found in Intellectual Climate press at the High Schools compared to the Community College.	*t* test	Differences found in all 8 comparisons*
B. Differences will be found between the High Schools' and Community College press on the following factors:		
1. Aspiration Level	*t* test	Differences found in all 8 comparisons*
2. Intellectual Climate	*t* test	Differences found in 4 of the 8 comparisons, at .05 or beyond; 4 not significant
3. Student Dignity	*t* test	Differences found in all 8 comparisons*

TABLE 4.18.-- Continued.

Hypothesis	Model	Results
4. Academic Climate	t test	Differences found in 5 of the 8 comparisons, at .05 or beyond; 3 not significant
5. Academic Achievement	t test	Differences found in 6 of the 8 comparisons, at .05 or beyond; 2 not significant
6. Self Expression	t test	Difference found in 1 comparison at .01, 7 comparisons not significant
C. Differences will be found in the Non-Intellectual Climate press at the High Schools compared to the Community College.	t test	Differences found in 2 of the 8 comparisons at .05 level; 6 not significant
D. Differences will be found between the High Schools' and the Community College press on the following factors:		
1. Self-Expression: (Shared with above Intellectual Climate dimension)		

TABLE 4.18.--Continued.

	Hypothesis	Model	Results
	2. Group Life	t test	Differences found in 7 of the 8 comparisons at .05 or beyond, 1 not significant
	3. Academic Organization	t test	Differences found in 5 of the 8 comparisons at the .05 level or beyond; 3 not significant
	4. Social Form	t test	Differences found in 3 of the 8 comparisons at .05 or beyond; 5 not significant
	5. Play-Work	t test	Differences found in all 8 comparisons*
	6. Vocational Climate	t test	Difference found in 1 comparison at the .01 level; 7 not significant
E.	Differences will be found between the patterns of press at the High Schools compared to the Community College.	Cattell's r_p pattern analysis statistic	Differences not significant

TABLE 4.18.--Continued.

Hypothesis	Model	Results
F. Differences will be found between the rank-order of press factors at the High Schools compared to the Community College.	Rank-order Correlation	Six of the 8 comparisons significant at .05; 2 not significant
II. Hypotheses pertaining to Environmental Continuity.		
A. The following relationships will be found to be significant:		
1. Negative discontinuity related to attrition.	Chi-square	Not significant
2. Negative discontinuity for high achievement students related to intention to transfer to another institution.	Chi-square	Not significant
3. Negative discontinuity for low achievement students related to drop-out.	Chi-square	Significant at .05

TABLE 4.18.--Continued.

Hypothesis	Model	Results
B. Environmental continuity-discontinuity will be related to performance in the following ways:		
1. Positive discontinuity students will perform at a higher level than Negative discontinuity students.	Analysis of Variance + Duncan's New Multiple Range Test	Significant at .001 Difference not significant
2. Low achievement, Positive discontinuity students will perform at a higher level than low achievement, Negative discontinuity students.	Analysis of Variance + Duncan's New Multiple Range Test	Significant at .025 Significant at .05
III. Hypotheses pertaining to Congruence at the Community College.		
A. Congruence will be related to attrition in the following ways:		
1. Low Deviation pattern congruence students will leave the community college and not continue their education elsewhere at a higher rate than high Deviation pattern congruence students.	Chi-square	Not significant

TABLE 4.18.--Continued.

	Hypothesis	Model	Results
2.	Low Deviation pattern congruence, high achievement students will indicate intention to transfer more frequently than high Deviation pattern congruence, high achievement students.	Chi-square	Significant at .05
3.	Low Deviation pattern congruence, low achievement students will leave the college and not continue their education elsewhere more frequently than high Deviation pattern congruence, low achievement students.	Chi-square	Not significant
4.	High achievement, low Deviation pattern congruence students low in Educability will indicate intention to transfer more frequently than those high in Educability.	Chi-square	Not significant

TABLE 4.18.--Continued.

Hypothesis	Model	Results
5. Low achievement, low Deviation pattern congruence students low in Educability will leave the community college and not continue their education elsewhere more frequently than those high in Educability.	Chi-square	Not significant
B. Congruence will be related to performance in the following ways:		
1. High Adjusted pattern congruence students will perform at a higher level than low Adjusted pattern congruence students.	Analysis of Variance + Duncan's New Multiple Range Test	Significant at .025 Significant at .05
2. Low Adjusted pattern congruence students high in Educability will perform at a higher level than those low in Educability.	Analysis of Variance + Duncan's New Multiple Range Test	Significant at .05 Not significant
3. High Adjusted pattern congruence, Positive discontinuity students will perform at a higher level than low Adjusted pattern congruence, Negative discontinuity students.	Analysis of Variance + Duncan's New Multiple Range Test	Significant at .05 Not significant

TABLE 4.18.--Continued.

Hypothesis	Model	Results
IV. Hypotheses pertaining to Adaptation Level.		
1. Low Deviation pattern congruence students low in Adaptation level will leave the college and not continue elsewhere at a higher rate than those high in Adaptation level.	Chi-square	Not significant
2. Low Adjusted pattern congruence students high in Adaptation level will perform at a higher level than those low in Adaptation level.	Analysis of Variance	Not significant
V. Hypotheses (supplemental) pertaining to Continuity.		
1. There will be significant differences among correlations of High School G.P.A. to college G.P.A. according to degree of similarity between the two environments.	Correlation	Differences significant at the .01 level

TABLE 4.18.--Continued.

Hypothesis	Model	Results
2. There will be significant differences between the correlation of High School G.P.A. to college G.P.A. for Essential continuity students compared to either Positive discontinuity or Negative discontinuity students.	Correlation	Differences not significant

*Significant at .05 or beyond.

CHAPTER V

DISCUSSION OF RESULTS

The discussion of results below follows the order of presentation of the research hypotheses and results in Chapter IV.

Press

The differences between the high schools' and the community college's press as perceived by the students in the several samples were significant in all eight comparisons on the Intellectual Climate (second-order) dimension beyond the .05 level of significance. The differences on this dimension were based primarily upon differences in the first-order factors of Aspiration Level and Student Dignity. That is, students perceived a higher level of demand or press for academic and vocational achievement and increased personal freedom in terms of adult responsibility.

In the non-local high schools, differences on the first-order factor dimensions of Intellectual Climate, Academic Climate and Academic Achievement also contributed to the over-all differences. That is, students from non-local high schools perceived distinct change in the areas

of academic excellence in staff and facilities and general stress placed upon the academic aspects of school life.

The students from all eight high schools encountered significant changes in the Non-Intellectual Climate of their new environment as well. The differences, however, involve both increased and decreased emphases so that the changes are not reflected in the over-all comparisons on this dimension. For the students from all of the high schools except the parochial, the Group Life factor (emphasis upon mutually supportive activities) received greater emphasis at the community college. For the students from all of the high schools, the community college environment placed a lesser emphasis upon social participation or opportunities for student "play." These two changes represent the major distinctions between their former and their new environment. For the non-local students the new environment also represented an increased emphasis upon Academic Organization or demand for orderliness and submissiveness.

Because of the questions or items of the High School Characteristics Index and the Evening College Characteris- Index differ considerably in content, direct comparison on the above dimensions is not possible. Informal inspection of the items of the corresponding scales indicated, however, that the community college environment was seen as placing a greater emphasis upon work in an academic sense, adult levels of responsibility for the conduct of one's

own affairs (and for one's fellow students) and a decreased emphasis upon social life in the organized or formal sense. The design of the study did not permit an examination of the impact of these separate factors upon student performance and rates of attrition. A more definitive examination would probably prove to be fruitful.

The patterns of press at the eight high schools were not significantly different from that found at the community college. Two of the high schools were, on the contrary, distinctly or significantly similar to the community college in press pattern as expressed by Cattell's r_p pattern analysis statistic. This finding was the opposite of the predicted relationship.

Further research will be necessary to determine whether the use of a pattern analysis statistic such as was used in this study represents a more significant mathematical statement of relationship than the rank-order coefficient used in a secondary analysis. Differences between the high school and community college environments were more sharply delineated in the rank-order comparisons. Six of the eight schools rank-order "patterns" were significantly different from the "pattern" at the community college. Because the 11 first-order factor scales of the environment indexes include differing numbers of ten-item sub-scales, the scores were expressed in standard score form and the rank-order correlations re-computed. This new computation avoided the anchoring of the 11 factors on the

shortest factor (#4 - 20 items) and the longest factor (#8 - 60 items). The rank-order correlations were significantly negative in only three cases following the transformation of scores into standard score form. Part of the differences between the comparisons expressed in Cattell's r_p form versus the rank-order correlations may be due to the requirement of the former that the scores be in standardized form. No attempt was made, however, to determine the relative power of rank-order comparisons between individual's needs and environmental demands in the two settings as a measure of environmental continuity.

Continuity

The data relating environmental continuity to attrition revealed only one significant relationship: that of low achievement, Negative discontinuity to drop out. An inspection of the data and a correlation matrix involving all of the variables indicated that Adjusted pattern congruence was more highly related to retention than Pattern or Deviation pattern congruence. It is likely that it would have proved to be a more powerful measure in environmental continuity assessment as well. (The correlations with retention were: Deviation pattern congruence: .16; Pattern congruence: .20; and Adjusted pattern congruence: .25.)

A more significant defect was a basic one in the design. Negative discontinuity was defined as a significant

negative change in "fit" between an individual and his environment. ("Significant": sufficient to place him in a lower congruence category at the community college than at the high school level.) Such a definition made possible the assignment of a subject to the Negative discontinuity category whose congruence or "fit" score at the community college was nonetheless in the upper half of the distribution (or at least the upper 75%). For example, a student could experience "Negative discontinuity" according to the definition by changing from the highest quartile in high school to the second highest quartile (at the community college).

To test the above "defect" in design, the Negative discontinuity, lowest quartile (congruence) students were pulled from the study (without regard to achievement levels though the majority were low achievement students). The resulting chi-square for leaving the college and not continuing elsewhere (dropout) for this sub-group was significant beyond the .05 level (chi-square - 15.16).

Significant differences were found in levels of performance related to environmental continuity through the analysis of variance, but the differences between Positive and Negative discontinuity students were not significant. This was probably due in part to the defect in design mentioned above. Because the differences were significant for low achievement students, the data was examined further. The analysis was extended to include the entire year and

to describe the effects of continuity and discontinuity upon students at the two levels of achievement.

The extension of the analysis to the entire year revealed that there was no apparent effect upon the performance of high achievement students. That is, high achievement students' means (in terms of year's grade point average) showed no systematic relationship to continuity. The relationship between continuity and performance did, however, sustain for the entire year for the low achievement students. High achievement students' mean performance for Positive discontinuity for the year was 2.66; for Negative discontinuity: 2.69. Positive discontinuity, low achievement students' mean was 2.18 for the year. Negative discontinuity, low achievement students' means was 1.82. (Table IV.11 in Appendix IV contains the results of the above analysis in detail.) In this sample, environmental continuity had a significant impact upon students below the median in achievement (in terms of high school grade point averages for entering students), but not upon students above the median.

The non-residential community college may have more impact upon its students than the typical residential school due to the fact that there is less environmental change for the community college student. In contrast to his counterpart in a four-year (or any residential) college, the community college student's environmental change typically focuses upon his school environment.

His home environment usually remains relatively unchanged.

If the above relationships between environmental continuity are typical for low achievement community college students even at the local college, these findings have important guidance implications.

Congruence

Although significant relationship was found between Deviation pattern congruence and the transfer intentions of the high achievement students, no significant relationships were found between this congruence measure and attrition (attrition defined as leaving the college and not continuing elsewhere). The relationships approached significance for the low achievement students and for low achievement students low in Educability.

An inspection of the data and the correlation matrix of all of the variables of the study indicated that Adjusted pattern congruence again would have been a more powerful predictor. Deviation pattern congruence related to retention at the .14 level whereas Adjusted pattern congruence was related to retention at the .24 level (the same level of relationship as that of high school grade point average to retention). High school grade point average (cumulative) is relatively independent of congruence between an individual's need or preference pattern and environmental demands. (The correlation in this sample

was .17.) High school grade point average and environmental "congruence" might prove to be a more powerful predictor of retention than either used separately.

Deviation pattern congruence, on the other hand, was more highly correlated with students' transfer intentions. For all students, Deviation pattern congruence related to a "No" answer to the question, "Do you intend to transfer to another institution prior to completing an Associate-in-Arts degree at the community college?" at the .14 level. (Adjusted pattern congruence correlated at .03.) Deviation pattern incongruence (the reciprocal of Deviation pattern congruence) correlated with high achievement students' transfer intentions at .26. Apparently the Adjusted pattern method of measuring congruence which took into account only those deviations which were indicative of less intellectual need than the environment demanded or more non-intellectual need than the environment provided is a more effective predictor of leaving academic life altogether. The Deviation pattern method, which took into account only those deviations in excess of one standard deviation above or below the mean (of the Common Beta Press), appeared to be a better predictor of intention to transfer or change to another educational setting (particularly for high achievement students). Replication with other samples will be necessary before final judgment can be made concerning these distinctions.

Male and female subjects were separated and a multiple correlation coefficient computed between Emotional expression scores, Deviation pattern incongruence scores, Intractability (defined simply as the reciprocal of Educability), and dropout. (The multiple correlation coefficients did not include high school grade point average.) The two coefficients were almost identical. The correlation of the three factors (Emotional expression, Deviation pattern incongruence, and Intractability) and dropout for males was .34 (.336). For females the correlation was .34 (.339). The breakdown of the correlations, however, revealed real differences. The simple correlations of the factors for males were as follows (with "dropout" in each case as the dependent variable): Emotional expressions scores: -.15; Deviation pattern incongruence: .12; and Intractability: .33. For females the simple correlations of these factors with dropout were: Emotional expression: .22; Deviation pattern incongruence: .16; and Intractability: .13.

In this sample, lack of Educability (Intellectuality, Submissiveness, Orderliness and Conformity) was a more important factor with reference to dropout for males than for females. Emotional expression needs, however, were significantly different in their relationship to dropout by the two sexes. For males the relationship was negative (-.15), for females, positive (.22). This may be a relatively "local" phenomenon, however. Twenty-five male Activities Index test forms and twenty-five female test

forms were pulled at random from the original sample. The means of the scores on the 11 dimensions (Activities Index scores) were compared to the Common Beta Press scores at the community college. (Fifty Evening College Characteristics Index tests selected at random were converted to Activities Index equivalents by scoring the 30 sub-scales in the manner required for the Activities Index.[1])

The "average" male profile means on the Educability dimension were almost identical to the level of the sample's perceptions of press on these factors. This finding was also true for the female subjects' "average" profile scores on the first four factors included in the Educability dimension. The female means on the Submissiveness and Orderliness factors were considerably higher than the environment's demands. Thus a male's lower Educability score (if lower than average) would be less than the environment's demands. The female subject, on the other hand, with a slightly lower (than average) Educability score would be more congruent (in terms of needs) with the environment's demands. These "average" profile differences may have accounted in part for the difference between the correlation of male and female Educability scores with dropout (for males: .33; for females: .13).

Emotional expression needs for the "average" male were less than the environment's demands on four of the six factors which make up the dimension, and approximately equal

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[1]Stern, Scoring Instructions. . . ,op. cit.

to the environment's demands on the other two. Thus a male with higher than average Emotional expression scores fit the environment's demands to a higher degree. The female students "average" Emotional expression needs exceeded the environment's demands on three of the first-order factors of the dimension (Closeness, Sensuousness, and Friendliness). Thus a female with higher than average Emotional expression needs fit the environment less well. These distinctions may have accounted in part for the difference in the relationship of Emotional expression to dropout by males and females (for males: -.15); for females: .22).

The relationship of each of the congruence measures to retention was examined. Private Beta congruence (the individual's own need pattern related to his own perceptions of environmental press) correlated with retention at -.09. Deviation pattern congruence (deviations considered only if in excess of one standard deviation above or below the mean of the sample's perceptions of environmental press) correlated with retention at .16. Pattern congruence (all deviations used in the pattern analysis statistic regardless of amount or direction) correlated with retention at .21. Adjusted pattern congruence (deviations below the mean of Intellectual press and above the mean of Non-Intellectual press used in the pattern analysis statistic) correlated with retention at .24.

Murray[1] believed that the influences of environmental demands could be "apperceived" unconsciously. That is, an individual might react to a constellation of stimuli without being aware of his reasons for reacting. A brief exploratory questionnaire was developed to compare subjects' conscious expressions of environmental congruence with "objective" measures of congruence. (The "objective" measure based upon comparisons between press perceptions measured by environmental indexes.)

The questionnaire used for this purpose was made up of ten questions which paraphrased the major emphases of the environmental indexes. (A copy of the questionnaire is included in Appendix II. The method of its use is described in Appendix IV.) The Expressed congruence scores of the students correlated with retention at .00. The Expressed congruence scores were also correlated with the other measures of congruence. The correlations were: Private Beta: -.17; Adjusted pattern congruence: .03; Pattern congruence and Deviation pattern congruence: .04. Although the differences between the highest correlation of the objective measures (Adjusted pattern congruence, .24) and that of the Expressed congruence scores with retention (.00) are small, they are significant beyond the .05 level. Such differences lend tentative support to Murray's position.

The relationship between congruence and the transfer intentions of high achievement students was significant.

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[1]Murray, op. cit.

Low Deviation pattern congruence, low achievement students, however, who dropped out of the college and did not continue their education elsewhere indicated intention to transfer more frequently than non-dropouts. Sixty-six per cent of these students who dropped out of the college indicated intention to transfer, but only 30% of those who remained for the entire year indicated such intention. The "intended transfer" category was apparently meaningful for high achievement students but was also meaningful in a different way to low achievement students.

The relationship of incongruence to transfer intentions was not supported when the category of "educability" was added (for high achievement students). It was a meaningful addition to the prediction of dropout by low achievement students. Educability was related negatively to dropout for all students (correlation coefficient: -.24). Of the several congruence measures, Adjusted pattern congruence was related to dropout at the same level (-.24). These relationships were almost identical to the correlation of high school (cumulative) grade point averages to dropout (-.24). A multiple correlation coefficient combining the reciprocals of Deviation pattern congruence and Educability correlated with dropout at .30 (without the inclusion of high school grade point averages as such) for low achievement students.

Educability correlated with performance (expressed in terms of cumulative G.P.A. for fall + winter terms) at

.21. The analysis of performance levels as expressed by grade point averages was computed using the added subgroups of high and low achievement students. High congruence, high Educability, high achievement students' mean grade point average was 2.79. For Low congruence, low Educability, high achievement students the mean was 2.41. For Low congruence, high Educability, low achievement students the mean was 2.27. For Low congruence, low Educability, low achievement students the mean was 1.96. The analysis of variance F ratio (5.08) was significant beyond the .05 level. (The complete results of the analysis of variance are presented in Table IV.13 in Appendix IV. The means of the eight groups are presented in Table IV.14 in Appendix IV.)

The relationship between Expressed congruence scores and performance was also explored. The Expressed congruence scores correlated with cumulative (fall + winter term) grade point averages at .03. The relationship was explored further through computation of cumulative (fall + winter) mean grade point averages. The results were as follows: High achievement, high Expressed congruence students: 2.59; High achievement, low Expressed congruence students: 2.78; Low achievement, high Expressed congruence students: 2.01; and Low achievement, low Expressed congruence students: 1.81. Here, as in the case of congruence and Adaptation level (joint analysis), the low achievement, low Expressed

congruence students reacted in a different manner than their high achievement counterparts. (Table IV.16 in Appendix IV.)

The correlations of other congruence measures to performance were also examined. Private Beta press congruence correlated with cumulative (fall + winter) performance at -.15; Deviation pattern congruence: .16; Pattern congruence: .16; and Adjusted pattern congruence at .22.

Because of the negative correlation of Private Beta press congruence with performance, this measure was examined further. Private Beta congruence correlated with Expressed congruence at -.17; with Pattern congruence at .05; with Adjusted pattern congruence at .31 and Deviation pattern congruence at .34.

In light of the higher correlations of the "objective" measures of congruence (Pattern, Adjusted and Deviation) with performance than the correlations of "subjective" measures (Private Beta and Expressed), Murray's assertion that individuals may react to (apperceive) patterns of stimuli unconsciously would appear again to be tentatively supported. The relationships may be due in part to the "crudity" of the Expressed congruence questionnaire, but this criticism does not apply to the Private Beta measures. A more likely explanation in the latter case appeared to be (from an informal inspection of the data) the operation of some form of response set. This "set" seemed to be

operating in a similar manner in both the Activities Index and Evening College Characteristics Index test protocols. That is, a negative or positive "set" seemed to be depressing or elevating both profiles for a large number of individuals. This "set" may have accounted in part for the lesser effectiveness of the Private Beta measures as predictors of withdrawal (dropout) or performance levels. Whatever the reason, the objective measures correlated more highly with performance than the subjective ones. The difference between the most effective objective measure and the Private Beta measure (in terms of correlation with performance) was significant beyond the .05 level of confidence. The difference between the objective measures' correlation with performance and that of the Expressed congruence measure was significant at .10.

The mean difference (.54) between the performance of the high Adjusted pattern congruence, Positive discontinuity students and the low Adjusted pattern congruence, Negative discontinuity students was not significant. The difference would have been significant with a slightly larger sample. Kramer states, "if the number of replications differs greatly, there will be an increased probability of a significant difference within a subset of ranked means classified as homogeneous by this test."[1] The sub-group inequality may have been a factor in this rather distinct difference

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[1]Kramer, loc. cit., p. 309.

not being significant. Replication with a larger sample will be necessary before judgment can be made concerning the usefulness of these two categories (continuity and congruence) in a joint analysis.

Adaptation Level

The relationship of Adaptation level to dropout was not significant. The relationship for low achievement students was the opposite of that predicted. That is, students who had experienced low congruence in high school and who experienced it again at the community college dropped out more frequently rather than less. A concept such as "frustration tolerance" may be more relevant in this case than Adaptation level. The students may have experienced all the incongruence of which they are capable without reacting in a definite fashion.

The relationship of Adaptation level to performance by high and low achievement students was analyzed. The F ratio of 11.41 was significant beyond the .05 level. The groups of interest, however, are those students, both high and low achievement, who experienced low Adjusted pattern congruence. The high Adjusted pattern congruence subjects also experienced (in many cases) Positive (environmental) discontinuity and all experienced (by definition) high congruence at the community college. The means of the low groups were as follows: Low Adjusted pattern congruence, high Adaptation level, high achievement: 2.49; Low

Adjusted pattern congruence, low Adaptation level, high achievement: 2.69; Low Adjusted pattern congruence, high Adaptation level, low achievement: 1.99; and Low Adjusted pattern congruence, low Adaptation level, low achievement: 1.77. (The results of the analysis of variance are presented in Table IV.16 in Appendix IV.)

It is not possible within the limitations of the design to separate the effects of congruence, continuity and Adaptation level with precision. The effect of Adaptation level (to incongruence) appeared to be greater upon low achievement students. The high achievement students who experienced low congruence at the community college after having experienced high congruence in high school did better than those who experienced low congruence previously in high school. The relationship between achievement levels and Adaptation levels needs further exploration, however. High achievement, high Adjusted pattern congruence students who were high in Adaptation level performed very well (Mean = 2.99) when they experienced high congruence at the community college.

Exploratory Hypotheses: Continuity

The correlational differences between the two schools most and least similar to the community college (of the four schools supplying significant numbers of students to the college) seemed to warrant investigation in other studies. The level of significance (.01) of the difference and the

fact that the variations in the correlations for this sample were systematic (following the variations in profile similarities between the high schools and the community college) lends support to this assertion.

Although the predicted relationship was not found between Essential continuity subjects' high school grade point averages and community college cumulative (year's) grade point averages, this exploratory investigation would seem to warrant replication also. The difference (.43 versus .62) between the correlation for Positive and Negative discontinuity subjects was not significant for a sample of this size. The difference appears large enough, however, to warrant investigation with a larger sample of subjects in the local setting as well as elsewhere.

Summary

The comparison of (perceived) press in the high schools to that found in the community college revealed that most of the students encounter increased emphasis upon student dignity, higher levels of aspiration, and mutually supportive activities in the community college setting. Non-local high school students also experience greater emphasis upon intellectual concerns, greater academic excellence in staff and facilities, and increased stress placed upon academic achievement. All of the students also experience decreased emphasis upon social life in the community college.

Patterns of press (as expressed mathematically using Cattell's r_p pattern or profile analysis statistic) in the high schools do not differ significantly from that found at the community college.

Only one significant relationship was found between environmental discontinuity and attrition: that between Negative discontinuity (for low achievement students) and dropout. When the research design was refined by pulling Negative discontinuity, lowest quartile congruence subjects from the study the resulting chi-square was significant beyond the .05 level (Chi-square = 15.6).

Although an analysis of variance revealed significant differences between levels of performance related to continuity, the differences between Positive and Negative discontinuity students were not significant (using Duncan's New Multiple Range Test). An extension of the analysis of the data to the entire academic year revealed no apparent relationship between Negative environmental discontinuity and the performance of high achievement students. A significant relationship was discovered between Negative discontinuity and the performance of low achievement students, however.

A significant relationship was found between Deviation pattern congruence and the transfer intentions of high achievement students, but not between this congruence measure and attrition (defined as leaving the college and not continuing elsewhere).

In this sample, lack of Educability was more highly related to "dropout" by males than by females. Emotional expression needs were significantly different in their relationship to "dropout" by males compared to females. For males the relationship was negative (-.15); for females, positive (.22). The differences (in levels of relationship) between both Educability and Emotional expression needs and "dropout" by the two sexes appeared to be related to differences between the "average" male and female profiles. An inspection of the two "average" profiles revealed that low Educability for a male student would indicate a lower pattern similarity to the environment's demands. The "average" female profile revealed more Educability need than the environment demanded. On the other hand, a similar inspection with reference to Emotional expression needs revealed that lower than average need on this dimension for a female student meant that her needs were more in accord with the environment's demands whereas greater (than "average" male) needs on this dimension meant that the male student's need pattern was more similar (than the average) to environmental demands.

"Objective" measures of congruence (Deviation pattern, Pattern and Adjusted pattern congruence) were found to be more highly related to retention than were the "subjective" measures (Private Beta and Expressed Preference congruence). For example, Adjusted pattern congruence correlated with retention at .24 while Private Beta congruence correlated

at -.09 and Expressed Preference congruence at .00. The possible effect of a "response set" elevating both personal need and environmental press profiles was seen as a possible explanation for the lack of relationship between Private Beta congruence and retention.

Similar findings were discovered when the relationships of these congruence measures to performance were explored. Adjusted pattern congruence correlated with performance at .22; Private Beta congruence at -.15 and Expressed congruence at .03.

In view of the above findings, Murray's contention that individuals may react to a constellation of stimuli unconsciously appears to have been given tentative support by the data.

Educability was found to be a meaningful addition to the analysis of the data. Used in conjunction with Adjusted pattern congruence and achievement levels, Educability appeared to add to the refinement of the analysis. Cumulative fall and winter grade point averages for several of the groups were as follows: high congruence, high Educability, high achievement students' mean: 2.79; low congruence, low Educability, high achievement students: 2.41; high congruence, high Educability, low achievement students: 2.27; and low congruence, low Educability, low achievement students: 1.96. (The means of the eight groups are presented in Table IV.14 in Appendix IV.)

The relationship of Adaptation level to dropout was not significant. In fact, low achievement students who had experienced low congruence in high school dropped out of the community college more frequently when they experienced low congruence in the community college (compared to students who had experienced high congruence in high school).

Adaptation level did not appear to be related to levels of performance by high achievement students under conditions of low congruence at the community college. It was apparently related to performance for high achievement students under conditions of high congruence at the community college. That is, continued "poor fit" did not appear to be related to the performance level of high achievement students, but an improved fit was positively related to performance level (mean for this group was 2.99). (A complete listing of group means is presented in Table IV.16 in Appendix IV.)

On the other hand, Adaptation level was related to performance by low achievement students under both low and high congruence conditions (at the community college).

Further research is needed to clarify the relationship of Adaptation level to both performance and attrition for high and low achievement students before the usefulness of this concept in environmental studies can be determined.

The systematic variation in correlations between high school and college grades (from .49 to .88) following variations in pattern similarity (high school to college--

.18 to .71) appear to warrant replication in other studies. Similarly, the high school to college grade correlations of the three (personal need--environmental demand) groups appear to warrant replication to determine, for example, why the Negative discontinuity correlation (.62) was higher than that of either the Positive discontinuity group (.43) or the Essential continuity group (.50) or whether this was, in fact, a "local" phenomenon.

CHAPTER VI

SUMMARY AND CONCLUSIONS

In this chapter the study is summarized and the conclusions drawn from the study are discussed. Implications for future research are also presented.

The Problem

There is little fundamental research done on the operation of colleges and universities. Still less is done on the community or junior college. The community college, however, is becoming increasingly important as an educational institution. More and more students are beginning their education in such a setting.

Little is known about the impact of the community college upon its students. Even less is known about the effects of the change in environment involved in the transition from high school to the community college.

The purpose of this investigation was to study the relationship of environmental change (in the transition from high school to a community college) upon the performance and rates of attrition of community-college students.

The following research hypotheses were investigated in the study:

1. High schools will differ from the community college in the amount of demand made upon students in both intellectual and non-intellectual areas.
2. The demand made of the students in the high schools will differ in the amount of emphasis placed upon such factors as academic achievement, group life and vocational emphases compared to the emphases upon such factors at the community college.
3. Negative change in goodness of fit between environmental demands and student's preferences in the transition from high school to community college will be related to increased student attrition.
4. Change in goodness of fit between the individual's preferences and the relative emphases in his new environment (at the community college) will be related to performance: positive change to better performance, negative change to worse performance.
5. Goodness of fit at the community college between an individual's preferences and the college's emphases will be related to attrition. That is, good fit will be related to retention; poor fit to attrition.

6. Goodness of fit at the community college between individual's preferences and the college's emphases will be related to performance. That is, good fit will be related to good performance; poor fit to poor performance.
7. An individual's previous experience with "poor fit" will modify the effects of "poor fit" at the community college:
   a. Subjects who experience poor fit at the community college but who previously experienced good fit at the high school level will leave the college and not continue their education elsewhere more frequently than poor fit students who previously experienced poor fit in high school.
   b. Students who experience poor fit at the community college but who experienced poor fit in high school will perform at a higher level than poor fit students who experienced good fit in high school.

The Samples and Methodology

The Lansing Community College sample consisted of 172 first-time, full-time freshmen students. The subjects were enrolled in required orientation classes. Testing was completed late in the fall quarter.

The high school samples consisted of 36 senior subjects. These high school subjects from the eight high schools were tested within two months of high school graduation.

The college subjects were given the Activities Index and the Evening College Characteristics Index. Personal data about family background and educational plans was collected by means of a questionnaire. A brief questionnaire was also given which paralleled (and paraphrased) the 11 major emphases of the environmental indexes.

A mail questionnaire follow-up was sent to the students late in the spring term to determine whether or not there had been any changes in their full-time-student status or in their plans with reference to remaining at the community college. Registrar's Office records were used to supplement the data from these questionnaires.

The major analyses of performance used cumulative (fall + winter) grade point averages. The analyses employing student attrition as the dependent variables used attrition statistics for the entire year. Several supplemental analyses were made which extended the basic analyses to the entire year.

Comparisons were made between the "fit" or congruence of students' preferred activities or needs as determined from the Activities Index to environmental demands in high school and at the community college (both the High School Characteristics Index and the Evening College

Characteristics Index were used). Subjects were assigned to four levels of environmental continuity. Assignment to these categories was made upon the basis of major or minor positive or negative change in fit (between the individual's needs and his environment's demands) in the transition from high school to the community college. Cattell's r_p pattern analysis statistic was used to express the relationship between the individual's needs and his environment's demands at both the high school and the community college levels.

Several methods were used in the computation of "fit" or congruence scores at the community college. Pattern congruence was defined as the congruence between an individual's needs and his environment's demands computed (using Cattell's r_p) using all deviations of students' needs (converted to press equivalents) from the means of students' perceptions of press on the 11 first-order factors of the environment indexes. Deviation pattern congruence was computed in the same manner except that deviations were included only if they exceeded the mean of students' perceptions of press on that dimension by more than one standard deviation. Adjusted pattern congruence was computed using only deviations below the means of the intellectual press dimension factors and above the means of the non-intellectual press dimension factors. Expressed congruence was computed using the differences between the individual's reported perceptions of press and his stated preferences

as deviations (subtracted from a constant positive number). Private Beta congruence was computed through the use of the individual's own profile of needs (derived from his Activities Index test) and his perceptions of the environment's demands (derived from his Evening College Characteristics Index test). Private Beta congruence was computed in the same manner as Pattern congruence, but this measure used the individual's own perceptions of press rather than the means of the sample's perceptions of press.

Activities Index scores were transformed into their environmental index equivalents by scoring the 30 sub-scales (which parallel the environmental index's subscales) in the manner prescribed by the instruments' author.

The Findings

The following findings are presented in the order of the divisions of the study. The significance level set for the rejection of the null hypotheses was .05.

The results of the investigation of press are summarized in Table 6.1. The findings with reference to environmental continuity are summarized in Table 6.2. The results of the investigation of the relationship of congruence to dropout, transfer intentions and performance are summarized in Table 6.3. The results of the tests of the relationships of Adaptation level to dropout and performance are presented in Table 6.4. The results of the exploratory investigation of environmental continuity in relationship to correlation of high school to college grades are presented in Table 6.5.

TABLE 6.1.--Summary of the results of the investigation of press in the eight high schools and Lansing Community College.

Dimension	Model Used	Finding
Intellectual Climate:	*t*-test	All 8 S.
Aspiration Level	"	All 8 S.
Intellectual Climate	"	4 S; 4 NS.
Student Dignity	"	All 8 S.
Academic Climate	"	5 S; 3 NS.
Academic Achievement	"	6 S; 2 NS.
Self-Expression	"	1 S; 7 NS.
Non-Intellectual Climate:	"	2 S; 6 NS.
(Self-Expression--see above)		
Group Life	"	1 S; 7 NS.
Academic Organization	"	5 S; 3 NS.
Social Form	"	3 S; 5 NS.
Play-Work	"	All 8 S.
Vocational Climate	"	1 S; 7 NS.
Press Patterns	r_p pattern analysis	All 8 NS.
Rank Order of Press Factors	Rank-order correlation	6 S; 2 NS.

Legend:

S = Significant at .05 level or beyond
NS = Not significant

TABLE 6.2.--Summary of the results of the investigation of environmental continuity in the transition from high school to Lansing Community College.

Subjects	Treatments	Dependent Variable	Model	Finding
High and Low Achievement Ss	Negative discontinuity	Dropout	Chi-square	NS
High Achievement Ss	Negative discontinuity	Intention to transfer	Chi-square	S
Low Achievement Ss	Negative discontinuity	Dropout	Chi-square	NS
High and Low Achievement Ss	Positive discontinuity	Performance	Duncan's New Multiple Range Test	NS
Low Achievement Ss	Positive discontinuity	Performance	Duncan's New Multiple Range Test	S

Legend:

Ss = Subjects
S = Significant at .05 or beyond
NS = Not significant

TABLE 6.3.--Summary of the results of the investigation of environmental congruence.

Subjects	Treatments	Dependent Variable	Model	Finding
High and Low Achievement Ss	Low DPC	Dropout	Chi-square	NS
High and Low Achievement Ss	Low DPC	Transfer intentions	Chi-square	S
Low Achievement Ss	Low DPC	Dropout	Chi-square	NS
High Achievement Ss--low in Educability	Low DPC	Transfer intentions	Chi-square	NS
Low Achievement Ss--low in Educability	Low DPC	Dropout	Chi-square	NS
High and Low Achievement Ss	Four levels of congruence	Performance	Duncan's New Multiple Range Test	S
High and Low Achievement Ss	Low APC	Performance	Duncan's New Multiple Range Test	NS
High and Low Achievement Ss	Four levels of congruence--three levels of continuity	Performance	Duncan's New Multiple Range Test	NS

Legend: Ss = Subjects
DPC = Deviation pattern congruence
APC = Adjusted pattern congruence
S = Significant at the .05 level or beyond
NS = Not significant

TABLE 6.4.--Summary of the results of the investigation of Adaptation level.

Subjects	Treatments	Dependent Variable	Model	Finding
High and Low Achievement Ss--low in AL	Low DPC	Dropout	Chi-square	NS
High and Low Achievement Ss--high in AL	Los APC	Performance	Analysis of Variance	NS

Legend: AL = Adaptation level
DPC = Deviation pattern congruence
APC = Adjusted pattern congruence
NS = Not significant

TABLE 6.5.--Summary of the results of the exploratory investigation of environmental continuity and high school to college grade point correlations.

Subjects	Treatment	Model	Finding
All Ss from High Schools #1, 2, 3, & 4	Four levels of Institutional (Environmental) Continuity	Correlation	S
All Ss	Four levels of Individual Continuity	Correlation	NS

Legend: Ss = Subjects
S = Significant at the .05 level or beyond
NS = Not significant

The Conclusions: Summary

The conclusions derived from the study are presented below in the order of presentation of the results.

Press

1. The greatest differences between the students' perceptions of press at the high schools compared to the community college were found to be in the intellectual area or dimension. The community college's demands were perceived as significantly higher in the intellectual area.

2. For all the subjects, the community college environment represented an increase in perceived environmental emphasis upon setting high standards for oneself, upon freedom and personal responsibility and a lesser emphasis upon school-centered social life (in a formal sense).

3. For the subjects from the non-local high schools, the community college environment also represented an increase in environmental emphasis upon scholarly activity, academic excellence in staff and facilities, academic achievement, and academic organization (formality, rules and regulations.)

4. The several high schools' patterns of environmental demands are not significantly different from the pattern at the community college.

5. The high schools differ significantly in relative emphasis (or order of emphasis) upon factors such as level or aspiration, academic achievement, group life and playwork.

Continuity

1. Environmental continuity is a meaningful variable when used in connection (or conjunction) with measures of "fit" or congruence between individual's needs and environmental demands in the community college setting.

2. The effects of environmental continuity (both positive and negative) vary according to levels of achievement. The impact of environmental improvement or deterioration (in terms of "fit") appeared to be more significant upon students from the lower half of the entering class (in terms of previous performance as measured by grade point average) than upon students from the upper half.

Congruence

1. Goodness of fit (congruence) between individual's needs and environmental demands was related to the transfer intentions of high achievement students and the dropout rate of low achievement students. That is, high achievement students who experienced poor fit indicated intention to transfer significantly more frequently than those who experienced good fit. Low achievement students who experienced poor fit dropped out of the college more frequently than those who experienced good fit.

2. The effects of "poor fit" between individuals' needs and the environment's demands appeared to be modified by levels of such individual qualities as Educability and previous levels of achievement.

3. Congruence (or "goodness of fit") between individuals' needs and their environment's demands is significantly related to levels of student performance.

4. The use of measures of environmental continuity in conjunction with measures of congruence is particularly meaningful in relationship to performance prediction for low achievement students.

Adaptation Level

1. Students' previous experience with "poor fit" between their needs and their environment's demands (at the high school level) is positively related to attrition rates for "poor fit" subjects in the community college. That is, prior experience with "poor fit" does not lessen the impact of "poor fit" at the community college (as was predicted). Earlier experience with "poor fit" at the high school level appeared to increase the impact of the same experience at the community college.

2. Both high and low achievement subjects performed at a significantly higher level if they encountered "good fit" at the community college following "poor fit" in high school. The effects did not appear to be due to the result of improvement of fit alone. These subjects performed at a higher level than "positive discontinuity" subjects (who experienced some environmental improvement).

Continuity: Exploratory

1. Institutional environmental continuity appeared to be related in a systematic manner to variations in levels of correlation between cumulative high school grade point averages and cumulative (year's) college grade point averages. The effort to determine the relationship of variations institutional pattern similarities and differences to such grade-point correlations appeared promising. The results of the exploratory analysis seemed to warrant replication and verification in further studies.

2. The complex relationship found between (personal) Positive discontinuity, Essential continuity, and Negative discontinuity of congruence or fit and grade-point correlations also appeared to warrant further investigation. No attempt was made in this exploratory investigation to determine the basis for higher grade point correlations for students experiencing Negative discontinuity (than either Positive discontinuity or Essential continuity). Further research will be necessary to discover whether these relationships are "typical" and to attempt to determine the bases for such relationships.

Discussion

The greatest over-all change experienced by the high school students according to the data of the study were perceived in the Intellectual Climate dimension. Two first-order factors, Aspiration Level and Student Dignity,

contributed the greatest amount to the differences between the perceived Intellectual Climate in the high schools and that at the community college. The non-local high school students also encountered significant changes in the first-order factors of Intellectual Climate, Academic Climate and Academic Achievement.

The differences between the two environments (high school and community college) described above were the most significant contributors to the mathematical descriptions of distinctions found between the Intellectual Climate (second-order) dimensions in the high schools versus the community college. The individual factors' impact upon students could not be differentiated within the limits of the design of the study. No further interpretation of the importance of the individual factors can be made until the study is duplicated and the design constructed in a manner which permits the separation of these factors.

The above comments are even more applicable to the Non-Intellectual Climate (second-order) dimension. Subjective judgment would indicate that the negative change in emphasis experienced by the students on the Play-Work factor, for example, might have more impact than the rest of the factors on this dimension. The design of the study did not attempt separation of this factor's impact from the over-all impact of change on all of the dimensions. In addition, the instrumentation used in the study and the design which incorporated the instruments used did not

permit assessment of the impact of "no change." Such comparison would be extremely difficult but would also appear desirable. Within the limitations of the current design and instrumentation little more can be concluded than the re-statement of differences as expressed mathematically.

The differences between the findings using the pattern analysis statistic (r_p) and the rank-order correlation (r') illustrate a methodological difficulty in environmental studies. None of the pattern analysis statistic comparisons showed significant differences when tabled significance values were used. Six of the eight rank-order comparisons proved to be significant. The "power" of these two measures as environmental comparison expressions was not tested. Visual inspection of the data, however, indicated that differences in the patterns of environmental demands were more closely reflected in the r_p statistic than in the rank-order correlations. Schools #1, 2, 3, 4, and 6 had almost identical rank-order correlations (-.39, -.41, -.32, -.37, and -.39 respectively) yet the r_p correlations differed considerably, ranging from .18 to .71. The less significant measure statistically proved to be the more sensitive in expressing different patterns of environmental demands.

The findings with reference to the impact of environmental change would appear to support Murray's contention that the individual's environment (and change in that environment) must be considered in an attempt to understand

the individual's behavior. When the defect in the design was corrected (the defect which permitted a student to be assigned to a "low" category of environmental continuity and yet be "enjoying" relatively high congruence between his needs and his environment's demands), the relationship of Negative (environmental) discontinuity to attrition was significant. Similarly, when the subjects were divided according to achievement levels, Negative discontinuity had a significant relationship to the performance of low achievement students. Fishman's suggestion to think in terms of "kinds of institutions," "kinds of students" as well as "kinds of change" (both constant and variable) seems highly appropriate in relation to the major analyses of continuity in the study. Fishman's ideas are also applicable to the exploratory analyses which involved high school to community college grade correlations under varying degrees or levels of institutional and personal "continuity."

Argyris' assertion that in-congruence may be stimulating to some individuals and frustrating to others also appeared to have been given tentative support in the results of the continuity as well as the congruence measures.

Murray's contention that individuals may apperceive constellations of stimuli without being consciously aware of them appeared to be tentatively supported by the data. The several "objective" measures of congruence were more highly correlated with both retention and performance than were the "subjective" measures. As noted earlier, the

differences between the Private press congruence relationships to retention and performance and those of the more objective measures may have been due to the operation of response sets. The data tentatively support Murray's position, however.

Adjusted pattern congruence appeared to be a more powerful measure in terms of prediction than the other forms used in this study for predicting performance by all students and the dropout of low achievement students. Deviation pattern congruence was a more powerful predictor of transfer intentions of high achievement students. It may be that high achievement students "transfer" for reasons which differ from the low achievement students reasons for dropping out. Although this conclusion appears logical, further study will be necessary in order to clarify this distinction.

Though the sample size was not large enough for the differences found to be significant when continuity and congruence were used jointly to stratify the sample, the differences in performance (.54 in mean grade point average) appeared large enough to warrant replication. The two categories used jointly should prove to be useful for guidance purposes in the local community college at least.

The relationship of Adaptation level to performance appeared to be much more clear than that to attrition rates. A concept such as "frustration tolerance" may be a more powerful explanatory concept for the behavior of those

subjects who were predicted to be high in Adaptation level. The high adaptation students who experienced low congruence at the community college (and, who, by definition, had experienced low congruence in high school) dropped out of the college more frequently than the low adaptation, low congruence subjects. This relationship was the opposite of that predicted.

The high performance levels of high Adaptation level, high congruence subjects also suggests that perceptual research findings might be applicable. That is, the phenomenon may be related to findings which indicate that disliked objects are perceived in a realistic manner whereas liked objects are "seen" as unrealistically large.

The results of the major continuity and congruence investigations and the exploratory investigations seem to support the use of pattern analysis statistics (such as Cattell's r_p) in environmental research. The use of Cattell's r_p permits the "weighting" of factor-differences (between individual and environmental patterns) with relative ease. Perhaps future research will provide the basis for greater precision in the weighting of individual factors and thus add to the predictive power and usefulness of such investigations.

Implications for Future Research

1. The study of environmental continuity and congruence should be replicated in other community colleges to determine whether these findings can be generalized beyond the local setting--to other types of community colleges interacting with other types of high schools.

2. Further research is needed which is designed to permit comparisons of the differential effects of environmental continuity-discontinuity upon local students (those attending a non-residential school) versus those attending residential two- or four-year colleges.

3. A study should be made to explore more fully the impact of both environmental continuity-discontinuity and congruence between individual's needs and environmental demands upon differing types of students: male and female, high and low achievement, high and low educability, and high and low emotional expression students. The samples should be of sufficient size to permit meaningful comparisons of these sub-groups in statistical analyses.

4. Further research is needed on the relationships between "subjective" and "objective" measures of students' perceptions of environmental demands (press). The study should include assessment of the relationship of these measures to student attrition and performance.

5. Research is also needed on the differential effects of varying levels of incongruence between individual's needs and environmental demands and upon the impact

of the single environmental factors (such as increased aspiration level or decreased play-work emphasis).

6. The guidance possibilities of the environmental continuity and congruence measures should be explored. That is, research should be done on the application of such information to the reduction of attrition rates.

The guidance and student-selection possibilities of the different levels of high school grade point average to college grade point average correlations should be explored.

7. A study should be made in depth (at the local college and elsewhere) of the "typical" male and female students who drops out of the college prior to completing a program, or who transfers to another institution prior to program-completion, or who remains at the community college long enough to complete an Associate-in-Arts degree or some other terminal program. (See Tables IV.17 and IV.18. The data in Table IV.17 was computed for the "range" and the "average" student but extrapolated for the "typical" dropout and "typical" intended-transfer student. All of the data in Table IV.18 was computed, but used a relatively small sample of subjects.)

8. A study should be made of the effect of major changes in administrative and/or faculty actions upon the "fit" of the institution's demands and the typical students' need pattern (See Table IV.17). The relationship of such change to levels of performance and rates of attrition should be explored.

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APPENDICES

APPENDIX I

DEFINITIONS PERTAINING TO INSTRUMENTATION

Need-Press Scale Definitions[1]

The following thirty variables listed alphabetically refer both to needs and press:

1. aba Abasement--ass Assurance:
   self-deprecation vs. self-confidence

2. ach Achievement:
   striving for success through personal effort

3. ada Adaptability--dfs Defensiveness:
   acceptance of criticism vs. resistance to suggestion

4. aff Affiliation--rej Rejection:
   friendliness vs. unfriendliness

5. agg Aggression--bla Blame Avoidance:
   hostility vs. its inhibition

6. cha Change--sam Sameness:
   flexibility vs. routine

7. cnj Conjunctivity--dsj Disjunctivity:
   planfulness vs. disorganization

8. ctr Counteraction--inf Inferiority Avoidance:
   restriving after failure vs. withdrawal

9. dfr Deference--rst Restiveness:
   respect for authority vs. rebelliousness

10. dom Dominance--tol Tolerance:
    ascendancy vs. forbearance

11. e/a Ego Achievement:
    striving for power through social action

12. emo Emotionality--plc Placidity:
    expressiveness vs. restraint

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[1]George G. Stern, Scoring Instructions and College Norms, Activities Index--College Characteristics Index (Syracuse, New York: Psychological Research Center, 1963).

13. eny Energy--pas Passivity:
effort vs. inertia

14. exh Exhibitionism--inf Inferiority Avoidance:
attention-seeking vs. shyness

15. f/a Fantasied Achievement:
daydreams of extraordinary public recognition

16. har Harm Avoidance--rsk Risktaking:
fearfulness vs. thrill-seeking

17. hum Humanities, Social Science:
interests in the humanities and the Social Sciences

18. imp Impulsiveness--del Deliberation:
impetuousness vs. reflection

19. nar Narcissism:
vanity

20. nur Nurturance--rej Rejection:
helping others vs. indifference

21. obj Objectivity--pro Projectivity:
detachment vs. superstition (AI) ("Needs") or suspicion (EI) ("Press")

22. ord Order--dso Disorder:
compulsive organization of details vs. carelessness

23. ply Play--wrk Work:
pleasure-seeking vs. purposefulness

24. pra Practicalness--ipr Impracticalness:
interest in practical activities vs. indifference

25. ref Reflectiveness:
introspective contemplation

26. sci Science:
interest in the Natural Sciences

27. sen Sensuality--pur Puritanism:
interest in sensory and esthetic experiences

28. sex Sexuality--pru Prudishness:
heterosexual interests vs. their inhibition

29. sup Supplication--aut Autonomy:
dependency vs. self-reliance

30. und Understanding:
intellectuality

Activities Index Factor Definitions

Personality-Factor Definitions

Factor I. Self-Assertion: This factor reflects a need to achieve power on a personal level and socio-political recognition. (Score sum: Ego Achievement, Dominance, Exhibitionism, and Fantasied Achievement)

Factor II. Audacity-Timidity: The emphasis here is on aggressiveness both in physical activities and interpersonal relationships. (Score sum: Risktaking, Fantasied Achievement, Aggression, and Science)

Factor III. Intellectual Interests: The factors with the highest loading on this dimension are based on items involving various forms of intellectual activities such as interests in the arts and sciences (both abstract and empirical). (Score sum: Reflectiveness, Humanities-Social Sciences, Understanding, and Science)

Factor IV. Motivation: This factor, like I and II above, represents another form in which need achievement may be expressed. Here, however, are the more conventional forms of striving most recognizable among students--including elements of competitiveness and perserverence as well as intellectual aspiration. (Score sum: Achievement, Counteraction, Understanding, and Energy)

Factor V. Applied Interests: A high score on this factor suggests an interest in achieving success in concrete, tangible, socially-acceptable activities. (Score sum: Practicalness, Science and Order)

Factor VI. Orderliness: People with high scores on this factor have indicated a marked interest in activities stressing personal organization and deliberativeness. (Score sum: Conjunctivity, Sameness, Order and Deliberation)

Factor VII. Submissiveness: The submissive factor, in contrast to Factor VI above, implies a high level of control based on social conformity and other-directedness, rather than upon internal controls. (Score sum: Adaptability, Abasement, Nurturance and Deference)

Factor VIII. Closeness: This factor is closely related to Factor VII above with which it shares both Nurturance and Deference scales. The abasive and self-denying qualities implicit in Factor VII are absent here, however. In their place is an acceptance of items which recognize one's needs for warmth and emotional supportiveness. (Score sum: Supplication, Sexuality, Nurturance and Deference)

Factor IX. Sensuousness: The thirty items associated with this factor are concerned with activities of a sensual nature which suggest self-indulgence along with a delight in the gratifications which may be obtained through the senses. (Score sum: Sensuality, Narcissism, and Sexuality)

Factor X. Friendliness: Persons with high scores on this factor are indicating an interest in playful, friendly relationships with other people. These interests involve simple and uncomplicated forms of amusement enjoyed in a group setting. (Score sum: Affiliation and Play)

Factor XI. Expressiveness-Constraint: This factor stresses emotional lability and freedom from self-imposed controls. Individuals with high scores on this factor are outgoing, spontaneous, impulsive and uninhibited. (Score sum: Emotionality, Impulsiveness, Exhibitionism, and Sexuality)

Factor XII. Egoism-Diffidence: This factor reflects extreme preoccupation with self. The items are concerned with appearance and comfort, as well as with fantasies in which the self obtains unusually high levels of gratification. (Score sum: Narcissism, Fantasied Achievement, and Projectivity)

Second-Order Factor Definitions[1]

Intellectual Orientation: The factors of this dimension involve intellectual interests and achievement motivation. It also involves maintenance of a high level of intellectual and social aggressiveness as well as interest in the development of useful, applied skills.

(The first-order factors included are: Self-Assertion, Audacity-Timidity, Intellectual Interests, Motivation and Applied Interests.)

Dependency Needs: This dimension includes the orderly aspects of Applied Interests and carries these to a more explicitly compulsive level of personal organization. A

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[1]Stern, Scoring Instructions. . . , op. cit.

high score on this dimension suggests a generally high level of dependent, submissive, socially-controlled behavior.

(The first-order factors included are: Applied Interests, Constraint-Expressiveness [the inverse of Factor XI: Expressiveness-Constraint], Diffidence-Egoism [the inverse of Factor XII: Egoism-Diffidence], Orderliness, Submissiveness, Timidity-Audacity [the inverse of Factor II: Audacity-Timidity] and Closeness.

Emotional Expression: The factor loadings on this dimension suggest high levels of social participation and emotional spontaneity.

(The first-order factors included are: Closeness, Sensuousness, Friendliness, Expressiveness-Constraint, Egoism-Diffidence, and Self-Assertion.)

Educability: This dimension combines elements of both intellectuality and submissiveness. It excludes the more self-assertive aspects of Intellectual Orientation on the one hand, and the most self-denying inhibited aspects of Dependency Needs.

(The score for this dimension is obtained by summing the values for the following factors: Intellectual Interests, Motivation, Applied Interests, Orderliness, and Submissiveness.)

Environment Index Factor Definitions

Environmental-Factor Definitions

Factor I. Aspiration Level: A high score on this factor indicates that the high school or college encourages students to set high standards for themselves in a variety of ways. (Score sum: Counteraction, Change, Fantasied Achievement, and Understanding)

Factor II. Intellectual Climate: All of the items contributing to this factor reflect the qualities of staff and plant specifically devoted to scholarly activities in the humanities, arts, and social sciences. (Score sum: Reflectiveness, Humanities-Social Sciences, Sensuality, Understanding, and Fantasied Achievement)

Factor III. Student Dignity: This factor is associated with institutional attempts to preserve student freedom and maximize personal responsibility. Schools high on this factor tend to regulate student conduct by means other than legislative codes and/or administrative fiat. (Score sum: Objectivity, Assurance, Tolerance)

Factor IV. Academic Climate: This factor stresses academic excellence in staff and facilities in the conventional areas of the natural sciences, social sciences and the humanities. (Score sum: Humanities-Social Science, Science)

Factor V. Academic Achievement: Schools high on this factor set high standards of achievement for their

students. (Score sum: Achievement, Energy, Understanding, Counteraction, and Conjunctivity)

Factor VI. Self-Expression: This factor is concerned with opportunities offered the student for the development of leadership potential and self-assurance through such activities as public discussions, debates, drama and music. (Score sum: Ego achievement, Emotionality, Exhibitionism and Energy)

Factor VII. Group Life: The four scales of this factor are concerned with various forms of mutually supportive group activities among the student body. (Score sum: Affiliation, Supplication, Nurturance, Adaptability)

Factor VIII. Academic Organization: The various components of this factor may be regarded as environmental counterparts for an individual's needs for orderliness and submissiveness. (Score sum: Blame avoidance, Order, Conjunctivity, Deliberation, Deference and Narcissism)

Factor IX. Social Form: Factor IX is related to Factor VII but emphasizes the welfare components of group life: opportunities for interpersonal assistance. (Score sum: Affiliation, Supplication, Nurturance, and Adaptability)

Factor X. Play-Work: Schools high on this factor offer opportunities for participation in a form of social life reminiscent of the popular culture of the 1920's. (Score sum: Sexuality, Risk-taking, Play and Impulsiveness.)

Factor XI. Vocational Climate: The items of this factor emphasize practical applied activities; the rejection of aesthetic experiences; and a high level of orderliness and conformity in the student's relationships with the faculty, his peers and his studies. (Score sum: Practicalness, Puritanism, Deference, Order and Adaptiveness)

Second-Order Factor Definitions[1]

Intellectual Climate: The intellectual climate dimension includes the more conventional aspects of the academic program including (a) staff and facilities, (b) standards of achievement set by students as well as faculty, and (c) opportunities for the development of self-assurance. The intellectual climate is also marked by (d) non-custodial students personnel practices and (e) an absence of vocationalism.

(The first-order factors included are: Work-Play an inversion of Factor X: Play-Work , Non-vocational Climate an inversion of Factor XI: Vocational Climate , Aspiration Level, Intellectual Climate, Student Dignity, Academic Climate, Academic Achievement, and Self-Expression.)

Non-Intellectual Climate: This dimension shares Self-Expression with the preceding one. The highest loadings, however, are connected with three factors

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[1]Stern, Scoring Instructions. . . , op. cit.

involving a high level of organization of student affairs, both academic and social. The remaining factors are associated with student play and an emphasis on vocational and technical courses.

(First-order factors included are: Self-Expression, Group Life, Academic Organization, Social Form, Play-Work, and Vocational Climate)

APPENDIX II

INSTRUMENTS USED

Personal Data Questionnaires

Initial Questionnaire

1. Name:_____

2. Student Number:_____

3. Grade School Attended (Name):_____

4. High School Attended (Name):_____

5. Any previous college work: Yes:_____ No:_____

6. Full-time student (12 credits or more)? Yes:___No:___

7. Your educational goal (Please check all appropriate choices):

   a. 4-year program (A.B. or B.S. degree):_____
   b. A.A. degree at the Community College:_____
   c. Less than two years at the Community College:_____
   d. Plan to transfer (prior to receiving the A.A.): Yes:_____ No:_____

8. Mother's Education (check the highest level completed):

   a. Grade School (Grades 1-6):_____
   b. Junior High (Grades 7-9):_____
   c. High School (Grades 10-12):_____High School Graduate:_____
   d. College:_____ College Graduate:_____
   e. Graduate School:_____

9. Father's Education (check the highest level completed):

   a. Grade School (Grades 1-6):_____
   b. Junior High (Grades 7-9):_____
   c. High School (Grades 10-12):_____High School Graduate:_____
   d. College:_____College Graduate:_____
   e. Graduate School:_____

10. Mother's occupation (please be specific):_____

11. Father's occupation (please be specific):_____

Follow-up Questionnaire

Dear

Thank you for your help with the research project during the fall orientation classes. We sincerely hope the project will prove to be of worth to ******* Community College students and we sincerely appreciate your having taken part.

We would like to ask one further favor of you. Would you kindly help us bring the project to completion by filling out the questionnaire at the bottom of the page and returning it to us? Just fill it out and return it to us in the enclosed, self-addressed, stamped envelope--preferably by return mail.

Thank you in advance for your help.

Sincerely yours,

My CURRENT Educational Plans: (Please check ALL appropriate choices)

A. 4-year program (A.B. or B.S. degree):_____

B. Associate-in-Arts degree at * C.C.:_____

C. Less than two years at * C.C.:_____

D. Plan to transfer prior to receiving an Associate-in-Arts degree:_____

My CURRENT Work Status: (Please check ALL appropriate choices)

I. Full-time student at *C.C.:_____

II. Full-time student at another school:_____

III. Part-time student at *C.C.: (Less than 12 term credits):_____

IV. Part-time student at another school:_____

V. Working full-time, not in school:_____

VI. In the Armed Forces:_____

Student Number:_____

Expressed Preference Questionnaire

Please check the appropriate blank THREE times for each of the ten questions:

Once - to show how you see the Community College...

Once - to show how you remember your high school...

Once - to indicate what you would prefer...

1. Emphasis upon theoretical, artistic, and cultural activities:

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C.	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

2. Emphasis upon setting high standards for oneself; upon participation in intellectual activities:

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

3. Emphasis upon preserving student freedom; upon treating the student as an adult:

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C.	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

4. Emphasis upon academic excellence in staff and facilities (classrooms, laboratories and library):

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C.	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

5. Emphasis upon high standards of academic achievement:

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C.	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

6. Emphasis upon self-expression through public discussion, student drama, musical programs, and other highly visible activities:

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C.	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

7. Emphasis upon group activities among students for mutual support, assistance and concern for the welfare of fellow students and less fortunate members of the community:

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

8. Emphasis upon organization and structure: orderliness, careful planning of one's activities, respect for authority:

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C.	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

9. Emphasis upon social activities, dating, dances and other forms of individual and group social life:

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C.	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

10. Emphasis upon practical, applied kinds of activities which can be meaningful in terms of one's future job:

	Very Strong Emphasis	Quite Strong Emphasis	Moderate Emphasis	Little Emphasis	No Emphasis
L.C.C.	____	____	____	____	____
My H.S.	____	____	____	____	____
I prefer:	____	____	____	____	____

COLLEGE CHARACTERISTICS INDEX

There are 300 statements in this booklet. They are statements about college life. They refer to the curriculum, to college teaching and classroom activities, to rules and regulations and policies, to student organizations and activities and interests, to features of the campus, etc. The statements may or may not be characteristic of your college, because colleges differ from one another in many ways. You are to decide which statements are characteristic of your college and which are not. Your answers should tell us what you believe the **college** is like rather than what you might personally prefer. You won't **know** the answer to many of these statements, because there may not be any really definite information on which to base your answer. **Your response will simply mean that in your opinion the statement is probably true or probably false about your college.** Do not omit any item.

DIRECTIONS

On the special answer sheet print your name, and the other information requested. Then, as you read each statement in the booklet, **blacken** space

T—when you think the statement is generally TRUE or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F—when you think the statement is generally FALSE or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

DIRECTIONS FOR USING NCS ANSWER SHEET

The rows of response circles are numbered to correspond to the items in the Test Booklet. Each question may be answered either Ⓣ or Ⓕ

In marking your answers on the Answer Sheet, make sure that the number of the Statement is the same as the number on the Answer Sheet. Be sure to answer either Ⓣ or Ⓕ for every Statement.

* Be sure to use a #2½ or softer writing pencil.
* Do Not Use Ball Point or Ink.
* Keep your Answer Sheet Clean.
* Do not make stray marks.
* Erase errors completely.
* Fill the circle completely.

Legend: T — True. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

1. Students are encouraged to criticize administrative policies and teaching practices.
2. The competition for grades is intense.
3. In many courses grade lists are publicly posted.

4. There are no fraternities or sororities.
5. Students are conscientious about taking good care of school property.
6. The students here represent a great variety in nationality, religion and social status.

7. Most courses are very well organized and progress systematically from week to week.
8. Professors often try to provoke arguments in class, the livelier the better.
9. Students address faculty members as "professor" or "doctor."

10. There is a recognized group of student leaders on this campus.
11. Student pep rallies, parades, dances, carnivals or demonstrations occur very rarely.
12. Students here learn that they are not only expected to develop ideals but also to express them in action.

13. Discussions get quite heated, with a lot of display of feeling.
14. There is a lot of interest here in student theatrical groups.
15. Many famous people are brought to the campus for lectures, concerts, student discussions, etc.

16. There is an extensive program of intramural sports and informal athletic activities.
17. Many of the social science professors are actively engaged in research.
18. In most classes there is very little joking and laughing.

19. Receptions, teas, or formal dances are seldom given here.
20. Many upperclassmen play an active role in helping new students adjust to campus life.
21. No one needs to be afraid of expressing extreme or unpopular viewpoints in this school.

22. In many classes students have an assigned seat.
23. Students really get excited at an athletic contest.
24. It's important socially here to be in the right club or group.

25. Books dealing with psychological problems or personal values are widely read and discussed.
26. The library is exceptionally well equipped with journals, periodicals, and books in the natural sciences.
27. On nice days many classes meet outdoors on the lawn.
28. There is lots of informal dating during the week — at the library, snack bar, movies, etc.

29. Students often help one another with their lessons.
30. There is a lot of emphasis on preparing for graduate work.
31. Resident students must get written permission to be away from the campus overnight.

32. It is fairly easy to pass most courses without working very hard.
33. Student organizations are closely supervised to guard against mistakes.
34. There is a lot of group spirit.

35. Most people here seem to be especially considerate of others.
36. Courses, examinations, and readings are frequently revised.
37. Instructors clearly explain the goals and purposes of their courses.

38. When students do not like an administrative decision, they really work to get it changed.
39. Many students try to pattern themselves after people they admire.
40. Student elections generate a lot of intense campaigning and strong feeling.

41. Students and faculty are proud of their tough-mindedness and their resistance to pleaders for special causes.
42. Most students get extremely tense during exam periods.
43. Students put a lot of energy into everything they do — in class and out.

44. When students run a project or put on a show everybody knows about it.
45. Students spend a lot of time planning their careers.
46. Initiations and class rivalries sometimes get a little rough.

47. The school offers many opportunities for students to understand and criticize important works in art, music, and drama.
48. New fads and phrases are continually springing up among the students.
49. Students take a great deal of pride in their personal appearance.

50. There are courses which involve field trips to slum areas, welfare agencies, or similar contact with underprivileged people.

Legend: T — True. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

51. The values most stressed here are open-mindedness and objectivity.
52. Students must have a written excuse for absence from class.
53. The big college events draw a lot of student enthusiasm and support.
54. There are psychology courses which deal in a practical way with personal adjustment and human relations.
55. There would be a capacity audience for a lecture by an outstanding philosopher or theologian.
56. When students get together they seldom talk about science.
57. The college has invested very little in drama and dance.
58. Student gathering places are typically active and noisy.
59. There is a student loan fund which is very helpful for minor emergencies.
60. The school is outstanding for the emphasis and support it gives to pure scholarship and basic research.
61. Students are seldom kept waiting when they have appointments with faculty members.
62. Most courses require intensive study and preparation out of class.
63. Students are expected to play bridge, golf, bowl together, etc., regardless of individual skill.
64. There are many opportunities for students to get together in extra-curricular activities.
65. Most students show a good deal of caution and self-control in their behavior.
66. There are many students from widely different geographic regions.
67. A lot of students who get just passing grades at midterm really make an effort to earn a higher grade by the end of the term.
68. People here really play to win, not just for the fun of the game.
69. Religious worship here stresses service to God and obedience to His laws.
70. Students are expected to report any violation of rules and regulations.
71. Many students here develop a strong sense of responsibility about their role in contemporary social and political life.
72. The way people feel around here is always pretty evident.
73. Few students here would ever work or play to the point of exhaustion.
74. Students have many opportunities to develop skill in organizing and directing the work of others.
75. Most students would regard mountain-climbing, rugged camping trips, or driving a car all night as pretty pointless.
76. Fire drills are held in student dormitories and residences.
77. A lecture by an outstanding literary critic would be poorly attended.
78. Many informal student activities are unplanned and spontaneous.
79. Poise and sophistication are highly respected by both students and faculty.
80. Most students here would not want pets (dogs, cats, etc.) even if they were allowed to have them.
81. Most faculty members are liberal in interpreting regulations and treat violations with understanding and tolerance.
82. Student papers and reports must be neat.
83. There are lots of dances, parties, and social activities.
84. Many courses stress the speculative or abstract rather than the concrete and tangible.
85. There are many facilities and opportunities for individual creative activity.
86. A lecture by an outstanding scientist would be poorly attended.
87. Student rooms are more likely to be decorated with pennants and pin-ups than with paintings, carvings, mobiles, fabrics, etc.
88. Most students here really enjoy dancing.
89. The person who is always trying to "help out" is likely to be regarded as a nuisance.
90. Most students have very little interest in round tables, panel meetings, or other formal discussions.
91. If a student wants help, he usually has to answer a lot of embarrasing questions.
92. Personality, pull, and bluff get students through many courses.
93. In many courses there are projects or assignments which call for group work.
94. The professors seem to have little time for conversation with students.
95. The faculty and administration are often joked about or criticized in student conversations.
96. Everyone here has pretty much the same attitudes, opinions, and beliefs.
97. Activities in most student organizations are carefully and clearly planned.
98. Channels for expressing students' complaints are readily accessible.
99. Students almost always wait to be called on before speaking in class.
100. Personal rivalries are fairly common.

Legend: T — True. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

101. Boy-girl relationships in this atmosphere tend to be practical and uninvolved, rarely becoming intensely emotional or romantic.
102. There is a lot of excitement and restlessness just before holidays.
103. There are so many things to do here that students are busy all the time.
104. Most students here would not like to dress up for a fancy ball or a masquerade.
105. Most students are more concerned with the present than the future.
106. Many students drive sports cars.
107. Few students are planning post-graduate work in the social sciences.
108. Dormitory raids, water fights and other student pranks would be unthinkable here.
109. Most students here enjoy such activities as dancing, skating, diving, gymnastics.
110. Students often run errands or do other personal services for the faculty.
111. Many students have special good luck charms and practices.
112. Campus architecture and landscaping stress symmetry and order.
113. There is very little studying here over the week-ends.
114. Students are more interested in specialization than in general liberal education.
115. Modern art and music get little attention here.
116. Few students are planning careers in science.
117. This is mainly a meat and potatoes community, with little interest in gourmets or anything unusual.
118. Students spend a lot of time talking about their boy or girl friends.
119. Students here are encouraged to be independent and individualistic.
120. A lot of students like chess, puzzles, double-crostics, and other abstract games.
121. For a period of time freshmen have to take orders from upperclassmen.
122. Students who work hard for high grades are likely to be regarded as odd.
123. In most classes every student can expect to be called on to recite.
124. The school helps everyone get acquainted.
125. Many students seem to expect other people to adapt to them rather than trying to adapt themselves to others.
126. Many students travel or look for jobs in different parts of the country during the summer.
127. Assignments are usually clear and specific, making it easy for students to plan their studies effectively.
128. People around here seem to thrive on difficulty — the tougher things get, the harder they work.
129. In talking with students, faculty members often refer to their colleagues by their first names.
130. The important people at this school expect others to show proper respect for them.
131. There are practically no student organizations actively involved in campus or community affairs.
132. Most students respond to ideas and events in a pretty cool and detached way.
133. There seems to be a lot of interest here in health diets, vitamin pills, anti-histamines, etc.
134. There are a good many colorful and controversial figures on the faculty.
135. Education here tends to make students more practical and realistic.
136. Students are frequently reminded to take preventive measures against illness.
137. A student who insists on analyzing and classifying art and music is likely to be regarded as a little odd.
138. Students often start projects without trying to decide in advance how they will develop or where they may end.
139. Students who are not properly groomed are likely to have this called to their attention.
140. The college regards training people for service to the community as one of its major responsibilities.
141. A well reasoned report can rate an A grade here even though its viewpoint is opposed to the professor's.
142. Professors usually take attendance in class.
143. New jokes and gags get around the campus in a hurry.
144. Family social and financial status may not be talked about but everyone knows who's who.
145. The student newspaper rarely carries articles intended to stimulate discussion of philosophical or ethical matters.
146. Course offerings and faculty in the natural sciences are outstanding.
147. There is a lot of interest here in poetry, music, painting, sculpture, architecture, etc.
148. Bermuda shorts, pin-up pictures, etc., are common on this campus.
149. There is a high degree of respect for noncomfority and intellectual freedom.
150. "Alma Mater" seems to be more important than "subject matter" at this school.

Legend: T — True. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

151. No one is expected to suffer in silence if some regulation happens to create a personal hardship.
152. Examinations here provide a genuine measure of a student's achievement and understanding.
153. Students' mid-term and final grades are reported to parents.
154. Students almost never see the professors except in class.
155. Students occasionally plot some sort of escapade or rebellion.
156. Most students dress and act pretty much alike.
157. Faculty advisers or counselors are pretty practical and efficient in the way they dispatch their business.
158. If a student fails a course he can usually substitute another one for it rather than take it over.
159. A lot of students here will do something even when they know they will be criticized for it.
160. There are no favorites at this school – everyone gets treated alike.
161. Students are actively concerned about national and international affairs.
162. An open display of emotion would embarrass most professors.
163. Students get so absorbed in various activities that they often lose all sense of time or personal comfort.
164. It is easy to obtain student speakers for clubs or meetings.
165. There is little sympathy here for ambitious daydreams about the future.
166. Drinking and late parties are generally tolerated, despite regulations.
167. When students get together they seldom talk about trends in art, music or the theater.
168. There seems to be a jumble of papers and books in most faculty offices.
169. There are no mirrors in any of the public rooms or halls.
170. There is a great deal of borrowing and sharing among the students.
171. Some of the professors react to questions in class as if the students were criticizing them personally.
172. The campus and buildings always look a little unkempt.
173. Everyone has a lot of fun at this school.
174. Many students enjoy working with their hands and are pretty efficient about making or repairing things.
175. Special museums or collections are important possessions of the college.
176. Laboratory facilities in the natural sciences are excellent.
177. The library has paintings and phonograph records which circulate widely among the students.
178. There are several popular spots where a crowd of boys and girls can always be found.
179. Most of the faculty are not interested in students' personal problems.
180. Very few students here prefer to talk about poetry, philosophy, or mathematics as compared with motion pictures, politics, or inventions.
181. Faculty members are impatient with students who interrupt their work.
182. Students set high standards of achievement for themselves.
183. Students quickly learn what is done and not done on this campus.
184. Faculty members rarely or never call students by their first names.
185. When students dislike a faculty member they make it evident to him.
186. There are many foreign students on the campus.
187. In most classes, the presentation of material is well planned and illustrated.
188. Everyone knows the "snap" courses to take and the tough ones to avoid.
189. Professors seem to enjoy breaking down myths and illusions about famous people.
190. Anyone who knows the right people in the faculty or administration can get a better break here.
191. Students are encouraged to take an active part in social reforms or political programs.
192. Graduation is a pretty matter-of-fact, unemotional event.
193. Faculty members put a lot of energy and enthusiasm into their teaching.
194. There is a lot of fanfare and pageantry in many of the college events.
195. Nearly all students expect to achieve future fame or wealth.
196. All undergraduates must live in university approved housing.
197. Humanities courses are often elected by students majoring in other areas.
198. Students who tend to say or do the first thing that occurs to them are likely to have a hard time here.
199. There are definite times each week when dining is made a gracious social event.
200. A good deal of enthusiasm and support is aroused by fund drives for Campus Chest, CARE, Red Cross, refugee aid, etc.

Legend: T — True. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

201. There always seem to be a lot of little quarrels going on.
202. Most student rooms are pretty messy.
203. It's easy to get a group together for card games, singing, going to the movies, etc.

204. The academic atmosphere is practical, emphasizing efficiency and usefulness.
205. Tutorial or honors programs are available for qualified students.
206. A student who spends most of his time in a science laboratory is likely to be regarded as a little odd.

207. There are paintings or statues of nudes on the campus.
208. Students frequently go away for football games, skiing weekends, etc.
209. Students commonly share their problems.

210. Most of the professors are dedicated scholars in their fields.
211. The school administration has little tolerance for student complaints and protests.
212. Standards set by the professors are not particularly hard to achieve.

213. Frequent tests are given in most courses.
214. Students spend a lot of time together at the snack bars, taverns, and in one another's rooms.
215. Students are sometimes noisy and inattentive at concerts or lectures.

216. The history and traditions of the college are strongly emphasized.
217. Most students follow a systematic schedule for studying and recreation.
218. No one gets pushed around at this school without fighting back.

219. Faculty members and administrators see students only during scheduled office hours or by appointment.
220. Students exert considerable pressure on one another to live up to the expected codes of conduct.
221. National elections generate a lot of intense campaigning and strong feeling on the campus.

222. Students here can be wildly happy one minute and hopelessly depressed the next.
223. Many lectures are delivered in a monotone with little inflection or emphasis.
224. Public debates are held frequently.

225. The faculty encourage students to think about exciting and unusual careers.
226. Students rarely get drunk and disorderly.
227. Course offerings and faculty in the social sciences are outstanding.
228. Spontaneous student rallies and demonstrations occur frequently.

229. Proper social forms and manners are important here.
230. Many church and social organizations are especially interested in charities and community services.
231. The faculty tend to be suspicious of students' motives and often make the worst interpretations of even trivial incidents.

232. Classrooms are kept clean and tidy.
233. There isn't much to do here except go to classes and study.
234. The college offers many really practical courses such as typing, report writing, etc.

235. Long, serious intellectual discussions are common among the students.
236. Many of the natural science professors are actively engaged in research.
237. In papers and reports, vivid and novel expressions are usually criticized.

238. Some of the most popular students have a knack for making witty, subtle remarks with a slightly sexy tinge.
239. The professors go out of their way to help you.
240. In class discussions, papers, and exams, the main emphasis is on breadth of understanding, perspective and critical judgment.

241. Students don't argue with the professor; they just admit they are wrong.
242. Learning what is in the text book is enough to pass most courses.
243. The professors regularly check up on the students to make sure that assignments are being carried out properly and on time.

244. Students frequently study or prepare for examinations together.
245. Students pay little attention to rules and regulations.
246. Old grads are always pleased to discover that few things have changed.

247. It is hard to prepare for examinations because students seldom know what will be expected of them.
248. The campus religious program tends to emphasize the importance of acting on personal conviction, rather than the acceptance of tradition.
249. Student publications never lampoon dignified people or institutions.

250. People here are always trying to win an argument.

Legend: T — True. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

251. There are a number of prominent faculty members who play a significant role in national or local politics.
252. Students tend to hide their deeper feelings from each other.
253. Class discussions are typically vigorous and intense.

254. The college tries to avoid advertising and publicity.
255. The future goals for most students emphasize job security, family happiness, and good citizenship.
256. Few students bother with rubbers, hats, or other special protection against the weather.

257. The library is exceptionally well equipped with journals, periodicals, and books in the social sciences.
258. There are frequent informal social gatherings.
259. Society orchestras are more popular here than jazz bands or novelty groups.

260. Chapel services on or near the campus are well attended.
261. The school has an excellent reputation for academic freedom.
262. Campus buildings are clearly marked by signs and directories.

263. Students are very serious and purposeful about their work.
264. Education for leadership is strongly emphasized.
265. Students who are concerned with developing their own personal and private system of values are likely to be regarded as odd.

266. Introductory science or math courses are often elected by students majoring in other areas.
267. To most students here art is something to be studied rather than felt.
268. This college's reputation for marriages is as good as its reputation for education.

269. Students are expected to work out the details of their own program in their own way.
270. Most of the professors are very thorough teachers and really probe into the fundamentals of their subjects.
271. There is a lot of apple-polishing around here.

272. Most courses are a real intellectual challenge.
273. Students have little or no personal privacy.
274. The professors really talk *with* the students, not just *at* them.

275. Students ask permission before deviating from common policies or practices.

276. Most students look for variety and novelty in summer jobs.
277. It is easy to take clear notes in most courses.
278. It is very difficult to get a group decision here without a lot of argument.

279. A controversial speaker always stirs up a lot of student discussion.
280. The student leaders here have lots of special privileges.
281. The expression of strong personal belief or conviction is pretty rare around here.

282. Very few things here arouse much excitement or feeling.
283. The professors really push the students' capacities to the limit.
284. Student parties are colorful and lively.

285. Quite a few faculty members have had varied and unusual careers.
286. Rough games and contact sports are an important part of intramural athletics.
287. In many courses the broad social and historical setting of the material is not discussed.

288. Students frequently do things on the spur of the moment.
289. Students think about dressing appropriately and interestingly for different occasions — classes, social events, sports, and other affairs.
290. This school has a reputation for being very friendly.

291. Many faculty members seem moody and unpredictable.
292. Classes meet only at their regularly scheduled time and place.
293. Every year there are carnivals, parades, and other festive events on the campus.

294. Most students are interested in careers in business, engineering, management, and other practical affairs.
295. There is considerable interest in the analysis of value systems, and the relativity of societies and ethics.
296. There is a lot of interest in the philosophy and methods of science.

297. Concerts and art exhibits always draw big crowds of students.
298. Nearly everyone here has a date for the weekends.
299. Counseling and guidance services are really personal, patient, and extensive.

300. Careful reasoning and clear logic are valued most highly in grading student papers, reports, or discussions.

STERN ACTIVITIES INDEX

George G. Stern, Syracuse University

This booklet contains a number of brief statements describing many different kinds of activities. You will like some of these things. They will seem more pleasant than unpleasant to you, perhaps even highly enjoyable. There will be others that you will dislike, finding them more unpleasant than pleasant. The activities listed in this booklet have been obtained from a great many different persons. People differ in the kinds of things they enjoy, like to do, or find pleasant to experience. You are to decide which of these you like and which you dislike.

DIRECTIONS

Print the information called for at the top of the special answer sheet: your name, the date, your age and sex, etc. Then, as you read each item, *blacken* space

L — if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D — if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

DIRECTIONS FOR USING NCS ANSWER SHEET

The rows of response circles are numbered to correspond to the items in the Test Booklet. Each question may be answered either (L) or (D).

In marking your answers on the Answer Sheet, make sure that the number of the Statement is the same as the number on the Answer Sheet. Be sure to answer either (L) or (D) for every Statement.

* Be sure to use a #2½ or softer writing pencil.
* Do Not Use Ball Point or Ink.
* Keep your Answer Sheet Clean.
* Do not make stray marks.
* Erase errors completely.
* Fill the circle completely.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

1. Taking the blame for something done by someone I like.
2. Setting difficult goals for myself.
3. Concealing a failure or humiliation from others.

4. Having other people let me alone.
5. Getting what is coming to me even if I have to fight for it.
6. Being quite changeable in my likes and dislikes.

7. Scheduling time for work and play during the day.
8. Working twice as hard at a problem when it looks as if I don't know the answer.
9. Seeing someone make fun of a person who deserves it.

10. Persuading a group to do something my way.
11. Being a newspaperman who crusades to improve the community.
12. Listening to music that makes me feel very sad.

13. Taking up a very active outdoor sport.
14. Keeping in the background when I'm with a group of wild, fun-loving, noisy people.
15. Toughening myself, going without an overcoat, seeing how long I can go without food or sleep, etc.

16. Diving off the tower or high board at a pool.
17. Learning about the causes of some of our social and political problems.
18. Doing something crazy occasionally, just for the fun of it.

19. Imagining what I would do if I could live my life over again.
20. Feeding a stray dog or cat.
21. Taking special precautions on Friday, the 13th.

22. Washing and polishing things like a car, silverware, or furniture.
23. Making my work go faster by thinking of the fun I can have after it's done.
24. Being good at typewriting, knitting, carpentry, or other practical skills.

25. Understanding myself better.
26. Learning how to prepare slides of plant and animal tissue, and making my own studies with a microscope.
27. Holding something very soft and warm against my skin.
28. Talking about how it feels to be in love.

29. Belonging to a close family group that expects me to bring my problems to them.
30. Concentrating intently on a problem.
31. Suffering for a good cause or for someone I love.

32. Working for someone who will accept nothing less than the best that's in me.
33. Defending myself against criticism or blame.
34. Going to the park or beach with a crowd.

35. Shocking narrow minded people by saying and doing things of which they disapprove.
36. Getting up and going to bed at the same time each day.
37. Planning a reading program for myself.

38. Returning to a task which I have previously failed.
39. Doing what most people tell me to do, to the best of my ability.
40. Having other people depend on me for ideas or opinions.

41. Being an important political figure in a time of crisis.
42. Crying at a funeral, wedding, graduation, or similar ceremony.
43. Exerting myself to the utmost for something unusually important or enjoyable.

44. Wearing clothes that will attract a lot of attention.
45. Working until I'm exhausted, to see how much I can take.
46. Being careful to wear a raincoat and rubbers when it rains.

47. Studying the music of particular composers, such as Bach, Beethoven, etc.
48. Acting impulsively just to blow off steam.
49. Thinking about ways of changing my name to make it sound striking or different.

50. Discussing with younger people what they like to do and how they feel about things.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

51. Waiting for a falling star, white horse, or some other sign of success before I make an important decision.
52. Keeping my bureau drawers, desks, etc., in perfect order.
53. Spending most of my extra money on pleasure.

54. Learning how to repair such things as the radio, sewing machine, or car.
55. Thinking about different kinds of unusual behavior, like insanity, drug addition, crime, etc.
56. Studying wind conditions and changes in atmospheric pressure in order to better understand and predict the weather.

57. Eating after going to bed.
58. Watching a couple who are crazy about each other.
59. Working for someone who always tells me exactly what to do and how to do it.

60. Finding the meaning of unusual or rarely used words.
61. Being polite or humble no matter what happens.
62. Setting higher standards for myself than anyone else would, and working hard to achieve them.

63. Admitting when I'm in the wrong.
64. Leading an active social life.
65. Doing something that might provoke criticism.

66. Rearranging the furniture in the place where I live.
67. Putting off something I don't feel like doing, even though I know it has to be done.
68. Having to struggle hard for something I want.

69. Listening to a successful person tell about his experience.
70. Getting my friends to do what I want to do.
71. Taking an active part in social and political reform.

72. Avoiding excitement or emotional tension.
73. Staying up all night when I'm doing something that interests me.
74. Speaking at a club or group meeting.

75. Imagining myself president of the United States.
76. Crossing streets only at the corner and with the light.
77. Listening to TV or radio programs about political and social problems.
78. Being in a situation that requires quick decisions and action.

79. Pausing to look at myself in a mirror each time I pass one.
80. Helping to collect money for poor people.
81. Paying no attention to omens, signs, and other forms of superstition.

82. Keeping an accurate record of the money I spend.
83. Dropping out of a crowd that spends most of its time playing around or having parties.
84. Helping to direct a fund drive for the Red Cross, Community Chest, or other organizations.

85. Imagining life on other planets.
86. Reading articles which tell about new scientific developments, discoveries, or inventions.
87. Chewing on pencils, rubber bands, or paper clips.

88. Talking about who is in love with whom.
89. Being a lone wolf, free of family and friends.
90. Spending my time thinking about and discussing complex problems.

91. Trying to figure out how I was to blame after getting into an argument with someone.
92. Competing with others for a prize or goal.
93. Being ready with an excuse or explanation when criticized.

94. Meeting a lot of people.
95. Arguing with an instructor or superior.
96. Being generally consistent and unchanging in my behavior.

97. Going to a party where all the activities are planned.
98. Doing a job under pressure.
99. Going along with a decision made by a supervisor or leader rather than starting an argument.

100. Organizing groups to vote in a certain way in elections.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

101. Living a life which is adventurous and dramatic.
102. Having someone for a friend who is very emotional.
103. Sleeping long hours every night in order to have lots of rest.

104. Playing music, dancing, or acting in a play before a large group.
105. Thinking about what I could do that would make me famous.
106. Riding a fast and steep roller coaster.

107. Comparing the problems and conditions of today with those of various times in the past.
108. Doing whatever I'm in the mood to do.
109. Daydreaming about what I would do if I could live my life any way I wanted.

110. Comforting someone who is feeling low.
111. Avoiding things that might bring bad luck.
112. Arranging my clothes neatly before going to bed.

113. Getting as much fun as I can out of life, even if it means sometimes neglecting more serious things.
114. Learning how to make such things as furniture or clothing myself.
115. Trying to figure out why the people I know behave the way they do.

116. Doing experiments in physics, chemistry or biology in order to test a theory.
117. Sleeping in a very soft bed.
118. Seeing love stories in the movies.

119. Having someone in the family help me out when I'm in trouble.
120. Working crossword puzzles, figuring out moves in checkers or chess, playing anagrams or scrabble, etc.
121. Admitting defeat.

122. Taking examinations.
123. Being corrected when I'm doing something the wrong way.
124. Belonging to a social club.

125. Teasing someone who is too conceited.
126. Moving to a new neighborhood or city, living in a different country, etc.
127. Finishing something I've begun, even if it is no longer enjoyable.
128. Staying away from activities which I don't do well.

129. Following directions.
130. Being able to hypnotize people.
131. Playing an active part in community affairs.

132. Going on an emotional binge.
133. Walking instead of riding whenever I can.
134. Doing something that will create a stir.

135. Thinking about winning recognition and acclaim as a brilliant military figure.
136. Standing on the roof of a tall building.
137. Studying different types of government, such as the American, English, Russian, German, etc.

138. Doing things on the spur of the moment.
139. Having lots of time to take care of my hair, hands, face, clothing, etc.
140. Having people come to me with their problems.

141. Being especially careful the rest of the day if a black cat should cross my path.
142. Recopying notes or memoranda to make them neat.
143. Finishing some work even though it means missing a party or dance.

144. Working with mechanical appliances, household equipment, tools, electrical apparatus, etc.
145. Thinking about what the end of the world might be like.
146. Studying the stars and planets and learning to identify them.

147. Listening to the rain fall on the roof, or the wind blow through the trees.
148. Flirting.
149. Knowing an older person who likes to give me guidance and direction.

150. Being a philosopher, scientist, or professor.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

151. Having people laugh at my mistakes.
152. Working on tasks so difficult I can hardly do them.
153. Keeping my failures and mistakes to myself.

154. Going to parties where I'm expected to mix with the whole crowd.
155. Annoying people I don't like, just to see what they will do.
156. Leading a well-ordered life with regular hours and an established routine.

157. Planning ahead so that I know every step of a project before I get to it.
158. Avoiding something at which I have once failed.
159. Turning over the leadership of a group to someone who is better for the job than I.

160. Being an official or a leader.
161. Actively supporting a movement to correct a social evil.
162. Letting loose and having a good cry sometimes.

163. Taking frequent rest periods when working on any project.
164. Being the only couple on the dance floor when everyone is watching.
165. Imagining situations in which I am a great hero.

166. Driving fast.
167. Talking about music, theater or other art forms with people who are interested in them.
168. Controlling my emotions rather than expressing myself impulsively.

169. Catching a reflection of myself in a mirror or window.
170. Lending my things to other people.
171. Carrying a good luck charm like a rabbit's foot or a four-leaf clover.

172. Making my bed and putting things away every day before I leave the house.
173. Going to a party or dance with a lively crowd.
174. Managing a store or business enterprise.

175. Seeking to explain the behavior of people who are emotionally disturbed.

176. Going to scientific exhibits.
177. Chewing or popping gum.
178. Reading novels and magazine stories about love.

179. Having others offer their opinions when I have to make a decision.
180. Losing myself in hard thought.
181. Accepting criticism without talking back.

182. Doing something very difficult in order to prove I can do it.
183. Pointing out someone else's mistakes when they point out mine.
184. Having lots of friends who come to stay with us for several days during the year.

185. Playing practical jokes.
186. Doing things a different way every time I do them.
187. Keeping to a regular schedule, even if this sometimes means working when I don't really feel like it.

188. Quitting a project that seems too difficult for me.
189. Listening to older persons tell about how they did things when they were young.
190. Organizing a protest meeting.

191. Getting my friends to change their social, political, or religious beliefs.
192. Yelling with excitement at a ball game, horse race, or other public event.
193. Having something to do every minute of the day.

194. Speaking before a large group.
195. Imagining how it would feel to be rich and famous.
196. Playing rough games in which someone might get hurt.

197. Finding out how different languages have developed, changed, and influenced one another.
198. Letting my reasoning be guided by my feelings.
199. Dressing carefully, being sure that the colors match and the various details are exactly right.

200. Taking care of youngsters.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

201. Having a close friend who ignores or makes fun of superstitious beliefs.
202. Shining my shoes and brushing my clothes every day.
203. Giving up whatever I'm doing rather than miss a party or other opportunity for a good time.

204. Fixing light sockets, making curtains, painting things, etc., around the house.
205. Reading stories that try to show what people really think and feel inside themselves.
206. Collecting data and attempting to arrive at general laws about the physical universe.

207. Sketching or painting.
208. Daydreaming about being in love with a particular movie star or entertainer.
209. Having people fuss over me when I'm sick.

210. Engaging in mental activity.
211. Making a fuss when someone seems to be taking advantage of me.
212. Choosing difficult tasks in preference to easy ones.

213. Apologizing when I've done something wrong.
214. Going to the park or beach only at times when no-one else is likely to be there.
215. Questioning the decisions of people who are supposed to be authorities.

216. Eating my meals at the same hour each day.
217. Doing things according to my mood, without following any plan.
218. Doing something over again, just to get it right.

219. Disregarding a supervisor's directions when they seem foolish.
220. Talking someone into doing something I think ought to be done.
221. Trying to improve my community by persuading others to do certain things.

222. Being with people who seem always to be calm, unstirred, or placid.
223. Giving all of my energy to whatever I happen to be doing.
224. Being the center of attention at a party.

225. Setting myself tasks to strengthen my mind, body, and will power.
226. Skiing on steep slopes, climbing high mountains, or exploring narrow underground caves.
227. Learning more about the work of different painters and sculptors.
228. Speaking or acting spontaneously.

229. Imagining the kind of life I would have if I were born at a different time in a different place.
230. Talking over personal problems with someone who is feeling unhappy.
231. Going ahead with something important even though I've just accidentally walked under a ladder, broken a mirror, etc.

232. Keeping my room in perfect order.
233. Being with people who are always joking, laughing, and out for a good time.
234. Being treasurer or business manager for a club or organization.

235. Imagining what it will be like when rocket ships carry people through space.
236. Reading scientific theories about the origin of the earth and other planets.
237. Eating so much I can't take another bite.

238. Listening to my friends talk about their love-life.
239. Receiving advice from the family.
240. Solving puzzles that involve numbers or figures.

241. Taking the part of a servant or waiter in a play.
242. Sacrificing everything else in order to achieve something outstanding.
243. Having my mistakes pointed out to me.

244. Going on a vacation to a place where there are lots of people.
245. Fighting for something I want, rather than trying to get it by asking.
246. Avoiding any kind of routine or regularity.

247. Organizing my work in order to use time efficiently.
248. Avoiding some things because I'm not sure I'll be successful at it.
249. Carrying out orders from others with snap and enthusiasm.

250. Directing other people's work.

Legend: **L** – if the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant.

D – if the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant.

251. Being a foreign ambassador or diplomat.
252. Seeing sad or melodramatic movies.
253. Avoiding things that require intense concentration.

254. Telling jokes or doing tricks to entertain others at a large gathering.
255. Pretending I am a famous movie star.
256. Swimming in rough, deep water.

257. Studying the development of English or American literature.
258. Being guided by my heart rather than by my head.
259. Making my handwriting decorative or unusual.

260. Taking care of someone who is ill.
261. Finding out which days are lucky for me, so I can hold off important things to do until then.
262. Having a special place for everything and seeing that each thing is in its place.

263. Doing something serious with my leisure time instead of just playing around with the crowd.
264. Learning how to raise attractive and healthy plants, flowers, vegetables, etc.
265. Thinking about the meaning of eternity.

266. Reading about how mathematics is used in developing scientific theories, such as explanations of how the planets move around the sun.
267. Walking along a dark street in the rain.
268. Being romantic with someone I love.

269. Having people talk to me about some personal problem of mine.
270. Following through in the development of a theory, even though it has no practical applications.
271. Telling others about the mistakes I have made and the sins I have committed.

272. Picking out some hard task for myself and doing it.
273. Concealing my mistakes from others whenever possible.
274. Inviting a lot of people home for a snack or party.

275. Proving that an instructor or superior is wrong.

276. Staying in the same circle of friends all the time.
277. Striving for precision and clarity in my speech and writing.
278. Giving up on a problem rather than doing it in a way that may be wrong.

279. Having friends who are superior to me in ability.
280. Influencing or controlling the actions of others.
281. Converting or changing the views of others.

282. Being unrestrained and open about my feelings and emotions.
283. Doing things that are fun but require lots of physical exertion.
284. Doing things which will attract attention to me.

285. Thinking about how to become the richest and cleverest financial genius in the world.
286. Being extremely careful about sports that involve some danger like sailing, hunting, or camping.
287. Reading editorials or feature articles on major social issues.

288. Making up my mind slowly, after considerable deliberation.
289. Trying out different ways of writing my name, to make it look unusual.
290. Providing companionship and personal care for a very old helpless person.

291. Going to a fortune-teller, palm reader or astrologer for advice on something important.
292. Keeping a calendar or notebook of the things I have done or plan to do.
293. Limiting my pleasures so that I can spend all of my time usefully.

294. Being efficient and successful in practical affairs.
295. Concentrating so hard on a work of art or music that I don't know what's going on around me.
296. Studying rock formations and learning how they developed.

297. Reading in the bathtub.
298. Reading about the love affairs of movie stars and other famous people.
299. Being with someone who always tries to be sympathetic and understanding.

300. Working out solutions to complicated problems, even though the answers may have no apparent, immediate usefulness.

EVENING COLLEGE CHARACTERISTICS INDEX

Form 161

There are 300 statements in this booklet. They are statements about evening college life. They refer to the curriculum, to teaching and classroom activities, to rules, regulations and policies, to student activities and interests and to general features of the institution. The statements may or may not be characteristic of this evening college because evening colleges differ from one another in many ways. You are to decide which statements are characteristic of your college and which are not. Your answers should tell us what you believe the college is like rather than what you might personally prefer. You won't know the answer to many of these statements, because there may not be any really definite information on which to base your answer. Your response will simply mean that in your opinion the statement is probably true or probably false about your college. Do not omit any item.

DIRECTIONS

On the special answer sheet print your name, and the other information requested. Then, as you read each statement in the booklet, blacken space.

T—when you think the statement is generally TRUE or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F—when you think the statement is generally FALSE or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

Be sure to fill in the whole space between the dotted lines on the answer sheet with a heavy black mark, using the special pencil provided to you.

YOU MUST ANSWER EVERY ITEM

Work rapidly, going through the entire list of statements as quickly as you can. Please do not make any marks in this booklet.

University College, Syracuse University

Legend: T - TRUE. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F - FALSE. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

1. Students are encouraged to criticize administration policies and teaching practices.
2. The competition for grades is intense.
3. In many courses grade lists are publicly announced.
4. The professors seem to have little time for conversation with students.
5. Students are conscientious about taking good care of school property.

6. The students here represent a great variety in nationality, religion, and social status.
7. Most courses are very well organized and progress systematically from week to week.
8. Professors often try to provoke arguments in class, the livelier the better.
9. Students address faculty members as "professor" or "doctor" or sir.
10. Students are expected to report any violation of rules and regulations.

11. Students and faculty are proud of their tough-mindedness and their resistance to pleaders for special causes.
12. Students here learn that they are not only expected to develop ideals but also to express them in action.
13. Students put a lot of energy into everything they do—in class and out.
14. There are a good many colorful and controversial figures on the faculty.
15. Most students are more concerned with the future rather than the present.

16. Smoking in classrooms is generally tolerated, despite regulations.
17. The school offers many opportunities for students to understand and criticize important works in art, music, and drama.
18. Students who tend to say or do the first thing that occurs to them are likely to have a hard time here.
19. There are no mirrors in any of the public rooms or halls.
20. The college regards training people for service to the community as one of its major responsibilities.

21. The values most stressed here are open-mindedness and objectivity.
22. In many classes students have an assigned seat.
23. New jokes and gags get around the college in a hurry.
24. Students are more interested in specialization than in general liberal education.
25. Books dealing with psychological problems or personal values are widely read and discussed.

26. The library is well equipped with journals, periodicals, and books in the natural sciences.
27. The library has paintings and phonograph records which circulate widely among the students.
28. There is lots of informal dating at the college—driving someone home from class, getting a cup of coffee after class, etc.
29. Students commonly share their problems.
30. A lot of students like chess, puzzles, double-crostics, and other abstract games.

31. If a student wants help he usually has to answer a lot of embarrassing questions.
32. It is fairly easy to pass most courses without working very hard.
33. In most classes every student can expect to be called on to recite.
34. There is a lot of group spirit among students.
35. Most people here seem to be especially considerate of others.

36. There are many students from all walks of life at the college.
37. Instructors clearly explain the goals and purposes of their courses.
38. When students do not like an administrative or faculty decision, they really work to get it changed.
39. Students almost always wait to be called on before speaking in class.
40. Personal rivalries in class are fairly common.

41. There are practically no students actively involved in community reforms.
42. Most students get extremely tense during exam periods.
43. Students are busy all the time with work, study, and community activity.
44. Student dress is colorful and lively.
45. Many of the students expect to achieve future fame or wealth.

46. Few students bother with rubbers, hats, or other special protection against the weather.
47. Course offerings and faculty in the social sciences are outstanding.
48. It is not uncommon to hear joking and laughing in the classrooms.
49. Students take a great deal of pride in their personal appearance.
50. There is a great deal of borrowing and sharing among the students.

Legend: T - TRUE. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F - FALSE. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

51. Most faculty members are liberal in interpreting regulations and sometimes they even violate them.
52. Students' papers and reports must be neat.
53. Everyone has a lot of fun at this school.
54. The academic atmosphere is practical, emphasizing efficiency and usefulness.
55. There would be a capacity audience for a lecture by an outstanding philosopher or theologian.

56. When students get together they seldom talk about science topics.
57. The college has invested very little in drama and dance.
58. Students spend a lot of time talking about their men or women friends or husbands or wives.
59. The professors go out of their way to help you.
60. Many of the professors are full-time teachers in their fields.

61. Those in charge are patient with students.
62. Most courses require intensive study and preparation out of class.
63. Students quickly learn what is done and not done in the classroom.
64. There are many opportunities for students to get together informally.
65. Most students show a good deal of caution and self-control in their behavior.

66. Many students change their registration if the course they take isn't what they want.
67. A lot of students who get just passing grades at mid-term really make an effort to earn a higher grade by the end of the term.
68. Channels for expressing students' complaints are readily accessible.
69. Students rarely express opinions different from the teacher.
70. The important people at this school expect others to show proper respect for them.

71. Many students here develop a strong sense of responsibility about their role in contemporary social and political life.
72. The way people feel around here is always pretty evident.
73. Few students here would ever work or play to the point of exhaustion.
74. There are many students who try to be the "know it all" in class.
75. Education here tends to make students more practical and realistic.

76. Students are frequently cautioned by counselors not to carry too much work.
77. A lecture by an outstanding literary critic would be poorly attended.
78. New fads and phrases are continually springing up among the students.
79. Poise and sophistication are highly respected by both students and faculty.
80. This school has a reputation for being cold and impersonal.

81. A well reasoned report can rate an A grade here even though its viewpoint is opposed to the professor's.
82. Professors usually take attendance in class.
83. It's easy to get a group together for card games, singing, going to the movies, etc.
84. Many courses stress the speculative or abstract rather than the concrete and tangible.
85. There are many facilities and opportunities for individual creative activity.

86. A lecture by an outstanding scientist would be poorly attended.
87. There is very little interest here in poetry, music, painting, sculpture, architecture, etc.
88. Men and women students frequently date each other.
89. The person who is always trying to "help out" is likely to be regarded as a nuisance.
90. Most students have very little interest in round tables, panel meetings, or other formal discussions.

91. Faculty members are impatient with students who interrupt a lecture or discussion with a question.
92. Personality, pull, and bluff get students through many courses.
93. Frequent tests are given in most courses.
94. Faculty members rarely or never call students by their first names.
95. The faculty and administration are often joked about or criticized in student conversations.

96. Everyone here has pretty much the same attitudes, opinions, and beliefs.
97. Outside readings for classes are carefully and clearly planned.
98. People around here seem to thrive on difficulty—the tougher things get, the harder they work.
99. Teachers get annoyed when students disagree with them during classroom discussion.
100. Anyone who knows the right people in the faculty or administration can get a better break here.

Legend: T - TRUE. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F - FALSE. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

101. The expression of strong personal belief or conviction is pretty rare around here.
102. There is a lot of excitement and restlessness just before holidays and in late spring months.
103. There seems to be a lot of interest here in health diets, vitamin pills, anti-histamines, etc.
104. The college tries to avoid advertising and publicity which is undignified.
105. There is little sympathy here for ambitious daydreams about the future.

106. The college doesn't go out of its way to protect students from dangerous situations which could cause accidents.
107. When students get together they seldom talk about trends in art, music or the theater.
108. A classroom prank would be unthinkable here.
109. Most students here enjoy such activities as dancing, skating, diving, and skiing.
110. Many students who have attended the college before help new students adjust to the college.

111. One would be hesitant to express extreme or unpopular viewpoints in this school.
112. Classrooms are kept clean and tidy.
113. Having a good time comes first with most students here.
114. The college offers many really practical courses such as typing, report writing, etc.
115. Modern art and music get little attention here.

116. A student who spends most of his time in a science laboratory is likely to be regarded as a little odd.
117. In papers and reports, vivid and novel expressions are usually criticized.
118. Some of the most popular students have a knack for making witty, subtle remarks with a slightly sexy tinge.
119. Students here are encouraged to be independent and individualistic.
120. In class discussions, papers, and exams the main emphasis is on breadth of understanding, perspective and critical judgment.

121. The college administration has little tolerance for student complaints and protests.
122. Standards set by the professors are not particularly hard to achieve.
123. The professors regularly check up on the students to make sure that assignments are being carried out properly and on time.
124. Students spend a lot of time together in the snack bar or lounge.
125. Many students seem to expect other people to adapt to them rather than trying to adapt themselves to others.

126. Many students carefully choose courses to provide for variety and novelty in their lives.
127. Assignments are usually clear and specific, making it easy for students to plan their studies effectively.
128. The faculty at the college tend to emphasize the importance of acting on personal conviction rather than the acceptance of tradition.
129. In talking with students, faculty members often refer to their colleagues by their first names.
130. Students exert considerable pressure on one another to live up to the expected codes of conduct.

131. Most teachers are not very interested in what goes on in local government of the community.
132. Most students respond to ideas and events in a pretty cool and detached way.
133. Many lectures are delivered in a monotone with little inflection or emphasis.
134. When students achieve some community recognition everybody knows about it.
135. Most students have goals which emphasize job security, family happiness, and good citizenship.

136. On icy days you can usually count on sidewalks at the college being carefully scraped and sanded.
137. In many courses the broad social and historical setting of the material is not discussed.
138. Many informal student activities are unplanned and spontaneous.
139. Students who are not properly groomed are likely to be made aware of this by other students.
140. Most of the adult students take a paternal interest in the younger students in classes.

141. The school has an excellent reputation for academic freedom.
142. Classes meet only at their regularly scheduled time and place.
143. After class students usually get together for a beer or two.
144. Education for leadership is strongly emphasized.
145. Long, serious intellectual discussions among the students are not too common.

146. Many students are attempting to further their careers in science at the college.
147. Student lounges are tastefully decorated.
148. This college's reputation for meeting eligible marriage partners is as good as its reputation for education.
149. There is a high degree of respect for nonconformity and intellectual freedom.
150. Discussions on serious subjects aren't held very often here.

Legend: T - TRUE. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F - FALSE. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

151. Teachers are interested in student ideas or opinions about college affairs.
152. Examinations here provide a genuine measure of a student's achievement and understanding.
153. Students' programs are closely checked by counselors to guard against mistakes.
154. Professors seldom associate with students outside of class.
155. When students dislike a faculty member they make it evident to him.

156. Most students dress and act pretty much alike.
157. Faculty advisors or counselors are pretty practical and efficient in the way they dispatch their business.
158. Everyone knows the "snap" courses to take and the tough ones to avoid.
159. Professors seem to enjoy breaking down myths and illusions about famous people.
160. There are no favorites at this school—everyone gets treated alike.

161. Students are actively concerned about national and international affairs.
162. An open display of emotion would embarrass most professors.
163. Students get so absorbed in various activities that they often lose all sense of time or personal comfort.
164. It is easy to obtain student volunteers for role playing or impromptu demonstrations in class.
165. Most students would regard ambitions to be a top manager in their company as pretty unrealistic.

166. Students sometimes drive carelessly in parking lots.
167. Few students would be interested in an educational film about writers and poets.
168. There seems to be a jumble of papers and books in most administrative offices of the college.
169. Proper social forms and manners are not too important here.
170. If a student has to be absent from class his classmates usually pitch in to help him catch up on what he missed.

171. Many students have special good luck charms and practices.
172. The college buildings always look a little unkempt.
173. The professors make the class activity painless and enjoyable.
174. Most students are interested in careers in business, engineering, management, and other practical affairs.
175. Special book and art collections are important possessions of the college.

176. Course offerings and faculty in the natural sciences are outstanding.
177. A lot has been done with pictures, draperies, colors and decoration to make the college buildings pleasing to the eye.
178. There are lots of informal student sessions at which the opposite sex is discussed.
179. Students are expected to work out the details of their own program in their own way.
180. Teachers do little more than repeat what's in the textbook.

181. Students don't argue with the professor; they just admit that they are wrong.
182. Students set high standards of achievement for themselves.
183. Students are expected to be mature enough to accept criticism from faculty.
184. All people do around here is go to class and that's it. No social life exists.
185. Students are sometimes grossly inattentive when an instructor's lectures are boring.

186. You never know what is going to happen next at this school.
187. In most classes, the presentation of material is well planned and illustrated.
188. Everyone prefers the easy teachers and tries to avoid the tough ones.
189. Students usually make fun of faculty or the school.
190. People here are always trying to win an argument.

191. Students are encouraged to take an active part in social reforms and political programs.
192. Students tend to hide their deeper feelings from each other.
193. Faculty members put a lot of energy and enthusiasm into their teaching.
194. Students like to draw attention to themselves.
195. The faculty encourage students to think about radical changes in their careers.

196. Most students are careful about going up and down stairways.
197. Many students are interested in television programs dealing with social and political problems.
198. New ideas are discussed at length before students are willing to go along with them.
199. Students are more concerned about the impression they make on fellow students and faculty than in learning.
200. Most students try to be helpful to fellow students with physical handicaps.

Legend: T - TRUE. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F - FALSE. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

201. Some of the professors react to questions in class as if the students were criticizing them personally.
202. Nothing much is said if a student happens to report to class a little late occasionally.
203. Students here make every effort to enjoy leisure activity.
204. Many teachers here stress the practical uses of their subjects in order that the student may apply what he has learned in his job.
205. There is considerable interest in the analysis of value systems and the relativity of societies and ethics.

206. Courses in the science areas are only taken, by and large, to satisfy an institutional requirement.
207. Students at this school dress for personal comfort rather than appearance.
208. Movies and books with overtones of sex get a lot of attention from students.
209. Counseling and guidance services are really personal, patient, and extensive.
210. Most of the professors are very thorough teachers and really probe into the fundamentals of their subjects.

211. Students have to comply with an instructor's point of view to get good test marks.
212. Learning what is in the text book is enough to pass most courses.
213. Faculty often ask a lot of personal questions.
214. The professors really talk with the students, not just at them.
215. Students pay little attention to rules and regulations.

216. Each year this school has the same sort of activities.
217. It is relatively easy to prepare for examinations because students know what will be expected of them.
218. It is always very difficult to get a group decision here without a lot of argument.
219. Most students look up to the faculty and admire them.
220. If you know the right people you can get any rule waived at the college.

221. Both teachers and students here are actively concerned about ways to make this world a better place to live.
222. Students here can be wildly happy one minute and hopelessly depressed the next.
223. Teachers have very little interest in what they are doing.
224. It wouldn't be difficult to get people around here to do something out of the ordinary.
225. Students at this college really expect to be somebody in this community someday.

226. People here are concerned about health.
227. Many students read books which deal with political and social issues.
228. Students frequently do things on the spur of the moment.
229. Looking and acting "right" is very important to teachers and students here.
230. Students are tolerant of professors of foreign birth who have some difficulty communicating because of an accent.

231. The faculty tend to be suspicious of students' motives and often make the worst interpretations of even trivial incidents.
232. Students usually sit in the same seats in each class session.
233. There isn't much to do here except go to classes and study.
234. This school offers many really practical courses.
235. The college courses encourage student reflection on their experiences.

236. Laboratory facilities in the natural sciences are excellent.
237. To most students here art is something to be studied rather than felt.
238. Professors tend to use clever, sexy innuendos in class.
239. Counselors usually tell you what courses you should take.
240. Careful reasoning and clear logic are valued most highly in grading student papers, reports, or discussions.

241. Many teachers make you feel you're wasting their time in the classroom.
242. Students generally manage to get credit for courses even if they don't work hard during the semester.
243. Students are made to explain why they did something when the teacher doesn't like what they've done.
244. Students here form strong friendships that carry over from the classroom to their social life.
245. Those people who get ahead around here are the ones who demand an explanation.

246. Things are always done the same way—from class to class and from year to year.
247. It seems that the classes are always being interrupted just when things get moving.
248. Teachers often try to get students to speak up freely and openly in class.
249. Teachers go out of their way to make sure that students address them with respect.
250. A lot of students around here argue just for the sake of winning an argument.

Legend: T - TRUE. Generally true or characteristic of the college, is something which occurs or might occur, is the way people tend to feel or act.

F - FALSE. Generally false or not characteristic of the college, is something which is not likely to occur, is not the way people typically feel or act.

251. Strong positions are taken here regarding civil liberties and minority groups.
252. Very few things here arouse much excitement or feeling.
253. Class discussions are typically vigorous and intense.
254. Most students here would not like to dress up for a fancy ball or a masquerade.
255. Teachers here advise students to be down to earth in planning for their future and discourage daydreaming about making a lot of money.

256. The grounds and surroundings are not well lighted for evening attendance.
257. Teachers frequently urge students to consider the influence of history on current events.
258. Students do not spend much time in planning activities before doing them.
259. Teachers are always well dressed and carefully groomed.
260. When someone is out sick for a while his classmates let him know what he has missed.

261. If students do their work they get a good mark, whether or not the teacher likes them.
262. Offices and rooms are clearly marked.
263. Students are very serious and purposeful about their work.
264. Learning to work with others is stressed at this school.
265. Students who are concerned with developing their own personal and private system of values are likely to be regarded as odd.

266. Introductory science or math courses are often elected by students majoring in other areas.
267. There are no comfortable seats here where students can sit and relax.
268. Students don't seem to object to "off-color" remarks in mixed groups.
269. Most teachers prefer to have students work out their own problems.
270. Quite frequently students get together and talk about things they have learned in class.

271. Teachers very often make you feel like a child.
272. Most courses are a real intellectual challenge.
273. Grades are read in class so that everybody knows who got the high and low marks.
274. An attempt is made in the classroom to acquaint every student with the other class members.
275. Students check carefully before deviating from common college policies or practices.

276. New ideas are always being tried out here.
277. It is easy to take clear notes in most courses.
278. Students are not likely to accept administrative "foul-ups" without complaining or protesting.
279. Students can feel free to disagree with the teacher openly.
280. You have to act like all the others in the class in order to be in with your classmates.

281. Political parties and elections generate little interest around here.
282. The faculty are almost always calm and even tempered.
283. Classes sometimes run over the assigned period because things are going so hot and heavy.
284. Giving colorful, dramatic oral reports is looked on with favor by students and teachers.
285. What one wants to be later in life is a favorite topic around here.

286. Procedures to be followed in case of fires, air raids, and accidents are not prominently posted.
287. Few students plan to take additional work in the social sciences once they've had required courses.
288. Students often speak up in class without first thinking carefully about what they're going to say.
289. Students generally receive compliments when they come to school with new clothing, hairdos, etc.
290. Students try in all sorts of ways to be friendly, especially to newcomers.

291. Many faculty members seem moody and unpredictable.
292. At this school the motto seems to be "a place for everything and everything in its place".
293. It is usual to hear discussion of sporting events, movies, etc., by the students.
294. No one here has much interest in history, music, and other such impractical courses.
295. One frequently hears students talking about differences between our own way of life and that of people in other countries.

296. There is a lot of interest in the philosophy and methods of science.
297. Students here enjoy opportunities to attend concerts and art exhibits.
298. Women students tend to dress to attract men's attention.
299. One nice thing about this college is the personal interest taken in students.
300. There is a lot of interest in learning for its own sake here rather than just for credits.

HIGH SCHOOL CHARACTERISTICS INDEX

Form 960

by George G. Stern

There are 300 statements in this booklet They are statements about high school life. They refer to the curriculum, to high school teaching and classroom activities, to rules, regulations and policies, to student organizations, activities and interests, to features of the buildings and grounds, etc. The statements may or may not be characteristic of your high school because high schools differ from one another in many ways. You are to decide which statements are characteristic of your high school and which are not. Your answers should tell us what you believe is true about your high school rather than what you might personally prefer. You won't *know* the answers to many of these statements, because there may not be any really definite information on which to base your answer. *Your response will simply mean that in your opinion the statement is probably true or probably false about your high school.*

Do not omit any item.

DIRECTIONS

On the special answer sheet print your name, and the other information requested. Then, as you read each statement in the booklet, *blacken* space

T – when you think the statement is generally TRUE or characteristic of your high school, is something which occurs or might occur, is the way people tend to feel or act.

F – when you think the statement is generally FALSE or not characteristic of your high school, is something which is not likely to occur, is not the way people typically feel or act.

DIRECTIONS FOR USING NCS ANSWER SHEET

The rows of response circles are numbered to correspond to the items in the Test Booklet. Each question may be answered either Ⓣ or Ⓕ.

In marking your answers on the Answer Sheet, make sure that the number of the Statement is the same as the number on the Answer Sheet. Be sure to answer either Ⓣ or Ⓕ for every Statement.

- Be sure to use a No. 2½ or softer writing pencil.
- Do Not Use Ball Point or Ink.
- Keep your Answer Sheet Clean.
- Do not make stray marks.
- Erase errors completely.
- Fill the circle completely.

Legend: T — True. Generally true or characteristic of your high school, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of your high school, is something which is not likely to occur, is not the way people typically feel or act.

1. Teachers are very interested in student ideas or opinions about school affairs.
2. There is a lot of competition for grades.
3. Grades are read out in class so that everybody knows who got the high and low marks.

4. There are very few clubs and student group activities to which students may belong.
5. School property is seldom damaged by students.
6. The students here come from many different kinds of homes.

7. Most classes are very well planned.
8. Teachers often try to get students to speak up freely and openly in class.
9. Teachers go out of their way to make sure that students address them with due respect.

10. There is a recognized group of student leaders at this school.
11. Most teachers are not very interested in what goes on in the local government of the community.
12. Students here learn that they are not only expected to have ideas but to do something about them.

13. Classroom discussions are often very exciting, with a lot of active student participation.
14. Competition is keen for parts in student plays.
15. In English classes, students are encouraged to be imaginative when they write.

16. A great many students are involved in intramural sports and other athletic activities.
17. Many teachers and students are concerned with literary, musical, artistic, or dramatic activities outside the classroom.
18. In most classes there is very little joking and laughing.

19. Formal dances are seldom held here.
20. Many of the upperclassmen help new students get used to school life.
21. No one needs to be afraid of expressing a point of view that is unusual or not popular in this school.

22. Students seldom change places during class.
23. Students really get excited at an athletic contest.
24. It's important here to be a member of the right club or group.

25. Many students are interested in books and movies dealing with psychological problems.
26. The school library is very well supplied with books and magazines on science.
27. Students sometimes get a chance to hear music in the lunchroom or during other free periods.
28. There is lots of dating among students during the week—at the soda fountain, movies, lunch hours, etc.

29. Teachers here are genuinely concerned with student's feelings.
30. There is a lot of emphasis on preparing for college.
31. You need permission to do *anything* around here.

32. Students generally manage to pass even if they don't work hard during the year.
33. In gym class, everyone has to do the same exercises, no matter how good or bad they are at it.
34. There is a lot of school spirit.

35. In this school, very few students walk around with a chip on the shoulder.
36. Courses, assignments, tests and texts frequently change from year to year.
37. Teachers clearly explain what students can get out of their classes and why it is important.

38. When students think a teacher's decision is unfair, they try to get it changed.
39. Most students look up to their teachers and admire them.
40. Student elections produce a lot of interest and strong feeling.

41. Daily newspapers are seldom read.
42. The teachers are seldom calm and even-tempered, when disciplining students.
43. Students put a lot of energy into everything they do — in class and out.

44. When students do a project or put on a show, everybody knows about it.
45. What one wants to do or be later in life is a favorite topic around here.
46. Club initiations and class rivalries sometimes get a little rough.

47. This school offers many opportunities for students to get to know important works of art, music, and drama.
48. Students are always coming up with new fads and expressions.
49. Students take a great deal of pride in their personal appearance.

50. There are collections for the needy at Christmas or other times.

Legend: T — True. Generally true or characteristic of your high school, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of your high school, is something which is not likely to occur, is not the way people typically feel or act.

51. Everyone has the same opportunity to get good marks because the tests are marked very fairly.
52. Many teachers get very upset if students happen to report to class a little late.
53. There is a lot of student enthusiasm and support for the big school events.
54. Students try hard to be good in sports, as a way to gain recognition.
55. Many students enjoy reading and talking about science fiction.
56. When students get together they seldom talk about scientific topics.
57. There is practically no one here who would feel comfortable participating in modern dance or ballet.
58. Boys and girls seldom sit at separate tables in the school cafeteria.
59. Outside of class most teachers are friendly and find time to chat with students.
60. Quite frequently students will get together in their own time and talk about things they have learned in class.
61. Students are seldom kept waiting when the office sends for them.
62. Most teachers give a lot of home work.
63. Once you've made a mistake, it's hard to live it down in this school.
64. It is easy to make friends in this school because of the many things that are going on that anyone can participate in.
65. Most students can easily keep out of trouble, in this school.
66. Many students have lived in different parts of the state, states, or other countries.
67. A lot of students who get just passing grades at midterm really make an effort to earn a higher grade by the end of the term.
68. Pupils are often expected to work at home on problems which they could not solve in class.
69. Students rarely express opinions different from the teacher's.
70. Students are expected to report any violation of rules and regulations to their teacher or the principal.
71. There are some pretty strong feelings expressed here about political parties and elections.
72. The way people feel around here is always fairly evident.
73. Few students here would ever work or play to the point of being completely worn out.
74. Teachers provide opportunities for students to develop their skills and talents directing the work of others.
75. Teachers here warn students to be down to earth in planning for their future, and discourage daydreaming about adventure and making a lot of money.
76. Fire drills and civil defense drills are held regularly.
77. Few students would be interested in an educational film about writers and poets.
78. Students frequently do things on the spur of the moment.
79. Looking and acting "right" is very important to teachers and students here.
80. Students seldom send their teachers cards or little gifts on special occasions.
81. The principal and teachers are usually understanding if a student does something wrong and will give him the benefit of the doubt.
82. Many teachers require students to recopy notes or papers to make them neat.
83. There are lots of dances, parties, and other social activities.
84. This school offers very few really practical courses.
85. Teachers here like students to use a lot of imagination when they write compositions, and give good marks to those who do.
86. Few students would be interested in hearing a talk by a famous scientist.
87. Few student lockers are decorated with pictures, pennants, etc.
88. Many students here really enjoy dancing.
89. The person who is always trying to "help out" is likely to be regarded as a nuisance.
90. Assemblies or discussions on serious subjects are not held very often here.
91. The teachers very often make you feel like a child.
92. Popularity, pull and bluff get students through many courses.
93. Students are usually made to answer to the principal of the school as well as the teacher when they have done something wrong.
94. Few students stay around after school for different activities or sports.
95. The desks are all cut up from doodling with knives and pencils.
96. This school has the same activities each year.
97. Activities in most student organizations are carefully and clearly planned.
98. Students don't hesitate to voice their complaints around here.
99. Students almost always wait to be called on before speaking in class.
100. There are several cliques and groups, and if you're not in one you're pretty much on your own.

Legend: T — True. Generally true or characteristic of your high school, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of your high school, is something which is not likely to occur, is not the way people typically feel or act.

101 Boy-girl relationships here are simple and rarely become really romantically involved.

102. Students can get into very heated arguments with one another, and be the best of friends the next day.

103. There are so many things to do here that students are busy all the time.

104. Most students here would not like to dress up for a dance or costume party.

105. Most students are more concerned with the present than the future.

106. Many students here drive cars.

107. Students seldom read books which deal with political and social issues.

108. Teachers insist that much time be spent in planning activities before doing them.

109. Most students here enjoy such activities as dancing, skating, diving, and gymnastics.

110. Students often run errands or do other personal services for the principal and teachers.

111. Students are sometimes punished without knowing the reason for it.

112. At this school the motto seems to be "a place for everything and everything in its place".

113. Having a good time comes first with most students here.

114. No-one here has much interest in history, music, and other such impractical courses.

115. There is little interest in modern art and music.

116. Few students are planning careers in science.

117. Little effort is made in the cafeteria to serve lunches that are tasteful and appealing to the eye.

118. Students here spend a lot of time talking about their boy-friends or girl-friends.

119. Students here are encouraged to be on their own and to make up their own minds.

120. A lot of students like checkers, chess, puzzles, crossword puzzles, and other such games.

121. Students are made to take the blame for things whether they did them or not.

122. Few students try hard to get on the honor roll.

123. Students have to get up in front of the class to recite no matter how embarrassed they might be.

124. There are many parties or dances sponsored by the school.

125. Lots of kids rip out pages and mark up their school books.

126. New ideas are always being tried out here.

127. Assignments are usually clear so everyone knows what to do.

128. When students do not like a school rule, they really work to get it changed.

129. Teachers refer to other teachers by their first names in the presence of students.

130. Student leaders at this school expect you to go along with what they say.

131. There is no really active current events club in this school.

132. Most students respond to ideas and events in a pretty cool and mild-mannered way.

133. Teachers here have little interest in what they are doing.

134. Students in this school like to draw attention to themselves.

135. Going to school here tends to make students more practical and realistic.

136. The school nurse is very active in trying to prevent illness by frequent check-ups, making sure everyone has had vaccinations, etc.

137. Student groups seldom meet to discuss current social problems and issues.

138. Students often start things without thinking about how they will develop or where they may end.

139. Students who are not neatly dressed are likely to have this called to their attention.

140. There is a lot of interest here in projects for collecting packages of food or clothing to help out others.

141. If a student thinks out a report carefully teachers will give him a good mark, even if they don't agree with him.

142. Most teachers in this school like to have their boards cleaned off after each lesson.

143. New jokes and funny stories get around the school in a hurry.

144. Students may not talk about how much money a family has or what they do for a living, but everyone knows who's who.

145. Although many students may attend church here, there is little real interest in the basic meaning of religion.

146. This school has very good science teachers.

147. Most of the teachers here try to decorate their classrooms so that the students will find them more pleasant to be in.

148. Boys and girls often get together between classes, during lunch hour, etc.

149. Most teachers prefer that students work out their own problems.

150. School spirit seems to be more important than learning at this school.

Legend: T — True. Generally true or characteristic of your high school, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of your high school, is something which is not likely to occur, is not the way people typically feel or act.

151. Teachers seldom make you feel you're wasting their time in the classroom.
152. Examinations here really test how much a student has learned.
153. When a student fails a test, he has to take a note home to his parents.
154. Students seldom get out and support the school athletic teams.
155. Student arguments often turn into fights.
156. Most students dress and act pretty much alike.
157. Classroom interruptions by the public address system, knocks at the door, etc., are infrequent in this school.
158. When the assignments really get tough, many students just won't do them.
159. Teachers seldom get annoyed when students disagree with them during classroom discussion.
160. There are no favorites at this school; everyone gets treated alike.
161. Student discussions on national and international news are encouraged in class.
162. An open display of emotion (such as crying, swearing, etc.) would embarrass most teachers.
163. Students get so wrapped up in various activities that they often lose all sense of time or of other things going on around them.
164. It is easy to obtain student speakers for activities or meetings.
165. There is little sympathy here for ambitious daydreams about the future.
166. Quite a bit of smoking and drinking goes on among students.
167. When students get together, they seldom talk about classical music or art.
168. New ideas are met with immediate enthusiasm in this school.
169. Students seldom receive compliments when they come to school with new clothing, a new haircut or hairdo, etc.
170. Students try in all sorts of ways to be friendly, especially to newcomers.
171. Some of the teachers treat questions in class as if the students were criticizing them personally.
172. The school building and grounds often look a little untidy.
173. Everyone has a lot of fun at this school.
174. Many students enjoy working with their hands and are pretty good at making or repairing things.
175. Student newspapers and magazines often carry short stories and poems by students.
176. Science labs here have very good equipment.
177. Nothing much is said to students who happen to be chewing on pencils, rubber bands, paper clips, gum, or something.
178. There are several popular spots where a crowd of boys and girls can always be found.
179. Most of the teachers are not interested in student's personal problems.
180. Teachers do little more than repeat what's in the textbook in most classes here.
181. Those in charge are not very patient with students.
182. Most students around here expect to go on to college.
183. Students are made to explain *why* they did something when the teacher doesn't like what they've done.
184. There is little interest in school clubs and social groups.
185. When students dislike a teacher, they let him know it.
186. Very few of the teachers have been here for a long time.
187. In most classes, the presentation of material is well planned and illustrated.
188. Everyone prefers the easy teachers, and tries hard to avoid the tough ones.
189. Students here frequently refer to their teachers by their first names or nicknames.
190. Knowing the right people is important in getting in on all of the activities.
191. Most students take an active part in school elections.
192. Graduation is a pretty matter-of-fact, unemotional event.
193. Teachers put a lot of energy and enthusiasm into their teaching.
194. School activities are given a lot of space in the local newspapers.
195. Many students hope to achieve future fame and/or wealth.
196. Students with bad colds or anything that's "catching" are quickly sent home so that they don't pass on what they have to others.
197. Classes in history, literature, and art are among the best liked here.
198. Students who tend to say or do the first thing that occurs to them are likely to have a hard time here.
199. Teachers insist that students come to school well-dressed and well-groomed.
200. Students really support fund drives such as the March of Dimes, Community Chest, Red Cross, CARE, etc.

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F — False. Generally false or not characteristic of your high school, is something which is not likely to occur, is not the way people typically feel or act.

201. There always seems to be a lot of little quarrels going on.
202. Many student lockers are messy, some even dirty.
203. It's easy to get a group together for games, going to the movies, etc., after school.
204. Most students and their families think of education as a preparation for earning a good living.
205. Teachers welcome the student's own ideas on serious matters.
206. A student who spends some of his spare time in a science lab is likely to be regarded as a little odd.
207. A lot has been done with pictures, draperies, colors, and decoration to make the school building pleasing to the eye.
208. Most students would like to go steady.
209. One nice thing about this school is the personal interest taken in the students.
210. Most of the teachers are deeply interested in their subject-matter.
211. When you get into trouble with one teacher around here, the other teachers soon know about it.
212. In this school there are very few contests in such things as speaking, chess, essays, etc.
213. Tests are given almost every day in many classes.
214. Most students get together often in particular soda fountains or snack bars.
215. There are frequent fights in the lunchroom or on the school grounds.
216. The school is especially proud of its long history.
217. Most students follow a regular plan for study and play.
218. No one gets pushed around at this school without fighting back.
219. If students apologize for a wrong-doing, teachers are more willing to help them.
220. You have to act like all of the others in order to be in with the group.
221. Strong positions are taken here regarding civil liberties and minority groups.
222. Students here can be wildly happy one moment and hopelessly sad the next.
223. Classes are boring.
224. Most students like to "clown" around at this school.
225. Teachers encourage students to think about exciting and unusual careers.
226. Everyone here is "safety-first" conscious, making sure that nobody will get hurt.
227. Teachers frequently urge students to consider the influence of history on current events.
228. There is much shouting and yelling in the halls and cafeteria.
229. Good manners and making a good impression are important here.
230. Many of the teachers in this school are actively interested in charities and community services.
231. Teachers always seem to think students are up to something and make the worst of even small happenings.
232. Classrooms are always kept very clean and tidy.
233. Students here don't do much except go to classes, study, and then go home again.
234. Many teachers here stress the practical uses of their subjects in helping students to get a good job.
235. Long, serious discussions are common among the students.
236. Many students here make models of scientific gadgets, and enter them in local or state science fairs.
237. In this school style is more important than dressing for personal comfort.
238. Some of the most popular students have a knack for making witty comments that some people would not consider in good taste.
239. The teachers go out of their way to help you.
240. There is a lot of interest here in learning for its own sake, rather than just for grades or for graduation credits.
241. Students don't argue with the teacher, they just admit that they are wrong.
242. Pupils seldom take part in extra projects in Science, English, History, etc.
243. Everyone knows who the smart students are because they are in different classes from the others.
244. Many projects are assigned in which small groups of students work together (either in or out of school).
245. The wash rooms are always a mess because the students throw paper around.
246. Many of the teachers have lived in this community all their lives.
247. It is hard to prepare for examinations because students seldom know what they will be tested on.
248. The principal here is willing to hear student complaints.
249. Students seldom make fun of teachers or the school.
250. A lot of kids around here argue just for the sake of winning the argument.

Legend: T — True. Generally true or characteristic of your high school, is something which occurs or might occur, is the way people tend to feel or act.

F — False. Generally false or not characteristic of your high school, is something which is not likely to occur, is not the way people typically feel or act.

251. Both teachers and students here are actively concerned about ways to make this world a better place in which to live.
252. Students tend to hide their deeper feelings from each other.
253. Class discussions are usually vigorous and intense.
254. There is little interest here in student dramatic or musical activities.
255. For most students, future goals emphasize job security, family hapiness, and good citizenship.
256. Few students bother with rubbers, hats, or other special protection against the weather.
257. There are copies of many famous paintings in the school halls and classrooms.
258. Students frequently speak up in class without worrying about what they're going to say.
259. Teachers are always carefully dressed and neatly groomed.
260. When someone is out sick for a while his classmates let him know that he is missed.
261. If students do their work well they get a good mark, whether or not the teacher likes them.
262. Offices and rooms are clearly marked.
263. Most students take their school work very seriously.
264. Learning to work with others is emphasized in this school.
265. Students are seldom encouraged to think about developing their own personal values and a philosophy of life.
266. There are frequent science displays around the school.
267. There are no comfortable seats in this school where students can sit and relax.
268. Most of the students here start dating very young.
269. It doesn't matter who you are, at this school you are expected to be "grown up" and able to handle your own affairs.
270. Many students here would rather talk about poetry or religion, instead of the movies or sports.
271. There is a lot of apple-polishing and buttering-up of teachers around here.
272. There are awards or special honors for those who do the best work or get the best grades.
273. Teachers often ask a lot of very personal questions.
274. Open houses or carnivals are held each year and everyone has to help out with them.
275. Teachers seldom use physical punishment.
276. You never know what is going to happen next at this school.
277. Clear and usable notes are usually given by most teachers.
278. It is always very difficult to get a group of students to decide something here without a lot of argument.
279. Students can feel free to disagree with their teachers openly.
280. The student leaders here really get away with a lot.
281. The expression of strong personal belief is pretty rare around here.
282. Very few things here arouse much excitement or feeling.
283. The teachers really push each student to the limit of his ability.
284. Student parties are colorful and lively.
285. Quite a few faculty members have had varied and unusual careers.
286. Rough games and sports are an important part of intramural athletics.
287. Most students are not interested in television programs dealing with social and political problems.
288. Students frequently do things together here after school without planning for them ahead of time.
289. Students think about wearing the right clothes for different things – classes, social events, sports, and other affairs.
290. Students in this school have a reputation for being very friendly with each other.
291. Many teachers seem moody and hard to figure out.
292. Most teachers in this school prefer to march their students from place to place, instead of letting them go by themselves.
293. Every year there is a carnival, picnic, or field day.
294. Most students are interested in jobs in business, engineering, management, and other practical areas.
295. One frequently hears students talking about differences between our own way of life and that of people in other countries.
296. Some subjects in this school stress the history and importance of great inventions and inventors and how they have influenced the world today.
297. Students here enjoy opportunities to attend concerts and art exhibits on school time.
298. Nearly everyone here tries to have a date for the weekends.
299. Counseling and guidance services are really personal, patient, and extensive.
300. Clear and careful thinking are most important in getting a good mark on reports, papers, and discussions.

APPENDIX III

DESCRIPTION OF SAMPLES AND RELIABILITY COEFFICIENTS

The sex composition and general identification of the community college and the eight high schools are given in Table III.1.

TABLE III.1.--Sex composition and identification of the samples from the community college and the eight high schools.

Community College (All subjects were first-time, full-time freshmen)			
Male: 90 Female: 82			
High Schools (All subjects were high school senior volunteers)			
School #1 (Local Public)	School #2 (Local Public)	School #3 (Local Public)	School #4 (Parochial)
Male 20	Male 15	Male 18	Male 18
Female 16	Female 21	Female 18	Female 18
School #5 (Non-local Public)	School #6 (Non-local Public)	School #7 (Non-local Public)	School #8 (Non-local Public)
Male 19	Male 14	Male 21	Male 14
Female 17	Female 22	Female 15	Female 22

The reliability coefficients for the 30 sub-scales of the Activities Index are given in Table III.2.

TABLE III.2.--Reliability coefficients for the scales of the Activities Index*

Scale	(Kuder-Richardson Formula 20) Reliability
Abasement	.51
Achievement	.73
Adaptiveness	.64
Affiliation-rejection	.81
Aggression-blameavoidance	.69
Change-sameness	.67
Conjunctivity-disjunctivity	.70
Counteraction-infavoidance	.66
Deference	.56
Dominance	.77
Ego Achievement	.80
Emotionality-placidity	.64
Energy-passivity	.40
Exhibitionism-infavoidance	.75
Fantasied achievement	.72
Harmavoidance	.67
Humanism	.83
Impulsion-deliberation	.64
Narcissism	.71
Nurturance-rejection	.73
Objectivity	.56
Order	.82
Play	.71
Pragmatism	.74
Reflectiveness	.68
Scientism	.88
Sentience	.53
Sex-prudery	.78
Succorance-autonomy	.67
Understanding	.74
MEAN:	.69

*George G. Stern, "Environments for Learning," The American College, ed. N. Sanford (New York: John Wiley & Sons, 1962), p. 706.

The sub-scale reliability coefficients derived from the study of 1993 College Characteristics Index test forms as reported by Stern[1] are given in Table III.3.

TABLE III.3--Reliability coefficients for the College Characteristic Index scales.

Scale	(Kuder-Richardson Formula 20) Reliability
Abasement	.67
Achievement	.81
Adaptiveness	.58
Affiliation-rejection	.69
Aggression-blameavoidance	.72
Change-sameness	.44
Conjunctivity-disjunctivity	.72
Counteraction-infavoidance	.50
Deference	.60
Dominance	.57
Ego achievement	.58
Emotionality-placidity	.56
Energy-passivity	.70
Exhibitionism-infavoidance	.57
Fantasied Achievement	.40
Harmavoidance	.70
Humanism	.77
Impulsion-deliberation	.50
Narcissism	.74
Nurturance-rejection	.70
Objectivity	.70
Order	.59
Play	.75
Pragmatism	.69
Reflectiveness	.76
Scientism	.77
Sentience	.80
Sex-prudery	.71
Succorance-autonomy	.34
Understanding	.75
MEAN:	.65

[1]Geroge G. Stern, "Environments for Learning," The American College, ed. N. Sanford (New York: John Wiley & Sons, 1962), p. 706.

The reliability coefficients for the Evening College Characteristics Index first-order factor scales computed by using the split-half, odd-even technique are given in Table III.4.

TABLE III.4.--Reliability coefficients for the factor scales of the Evening College Characteristics Index.

Scale	(Split-half, odd-even supplemented by the Spearman-Brown Prophecy Formula)	Reliability
Aspiration Level		.82
Intellectual Climate		.94
Student Dignity		.81
Academic Climate		.77
Academic Achievement		.90
Self-Expression		.84
Group Life		.90
Academic Organization		.91
Social Form		.84
Play-Work		.88
Vocational Climate		.77
MEAN	.85	

The explanatory statement attached to the Evening College Characteristics Index booklets at the community college is given below:

> NOTE: The Evening College form of this index is being used because the basic instrument (The College Characteristics Index) was developed for use on campuses which have dormitories and other residential services such as laundries, complete food services, etc. Such an instrument

is, of course, inappropriate on our campus. There is no form as yet for use on community-college campuses. Because the questions in the Evening College form are applicable to our school, it is being used in the study.

The final sample sizes for each of the instruments and forms used in the study are given in Table III.5.

TABLE III.5.--Sample sizes for the instrumentation used in the study.

Instrument	Number
Activities Index	172
Evening College Characteristics Index	117
High School Characteristics Index (Sample size at each of the eight schools)	36
Personal data form (questionnaire)	117
Follow-up (Mail) (questionnaire)	101
Expressed Preference Questionnaire	148

APPENDIX IV

PROCEDURES SUPPLEMENT AND SUPPLEMENTAL ANALYSES TABLES

Cattell's r_p Correlational Profile Statistic

The statistic, r_p, is useful in helping to answer the question, "How similar are these two persons, etc., with respect to their standing on all of the independent dimensions (involved in a given comparison?"[1])

The statistic is based on the assumption that the dimensions be independent and that the scores, in addition, be in standardized form. Cattell further required that his statistic (coefficient) give some immediate indication of the degree of relationship involved within the established frame of reference. That is, that it be similar to the correlation coefficient. It would thus range from + 1.0 to -1.0 and have a mean near zero. It could thus indicate maximum similarity and dissimilarity (and relationship indicating "chance similarity"). The resulting 'pattern similarity coefficient," or r_p approximates these conditions though it is somewhat positively skewed with a mean slightly above zero.

The function having (very nearly) the desired characteristics is then given as the ratio: (Summations are understood to be over K.):

$$r_p = \frac{2\ x_K^2 - \Sigma\ d^2}{2\ x_K^2 + \Sigma\ d^2}$$

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[1] J. L. Horn, "Significance Tests for Use with r_p and Related Profile Statistics," Educational and Psychological Measurement, XXI, No. 2 (1961), pp. 363-379.

where χ^2 is the median χ^2 expected for K degrees of freedom substituted in the expression for the expected D^2. The d^2 = the observed difference in standard scores for each of the K dimensions.

The values of r_p for three levels of P (probability of exceeding a given absolute value of r_p corresponding to K degrees of freedom[1]) are given in Table IV.1.

TABLE IV.1.--Significant values of r_p at several (K) degrees of freedom and the probability of exceeding these through chance alone (at .01, .05 & .10)

	Positive r_p			Negative r_p		
K	P = .01	.05	.10	P = .01	.05	.10
3	.907	.741	.604	-.655	-.635	-.397
5	.774	.583	.460	-.552	-.436	-.360
7	.673	.491	.383	-.489	-.378	-.309
9	.600	.430	.334	-.444	-.340	-.275
11	.544	.387	.299	-.410	-.311	-.251

Assignment of Subjects to Continuity Categories

Subject's converted need scores were compared to the institution's press (Pattern congruence). Those students whose correlation coefficients exceeded the +.10 level of of significance (see Table IV.1 above) were assigned to the

[1]Horn, loc. cit., p. 367.

group designated Significantly congruent. Those whose coefficients exceeded the -.10 level (negatively) were assigned to the group called Significantly incongruent. The remaining subjects were called Essentially congruent. The group was divided at the median into high and low Essentially congruent subjects (Essentially congruent II = high; Essentially congruent I = low). The assignment into the four categories was done for the need-press comparisons using both the high school and the community college Common Beta Press (the means of the samples' perceptions of press on the 11 dimensions of the environmental indexes). (Cattell's r_p statistic was used for both analyses.)

The subjects' assignments into the above categories of congruency were compared (high school versus community college). Those whose pattern coefficients were sufficiently greater at the community college to "place" them in a higher congruence classification were classified as Positive discontinuity students. Those subjects whose pattern correlations were sufficiently smaller (closer to 0.0) to place them in a lower congruence category at the community college (than in high school) were classified as Negative discontinuity subjects. The remaining subjects were classified as Essential Continuity II (some increase in "fit" correlation) or Essential Continuity I (some decrease in "fit" correlation).

Assignment of Subjects to Adaptation Level Categories

Students were also assigned to four levels of adaptation to incongruence. The assumption was made that high school experience with incongruence (lack of fit between needs and environmental demands) would cause the student to be more "adapted" to subsequent incongruence. Because four classifications of congruence were used in both the congruence and continuity assignments, four categories were used in the adaptation level assignments. These were the inverse of the congruence assignments. That is, those subjects who were significantly congruent (high) were assigned to Adaptation Level I (low). The remaining assignments were as follows: Essentially congruent II = Adaptation Level II; Essentially congruent I = Adaptation III; and significantly incongruent (low) = Adaptation Level IV (high).

Development and Use of Expressed Preference Questionnaire

The Expressed Preference Questionnaire was developed as a brief, exploratory instrument to check student's conscious statements of perceptions of environmental demands and preferences against the more "veiled" and more objective measures used in the major analyses. (A copy of the questionnaire is included in Appendix II.)

Students were asked to indicate the amount of emphasis they remembered that their high school placed on the questionnaire factors. They were also asked to indicate their

perceptions of the amount of emphasis placed upon the same factors at the community college and their preferences for level of demand or emphasis. Ten environmental variables or factors were used. These included such factors as: academic achievement, group life, academic organization and play-work.

The student's Expressed Preference Congruence or Expressed Incongruence score was computed by adding the number of "steps" his preference differed from his stated perception of press. No attempt was made to treat directionality of preference in this brief instrument. No attempt was made to score or treat differentially the indeterminate middle (moderate emphasis) portion of the scale. The student's Expressed Congruence score was computed by subtracting his Expressed Incongruence score from 40 (this constant equalled the theoretically-maximum negative score and was used to avoid the use of negative scores in computation).

Tables IV.2 to IV.10 which follow include the summaries of comparisons between each of the eight high schools on the 11 environmental-factor dimensions and the community college and the summaries of the comparisons on the Intellectual and Non-Intellectual dimensions.

TABLE IV.2.--Comparison of mean scores on the High School Characteristics Index (high school seniors) and the mean scores on the Evening College Characteristics Index (college freshmen): High School #1 - Local Public

Factor	High School #1		Community College		F	t values	
	Mean	S.D.	Mean	S.D.			
Aspirational Level	20.57	3.85	24.72	4.17	1.08"	-3.09	**
Intellectual Climate	24.12	6.41	28.14	6.25	1.03"	-1.90	**
Student Dignity	15.20	6.83	21.86	3.59	1.90"	-3.65	**
Academic Climate	9.90	2.96	11.19	3.81	1.29"	-1.13	=
Academic Achievement	27.37	6.89	32.64	6.45	1.07"	-2.36	*
Self Expression	21.72	4.10	22.64	5.18	1.26"	- .59	=
Group Life	21.02	5.59	25.03	3.97	1.41"	-2.46	*
Academic Organization	33.55	4.95	36.69	6.97	1.41"	-1.55	=
Social Form	29.60	4.51	27.69	4.14	1.09"	1.32	=
Play-Work	25.87	3.86	19.36	4.61	1.19"	4.50	++
Vocational Climate	27.50	3.82	27.36	4.12	1.08"	.59	=

Legend:

" Homogeneous
* Significant at .05 (Community College greater)
** Significant at .01 (Community College greater)
= Difference not significant
+ Significant at .05 (High School greater)
++ Significant at .01 (High School greater)

TABLE IV.3.--Comparison of mean scores on the High School Characteristics Index (high school seniors) and mean scores on the Evening College Characteristics Index (college freshmen): High School #2 - Local Public

Factor	High School #2		Community College		F	t values
	Mean	S.D.	Mean	S.D.		
Aspirational Level	19.97	3.78	24.72	4.17	1.10"	-3.58 **
Intellectual Climate	24.50	8.01	28.14	6.25	1.28"	-1.51 =
Student Dignity	14.03	5.50	21.86	3.59	1.53"	-5.05 **
Academic Climate	8.83	3.63	11.19	3.81	1.05"	-1.90 =
Academic Achievement	25.30	7.23	32.64	6.45	1.12"	-3.21 **
Self Expression	20.22	5.34	22.64	5.18	1.03"	1.41 =
Group Life	19.42	5.05	25.03	3.97	1.27"	-3.69 **
Academic Organization	28.44	5.70	36.69	6.97	1.22"	-3.88 **
Social Form	28.11	4.65	27.69	4.14	1.12"	.29 =
Play-Work	26.36	3.66	19.36	4.61	1.26"	5.03 ++
Vocational Climate	23.81	3.50	27.36	4.12	1.18"	-2.78 **

Legend:

" Homogeneous
* Significant at .05 (Community College greater)
** Significant at .01 (Community College greater)
= Difference not significant
+ Significant at .05 (High School greater)
++ Significant at .01 (High School greater)

TABLE IV.4.--Comparison of mean scores on the High School Characteristics Index (high school seniors) and mean scores on the Evening College Characteristics Index (college freshmen): High School #3 - Local Public

Factor	High School #3		Community College		F	t values
	Mean	S.D.	Mean	S.D.		
Aspirational Level	21.57	3.47	24.72	4.17	1.20"	-2.45 **
Intellectual Climate	24.92	6.40	28.14	6.25	1.02"	-1.52 =
Student Dignity	14.05	3.49	21.86	3.59	1.03"	-6.53 **
Academic Climate	9.18	3.83	11.19	3.81	1.01"	-1.55 =
Academic Achievement	29.27	6.15	32.64	6.45	1.05"	-1.60 =
Self Expression	22.75	5.22	22.64	5.18	1.01"	.06 =
Group Life	21.28	5.53	25.03	3.97	1.39"	-2.33 *
Academic Organization	33.15	5.71	36.69	6.97	1.22"	-1.66 =
Social Form	31.20	4.23	27.69	4.14	1.03"	2.51 +
Play-Work	27.50	3.46	19.36	4.61	1.33"	6.17 ++
Vocational Climate	27.12	4.44	27.36	4.12	1.08"	- .36 =

Legend:

" Homogeneous
* Significant at .05 (Community College greater)
** Significant at .01 (Community College greater)
= Difference not significant
+ Significant at .05 (High School greater)
++ Significant at .01 (High School greater)

TABLE IV.5.--Comparison of mean scores on the High School Characteristics Index (high school seniors) and mean scores on the Evening College Characteristics Index (college freshmen): High School #4 - Parochial

Factor	High School #4		Community College		F	t values
	Mean	S.D.	Mean	S.D.		
Aspirational Level	20.72	4.42	24.72	4.17	1.06"	-2.79 **
Intellectual Climate	25.03	6.56	28.14	6.25	1.05"	-1.46 =
Student Dignity	16.53	6.58	21.86	3.59	1.83"	-3.72 **
Academic Climate	8.19	3.61	11.19	3.81	1.06"	-2.42 *
Academic Achievement	33.22	7.46	32.64	6.45	1.16"	.25 =
Self Expression	21.66	5.13	22.64	5.18	1.01"	- .56 =
Group Life	24.11	4.28	25.03	3.97	1.08"	- .67 =
Academic Organization	39.69	6.73	36.69	6.97	1.04"	1.31 =
Social Form	32.28	3.73	27.69	4.14	1.11"	3.49 ++
Play-Work	23.36	4.85	19.36	4.61	1.05"	2.54 +
Vocational Climate	26.83	3.89	27.36	4.12	1.06"	- .40 =

Legend:

" Homogeneous
* Significant at .05 (Community College greater)
** Significant at .01 (Community College greater
= Difference not significant
+ Significant at .05 (High School greater)
++ Significant at .01 (High School greater)

TABLE IV.6.--Comparison of mean scores on the High School Characteristics Index (high school seniors) and mean scores on the Evening College Characteristics Index (college freshmen): High School #5 - Non-local Public

Factor	High School #5		Community College		F	t values
	Mean	S.D.	Mean	S.D.		
Aspirational Level	20.08	4.38	24.72	4.17	1.05"	-3.25 **
Intellectual Climate	22.13	7.00	28.14	6.25	1.12"	-2.71 *
Student Dignity	16.22	4.08	21.86	3.59	1.14"	-4.40 **
Academic Climate	7.58	3.51	11.19	3.81	1.09"	-2.64 *
Academic Achievement	25.56	7.46	32.64	6.45	1.16"	-3.04 **
Self Expression	20.22	5.95	22.64	5.18	1.15"	-1.30 =
Group Life	20.78	4.71	25.03	3.97	1.19"	-2.92 **
Academic Organization	29.36	8.67	36.69	6.97	1.24"	-2.75 **
Social Form	29.11	4.68	27.69	4.14	1.13"	.96 =
Play-Work	27.11	3.89	19.36	4.61	1.19"	-5.44 **
Vocational Climate	25.67	3.88	27.36	4.12	1.06"	-1.26 =

Legend:

" Homogeneous
* Significant at .05 (Community College greater)
** Significant at .01 (Community College greater)
= Difference not significant
+ Significant at .05 (High School greater)
++ Significant at .01 (High School greater)

TABLE IV 7.--Comparison of mean scores on the High School Characteristics Index (high school seniors) and mean scores on the Evening College Characteristics Index (college freshmen): High School #6 - Non-local Public

Factor	High School #6		Community College		F	t values
	Mean	S.D.	Mean	S.D.		
Aspirational Level	20.69	3.75	24.72	4.17	1.11"	-3.00 **
Intellectual Climate	21.44	4.97	28.14	6.25	1.26"	-3.55 **
Student Dignity	14.14	3.82	21.86	3.59	1.07"	-6.23 **
Academic Climate	6.84	2.28	11.19	3.81	1.67"	-4.15 **
Academic Achievement	25.36	5.74	32.64	6.45	1.12"	-3.57 **
Self Expression	20.41	4.33	22.64	5.18	1.20"	-1.39 =
Group Life	19.06	4.12	25.03	3.97	1.04"	-4.41 **
Academic Organization	30.42	6.38	36.69	6.97	1.09"	-2.81 **
Social Form	28.78	4.62	27.69	4.14	1.12"	.74 =
Play-Work	27.44	4.17	19.36	4.61	1.11"	5.50 ++
Vocational Climate	24.89	3.81	27.36	4.12	1.08"	-1.86 =

Legend:

" Homogeneous
* Significant at .05 (Community College greater)
** Significant at .01 (Community College greater)
= Difference not significant
+ Significant at .05 (High School greater)
++ Significant at .01 (High School greater)

TABLE IV.8 --Comparison of mean scores on the High School Characteristics Index (high school seniors) and mean scores on the Evening College Characteristics Index (college freshmen): High School #7 - Non-local Public

Factor	High School #7		Community College		F	t values
	Mean	S.D.	Mean	S.D.		
Aspirational Level	20.31	3.06	24.72	4.17	1.36"	-3.65 **
Intellectual Climate	22.50	5.13	28.14	6.25	1.22"	-2.95 **
Student Dignity	12.78	5.22	21.86	3.59	1.45"	-6.07 **
Academic Climate	8.11	3.29	11.19	3.81	1.16"	-2.64 *
Academic Achievement	25.94	6.24	32.64	6.45	1.03"	-3.16 **
Self Expression	20.47	5.05	22.64	5.18	1.03"	-1.27 =
Group Life	19.50	3.71	25.03	3.97	1.07"	-4.31 **
Academic Organization	31.08	5.47	36.69	6.97	1.27"	-2.68 *
Social Form	31.17	4.96	27.69	4.14	1.20"	-2.27 *
Play-Work	25.94	4.22	19.36	4.61	1.09"	4.42 ++
Vocational Climate	28.11	2.67	27.36	4.12	1.54"	.63 =

Legend.

" Homogeneous
* Significant at .05 (Community College greater)
** Significant at .01 (Community College greater)
= Difference not significant
+ Significant at .05 (High School greater)
++ Significant at .01 (High School greater)

TABLE IV.9.--Comparison of mean scores on the High School Characteristics Index (high school seniors) and mean scores on the Evening College Characteristics Index (college freshmen): High School #8 - Non-local Public

Factor	High School #8		Community College		F	t values
	Mean	S.D.	Mean	S.D.		
Aspirational Level	19.97	4.16	24.72	4.17	1.00"	-3.41 **
Intellectual Climate	18.92	5.12	28.14	6.25	1.22"	-4.82 **
Student Dignity	16.78	4.99	21.86	3.59	1.39"	-3.43 **
Academic Climate	4.94	2.91	11.19	3.81	1.31"	-5.52 **
Academic Achievement	24.92	8.12	32.64	6.45	1.26"	-4.03 **
Self Expression	20.78	4.81	22.64	5.18	1.08"	-1.11 =
Group Life	18.75	3.57	25.03	3.97	1.11"	-4.80 **
Academic Organization	34.22	5.46	36.69	6.97	1.28"	-1.18 =
Social Form	27.78	4.42	27.69	4.14	1.07"	.03 =
Play-Work	24.47	3.49	19.36	4.61	1.32"	3.74 ++
Vocational Climate	27.64	3.69	27.36	4.12	1.12"	.21 =

Legend,

" Homogeneous
* Significant at .05 (Community College greater)
** Significant at .01 (Community College greater)
= Difference not significant
\+ Significant at .05 (High School greater)
++ Significant at .01 (High School greater)

TABLE IV.10.--Total intellectual press comparisons (between each of the eight high schools and the community college).

High School	Mean	S.D.	Community College Mean	Community College S.D.	F	t values
#1 (Local Public)	118.9	26.8	141.2	18.2	1.46"	-4.15 **
#2 (Local Public)	112.0	28.3	141.2	18.2	1.54"	-5.76 **
#3 (Local Public)	121.8	20.9	141.2	18.2	1.14"	-4.19 **
#4 (Parochial)	125.0	22.9	141.2	18.2	1.24"	-3.39 **
#5 (Non-local Public)	111.2	26.6	141.2	18.2	1.45"	-6.03 **
#6 (Non-local Public)	107.9	26.4	141.2	18.2	1.43"	-6.69 **
#7 (Non-local Public)	110.1	24.2	141.2	18.2	1.32"	-6.42 **
#8 (Non-local Public)	106.3	21.2	141.2	18.2	1.15"	-7.46 **

Legend:

" Homogeneous
** Significant at .01 (Community College press greater)

TABLE IV.11.--Total Non-Intellectual press comparisons (between each of the eight high schools and the community college).

High School	Mean	S.D.	Community College		F	t values
			Mean	S.D.		
#1 (Local Public)	158.3	14.9	158.8	14.6	1.02"	.12 =
#2 (Local Public)	148.4	20.1	158.8	14.6	1.38"	-2.37 *
#3 (Local Public)	163.0	17.9	158.8	14.6	1.23"	.99 =
#4 (Parochial)	167.9	14.7	158.8	14.6	1.01"	2.26 +
#5 (Non-local Public)	152.3	17.8	158.8	14.6	1.45"	-1.52 =
#6 (Non-local Public)	151.0	16.7	158.8	14.6	1.43"	-1.87 =
#7 (Non-local Public)	156.3	20.7	158.8	14.6	1.42"	- .57 =
#8 (Non-local Public)	153.6	16.3	158.8	14.6	1.12"	-1.21 =

Legend:

" Homogeneous
* Significant at .05 (Community College greater)
= Difference not significant
+ Significant at .05 (High School greater)

The means of student performance (fall + winter and cumulative year's grade point average) at two levels of achievement and four levels of continuity are given in Table IV.12.

TABLE IV.12.--Means of student performance at two levels of achievement and four levels of continuity for fall, winter and cumulative (year's) grade point average.

Continuity Level	Fall Mean	Winter Mean	Cumulative (Year's) Mean
Low Achievement			
Positive	2.25	2.12	2.18
Essential II (High)	2.13	2.25	2.13
Essential I (Low)	1.99	1.65	1.80
Negative	1.86	1.69	1.82
High Achievement			
Positive	2.63	2.59	2.66
Essential II (High)	2.74	2.57	2.69
Essential I (Low)	2.64	2.49	2.53
Negative	2.69	2.53	2.67

Table IV.13 includes the data from the analysis of variance of two levels of achievement, two levels of Educability, two levels of congruence and cumulative (fall + winter) grade point averages.

TABLE IV.13.--Analysis of variance: achievement (two levels), educability (two levels), congruence (two levels) and cumulative (fall + winter) grade point averages.

Source	Sums of Squares	df	Mean Square	F Ratio
Category Means	16.52	7	2.36	5.08*
Within	76.18	162	.4645	

* Significant at .0005

Means of student performance at two levels of achievement, congruence and Educability for cumulative (fall + winter) grade point averages are included in Table IV.14

TABLE IV.14.--Means of student performance at two levels of achievement and two levels of congruence and two levels of educability--cumulative (fall + winter) grade point averages.

Achievement	Congruence	Educability	Mean
Low	High	High	2.27
Low	High	Low	1.93
Low	Low	High	2.07
Low	Low	Low	1.96
High	High	High	2.79
High	High	Low	2.88
High	Low	High	2.81
High	Low	Low	2.41

The results of the analysis of variance (two levels of congruence, achievement and Adaptation level) are presented in Table IV.15.

TABLE IV.15.--Analysis of variance: congruence (two levels), achievement (two levels), Adaptation level (two levels) and cumulative (fall + winter) grade point averages.

Source	Sums of Squares	df	Mean Square	F Ratio
Category Means	30.31	7	4.33	11.38*
Within	62.39	164	.3804	

* Significant at .0005

The means of student performance at two levels of achievement, congruence and Adaptation level are listed in Table IV.16. (Performance means based upon cumulative (fall + winter) grade point averages.)

TABLE IV.16.--Means of student performance at two levels of achievement; two levels of environmental congruence and two levels of Adaptation to incongruence--cumulative (fall + winter) grade point averages.

Achievement	Congruence	Adaptation Level	Mean
Low	High	High	2.18
Low	High	Low	1.97
Low	Low	High	1.99
Low	Low	Low	1.77
High	High	High	2.99
High	High	Low	2.69
High	Low	High	2.49
High	Low	Low	2.66

TABLE IV.17.--Range of Common Beta Press (Means on each of the dimensions + One Standard Deviation) Compared to the "Average" Student Profile, "Typical Dropout," and "Typical Intended-Transfer."

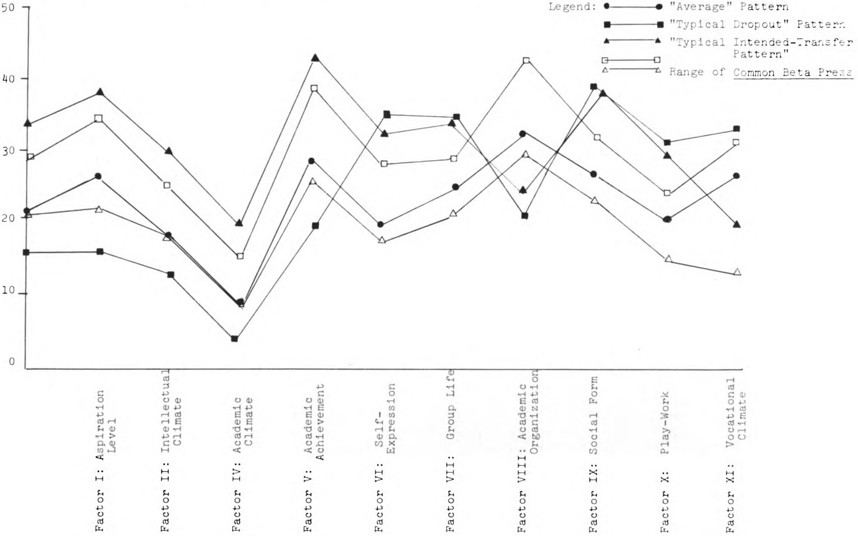

TABLE IV.18.--Profile of Means of 50 Randomly-selected Evening College Characteristics Index test forms (converted to Activities Index equivalents) Compared to the Means of 25 Randomly-selected Male and Female Activities Index test forms.