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Development of a typological description of the charter class of Callison College, Fall 1967

Beth Beard Mason
University of the Pacific

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DEVELOPMENT OF A TYPOLOGICAL DESCRIPTION OF THE
CHARTER CLASS OF CALLISON COLLEGE, FALL 1967

A Dissertation
Presented to
the Faculty of the Graduate School
University of the Pacific

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Beth Beard Mason
May 1972
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E.B.M.
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CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS

I. INTRODUCTION

"The distinction of a college depends less upon what it does to students than it does upon the students to whom it does it." John Darley's statement made in 1956 provoked a storm of controversy and resulted in extensive discussion and research. Other educational researchers have presented a modified version of the Darley thesis.

... a more fruitful hypothesis ... the efficacy of a college is the product of the fortunate conjunction of student characteristics and expectations, and the demands, sanctions, and opportunities of the college environment and its subcultures.

If an institution were without a well-established system of demands and sanctions such as exist in smoothly functioning social institutions, then Darley's contention would appear to have greater probability. Just such a case would exist with the initiation of a new collegiate institution: the presence of a group of students but the absence of an operative social system which would provide the normative components of an established collegiate environment.

This situation occurred in the Fall of 1967 with the initiation of

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2Ibid.
Callison College, the third of the cluster colleges established by the University of the Pacific. Seventy-nine freshmen and ten faculty members constituted the nucleus of persons mandated to undertake the opening phases of Callison College. The combined efforts of the students and faculty members initiated the development of social organization in a collegiate institution.

II. THE PROBLEM

Statement of the Problem

Few students are offered the experience of membership in the charter class of a collegiate institution. Such an experience involves elements of both opportunity and risk. This research explored the problem: What were the psychosocial characteristics of students who chose to participate in an innovative experience, specifically, the charter year of an experimental college?

The focus was upon:

(1) Identification of those psychosocial variables which appeared as regularities or modal patterns among the students of the charter class.

(2) Description of the pre-conceptions and expectations of the experimental college which were held by members of the charter class.

(3) Identification of the extent of homogeneity in a variety of psychosocial characteristics descriptive of members of the charter class.

(4) Comparisons between descriptions of characteristics of persons or groups identified as "innovative" and descriptions of students in the innovative experience of membership in a college's charter class.
Significance of the Study

Description of one class in a small experimental college would be of extremely limited educational significance unless it generated research and insights applicable to a wider range of students. It was with this objective in mind that it was decided to collect a wide range of information without attempting to test against predetermined hypotheses. The choice of the exploratory model was made in an attempt to generate new insights or, through the treatment of data, develop new perspectives relating to student characteristics.

At the time of Callison's founding much attention was focused upon recently initiated cluster colleges, their current characteristics and their educational futures. The question inevitably was raised, Are students of experimental colleges a distinctive group, differing in predictable ways from the average college student? While this research did not attempt any comparative treatment of collegiate populations, it may have contributed a sufficiently complete description of one experimental college population to allow for later comparisons with other groups.

On-going evaluation studies should be a part of the program of every experimental college. Most college administrators would give tacit agreement to this contention but evaluation by methods of "sentiment, educational ideology, persuasive rhetoric, or intuition" are more

frequently observed than on-going evaluation. One objective of this research was to provide data which would be useful in evaluation. It was anticipated that one aspect of the significance of the research would be related to the extent to which it contributed to a program of on-going evaluation.

Much of the rationale for small colleges, and cluster colleges in particular, is built on the assumption that they provide a personalized education. Size of student body and a philosophy which emphasizes personalized education has been identified with "high impact" institutions. The educational institution which aims to provide a consistent philosophy of education and to turn out graduates who bear the distinctive characteristics of their alma mater must either carefully select its students for admission or rigorously screen out those students who are not likely to develop characteristics, or meet criteria, which mark the alumni. For these crucial decisions the best predictive measures must be utilized. It was hoped that this research would provide some data relevant to the development of predictive measures of success criteria for Callison College.

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Finally, it was anticipated that the research would be of significance if it contributed to students' awareness of psychosocial characteristics as relevant to their educational objectives.

To summarize, it was anticipated that this study would be of significance through

(1) Exploration of a wide range of variables in an attempt to develop novel insights or hypotheses

(2) Provision of a saturation sample of one class of freshmen who had selected an unusual setting in which to initiate their collegiate careers

(3) Contribution of data for a continuing collegiate evaluation program

(4) Provision of further data relating to the development and maturational stage which is characteristic of most students entering college.

III. PURPOSE OF THE STUDY

Because of the exploratory nature of the research design no specific hypotheses were developed for testing.

Data analysis, however, was anticipated to focus on exploration of the following:

(1) Extent of homogeneity among members of the charter class and the areas in which there was greater or lesser degree of homogeneity in specific characteristics.

(2) Expectations regarding collegiate experience, particularly the objectives and goals which incoming students held. It was anticipated that both tacit and acknowledged expectations would be of significance, and that there might be either discrepancy or dissonance between the tacit and the acknowledged expectations.

(3) Characteristics of the entire Charter Class as a group, and the similarities which might be identified between them and
characteristics attributed to pro-innovative persons in the social science literature.

(4) Finally, the study attempted to develop an empirically based typology derived from the "input data" collected from members of the Charter Class. Development of such a typology would elucidate characteristics of this particular group which will lead to more productive interpretations of student characteristics and hypotheses regarding the extent of generality of the typology which were developed.

IV. ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations relevant to this research were acknowledged.

Assumptions

1. It was assumed that the behavior of the Charter Class members was meaningful and purposeful rather than random. Furthermore, it was assumed that underlying their behavior was a set of meaningful regularities and motivational patterns. Behavior in this context was intended to imply all acts which resulted in measurable data utilized in this research, such as high school activities and achievements cited in the student's history, his choice of Callison College, his responses to various test instruments, etc.

2. It was assumed that the various measurements were valid, that is, that they measured those characteristics which they purport to measure. In addition, it was assumed that these measured characteristics relate to the behaviors which are implied in their descriptive titles.

3. It was assumed that some "Hawthorne effect" inevitably affected the students who were engaged in self-descriptive tasks involved in the data collecting process.7

There was no basis, however, for assuming that any segment of the students was differently affected or experienced a different

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degree of Hawthorne effect than did any other.

4. It was assumed that the variables measured were relevant to
the educational development, the psychosocial maturation, or the
institutional evaluation. No attempt was made in this research to use
these variables for predictive purposes. No attempt was made in the
present study to use these variables to predict "success," by whatever
standard might be used to measure "success."

5. It was assumed that the recognition of individual differences
is of critical importance for an educational institution which attempts
to provide an individualized educational program for each student. If
it is possible to provide descriptions of students, or student "types,"
which can be utilized by the teaching faculty or the administrator who
is organizing an educational milieu conducive to student development,
then it is assumed that these data will be relevant to their task of
providing educationally relevant conditions.

6. It was assumed that the first term of a student's collegiate
career was a period of critical significance in establishing attitudinal
and adjustment patterns affecting the remainder of his educational
career. The first stage of any new enterprise or developmental stage
assumes disproportionate relevance for the remainder of the enterprise.

Limitations

1. Because of the size of the research sample and the special-
ized nature of its composition, the degree to which research findings
can be generalized to other populations was limited. Features which
were assumed to limit the degree of generality were (a) small number of
subjects involved, (b) factors which contributed to the choice of a
private school as opposed to a publicly supported college, (c) the
socioeconomic base from which a high proportion of the Callison students
were drawn. It may well be that the nature of the curriculum, especially
the projected Sophomore year in India, may also be a feature which
further limited the generality of the sample, but until comparative
studies are made this cannot be empirically demonstrated.

2. It cannot be demonstrated to what extent specific findings
can be generalized beyond the Charter Class. Whether the findings
relate to other cluster colleges, other "year-abroad" programs, or the
opportunity to participate in an institution's charter class--the data
did not, and cannot, distinguish.

---

8 Benjamin Bloom, Stability and Change in Human Characteristics
3. Because most of the measures used in this research were based upon "self-report" data, it must be acknowledged that they were vulnerable to "faking," the attempt to report oneself in a manner designed to create a pre-determined impression. While there was no later indication that "faking" did occur, the possibility is, nevertheless, acknowledged.

The vulnerability to "faking" was increased by the comparatively obvious nature of the data collection devices. No attempt was made to conceal the direction of the research nor to obfuscate the intent. The reasons for the research and the participatory experience were considered part of the students' educational experience and explained to him in this manner.

4. No data contained in this research were collected through interview or in a one-to-one setting with any student. Neither was any data collected through "unobtrusive measures" designs for information collection which would prevent the informant from knowing he was participating in data collection.

5. Some of the tests used were standardized separately for males and females; others were not. The data treatment plan did not call for comparative analysis of men and women in the Charter Class. Subsequent analysis of the data made it apparent that this dimension was an important variable, but at the time this became apparent it was impractical to re-group statistics for all of the measures involved.

V. DEFINITION OF TERMS USED

Experimental college. No succinct definition for the concept of experimental college was discovered. They were identified, then, as those colleges--often referred to as "progressive"--characterized by consistent and pervasive educational philosophies, expressed in practices such as permitting emphasis upon the performing arts, fusion of academic and off-campus or work experience, preoccupation with individual and/or small-group problem solving, and a concern for the personality and characterological outcomes of education. Additional trends characterize

many of the colleges labeled as experimental; they are (a) relatively small enrollments, (b) residential institutions, (c) emphasis upon liberal arts or programs of general education, usually four-year programs, (d) selective admissions policies, (e) attention to evaluation, both of the individual student and of the educational program. "The experimental college is—and most would hold must be—in a constant state of flux and change." This is perhaps the crucial element of definition.

Cluster college. "a small, semi-autonomous college on the campus of a larger university." The contemporary cluster college concept derived from the models provided by Oxford, Cambridge and the Sorbonne.

Collegiate image. Factors which contribute to the general public's perception of a particular collegiate institution. These factors include some features of the institution's history, the extent of visibility of its faculty or distinctive curricular offerings, etc. In analysis of the range of variables relating to collegiate image Astin identified six as most salient: intellectualism, estheticism, status, leadership, pragmatism, and masculinity.

Collegiate climate. Collegiate climate as used in this research included not only the above features of collegiate image but also those

10 Ibid.
characteristics which are particular to any one collegiate year, including the human participants--faculty, students, and others--who participate in any given academic year. Included in the factors contributing to "collegiate climate" were the practices and policies in effect during a given year ... to the extent that they affect the participants in the collegiate experience.

Input variables. Information descriptive of students upon entrance to a college or university. Such information is usually selected for its relevance to educational progress and programs of evaluation. These variables may refer to academic achievements or level of skills, demographic variables, psychological characteristics, or attitudinal variables.

In the most general sense an input variable is a discrete or a continuous quality (represented either in discrete or continuous distributions) which characterizes units of the system being investigated at their point of entry into that system.14

Input variables may be described as "any attributes of the person, either achieved or ascribed, which characterize him at the time he enters college and which are subject to change or mediate change in this setting." Illustrations of input variables are scholastic aptitude test scores, family income, number of siblings, etc.15


15Ibid.
Needs. "organizational tendencies which appear to give unity and direction to a person's behavior"... Needs are inferred from behavior of an individual and are assumed to be functional in that they serve the goals or purposes of that individual, or the more formal definition "... taxonomic classification of the characteristic spontaneous behaviors manifested by individuals in their life transactions."17

Press. "a taxonomic classification of characteristic behaviors manifested by aggregates of individuals in their mutual interpersonal transactions."18

Psychonomics. Psychological ecology, use of "a needs-press model which lend themselves to the study of the distribution and behavior or personalities within social organizations."19

VI. SUMMARY

The problem introduced in this chapter was that of defining the psychosocial characteristics of students who chose to participate in the charter class of an experimental college. It was assumed that the study would be of value if it generated research or insights relevant to the

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17Ibid., p. 7.
18Ibid., p. 8.
19Ibid., p. 9.
current educational interest in questions of the value of personalized education, the characteristics which attract students to cluster colleges, and if further variables useful for continuing evaluation were identified.

No specific hypotheses were presented for testing because of the exploratory nature of the research design. Data analysis was to focus on characteristics of Charter Class members, their collegiate expectations, similarities of the research subjects to prototypical descriptions of innovators drawn from the literature, and finally upon an attempt to develop a typology based upon psychosocial characteristics of the Charter Class members.

Assumptions and limitations of the research were noted. Definition of terms to be used later was presented.
CHAPTER II

REVIEW OF THE LITERATURE

I. SELECTED ASPECTS OF CONTEMPORARY HIGHER EDUCATION

Higher education in the United States has been marked through the 1960's as a decade characterized by upheaval, revolt, critical rethinking and innovation. While some of these changes might not have taken place without the impetus of student protests, many of the reforms are a product of long thoughtful observation and evaluation—often self-study—by administrators and faculties alike. Whether or not these evaluations can be viewed as inevitable or merely as crisis-induced change is, by now, a moot point. It is a truism that colleges and universities are notoriously slow to modify their practices. It was Clark Kerr who pointed out the cliche of the university as a radical institution, "when in fact, it is most conservative in its conduct."

This chapter will not attempt to cover all facets of the higher education scene of the 1960's but only those which are directly relevant to the introduction of cluster colleges in the United States. The primary organizing principle for this chapter will be data bearing on the types of persons who choose to become involved in an educational innovation, specifically a cluster college which regards itself as innovative. The milieu in which innovators can perform creatively and productively

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is, however relevant: therefore institutional characteristics and organizational practices which facilitate innovation will also be treated in the review of the literature.

Despite its reputation for resistiveness to change, the collegiate institutions in this country are facing a barrage of urgent appeals for change ranging from nostalgic pleading for return to "fundamentals" to revolutionary demands to destroy the old institutions and build anew according to the advocate's philosophy.\textsuperscript{2} Responsible observers of the educational scene cite major problems facing colleges and universities. Joseph Gusfield stresses four major social processes that are creating a new sort of college environment: (1) mass education bringing changes both in size and character of the population, (2) changes in the size and functions of modern universities, (3) an increasingly cosmopolitan faculty, more research oriented and less oriented to students, and finally, an effect of the previous three, (4) "the change from the aristocratic cultivation of persons to the meritocratic training of personnel."\textsuperscript{3} Earl J. McGrath cited the quality of the faculty as the most important element if the liberal arts college is to remain vital, but he also advocated supporting reforms of less emphasis upon research, increased faculty salaries, more effective use of resources, trimming "the bloated college curriculum," and a "re-emphasis on the cultivation in our youth of a


sense of personal understanding and social concern.\textsuperscript{4} In addition to the above problems, Paul Dressel in 1965 cited curricular change needed to bridge the gap between liberal and professional programs and loosen the departmental course-and-credit structure. Of particular relevance to this research was his advocacy of organizing essential knowledge into fewer but larger blocks, increasing student responsibility and incentive for learning, modifying "our self-satisfied preoccupation with Western culture," developing physical facilities and administrative organizations that promote learning, and restoring "continuity, sequence and integrity" to the curriculum.\textsuperscript{5} Dressel emphasized curricular reforms but Gaff advocated structural reforms--"the ways institutions organize interactions among students, faculty, and administrators" as a feature of collegiate organizations in need of amelioration.\textsuperscript{6}

Nevertheless, there is little reason to anticipate that the liberal arts college is a declining institution. Neither its numbers nor its affluence are in proportion to the intense interest in its reformation. As McGrath stated, "The liberal arts colleges are neither dead nor dying. Three hundred years of history prove them to be America's most enduring educational institution."\textsuperscript{7}


\textsuperscript{7}McGrath, \textit{op. cit.}, p. 7.
"Needs" or "Proposed Innovations" as Ameliorative Measures

In discussing "needs" or "proposed innovations," especially as they imply criticism of current functioning of collegiate institutions, no attempt will be made to differentiate universities from liberal arts colleges; most of the succeeding criticisms were general indictments of the establishment in higher education.

"Needs" cited for change within collegiate settings. Bell cited "humanizing of the educable many" as the great task of liberal education today, presumably in order to cope with the increasing diversity in the collegiate population. The unstated question was whether the traditional curriculum was appropriate to the needs of a more heterogeneous group.8

Other general charges are related to the curriculum also. Questions are raised regarding the impact of "new knowledge" on already tightly-joined curriculum, the competition of vocational programs, reluctance of faculty to modify anxiety-provoking teaching practices, lack of awareness of characteristics of a particular college, etc.9

The calls for reform reported in this section fall into the category of generalized charges for reform; that is, they advocate a direction


of reform which is, presumably, well suited to all collegiate institutions.

First, many of these reforms are essentially calls for pluralism. Jencks prescribes, "What undergraduate education needs today is not a return to the good old days of 'community' and 'shared objectives' but an advance toward pluralism and creative anarchy." Martin echoed these sentiments with a call for viable models of diversity, stating, "only radical reforms will qualify our colleges and universities for leadership in the next historic transformation of man." A more specific guide to diversity is suggested by Katz who criticizes colleges for not having "sufficiently linked these varied learning styles and approaches to their educational tasks." Second, a large body of literature is directed toward advocacy of reforms which facilitate individual development, a term which in practice means advocacy of psychological well-being and individualism. It is also referred to as Humanistic Psychology or Developmental Education. A committee of distinguished educators reveal the organizing principles of this approach in a statement of what students need most: (1) to acquire a positive and realistic conception of his own abilities, (2) see the structure and interrelations of knowledge so that he may begin the process


of forming judgments of his own (italics mine), and (3) see the relevance of higher learning to the quality of his own life and see that life in relation to the new kinds of judgments he now makes. Although the committee acknowledges these are not the sole developmental tasks for a collegian, they stress their primacy over other objectives, stating that these are tasks which should be met in a classroom before other tasks are undertaken.  

Nevitt Sanford also cites "individual development" as the primary aim of education and substantiates this aim with the contention that it is a restatement in contemporary terms of the philosophy of humanistic education that "persisted in Western civilization ever since the Greeks conceived the idea of paideia." He defined "individual development" as "a program consciously undertaken to promote an identity based on such qualities as flexibility, creativity, openness to experience and responsibility." He supplies the organizing principle in stating that what hinders human relations also hinders learning.

Katz asks the logical question of how one can consider personality without turning colleges into therapeutic institutions.

The answer lies in providing the environmental conditions and experiences that are in the interest of psychological development...any experiences, academic or otherwise, that

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15 Ibid., p. 9.

16 Ibid., p. 7.
further a student's sense of competence are going to enhance his self-esteem and affect his readiness for genuine self-awareness and self-criticism as well as his resistance to improper external pressures.17

Advocates of humanistic psychology or developmental education, then, stress educational reforms which give primacy to the psychological development and well-being of the student.

"Efficiency" may be the third rubric under which a variety of other reforms are advocated. The oft stated objective of education, "conservation of knowledge" is essentially a principle of efficiency. Bell's emphasis upon distinctive function of education being the grounds of knowledge (conceptualization, explanation, and verification), "... not what one knows but how one knows," is as much an efficiency statement as is McGrath's plea for more effective use of resources, trimming the curriculum, and retaining capable faculty through raising salaries.18

The recent massive research efforts directed at the question of "fit" between collegiate institution and the entering student is directed toward the conservation of resources, both personal and institutional.

"Fit," "match," or the technical term congruence, may be defined as "actual combinations of needs and press found characterizing ... spontaneously flourishing groups."19

17Katz, op. cit., p. 637.
18Bell, op. cit., p. 8; McGrath, op. cit., pp. 11-16.
It should be noted, however, that efficiency as a principle is an abstraction, not a guide-rule. It is related to one's philosophy and values, the order of one's priorities. Paradoxically, it is entirely possible to expend more of a commodity in order to effect an efficiency. Mayhew illustrates this point in indicating that one reason college teaching is not changing may be related to the academic conscience, the strong vein of Calvinism in most professors.

There is a strong feeling on the part of professors that a certain number of hours must be put in on the job each week. There is the argument that the committee system is really a slave to the Calvinistic conscience of the college professor. Mayhew seems to imply that by responding to the Calvinistic expectation of a specific number of work hours professors fill their schedules with committee work rather than allowing themselves a greater proportion of "free hours" which might result in more creative teaching.

A fourth call for reform focuses upon the need to expand horizons of awareness beyond the Western world, a theme repeatedly found in the literature. Because Callison College featured an emphasis upon non-Western studies, the rationale for this curricular innovation was reviewed along with examples of related programs. Revolutionary changes in communication and transportation are said to have changed the boundaries of the "cultural load" of the college curriculum forcing it to expand into Oriental and non-Western lands which a few decades ago were only the concern of "old China hands." Brown and Mayhew in an earlier

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20 Mayhew, loc. cit.

work developed this point more extensively.

As long as the main cultural, political, and economic influences on American life were exerted by western Europe, a curriculum which was centered in and focused on Western civilization was not overly distorted. But the non-Western cultures of the Orient, Africa and the Middle East have emerged as possibly the most potent forces in the world, and certainly of such influences as to demand educational attention. The educational response has been to create non-Western emphases through changes in the substance of existing courses, through new courses on Oriental or African culture, and through the enrichment of the extra class life of the college with non-Western art, lectures, and collections of readings.22

The relation of these programs to the general objectives of a liberal education was discussed by Wilson and Wilson.

To determine these qualities of mind and outlook the values and processes of liberal education must be re-examined in relation to the interests and responsibilities of the United States. The college graduate in American society must play a responsible role in the continuous debate on foreign policy, must select the experts on whom to rely, and must live with the continuing problems of national security and of incomprehensibly total war. What can the college do to equip him for this role?23

While the emphasis on non-Western studies is comparatively recent, organized programs for overseas study have been available since 1923.24

Pace credits the expansion of undergraduate programs for overseas studies to the Sweet Briar Junior Year in France and its predecessor with which:


24This is in counter-distinction to an individual student on his own initiative electing a course of study in a university outside of the United States. The programs discussed here are an integral and regular part of the offerings of the college or university in the United States and provide the student with academic credit in his home institution.
it later integrated, the University of Delaware program which began in the 1923-24 academic year.25 The Institute of International Education reported that by 1958 at least one hundred and ten colleges had initiated similar programs.26 Mayhew notes that this trend has continued.

During the past ten years there has been an almost rank growth of programs designed to get students off the home campus for a period. These range in size from the Earlham College delegation working at the Hoover Library half a continent away to Stanford's attempt to send at least half of its undergraduate population on some kind of foreign experience.27

In addition to the liberal education objectives served by non-Western studies and overseas experiences, there is some support for the rationale that overseas study provides certain vocationally relevant benefits, even for the non-specialist.

No better preparation for teaching in the United States could be found than being involved in a Peace Corps project, teaching or working in a community development in a foreign country. It is time that we began to consider a year abroad as a perfectly natural part of the education of teachers, as it is already for students and others who can afford to travel.28

Brown and Mayhew conclude that there is still no tendency to require an overseas experience for a bachelor's degree program. "Obviously not all American college students are psychologically prepared to profit from an


26Ibid.


overseas experience." In institutions with well established overseas programs they estimate approximately one-third to one-half of the undergraduates can be accommodated.29

Although generally favorable results are anticipated, there is little empirical evidence to demonstrate either the kinds of students who receive maximum benefit from overseas study or, conversely, those who should not attempt it. Neither is adequate evidence available as to precisely what aspects of student development are altered by such an experience.

The Pace evaluation of Sweet-Briar's Junior Year in France program was conducted using largely questionnaire methods distributed to alumnae of the program. The research was designed to measure results related to major topics (program objectives) suggested by Sweet Briar's President Anne Pannell. Evaluations were made of patterns of: (1) participation in adult activities reflecting interest in international affairs (both political and cultural), (2) attitudes toward other people reflecting tolerance, acceptance, and maturity, (3) attitudes toward foreign policies reflecting international mindedness and understanding, and (4) knowledge of other countries reflecting continuing awareness of world affairs and culture.30 Although this report does not discuss which objectives, if any, were not met, it does conclude that, "travel by itself is not related to the attainment of higher performance on most of

29Brown and Mayhew, op. cit., p. 78.
30Face, op. cit., p. 13.
the objectives in this battery of tests." Pace summarizes the results by saying,

In general . . . the data presented . . . indicate that cultural influences from the Junior Year in France experience are substantial. Such influences were apparent in their essays which reflected values attributed to foreign study, in the personal-social tolerance reflected in the social distance scale, in the familiarity with significant contributions to contemporary culture from other countries as well as from the United States, and from frequent participation in activities which reflect continued use of language skills and continued interests in exposure to other cultures.31

These conclusions are similar to those derived from later research by Lozoff. Focusing on the psychosocial development of a group of Stanford and University of California, Berkeley, men, she observed, "Regardless of their place of campus residence, almost all of the men benefitted in their social development from participation in overseas campuses."32 She interpreted the beneficial effects as deriving from placing a relatively homogeneous group in an unfamiliar setting which necessitated mutual helpfulness, the fact that enjoyment derived from the new experience was regarded as approved and acceptable, and the lessened competitiveness.33

The fifth need cited for reform involves collegiate institution's relation to the larger society. Although the university has in the past been stereotyped as an "ivory tower" and its students allowed to

31Ibid., p. 42.


33Ibid.
experience a "psychosocial moratorium" there has been a growing recognition of the unreality of these concepts. Perhaps no book of recent years had had more impact in demonstrating the interdependence of the university and the larger society than has Clark Kerr's work The Uses of the University. Ironically, it was in this work that he coined the term multiversity which, this writer contends, has contributed to the scapegoating of that institution and numerous proposals for "reformed" models of collegiate institutions. Kerr defined the concept simply:

The university started as a single community--a community of masters and students. . . . Today the large American university is, rather, a whole series of communities and activities held together by a common name, a common governing board, and related purposes.

The diversity of the multiversity is so great that it necessarily appears "to be partially at war with itself" but he defends this lack of consistency as analogous to the modern city of infinite variety. After stating a number of the conventional "ends of a university" Kerr stated that the multiversity has "no single 'end' to be discovered; there are several ends and many groups to be served." These goals have their "reality rooted in the logic of history. It is an imperative rather than a reasoned choice among elegant alternatives."

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36Ibid., p. 38.

37Ibid., p. 6.
Whether the critics of the multiversity object to its complexity *per se*, its marketable research services, or whether they associate the institutional form with the subsequent student protest movement cannot be discerned. Martin charges that many of the critics "only have pretensions to diversity and in actuality have only one model, "the versity—multi-, uni-, or mini." The critics are imitating that which they disavow. "Almost all liberal arts colleges, having no respectable, challenging alternative models for their future, are trying to become mini-versities."38

The Experimental Program in Berkeley initiated by Joseph Tussman cannot be regarded as other than a partial response to its parent, the multiversity. Tussman cites the most significant conflict on the modern campus as the subtle conflict between the university and the college. Staffed by highly trained specialists, "the university is for multiplicity and knowledge; the college for unity and understanding."39 The central concern of the liberal arts college is "the mind of the person, not the body of knowledge."40 While Tussman agrees that "society is a party to the college and to meet society's legitimate /italics min\text{\textit{s}}/ demands is not a betrayal," he decries the expectation that "The college, when it is not blamed for causing all this /social unrest/ is at least

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40Ibid.
expected to cure it."\textsuperscript{41} Programs such as Tussman's are not numerous but they serve to illustrate one position with regard to the relation of a collegiate institution--university or college--the boundaries of responsibility to the social context within which the institution operates.

Traditionally one of the missions of the college was to prepare its students for responsible participation in society at some later date. The view of collegiate years as a moratorium during which experimentation was anticipated and decisions were not critical allowed for a more leisurely consideration of issues and less sense of pressure. Accelerated communications, a lessening of provincialism, a sense of communal guilt over the nation's social ills have given impetus to the student activists who demand that the college involve itself directly in political causes. The question of the appropriateness of the university assuming a political stance is not immediately relevant to this research. It is noted only because many collegiate innovations are based on concepts of experiential education, "learn by doing," and one encounters the expectation that the community is to be the classroom, the laboratory, or both. The extent to which innovative programs become directly involved in political action will play a major role in the type of students and faculty it attracts, the organization of its curriculum, and the publics who either support or reject it.

\textbf{Stated Objectives of Liberal Education}

The five reforms noted above imply a marked discrepancy in

\textsuperscript{41}\textit{Ibid.}, p. 24.
judgment as to locus of the problem. To what extent do the definitions of liberal education, or the stated objectives of various collegiate programs, offer a clue as to their actual function or potential effect upon students? In reviewing the literature a remarkable similarity was noted in the definitions stated by spokesmen of highly divergent philosophical positions or representatives of distinctly differing institutions or those with highly distinctive student bodies.

Katz has noted the variety of social functions which colleges in our culture serve. In addition to general education, colleges provide an avenue for social mobility as well as a meeting place for the sexes and preparation for marriage. They contribute to socialization and provide some preparation for the work world while simultaneously keeping "the young off the streets," and a large section of the population off the job market.42 The question, however, is which of these functions are legitimately related to the objectives of a liberal arts education.

Spokesmen in the Developmental Education Humanistic Psychology tradition state that they reject the "body of knowledge" tradition while citing the chief goal of the college or university--"to train and develop the human intellect, extending the power of independent and balanced thought and deepening the powers of discrimination and critical expression."43 Although they feel their approach is consistent with traditional


approaches, the distinctive aspects of their approach is their assumption that
the college must recognize that even its instructional goals cannot be effectively achieved unless it assumes some responsibility for facilitating the development of the total human personality. 44

Furthermore, they state, "... very important developmental needs ... should be met in a classroom before other tasks are undertaken." 45

(Italics mine)

The above statements are representative of what Tussman refers to as "personalist heresy." He defines a college simply as consisting of "faculty and students appropriately related by and involved in a plan or program of study." 46 (Italics his) But the purpose which he states for a college is, scarcely discernable from others.

... to develop our rational powers, to heighten sensitivity to and awareness of fundamental human problems, to cultivate and strengthen the habits and dispositions which make it possible for humanity to displace the varieties of warfare with institutions, the practices, and the spirit of reasoning together. 47

Bell avoids "the personalist heresy" when he stresses the liberating function of educational goals.

The university cannot remake the world ... It cannot even remake man. But it can liberate young people by making them aware of the forces that impel them from within and constrict them from without. 48

44 Ibid., p. 6.
45 Ibid., p. 11.
46 Tussman, op. cit., p. 4.
47 Ibid., p. 3.
He cites the objectives of a liberal education which may be achieved through the curriculum as overcoming intellectual provincialism, developing appreciation of the centrality of method, gaining an awareness of history, showing how ideas relate to social structure, understanding the way values infuse all inquiry, and demonstrating the civilizing role of the humanities.49

Despite his identification with humanistic psychology, Nevitt Sanford's definition of liberal education would probably achieve greater consensus than the others previously presented.

A truly liberal education . . . seeks to develop certain qualities within the person: an ability to think well and independently, a disposition to inquire into matters and to know how the inquiry can most effectively be carried out, an awareness and understanding of self, a capacity to respond to the manifold aspects of our culture, a sense of responsibility for the well-being of society.50

Indices of Success in Meeting Educational Objectives

The first step in educational reform is a clear definition of goals, as illustrated in the above definitions. Specific objectives, however, call for specific operational definitions of "success." No attempts will be made here to illustrate either the principles, theories, or measuring devices of the complex field of educational evaluation. Rather than review conventional measures of achievement, several non-traditional ways of evaluating "success" will be noted as illustrative of

49Ibid.

the varying concepts of what is successful.

Kerr who stresses the interdependence of the multiversity and the society in which it is embedded offers one measure of success,

The major test of the modern American university is how wisely and how quickly it adjusts to the important new possibilities. The great universities of the future will be those which have adjusted rapidly and effectively.51

A second test may well rank Chickering as one of the most original contributors to the literature of evaluation. He states that the most important index of a college's success and of its social contributions may be how it relates to its Misfits. They may be assisted in clarifying their own purposes and potentials leading to transfer to "more developmentally powerful or roomy settings," or, for those Misfits whose development has not yet reached the norms of the entering class, the college helps them survive and accelerate their own development.52

Finally, there is the oft-quoted statement of Heist,

... the efficacy of a college is the product of the fortunate conjunction of student characteristics and expectations, and the demands sanctions, and opportunities of the college environment and its subculture.53

More popularly this concept is referred to as "fit," "match," or "congruence." Success is more likely when student expectations and institutional


norms are relatively compatible.

Where major aspects of a student's goals or dispositions are initially congruent with those of the institution, he is more likely to be influenced and undergo change in the direction of the institution's values and norms.54

II. INSTITUTIONAL CHARACTERISTICS
AND COLLEGIATE CLIMATE

One by-product of the heightened concern for higher education, discussed in the previous section, is attention to the distinctive features of collegiate institution and their relationship to educational impact. In this section literature will be reviewed which deals with the attempts to develop systems of classification and measurement relevant for the understanding of "collegiate climate."

Nominal classifications

Normative procedures for identifying characteristics of collegiate institutions are employed by accrediting agencies, professional groups, and various special interest groups of faculty. Criteria considered include measures such as teaching load, salary scale, percentage of Ph.D.s on the faculty, endowment assets, et cetera. These criteria are suitable for statistical analysis and rely on easily enumerated characteristics.55


Nominal, conventional classifications schemes often are cited according to type of curricular organization, type of control, and whether or not the institutions are coeducational.56

Both Newcomb and Stern note the limited usefulness of these classification systems for the educational researcher because they cannot be directly related to impact.57

The common questions, appropriate to any educational institution, are not What are its physical assets? but What is it trying to accomplish? and not How much has it got? but How well does it achieve its objectives?58

Barton has identified and developed a classification of college organization variables relevant to a wider range of variables. These variables are summarized below:

(1) Input measures: Human (characteristics of students faculty, administrators), Economic inputs (expenditures, tuition, endowment), Physical Facilities (library, laboratories, etc.)
(2) Output measures: Attainment of students (knowledge, values, interests, etc.), Attainments of faculty (research and publication)
(3) Environmental Variables: Community and regional context, Type of controlling authority, Financial Dependence
(4) Social Structure: Formal authority structure, Influence structure, Communications and work contacts, Informal social relations, Division of labor and departmentalization, Size, Formal living arrangements
(5) Attitudes: Organizational goals and values and norms, Perceptions of organizational characteristics, Satisfaction with roles or organization
(6) Activities: Individual role behavior, Collective activities (curriculum, teaching methods, etc.), Administrative devices

57Ibid., p. 122.
58Stern, loc. cit.
(admissions, testing, counseling, etc.)

Demographic classifications

Demographic data may be used in classifying collegiate institutions and while they may or may not be useful as direct measures of educational quality they may provide valuable clues in that they identify conditions which facilitate impact. Such indicators might be size of enrollment, operating budget of the school, library resources, average level of training of the faculty, faculty-student ratio, etc.

Both demographic characteristics and the conventional nominal characteristics were utilized in Astin's factor analytic study of three hundred thirty five colleges and thirty three major attributes. Factor analysis reduced the data to six principle dimensions on which institutions differ:

1. Affluence: financial resources of the school, as well as faculty and student "assets"
2. Size: total enrollment, library size, curricular variety, etc.
3. Private versus public control
4. Masculinity versus femininity (percentage of males in student body)
5. Homogeneity (degree to which students majoring in one field predominate, curricular variety, etc.)
6. "Realistic" or technical emphasis


60 Feldman and Newcomb, op. cit., pp. 122-123.

One perspective from which to view a collegiate institution is that of its image, not what empirical data measure but what a public believes to be true of an institution. Image may effect a college in a variety of ways but undoubtedly the most critical is in terms of a "screening device" for potential students.

... a college's public image determines in large measure the kind of students that enter it. Images are characteristics of a college that shape student self-selections; they help delimit a clientele or social base ...

Some researchers see the concentration of certain student types in the population as the critical factor in an institution's productivity. This position is summarized in John Darley's statement.

Without cynicism, one might state that the merit of certain institutions lies less in what they do to students than it does in the students to whom it does it.

Measurement of college characteristics in the formal, nominal sense or descriptions of "college climate" may serve a variety of purposes. One of the most crucial and widely publicized is that of providing for a better "match" of student and institutional characteristics. This matching is often referred to as "fit," a term Feldman and Newcomb define as a "reciprocal adaptation of differential selection of student recruits.

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and of environmental characteristics provided by the institution."64
Keeton cites the fact that traditional criteria for college admission are often defective and that one recommendation relevant to creating a context for "distinguished colleges" of the future is improved estimates of "fit."65

**College environment**

Increasingly educational researchers have drawn on a variety of informational sources in order to measure collegiate ecology, or "college climate." Astin defines "college environment" as "any characteristic of the college that constitutes a potential stimulus for the student, i.e., that is capable of changing the student's sensory input." To facilitate empirical measurement he modifies the above theoretical definition as follows:

... any behavior, event or other observable characteristic of the institution capable of changing the student's sensory input, the existence or occurrence of which can be confirmed by independent observation.66 (italics mine)

In an intensive study of the environments of two hundred forty-six institutions Astin used ICA67 in an attempt to discover which

64Feldman and Newcomb, op. cit., p. 145.


67ICA, Inventory of College Activities, is a test developed by Astin which measures actual "behavior" rather than "impression," the data on which College Characteristics Index and related tests are based.
"environmental stimuli" were most descriptive of institutional types. Statistical analysis reduced a large number of variables to twenty seven factors.


(2) The Classroom Environment: Involvement in the Class, Verbal Aggressiveness, Extraversion of the Instructor, Familiarity with the Instructor, Organization in the Classroom, Severity of Grading

(3) The Administrative Environment: Severity of Administrative Policy against Drinking, Severity of Administrative Policy against Aggression, Severity of Administrative policy against Heterosexual Activity, Severity of Administrative Policy against Cheating

(4) The Physical Environment: Spread of the Campus, Friendliness of the Dorm Counselor or Housemother

These characteristics are then used to differentiate "collegiate climate" in a university from that of a technological institution, a public institution from that of a Roman Catholic institution, and various other comparative organizational differences.

Astin's description of significant features of collegiate environment was empirically derived. Stern, on the other hand, utilized an assessment methodology based on a framework of psychosocial concepts and theory. He considered the pertinent questions about an institution should be related to process and purpose rather than appearances. This

68Astin, op. cit., p. 119.

69Stern, loc. cit.
allowed him to define college community as

... a system of pressures, practices, and policies intended to influence the development of students toward the attainment of institutional objectives.70

The theoretical basis on which his work is grounded is that of Henry A. Murray's need-press model. Murray's work is of critical value here because, despite extensive and detailed systems of taxonomies developed by other theorists, Murray's work has maintained "the focus of the discipline on the lives of people, as distinguished from their isolated acts."71

All assessment methodologies are based on the fundamental premise that "behavior is a function of the transactional relationship between the individual and his environment."72

It is no more possible to predict the behavior of an individual in a situation without referring to the situation, than it is to predict the behavior of an individual in action without considering the conditions under which this action will be made manifest.73

The two concepts fundamental to this approach are those of Need and Press. Press may be defined most simply as "those aspects of the environment which are significant for the determination of behavior."74 For practical purposes press must be subdivided into alpha press and beta press.

70Ibid., p. 4.
71Ibid., p. 6.
73Ibid., p. 53.
74Ibid., p. 36.
Alpha press refers to "elements in the environment which actually exist and are capable of affecting the behavior of the participating individual."\textsuperscript{75} These elements may be subliminal, the only criterion being that of their potential to precipitate a behavioral response, even if the causal relationship is inferred (rather than directly observed) by a trained observer.\textsuperscript{76} Common beta press refers to "particular ways of perceiving the environment ... [which are] ... shared by members of a functional group."\textsuperscript{77}

In his contemporary work Stern uses needs, defining them as "organizational tendencies which appear to give unity and direction to a person's behavior." Needs, like press, must be inferred. The basis for the inference is observable behavior which is (1) functional, that is, identified with the goals and purposes of the individual in a specific interaction, and (2) revealed through an individual's modes of behavior.\textsuperscript{78} Both aspects allow for the observed behaviors to be fit into a taxonomy, a process important to the development of an assessment. This allows Stern to further describe needs in a more systematic manner as

\ldots a taxonomic classification of the characteristic spontaneous behaviors manifested by individuals in their life transactions.\textsuperscript{79}

Using the original concepts of press and integrating them into a

\textsuperscript{75}Ibid.
\textsuperscript{76}Ibid.
\textsuperscript{77}Ibid., p. 37.
\textsuperscript{79}Ibid., p. 7.
taxonomy, Stern is enabled to redefine press as,

... a taxonomic classification of characteristic behaviors manifested by aggregates of individuals in their mutual interpersonal transactions.80

Provided with a taxonomic classification of individual needs and institutional presses, the observer is facilitated in assessing complementarity. It should be remembered, however, that these are not one-to-one relationships, or discrete events.

The needs components of any given interaction relate to the situational press in an adaptive manner, but the character of that adaptation will be the function of the total person and the total environment at the given moment in time.81

It is for this reason also that assessment practice restricts itself to a period of time, usually the immediate present, for which there are no major or sharp breaks.82

Using this need-press model allows for a significant progression in the definition of "college climate." It may now be defined as conditions which facilitate or impede the expression of needs.83 This theory is expressed in terms of the relationship of individuals to their environmental setting and because it provides a taxonomy sufficiently complex for measuring the interactions within that environment that Stern is able to refer to the model as illustrative of "psychological ecology"

80Ibid., p. 8.
81Ibid.
82Stern, Stein, and Bloom, op. cit., p. 39.
83Stern, op. cit., p. 7.
and identify the process as psychonomics.\textsuperscript{84, 85}

In attempting to match institutional types with students whose needs would be best met by a specific institution's climate researchers have used the term congruence. "Congruence may be defined empirically in terms of the actual combinations of needs and press found characterizing . . . spontaneously flourishing groups." A dissonant match would be one in which need and press combination is unstable or lacks complementarity. The mark of a congruent relationship is that it produces a sense of satisfaction or fulfillment for the participant.\textsuperscript{86} Mayhew concurs with this interactionist view.

Increasingly it is clear that satisfaction or success of a college experience is a result of the interaction process between students and the total college environment. Students act on the environment and the environment acts on students and each is affected by the reaction of the other.\textsuperscript{87}

\textsuperscript{84}Ibid., p. 9.

\textsuperscript{85}It should be noted that the frequently used term "institutional ethos" represents one component, not the totality, of a collegiate environment or climate. In defining institutional ethos Clark and Trow note that a college has an "official culture, historically derived and reflected in the present belief and practice of the paid staff." Student culture is effected by this official culture through two means, institutional purpose and, second, the distinctiveness of character and image of the college. /Burton R. Clark and Martin Trow, "The Organizational Context," College Peer Groups (Chicago: Aldine Publishing Company, 1966), p. 33/. Mayhew's definition of institutional ethos is essentially the same although he cites a larger number of components: present and historical purpose, distinctiveness of character, the interests and orientation of faculty, administrative concerns and interests. /Lewis Mayhew, Colleges Today and Tomorrow (San Francisco: Jossey-Bass Inc., 1969), p. 133/.\textsuperscript{7}

\textsuperscript{86}Stern, op. cit. p. 8.

\textsuperscript{87}Mayhew, op. cit., p. 132.
The specifics of exactly how features of institutional climate effect the output or end-product of an institution are not yet clear; the instruments for measuring the environment are still in the formative stages. Doi contends that as of now "colleges and universities do not ... possess valid measures of 'educational productivity'." 88 Mayhew speculates on the elements of collegiate climate which seem to have relevance for the learning process 89 but his general conclusion is "there is no comprehensive body of research that can explain how institutional factors affect the learning climate." 90

III. PART ONE

THEORIES OF INNOVATION

The literature on innovative practices is divided into separate components related to subject matter or field in which the innovation is being studied. The four major bodies of literature relate to (1)


89 "Elements of collegiate environment which seem to have particular relevance for learning are visibility, balance and organization of the curriculum, the total college climate or press, size of the unit in which learning takes place, degree of personal interaction with some faculty, student subcultures and various subgroupings within it, the administrative point of view, the campus itself, the interaction on the campus, the self-selection which creates a given student body, the prevailing educational philosophy, the presence or absence of role models, the blending of learning and living, the operative environment, and the reward system." Lewis B. Mayhew, Colleges Today and Tomorrow (San Francisco: Jossey-Bass Inc., 1969), p. 139.

90 Mayhew, op. cit., p. 127.
anthropology, (2) rural sociology, (3) medical practice, including drug usage, and (4) education. There is very little overlap in the bibliographies supporting these publications. Only two works known to the writer acknowledge or interrelate with publications on innovation in fields other than the author's own.91 Although no attempt will be made to include it, there is also an extensive body of literature dealing with theories of social change. Work that has been done in anthropology characteristically deals with how a primitive group deals with an innovation provided by a more technologically advanced culture and is not considered relevant to this research.

The review of the literature in this study will deal with innovations within contemporary societies and, in this section, the objective will be to limit the materials covered to those which illustrate theoretical principles of innovation. A later section of the review will deal with specific educational innovations.

Within this section of the review, definitions of terms used in the literature on innovation will be provided first. The social factors related to the acceptance, rejection, and/or diffusion of an innovation will then be discussed, followed by research dealing with the personality characteristics of innovators. The innovative process and its phases, including diffusion and strategy for later change will be covered next. A short section will follow dealing with literature on educational innovations.

evaluation. Finally, from the literature on higher education, materials will be drawn which provide illustration of the various characteristics of the innovative process.

Definition of Terms Used

**Innovation**

a. "... any thought, behavior or thing that is qualitatively different from existing forms."92

b. "... any idea perceived as new by the individual."93

c. "A deliberate, novel, specific change, which is thought to be more efficacious in accomplishing the goals of the system."94

**Social system**

a. "... a population of individuals who are functionally differentiated and engaged in collective problem-solving behavior."95

b. "... a bounded collection of interdependent parts, devoted to the accomplishment of some goal or goals, with the parts maintained in a steady state of relation to each other and the environment by means of (1) standard modes of operation, and (2) feedback from the environment about the consequences of system actions."96

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93 Rogers, op. cit., p. 13.
96 Miles, op. cit., p. 13.
Adoption process. "The mental process through which an individual passes from first hearing about an innovation to final adoption." Stages of the Adoption Process are (1) awareness, (2) interest, (3) evaluation, (4) trial, and (5) evaluation.97

Adoption. "... A decision to continue full use of an innovation ... which implies that the adopter is satisfied with the innovation."98

Diffusion. Diffusion is the process by which an innovation spreads.

The diffusion process is the spread of a new idea from its source of invention or creation to its ultimate users or adopters. The essence of the diffusion process is the human interaction in which one person communicates a new idea to another person.99

Innovator. The innovator is simply the first individual in a social system to adopt a new idea.100

Change Agent. "A change agent is a professional person who attempts to influence adoption decisions in a direction that he feels is desirable."101 His role may involve facilitating the adoption of an innovation, slowing the process, or preventing its adoption.

98Ibid.
99Ibid., p. 13.
100Ibid., p. 207.
101Ibid., p. 17.
Opinion Leader. "Those individuals from whom others seek information and advice."102

Advocate. The term advocate is used by Barnett to include both the roles described by Rogers as change agent and opinion leader.

Cosmopoliteness. "... the degree to which an individual's orientation is external to a particular social system."103

Reversion phenomenon. Reversion phenomenon refers to the fact that "experimental adoption" did not reach "complete adoption."104

PREREQUISITES TO INNOVATION

The innovator has a number of distinctive personality characteristics and occupies a unique position within his social system. Thus both the precipitating social conditions and the individual needs must be reviewed.

Social conditions as incentives for change. Miles discusses factors within the target system which affect its receptivity to change. He cites:

a. Stability-maintaining forces, including entrenched and

102 Ibid., p. 16.
103 Ibid., p. 17.
stabilized patterns of interaction and communication.

b. Number of crises being dealt with or innovations being undertaken.

c. Internal pressures, such as conflict within sub-systems, administrative need for increased efficiency, or sheer boredom.

d. Change limiting factors, such as (1) financial limitations or (2) "underlying norms concerning the appropriateness of change in general."105

These factors relating to receptivity are similar to those cited by Evans: seed money, enthusiastic proponents, or crisis situation.106

Miles questions whether there is actually an optimal condition of a system, a "ripeness for change." He concludes that the "general properties of the target system in existence prior to the introduction of an innovation operate to reject, modify, affect, and maintain the innovation."107

The most extensive discussion of the cultural context required for innovation is found in Barnett's work. He cites:

a. Minimum pre-conditions: Accumulation of ideas within a society (cultural inventory) and Concentration of these ideas.

b. Collaboration of Effort: "... does not take place inevitably or haphazardly. It is culturally induced and sanctioned."


106Evans, op. cit., p. 140.

107Miles, op. cit., p. 647.
c. Expectation of change: Factors which contribute to the expectation of change include presence of persons who have previously experienced social change, have a philosophy which views it as natural, inevitable, or morally good, and a concept of progress which dictates change as a necessary response to situations that are less than satisfying.

d. Attitudes toward authority: Lack of authority-dependent attitudes, or, instability in society's sources of authority may contribute to innovation.

e. Competition of rivals.

f. Deprivation of essentials, either actual or threatened.¹⁰⁸

Individual needs as incentive to change. Within a climate conducive to innovation not every individual will become an innovator. In this section the discussion will be limited to factors which effect or activate individual motivations; in a later section, personality characteristics of persons who actually become innovators will be discussed.

"Need for self definition" provides the psychological conditions which act as incentive to innovation; that is, the innovation is a by-product of the desire which is part of the individual's self-definition. Barnett refers to these conditions as "central subliminal wants" because

... they embody the individual's conception of himself and are his means of self-realization, self-assertion and self-consistency. They provide him with indispensable mechanisms for establishing and maintaining himself as an integrated, continuing entity, the same now as in the past and continuing into the future.¹⁰⁹

Four basic subliminal wants are cited: Orientation or structuralization; Striving for meaning; Ego domination of the perceptual or cognitive field


¹⁰⁹Ibid., p. 113.
of experience; and Protection. 110

A second level of precursors of innovation is that of Dependent Wants, needs which are "preceded or conditioned by the need for something else" but "their linkage in time, place, or function necessitates a novel solution to the dilemma that their conjunction presents." 111 These may be categorized as

1. Convergent Wants. "... it frequently happens that two or more wants of different origins converge upon a single activity with innovative consequences."

2. Compensatory Wants. "... denial prompts the individual to adopt an alternative or a subsidiary want; and in attempting to satisfy it or his original desire, he creates a means or an end that is new to him and may be novel to others."

3. Entrained Wants. "The fulfillment of one need establishes conditions out of which others emerge." 112

Finally, there are innovations which are precipitated by the Desire for Change. These "wants" are based upon a voluntary or self-imposed rejection of customary usage in favor of new alternatives. The four variations of "desire for change" are based upon (1) Creative Wants, (2) Relief and Avoidance Wants, (3) Desire for Quantitative Variation, (4) Orbid.

110 Ibid., pp. 113-126.
111 Ibid., p. 127.
112 Ibid., pp. 127-148.
and (4) Vicarious Wants.\textsuperscript{113}

Characteristics of the Proposed Innovation. Miles cites a number of factors ("properties of the innovation") relevant to potential adoption and continuing use of an innovation. These are

a. \textbf{Cost}, including time, energy and money\textsuperscript{114}

b. \textbf{Technological Factors}: the need for direct experience with a particular innovative device or the seal of approval by technical experts.

c. \textbf{Availability of Associated Materials}: adjuncts which would facilitate ease of adoption.\textsuperscript{115}

d. \textbf{Implementational Supports}. ". . . the more 'self-teaching' the materials are, the more likely they will be adopted and continued."

e. \textbf{Degree of Innovation-System Congruence}. Factors relating to congruence include extent to which innovation is perceived as a threat to existing practices, ease with which it can be institutionalized, extent to which it has familiar characteristics with which the potential adopter can identify, extent to which it reduces gap between ideals and practice, extent

\textsuperscript{113}Ibid., pp. 152-180.

\textsuperscript{114}Barnett notes that the psychological consideration of cost is a relative judgment, ". . . a function of an individual's economy of preference." Ibid., p. 361.

\textsuperscript{115}Barnett indicates that one reason that some innovations are rejected as lacking efficiency is that, ". . . being untried, they are clumsy, inefficient, and untrustworthy." Ibid.
to which it does not require important value changes, and extent to which its adoption promises increased possibility of initiative-assumption and autonomy for its users.\textsuperscript{116}

Regardless of the above factors, Miles observes,

\ldots educational innovations are almost never installed on their merits. Characteristics of the local systems, of the innovating person or groups, and of other relevant groups often outweigh the impact of what the innovation is.\textsuperscript{117}

Rogers presents a succinct list of factors relative to the adoption of an innovation. They are:

\begin{enumerate}
  \item Relative Advantage: \ldots degree to which an innovation is superior to ideas it supersedes.\textsuperscript{118}
  \item Compatibility
  \item Complexity
  \item Divisibility
  \item Communicability
\end{enumerate}

Barnett introduces one principle relevant to the characteristics of a proposed innovation. He cites the pleasure-pain principle and notes, "Hedonistic considerations enter into the determination of novelty values, and frequently they are the deciding factors in acceptance or rejection."\textsuperscript{119} The anticipation of pain or, to use Barnett's term,

\begin{itemize}
  \item \textsuperscript{116}Miles, \textit{op. cit.}, pp. 635-639.
  \item \textsuperscript{117}Ibid., p. 635.
  \item \textsuperscript{118}Like Rogers, Barnett notes that relative advantage is a psychological factor specific to the potential innovator. He notes that "the judgment /that a thing is enjoyable/ cannot be based upon the value system of an advocate as opposed to that of the acceptor." Barnett, \textit{op. cit.}, p. 364.
  \item \textsuperscript{119}Ibid.
\end{itemize}
Penalty, can deter adoption regardless of novelty value. "Obviously, if a person fears some punishment as a consequence of adopting a novelty, he is constrained to reject it regardless of its appeal for him." 120

Role and Personal Characteristics of the Change Agent. The change agent performs the functions of an advocate. The distinguishing characteristic of change agents, most of whom are local-level bureaucrats, is cosmopolitanism. 121, 122

The change agent must function in two social systems, the more cosmopolitan one from which he derives his innovative ideas and the less cosmopolitan one from which contains the "target system" he attempts to influence. One of the most delicate aspects of the change agent's role is establishing communication ("linkage") with his clientele. 123 Many change agents are professional persons with a product to sell, such as the pharmacy drug-detail man or the county agricultural agent.

The more general term, advocate, is used by Barnett to cover a number of interdependent roles, those of change agent, opinion leader, and inventor. In practice these roles may be virtually impossible to differentiate. Four salient characteristics of the advocate are noted.

a. Prestige. An advocate's prestige may be one of the decisive

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120Ibid., p. 371.


122"Cosmopolite" is the term which Rogers uses. He gives no explanation why he does not use the more conventional term cosmopolitan.

123Rogers, op. cit., p. 268.
factors influencing acceptance or rejection of a novelty. The relevance of an advocate's prestige is limited to specific groups and specific areas of competence.\textsuperscript{124}

b. Personality (sic). Desirable personality characteristics are a part of successful advocacy and also diffuse to the object of advocacy.\textsuperscript{125}

c. Personal Relations. "People will often accept a recommendation if it comes from a friend and reject it if it comes from a stranger."\textsuperscript{126}

d. Majority Affiliation. Majority affiliation is a perceptual, not an empirical reality.

In actual numbers the supporters of a new idea need not constitute a majority or even approximate it. They need only give the impression that they are or must inevitably become the majority.\textsuperscript{127}

**THE INNOVATIVE PROCESS**

The literature on innovation often focuses on the characteristics of the acceptor as if innovativeness represented a dicotomous quality—\textit{one either is or is not}. In practice, innovativeness represents a

\textsuperscript{124}Barnett, \textit{op. cit.}, pp. 318-319.

\textsuperscript{125}\textit{Ibid.}, p. 321.

\textsuperscript{126}\textit{Ibid.}, p. 323.

\textsuperscript{127}\textit{Ibid.}, p. 327.
continuum ranging from the early adopter and/or innovator, to the late adopter and/or laggard. This section will, however, focus on qualities of the early adopter or innovator.

**Individual characteristics of the innovator.** Three "interlocking hypotheses" are offered by Barnett in reviewing characteristics of innovators and early adopters.

a. **Satisfaction of wants** An individual will not accept a novelty unless in his opinion it satisfies a want better than some existing means at his disposal ... the thesis is that novelty has less appeal for those who are enjoying the benefits of a functional alternative than for those who are not.\(^{128}\)

b. **Biographical Determinants** which predispose an individual to accept a substitute. These determinants relate to the interplay of the individual's self-concept and his life history.\(^{129}\)

c. **Individual's dissatisfaction.** Some individual's may be predisposed to be universal acceptors because any change is preferable to their current state.\(^{130}\)

Personal characteristics and attributes of innovators or early acceptors are cited in all major sources.

a. **Mental ability.** Evidence relating mental ability to innovativeness is weak. Studies do relate innovativeness to greater ability to deal with abstractions, greater knowledge of

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\(^{128}\)Ibid., p. 379.

\(^{129}\)Ibid., p. 379.

\(^{130}\)Ibid., pp. 378-380.
technical details in a specific field.

b. Cosmopolitan. They tend to have access to ideas not available to other members of their society. They also tend to associate with persons who value venturesomeness. They are less bound by local group norms.

c. Higher social status and more favorable financial status than others.

d. Deviants. Innovators are perceived by themselves and others as deviant from the norms of their social system. Some settings may require the innovators to be highly legitimized positions within the local system and to be entrusted with extensive authority. Utopian change efforts and innovative programs within educational institutions illustrate the requirement of legitimacy.

e. Venturesome. Innovators are characteristically risk-takers.

f. Individualistic. The innovator may express his individuality

131 Rogers, op. cit., p. 169.


133 Rogers, op. cit., p. 313.

134 The term deviancy is used here in a statistical, not a psychological, sense.

135 Miles, loc. cit.

136 Rogers, op. cit., p. 169.
in socially valued ways, but many are characteristically "rebellious, alienated, excessively idealistic, emotionally unstable, and in the face of trouble and disillusionment ... tend to be resentful and rebellious."\textsuperscript{137} This substantiates Watson's observation that utopian experiments often appeal to rebels, "alienated individuals who are iconoclasts and make community life difficult."\textsuperscript{138}

To the above listing should be added characteristics of persons whom Barnett terms acceptors. Although they may be associated with innovative or utopian projects, their motivations differ from those of the innovators above.

a. **Dissidents:** persons who have never accommodated themselves to the norms of their specific cultures and whose attitudes are negativistic.

b. **Indifferent:** persons so termed because they are not committed in any permanent way to the norms of the society.

c. **Disaffected:** "... people who start out being active participants in certain aspects of their culture but later acquire a distaste for them." The disaffection may result from learning alternative modes of behavior, from formal education, from deliberate indoctrination, or from experiences within an alien

\textsuperscript{137}Miles, \textit{loc. cit.}

culture.

d. Resentful: those individuals who are dissatisfied because they receive comparatively few of the rewards most highly valued in their society.139

Innovative groups. A group may be innovative either by virtue of its own organizational form and practices, or it may be innovative in support of members who are themselves innovators. In both cases, group support for innovation is necessary and the more its membership includes high-status persons from within the target system, the more legitimated the group is, and the better communications it maintains both internally and with the target system, the better are its chances of success.140

Innovation by a group is often practiced within a new social structure. The advantages of this arrangement include (1) by-passing of vested interests, (2) providing of protection during the development and trial phase, (3) focusing positive attention upon the innovation and (4) distracting from the anti-innovative establishment norms. Following the initial period of innovation, it is important to establish linkage between the new structure and the establishment for mutual benefit and acceptance.141

Certain disfunctional aspects must, however, be anticipated in the

140 Miles, loc. cit.

innovative process. These may be summarized as

1. Exclusion of a participant because some innovations are mutually exclusive, the practice of one automatically excludes a participant from the practice of the other.

2. Absorbing the marginal resources of the sponsoring group. 142

3. Anxiety induced by the "sheer newness and ambiguity" of the innovation, and by "denial and minimization of threat from the environment." 143

4. Frustration and difficulty involved in early stages of innovation, especially when aggravated by unrealistic goal-setting, too-high aspirations, and "input overload and fatigue." 144

5. Development of bureaucracy and vested interests within the innovating group, especially when the loyalties developed within the innovating group heighten the potential for alienation from a supporting group and resultant difficulties in linkages. 145

**Phases of Innovative Process.** The stages or phases of the Innovative or Adoptive process are virtually identical to those originally proposed by the North Central Rural Sociology Committee: Awareness,

142Michael, op. cit., p. 273.
143Miles, op. cit., p. 656.
144Ibid.
145Ibid.
Interest, Evaluation, Trial, and Adoption. 146

1. **Awareness.** This may either occur randomly or be painfully activated.

2. **Evaluation.** The potential adopter is engaged in fantasizing about the effects of adoption. He is likely to seek assistance from authorities or from earlier adopters.

3. **Trial.** Trial may be on either a limited or a large scale. The critical aspect is the extent to which the innovation is perceived as congruent with the potential adopter's life style and values.

4. **Adoption.** Rogers defines "adoption" as the "continued full use of the innovation." 147

**Categories of Innovativeness.** On the basis of a large number of diffusion studies Rogers developed a "continuum of innovation," a conceptual device to illustrate the process of innovativeness which he claims is, in actuality, a continuous dimension. 148

Members of each adopter category were found to have highly distinctive characteristics and attitudes.


148 Ibid., p. 159
(In *Diffusion of Innovations* (p. 162) Rogers identifies this category as Early Majority, but the description of Early Adopters in the text suggests this may have been a typographical error.)
1. **Innovators.** Innovators are described as persons for whom "venturesomeness is almost an obsession." Prerequisites include "cosmopolite social relationships," ability to understand and apply complex technical knowledge, and control of substantial financial resources to absorb possible losses.\(^{149}\)

2. **Early Adopters.** These persons serve as opinion leaders and role models within their social system and are viewed with high degree of respect.

3. **Early Majority.** These persons have a high degree of participation but low number of positions of leadership within their social system. They adopt only with "deliberate willingness."

4. **Late Majority.** Skepticism is the salient quality of the late majority. They adopt in response to either social pressure or economic necessity.

5. **Laggards.** The past is the characteristic point of reference for laggards and they adopt, or fail to do so, on the basis of Tradition alone. "Alienation from a too-fast moving world is present in much of the laggard's outlook."\(^{150}\)

III. PART TWO

INNOVATIVE PROCESSES IN HIGHER EDUCATION

Within this section only literature illustrative of innovative

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\(^{149}\)Ibid., p. 159.  
\(^{150}\)Ibid., p. 171.
processes in contemporary higher education will be discussed.

Educational innovations, because they represent ideational rather than material products, may differ in its developmental phases and diffusion from innovations in other fields. These divergencies appear to be modifications of emphases rather than basic differences.151

Institutional Factors Predisposing to Innovation

It is well documented that changes within education occur exceedingly slowly and often in the face of great resistance.152

... the common assumption is that educational institutions, since they are charged with imparting both old and new knowledge to the young, must themselves be highly dynamic, with frequent changes in teaching methods as well as content.153

Although the figure of twenty to forty years for incorporating new ideas into practice is frequently quoted154 this estimate probably was derived from the studies of Mort on diffusion within elementary and secondary schools.155 Evans contends that higher education can be distinguished by

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154 Hirsch, loc. cit.

its even more traditional patterns.\textsuperscript{156}

In spite of traditionalism, higher education is currently experiencing an accelerated rate of change. It is in response to greater affluence, increased number of student partly due to increased life expectancy, modified expectations in the larger society for service or "answers," social changes in work patterns and attitudes toward leisure, and the exponential increase in knowledge available.\textsuperscript{157} Some of the innovations have also come from professional educators who are concerned by the lack of attention to the development of mature personalities\textsuperscript{158} and other failures of the system\textsuperscript{159}

The most dramatic and visible impetus to change stemmed from various student protest movements of the mid 1960's. While the various

\textsuperscript{156}Evans, \textit{op. cit.}, pp. 3-4.


\textsuperscript{159}Philip E. Jacob, "Changing Values in College," \textit{The College Student and His Culture} (Boston: Houghton-Mifflin Company, 1968), pp. 309-316. The Jacobs report concluded that the majority of collegians in the 1950's were gloriously contented, unabashedly self-centered, showed an easy tolerance of diversity with indifference to social injustice, paid "lip service" to traditional moral virtues and need for religion, were dutifully responsive to government but did not anticipate being influential, and from their college experience they anticipated mainly vocational preparation and increased social skills. The basic question regarding the "liberalizing effect" of education was answered in the negative. "Student values do change to some extent . . . But the impetus to change does not come from the formal educational process."
forces motivating these protests were complex, they had a decided impact upon ivory-tower educators.

The protesting students had broken out of the isolation of the campus environment and its academic curriculum. They were in the world. We have not seen the last of this. An alternation in the educational structure of the university will occur before this protest movement runs its course.160

The federal government or other outside agencies with provisions for funds have played a role in encouraging collegiate institutions to innovate.

The history of academic innovation is one of dissident minorities within the university winning outside financial support for their ideas and then using the money to enhance their position.161

Characteristics of the Educational Innovation

Factors relative to acceptance. Although a lack of rationality is often involved in acceptance, the various characteristics which influence acceptance must be noted.

... educational innovations are almost never installed on their merits. Characteristics of the local system, the innovating person or groups, and of other relevant groups often outweigh the impact of what the innovation is.162


(1) **Relative advantage** is essentially a psychological matter relating to the social system and personal needs of the potential adopter; relative advantage if a matter of his perception.\(^{163, 164}\) Included in relative advantage are such factors as **cost**, again a matter of the individual's value hierarchy, and **profitability**.\(^{165}\) The **sale-ability** of an innovation and the **support of vested interests**, particularly those in authoritative positions or in funding agencies, also affect the relative advantage of a proposed innovation.\(^{166}\)

(2) **Compatibility or Innovation-System Congruence** relates to the ease of institutionalizing an innovation, the degree of potential threat it entails, the relief it may offer between ideals and practice, the sorts of interaction required of participants as well as the social values these interactions entail, and the extent of continuing renewal or change which is entailed.\(^{167}\) Innovations with a high degree of system-congruence are referred to by Martin as "soft-shoe innovations."\(^{168}\)

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\(^{163}\)Rogers, op. cit., p. 126.

\(^{164}\)Relative advantage may relate to a person's previous experience with an identical or similar innovation and with his historically derived judgment of how appropriate the innovation is for the specific social setting. Evans, op. cit., pp. 28-29.

\(^{165}\)Miles, loc. cit.


\(^{167}\)Miles, op. cit., pp. 637-639; Rogers, op. cit., p. 126.

(3) **Complexity and Divisibility** affect the ease with which the adopter may develop proficiency with the innovation or the ease with which it may be integrated or attached into existing systems. Associated support materials, self-teaching features, and availability of consultants increase the likelihood of adoption. Divisibility allows for innovations to be "phased in" rather than requiring inordinate outlays of resources.169

The factor of divisibility involves the question of whether or not an innovation necessarily involves an entire social system or may be partitioned to provide choice for the individual member to proceed independent of group action.170 It has been suggested that acceptance chances are increased by built-in provisions to "opt-out"171 and Katz suggests, "Perhaps one of the reasons for the relative stagnation in higher education has been the unwitting principle that reform ought to be college wide."172 This point is essentially a question of boundaries. It should be noted, however, that within the boundaries of the innovating system, the placement of persons and the arrangement of physical facilities has a

169Miles, loc. cit.; Rogers, loc. cit.


great deal to do with either resistance or facilitating acceptance.173

(4) Communicability increases the potential adopter's awareness of both positive and negative features of an innovation. The extent to which a change agent is able to explain the innovation and relate it to the value and motivational system of the potential adopter is basic. Additional credibility accrues if the innovation is advocated by authoritative persons or local opinion leaders, if implementation supports offer clarification, and if the potential adopter has an opportunity for direct experience with the particular device.174

Characteristics of the Innovators

Innovative collegiate institutions Experimental colleges tend to spring up during certain historically significant periods.175 Some of these institutions, now called "high-impact institutions" are said to stem from the "intellectual of Dewey's educational point of view and Freudian psychology."176


174Miles, loc. cit.; Rogers, loc. cit.


176Lewis Mayhew, Colleges Today and Tomorrow (San Francisco: Jossey-Bass, Inc., 1969), p. 139. Colleges cited as illustrative of this point are Bennington, Bard, Sarah Lawrence, Reed, Stevens, and Antioch, their common feature being a "consistent and pervasive educational philosophy" and distinctive image.
When institutions attempt substantive change a social milieu is required which is at once protective and critical.177 Despite this "hovering parent" relationship with the larger institution, local autonomy is also required if the new institution is to achieve a significant educational innovation.

Our own observation suggests that, given a single condition, new forms of horizontal organization invite, or at least facilitate significant educational innovation . . . . The single condition . . . is a considerable degree of local autonomy.178

When an innovative practice threatens loss of institutional clientele or even survival of the sponsoring group, the predictable response is one of increased rigidity, not only with regard to value of traditional practices but also regarding the worth of the innovation. Thus, innovative institutions must take seriously the question of threat which they present to the parent institution.

... resistance to innovation is a very real, and a very reasonable, position for some since they are more concerned with their own skin than with advances in education. We must remember that many animals became extinct when their environment changed; it may be the biological tendency to resist change expresses itself in humans through strong motivations to keep the environment in a familiar form---in this case, to resist educational innovation.179

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179Michael, op. cit., p. 272.
A sense of history is helpful to a pro-innovative group, presumably providing them protection from some of the excesses of previous innovators. The general climate of the university can also foster historical perspective, a perspective which may operate to either encourage or inhibit change. This political factor of "ripeness for change" is one which is best assessed by persons who know the community intimately and have some perspective on the history of innovation.

Physical properties of an innovation or its setting may convey much of the philosophy of its founders. The relationship between function and space is increasingly being noted, as "the way space is organized is completely a product of the function it is to serve." Furthermore, the arrangement of physical facilities promotes or discourages social intercourse and often exercises a selective screening upon the persons with whom one converses.

An appropriate outcome of a successful collegiate innovation is an "adaptive organization," one which can mobilize its resources to create and test novel approaches and new challenges. This concept is

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180 Evans, op. cit., pp. 28-29.
182 Mayhew, op. cit., p. 50.
183 Lippitt and colleagues, op. cit., pp. 318-320.
virtually identical to Clark Kerr's definition of a great university. The major test of the modern American university is how wisely and how quickly it adjusts to the important new possibilities. The great universities of the future will be those which have adjusted rapidly and effectively.  

In summary, the innovative collegiate institution is a product of particular historical periods as well as the specific social matrix to which the innovation must accommodate. Successful innovations are said to be characterized by ability to adopt as needed. In the following section, characteristics of participants in these innovations will be reviewed.

Persons who associate themselves with educational innovations with particular reference to experimental colleges it has been contended, "... experiments which do not take into account the personality development of the student are bound to fail." It is equally applicable to faculty members and administrators who involve themselves in an experimental project.

Of the affective qualities, the one most frequently noted was enthusiasm, the social correlate of which is venturesomeness. The other

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186Ibid.


189Evans, op. cit., p. 140; Rogers, op. cit., p. 169.
side of the coin for this quality is opportunism.190

Intelligence as a general term is seldom noted. Rogers states, however, that early adopters have a "type of mental ability different from later adopters." He cited more favorable financial position, more specialized operations, use of a wider variety, more "cosmopolite" and more original sources of information, from which it seems logical to postulate at least higher-than-average ability to deal with abstractions and apply them in problem-solving situations. Innovative projects often appeal to intellectuals with high verbal ability but who are seeking escape from practical skills required in everyday living.191

The mental capacity to grasp an ideology and to imagine a life quite different from that of everyday practical experience is most likely to be found in those with high verbal abilities. It has been characteristic of Utopias that... they attract people who want to read, to meditate, and to discuss ideas—but who are not much good at farming or the construction trades.192

Behaviors which might be summed up as social intelligence are crucial to the success of an innovative endeavor. The founders of utopian ventures are often seeking a place in which they can be free from conformity pressures in the established culture, and their experiment attracts intellectuals and rebels who are iconoclasts who make life difficult. But Martin indicates that these are not the sort of persons who


191Rogers, op. cit., p. 313.

contribute to success of the venture. If they allow their antipathy toward the established order to encourage ignorance of it, then "they may not know enough about institutional grids to realize how change can properly be effected."\(^{193}\)

On the questions of age, security within the social order, and financial status Rogers and Evans are directly opposed in describing correlates of innovativeness. Rogers' research subjects were farmers and Evans' subjects were college professors--vocations with widely divergent career patterns.\(^{194}\) Evans also differs with Watson on the qualities of practicality-vs.-abstractness. Evans' innovators came from the "more pragmatic areas of the university and were removed from the more academic endeavors" but Watson cites experimental colleges as attracting types who deal ably with abstractions but have few practical skills.\(^{195}\)

**Roles for innovators within a collegiate institution**

- **Change agent.** An institutions's organizational pattern may determine who is assigned the role of the change agent. Within the field of education it is Evans' contention that change agents are virtually non-existent. But it would seem that the person, or groups, charged with actualizing an innovative plan would fulfill the role. Mayhew notes, "It


\(^{194}\)Evans, op. cit., p. 146; Rogers, op. cit., p. 313.

\(^{195}\)Evans, op. cit., p. 24; Watson, loc. cit.
is almost an axiom that if the administration is not interested in innovation, there will be none."¹⁹⁶ The president may act as the change agent or he may delegate this responsibility. In the case of Hampshire College it was clear that the authority for policy making rested with the trustees in consultation with "the president, who serves at their pleasure," i.e., serves as the change agent.¹⁹⁷

Opinion Leader and/or Advocate. Credibility is crucial to the success of an opinion leader or advocate.¹⁹⁸ It may be for this reason experimental colleges and utopian projects often center around a strong, benevolent father figure.¹⁹⁹ Congruity between personal characteristics and collegiate climate would seem to be the critical factor within the university setting since both close conformity to social norms and greater than average social participation are required for opinion leadership.²⁰⁰

Innovator and/or Early Adopter. For the collegiate experiment which chooses to create a "living-learning environment" the faculty who "live in" may serve the same function as Early Adopters, that is, serve as "social models" of the value orientation involved the experiment.²⁰¹

¹⁹⁶Mayhew, op. cit., p. v.

¹⁹⁷Patterson and Longworth, op. cit., p. xix.


¹⁹⁹Watson, op. cit., p. 100.

²⁰⁰Rogers, op. cit., p. 314.

The attitudes generated are likely to have a mutuality, in that the interpersonal relationships developed will effect the acceptability of the experiment to both the faculty and students.202 Finally, the central thesis of much of Newcomb's work, the influence of the peer group, would suggest that peers, but particularly upperclassmen, might serve as either opinion leaders or as models of early adoption of a particular collegiate style.203

Within this section literature of higher education has been reviewed for illustrations of innovative processes and roles. Factors predisposing a collegiate institution to innovate have been discussed, followed by characteristics of the particular innovation, institutional climate, and personal characteristics of collegians who participate in an innovative project. Finally various organizational positions were cited with regard to their potential for contribution to the innovative process.

IV. EXPERIMENTAL COLLEGES

The focus of this section will be upon examples of innovation in higher education as they are reflected in the development and history of experimental colleges.

Experimental colleges are by definition "different from--" but the very variety of their objectives makes more specific definitions

202 Michael, op. cit., p. 270.
inappropriate to some examples. Carpenter has resolved the difficulty by asking if the experimental college is not one in which faculty and administrators are "passionately striving for the new."\textsuperscript{204} Colleges labeled experimental are often also identified as "progressive" and characterized by a consistent and pervasive educational philosophy.\textsuperscript{205}

In describing the development of its College Plan Hampshire College has provided the most comprehensive definition of an experimental college.

Hampshire is vitally interested in new means in higher education and proposes to demonstrate its interest by positive action. But it is equally interested in new and older ends for education in an epoch of radical growth and change.\textsuperscript{206}

The following summary cites characteristics regarded as trends or practices which typify the experimental college.

1. They are young institutions whose four year programs emphasize liberal arts or general education and provide opportunity for independent study. The role of the library is seen as vital. Their programs are described as being "student centered," allowing for flexibility and individualization in both content and rate of learning.

\textsuperscript{204}Marjorie Carpenter, "The Role of Experimental Colleges in American Higher Education," \textit{Experimental Colleges} (Tallahassee: Florida State University, 1964), p. 11.

\textsuperscript{205}Lewis Mayhew, \textit{Colleges Today and Tomorrow} (San Francisco: Jossey-Bass Inc., 1969), p. 136. Mayhew notes that the philosophy is expressed in such practices as considerable personal freedom for students, a sense of community, emphasis and respectability accorded the performing arts, a fusion of academic and off-campus or work experience, a preoccupation with individual and small-group problem solving, and a concern with the personality or character outcomes of education.

2. Although they are largely residential, these colleges have relatively small enrollments or divide their enrollment into manageably small units. Admission policies are selective but economic factors must be considered by most of these colleges.

3. Faculty members are selected with particular care, emphasis being placed upon flexibility and commitment rather than research or publication. Considerable emphasis is also placed on evaluation, both of the individual student and of the educational program.

4. Experimental educational practices such as year-round sessions, elimination of grades and credits, and tuition equaling costs. These practices are frequent, if not yet trends.207

The expectation of most experimental colleges is that they should be in a constant state of change. Johnson concludes

The significance of experimental colleges rests only in part on the effect they have on the lives and thinking of those students who attend them . . . . The experimental college has an opportunity and indeed an obligation to influence and take leadership in the mainstream of American higher education.208

It was Watson's observation that founders of Utopias anticipate their demonstration will be imitated, seeing theirs as the first of many such experimental schools. But "these hopes are almost never fulfilled. The experiment usually stands alone."209


208 Ibid., p. 181.

VARIETY OF MODELS

Precedents in History of Collegiate Institutions

Educational reform centering around the values which now constitute raison d'être of the experimental colleges is not a new phenomenon in American higher education. The beginnings of the general education movement at Columbia University in 1919, initiation of an Honors program at Swarthmore College in 1922, the "Great Books" course at Columbia University, as well as the Harvard and Yale system of "houses" or "colleges"--all were fundamental departures from the prevailing modes.210

Despite these historic precedents for experimental colleges there is uncertainty as to whether they represent a contribution to America's educational resources or simply a passing fad. None of the specific practices (innovations) has, in Mayhew's estimation, had the impact of the 1940's General Education movement, and he concludes "... thus far none of the innovations has entered the mainstream of higher education."211

Ideologically Derived Experimental Colleges

Ideologically based colleges have been conceived in response to distinctive historic periods, especially as reflected in the prevalent social thought of that period or in response to the philosophy of an


211 Mayhew, op. cit., p. 158.
innovative and prestigious educator. Land-grant colleges as well as the Community College movement represent general instances of this principle. The influence of John Erskine's "Great Books" course at Columbia, the confluence of Freudian psychology and Dewey's pragmatism which is said to have inspired the distinctive features of Bennington, the spirit of the Progressive Education movement which resulted in the founding of Black Mountain and other innovative ventures, and the Hutchins era of reformation at University of Chicago—all represent the impact of distinctive personalities or philosophies upon institutions.212

Utopian proposals. It has been postulated that the success of many experimental colleges is in direct proportion to the degree of their utopian mentality.213 Primary to their founding is an ideology—"the principles are not new but activated when a discrepancy between ideals and practices becomes apparent."214

Hutchins created a theoretical model for the university of a mythic utopian country. The goal of the university was to educate the entire population, an objective not usually shared by utopias whose membership is


214Watson, op. cit., p. 99.
typically voluntary.\textsuperscript{215} University of Utopia aimed to "bring together men of different attitudes, backgrounds, interests, temperaments, and philosophies for the purpose of promoting mutual comprehension."\textsuperscript{216} The ideal man produced by this system was one whose education was not a substitute for experience, only preparation for it.\textsuperscript{217}

Hutchins' statements along with those previously cited by Watson imply the necessity for facing the two primary problems of a utopian community, the need to accommodate in a manner consonant with the community's self-image to the external world while, simultaneously, meeting its primary objectives which are most frequently synoptic, i.e., imply rapid acceptance of a pattern of multiple innovations.\textsuperscript{218} The problem of accommodation to the external world is aggravated by the fact that internal variables have received far more attention than has the influence of external variables such as the social milieu in which the community is set.\textsuperscript{219}

Utopian communities and experimental colleges have tended to be short-lived and, despite the hopes of their founders, they do not seem to


\textsuperscript{216}Hutchins, op. cit., p. 68.

\textsuperscript{217}Hutchins, op. cit., p. 69.

\textsuperscript{218}Plath, op. cit., pp. 1152, 1161.

\textsuperscript{219}Ibid., p. 1161.
initiate a trend. Gaff cites the pressing problems of the post-
Utopian phase of an experimental college as (1) maintaining continuity in
spite of the passage of time, and (2) trying to create an actuarial com-
munity which matches its idealized image.

Progressive Colleges. Many experimental colleges are not utopian
to the extreme of rejecting and separating themselves from their social
milieu. These are termed progressive schools.

The term progressive refers to the fact that they were founded in
protest against some specific practices of traditional schools as well as
the fact that they attempted innovative educational practices. It
also refers to the fact that many of the "progressive" colleges trace
their founding to the influence of the Progressive Education Association
and its landmark experiments.

Rudolph concluded that "the experiment made a more lasting impres-
sion on experimental colleges with a progressive orientation than on more
traditional institutions." It resulted in the distinctive combination
of liberal education, experience, and social training which characterized

220 Gaff, loc. cit.; Watson, op. cit., p. 113.
221 Gaff, op. cit., p. 222 and p. 225.
222 W.A.C. Stewart, The Educational Innovators: Vol. II, The
p. 343.
223 Lawrence A. Cremin, The Transformation of the School (New York:
Antioch; it influenced the founding of Black Mountain College, Sarah Lawrence and Bennington and the revamping of Goddard and Bard. The success of these ventures has been attributed to intensive application of a consistent and pervasive educational philosophy, in most cases, that of John Dewey. Another critical factor in the success of these progressive colleges may have been their provision of a situation in which every student had an opportunity for a "continuous, intimate, one-to-one relationship with some professional person at the college." Diversification within state universities. Another variation on the theme of ideologically inspired experimental colleges was provided by Alexander Meiklejohn's Experimental College (1929) at the University of Wisconsin and the General College at the University of Minnesota (1932). While the objectives of both programs was egalitarian, the curriculum of Meiklejohn's Experimental College emphasized the classics while Minnesota's

225 Ibid.

226 Mayhew, op. cit., p. 136.


228 Educational practices characteristically found in progressive schools included individualized programs for each student, insistence that the student be a party to the planning of his educational program, an orientation to contemporary society, elevation of the fine arts to full curricular status, interdisciplinary courses, winter field periods similar to Antioch's work program, effective student government, and de-emphasis of traditional bureaucratic measures such as entrance requirements, grades and examinations, and degree criteria. Rudolph, op. cit., p. 476.
General College emphasized a "life-adjustment progressive education."\textsuperscript{229, 230}

Tussman's Experimental Program at University of California, Berkeley, (1965) was an acknowledged descendant of Meiklejohn's Experimental College. The distinguishing features of Tussman's innovation were its prescribed curriculum which was classics and humanities oriented and the differentiation of purpose (implying function also) between college and university. Tussman posited "... the university for multiplicity and knowledge; the college for unity and understanding."

It the college does not assault or extend the frontiers of knowledge. It has a different mission. It cultivates human understanding. The mind of the person, not the body of knowledge is the central concern.\textsuperscript{231}

Economy based experiments. An educational experiment in the General College tradition, the recent innovation of Parsons College, followed the precepts of economist Beardsley Ruml.\textsuperscript{232} President Millard Roberts

\textsuperscript{229}Rudolph, op. cit., pp. 477-497.

\textsuperscript{230}In the autumn of 1935 College of the Pacific (Stockton, California) established a "General College" partially based on the model of University of Minnesota's General College. Operating in conjunction with the Stockton School Board, the college offered classes at the freshman and sophomore level and served as the junior college for the Stockton area. The unique combination of public and private higher education was declared "entirely legal" by the Attorney-General of California in the spring of 1936. By 1947-48 the junior college, officially known as Stockton College, was able to assume independence of the College of the Pacific and occupy its own campus. Rockwell D. Hunt, History of the College of the Pacific (Stockton, California: College of the Pacific, 1951), pp. 148-151.


openly proclaimed Parsons as a "second chance" college. It was financed through a series of economies based on the premise that efficiently administered college could be self-supporting. Simultaneously, by the use of top-level salaries, Parsons was attracting faculty from far more prestigious institutions. Eventually the college discredited but even its critics admitted that the loss of accreditation had not disproven the thesis on which the Parsons reform was based.233

Experiments involving modified organizational patterns. The Library College represents a model based upon an organizational rather than a philosophical ideology. Its spokesmen interpret the increasing use of honors readings, independent study, tutorial instruction, etc. as indicative of the fact that "each student is an individual . . . who works best at his own pace toward his own objective at an individual 'work bench' in the library."234 In common with other innovators, the proponents of library colleges anticipate their experiment will generalize, "... prepare the United States for another historical first—the higher education of all of the people."235

Finally, the most contemporary of the organizational innovations


235Ibid.
is the Free University. Its model is ancient but its contemporary expression is a by-product of students who experience painfully the so-called "generation gap" and do not find the educational models presented by their elders sufficiently trustworthy ("relevant") to their needs. Free Universities, staffed by interested students and volunteer faculty, reject the conventional cumulative learning experiences in favor of "interest based" subject matter and place a great deal of emphasis upon affective experience as primary to an education. The distrust of "anyone over thirty years" appears to be a tacit organizing principle. Jencks and Riesman conclude that the Free University experiments are more significant for their symbolic role of justifying student discontent than for their pedagogic or political radicalism.

Decentralization Models

In this section federated institutions and resident colleges will be cited as examples of decentralized organizational models. Other examples, the temporary sub-college, the university college, and the multiple campus college will not be reviewed.

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There are a variety of experimental college models based on the attempt to decrease the "psychological size" of a large institution and simultaneously provide the student with increased access to crucial members of the academic community. In their educational philosophy and practice they may be innovative or they may be conventional, even conservative.

Federalism as an organizational model is not a new practice in American higher education. Rudolph cites examples of the practice of federalism as early as 1904 at Columbia University which represented a federation of eleven distinct faculties conducting fourteen separate colleges. The concept of federalism allows semi-autonomous institutions to cluster around core institutions, frequently an old college in process of becoming a university. Gaff defines a federation as a "close association of two or more colleges which are geographically contiguous and . . . share their educational resources." Although the participants are educational interdependent, their corporate entities are independent. Since 1925 only two major institutions have adopted the federation model, the Claremont Colleges (1925) and Atlanta University Center of Higher Education (1929). Claremont's President James A. Blaisdell in stating the purpose of initiating the federation revealed its similarity to the subject of this review.


My own very deep hope is that instead of one great, undifferentiated university, we might have a group of institutions divided into small colleges—somewhat on the Oxford type—around a library and other utilities which they would use in common. In this way I hope to preserve the inestimable personal facilities of the great university.243

Resident college is another term for a subcollege and is defined simply as a "body of scholars studying and living together."244 Both the Sorbonne and Oxford are classified as resident colleges, as well as the contemporary cluster college.

The model has recently experienced a vogue in large state universities where "... the goal is to assess the results of manipulating the environment by establishing residential colleges."245

Keeton cites a source of vulnerability for the residential college. The popular idea that universities can divide into subcolleges to combine the advantages of the small and the large is only partially correct; it repeats a mistake made by many small colleges that fail to gain quality by getting larger. For example, if the sub-colleges fail to attract strong faculty, or if the strong faculty who take part continue to have their primary associations and loyalties elsewhere, the intended advantage of their 'presence' is not realized.246

The final decentralization model to be reviewed is that of the

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244 LeRoy A. Olson, "Residential Colleges in a Large University," (unpublished manuscript, no date).

245 Ibid., p. 8.

cluster college. Because it is central to the purpose of this review a separate section will be devoted to this model.

THE CLUSTER COLLEGE

Definition. Although the cluster college is based on a model which is as old as Oxford University which was founded in the year 1249, its contemporary version is defined simply as a "small semiautonomous college on the campus of a larger university." 247

A cluster may represent either of two organizational models. The first is that of the federation. The second model is that of the sub-college, small, semi-autonomous structural sub-units of the larger university. 248 Monteith College of Wayne State University and the cluster colleges of the University of the Pacific--Raymond, Covell, and Callison Colleges--are illustrations of this model.

None of the cluster college "innovations" are unique and most are found today in a variety of non-cluster colleges. 249 Three themes, however, seem to be emphasized in most cluster colleges: identity, relevance, and involvement. 250

247 Gaff, op. cit., p. 3.
248 Ibid., p. 9.
Objectives. The sub-college form of organization is cited as providing:

(1) Closer community by virtue of its size, more opportunity for personalized instruction, and closer student-faculty relations.

(2) Structural diversity within a large unit, thus allowing the institution to deal with a wider range of individual differences.

(3) Setting for experimentation.

(4) A stimulus for reform in the larger unit.

(5) Cooperative use of all-university facilities.251

In describing the initiation of Raymond College Samuel L. Meyer, then academic vice-president of the University of the Pacific, described the objective of this innovation in relation to the university.

... transformation of a small, regional church-related liberal arts college into a medium-sized, multi-purposed, church-related university of national and international significance.252

He also cited increased diversification as an objective. Each college was to develop its own traditions and distinctive character. The faculty was to enjoy sufficient autonomy and freedom in curriculum building in order that it might produce educational experimentation and teaching innovations.253


253 Ibid., p. 76.
In response to Meyer's mandate Warren Bryan Martin, the first provost of Raymond College, emphasized as a primary objective the provision of an opportunity for "development and testing of holistic alternative models of educational" that may prove appropriate for the future of higher education."254

History. Although the contemporary cluster college shares its organizational model with Oxford, Claremont Colleges and most recently with Monteith College (1959), the specific factors which led to renewed interest in this model have not been cited to this writer's knowledge.

In 1959 President Robert E. Burns announced the intention of the University of the Pacific to utilize the cluster college system in achieving its objectives.

Let us grow larger by growing smaller. Let us develop about the University a cluster of colleges which will retain the values we cherish so much and yet will, at the same time, make it possible for us to accept some responsibility for educating the increasing number of young people seeking to enter institutions of higher learning in California. Let us follow the Oxford and Cambridge system and expand by establishing small, interrelated colleges clustered together to draw strength from each other and from the University as a whole.255

Areas of Cooperation. Subcolleges benefit from access to all-university services in four major areas: (1) academic, (2) social, (3) student personnel services, and (4) administrative-financial services.256

254 Warren Bryan Martin, op. cit., p. 70.

255 Meyer, op. cit., p. 75.

Stewart and Kells list twenty-five "ventures and joint facilities" which are utilized by all of the Claremont Colleges and an additional six that are shared by at least three of the subcolleges.

Substantive innovations being tested. While cluster colleges are not patterned by uniform philosophical presuppositions or educational philosophies, they are characteristically receptive to innovative practices or experiments. Gaff lists some of the traditional practices being challenged.


Cluster colleges are, by definition, "small" regardless of

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257 Areas in which all six colleges cooperated were Library, Business Office, Office of the Chaplain, Service Shops, Bridges Auditorium, Telephone Service, Health Service and Infirmary, Psychological Clinic and Counseling Center, Campus Security, Garrison Theater, Faculty House, Office of the Provost, Print Shop and Addressograph, Challenge Campaign, Cross Registration of Courses, Faculty Exchange, Office of Institutional Research, Computer Center, Human Resources Institute, Bookstore, Development Office, Purchasing, Personnel Office, Joint Campus Plans Office, and Student Newspaper. Areas in which three to five of the colleges cooperated included United Council (undergraduate students), Classics, Drama and Music, Joint Science Program, Language Lab, and Forensics. Clifford J. Stewart and H. R. Kells, "Cooperation Among Private Colleges," The Cluster College (San Francisco: Jossey-Bass Inc., 1970), p. 203.

numerical size. The influence of peer groups, regarded as a major factor in educational outcomes, is both visible and more subject to educational influence in a small setting than in a massive unit. Newcomb cites three hundred to four hundred students as an optimal size of units which are characterized by a relative homogeneity of interests but large enough to allow for a range of selectivity. Major variables contributing to the formation of distinct and identifiable peer groups are pre-college acquaintance, propinquity, and similarity of interests. Effectiveness of peer-group influence is related to homogeneity, isolation from the majority group, extent of importance of group support for attitudes of an individual.

In addition to size per se the cluster college is enhanced by a popular belief in the efficacy of small units. David Riesman labels this as the "contemporary cult of intimacy."

I suspect that research would show that there has been a decline in the span of control that individuals feel they can manage (that is, the number of other individuals to whom they feel they can relate) and in which they can learn and grow. There is a decline in the belief in the vicarious.

Concomitant with this belief in the personalization of education is the characteristic absence of mechanical and technological innovations


260 Ibid., pp. 480-481.

such as instructional television, teaching machines, et cetera. 262

The cluster college as an economy is a widely publicized but little researched topic. Stewart and Kells after comparative cost-analysis of Claremont's cooperative ventures and those of some non-cooperating units or colleges concluded that there are cost benefits and increased resources available for some service areas (library, business office, health services). They state

... it is safe to say that the Claremont experiences to date have demonstrated that voluntarily associated, privately controlled cluster colleges can work cooperatively to achieve an academic community and level of economy needed by many of the isolated faltering colleges in our country today. 263

Participants in a Cluster College: Students, Faculty, and Administrator

Gusfield and Riesman observe that "A new college is especially malleable to its first cadre of recruits," and the observation may be generalized to all recruits, both faculty and students. 264

Students. Characteristics of students who elect to study in cluster colleges have been studied in several research projects.

Heist and Bilorusky compared the characteristics of students at several cluster colleges with those of students at the parent college.

262 Gaff, op. cit., p. 49.


Their conclusions may be summarized as follows:

(1) Cluster college students show more openness to new experiences and the possibilities of change.

(2) They are essentially nonauthoritarian in their thinking, that is, less applied and practical, less conventionally religious, more independent in judgement, more tolerant of ambiguities, more interested in the complexities of their environments.

(3) A significantly higher proportion of cluster college freshmen had 'learned to learn' or at least were ready to learn.

(4) Qualities of social relations or emotional well-being failed to show significant differences between cluster and non-cluster freshmen.

(5) Goals and attitudes toward their education were distinctive. Cluster college students sought active involvement in the educational process; vocational and certification goals were minimized.

(6) Cluster college students sought distinctive or experimental settings as defined by their preference for discussion classes, independent study, quarter system, pass-fail grading system, de-emphasis on competition for grades, admission policies based on personal qualities rather than achievement measures.

In summary, these researchers concluded that the cluster colleges students in comparison to students in the parent university, were recruiting or admitting typical high school graduates who "brought advantageous orientations and greater motivation to the academic challenges and assignments posed for them."265

Gaff in an earlier study compared students at a cluster college


266 Ibid., p. 89.
and the parent college of one institution. His findings regarding the characteristics of the cluster college student are summarized below.

1. There was a high degree of consensus on the three hundred items of the College Characteristics Index (CCI).

2. There was a statistically significant difference between cluster and non-cluster college students for all thirteen factor scores of the CCI.267

3. On College and University Environmental Scales (CUES) Scholarship and Awareness were top ranked scales, Community was moderately ranked, and Propriety and Practicality were the lowest ranked scales. Priorities assigned to these qualities by cluster college students differed at the one percent level of significance from that of the non-cluster students, with the exception of the scale for Propriety.268

Unpublished data derived from entering freshmen scores on the Omnibus Personality Inventory (OPI) allow for a distinction to be made between the student who elects a cluster college but does not remain ("dropouts") and those who complete a course of study there. These data show characteristics of the entering, not the acclimated or socialized cluster college student. Cluster college freshmen who persevered to graduation were characterized by significantly higher scores on Personal Integration, Response Bias, and Altruism, moderately higher scores on Anxiety Level, and lower scores on Complexity, Impulse Expression and Religious Orientation. All differences were significant at the one

267Factors derived from scales of the College Characteristics Index are titled Work-Play, Non-vocational Climate, Aspiration Level, Intellectual Climate, Student Dignity, Academic Climate, Academic Achievement, Self-Expression, Group Life, Academic Organization, and Social Form.

per cent level with the exception of the Anxiety Level scale which only
differentiated at the 5 per cent level. There was no significant dif-
ference between the two groups on the scales measuring Thinking Introver-
sion, Theoretical Orientation, Estheticism, Autonomy, Social Extroversion,
Practical Outlook, or Masculinity.269

Faculty. Faculty members at cluster colleges have been less
studied as a group than have the students.

Gusfield and Riesman used ethnographic methods to study and de-
scribe faculty of two cluster colleges connected with large midwest pub-
lic universities. From their interviews they constructed a typology for
the cluster college faculty. A condensed presentation of the defining
characteristics of the typology follows.

(1) **Job Holder.** Teaching is a means to an end for him but he
is not necessarily either a negligent or a cavalier teacher.

(2) **Pioneer Adventurers.** The job at an experimental college is
a source of immediate gratification for these men. Although
academic work is central in their life style and they are
competent scholars, the experimental potential of the new
institution is of more relevance than career considerations.

(3) **Pioneer Settlers.** They came to the institution to "settle,"
to find a permanent home, but it is likely they will eventu-
ally move elsewhere. Academic work is central in their life
style and success is measured in terms of the degree to which

269Beth B. Mason, Omnibus Personality Inventory Scales Differenti-
ating Dropouts from Graduating Seniors at Raymond College, University of
the Pacific (unpublished manuscript, 1968).
one, or one's institution, prepares its students for graduate school.

(a) "Growth stock" professionals. This sub-type of Pioneer Settler was attracted from a large university in the hope of rise to academic distinction more rapid than would be possible in a larger setting, and by the opportunity for autonomy. Most are relatively young, hold relatively new Ph.D.s, and perceive themselves as spokesmen for their more influential mentors at graduate school. They are working on publishable material and will reject any educational innovation which is sufficiently time-consuming to interfere with their research.

(b) Career Transient. This sub-type of Pioneer Settler is not attracted by the innovative aspects or potentialities of experimental settings. He is focused on the next move in his career pattern. Often he has not yet completed his doctorate and he expects the status of his next appointment to be related to the prestige of the institution conferring the degree.

Gustfield and Riesman conclude that the two faculties showed distinctive styles of work attachment. Some of this difference was attributed to "reformist impulses." 270

Administrators. Little material was found on the administrators

270Gusfield and Riesman, op. cit., p. 270.
and their styles of leadership in the development of cluster colleges.

Mayhew, emphasizing the role of a college president, stated, "It is almost an axiom that if the administration is not interested in innovation, there will likely be none."271

In comparing Parsons College with the cluster colleges of two metropolitan universities Gusfield and Riesman conclude that "each of the three colleges discussed here owes its start to administrative leadership."272 (Emphasis mine.) They felt that a democratic self-governing faculty was not likely to be experimental. The administrators were not seen as innovators but as executives who experimented out of practical necessity rather than ideological commitment.273

Measures of Success for the Experimental College

Much has been written about the non-traditional objectives of an experimental college; little has been published regarding actuarial measures of the success or failure in the achievement of these objectives.

Retention. Number or proportion of students retained to graduation may be regarded as one measure of success. This is, however, a gross measure.

Graduate Record Examinations. A second measure, often used, is


273 Ibid.
that of the Graduate Record Examinations. Gaff reported the first three graduating classes of an experimental college scored on the ninety-ninth percentile on the Social Science and Humanities tests and from the ninety-seventh to the ninety-ninth percentile on the Natural Science portion of the test.274

**Economic criterion.** Cost saving through cooperative use of facilities would represent a third potential measure of success. After extensive cost analyses of various cooperatively used facilities at the Claremont Colleges Stewart and Kells concluded that economic factors represented a valid and measurable aspect of cluster college achievement.275

**Maintenance of institutional identity.** A fourth measure of achievement is the degree of success in facing the challenge of maintaining "the spirit" of the original community, a challenge which every experimental group faces.

One threat to continuity is the "unanticipated consequences" inherent to the design of the experiment. The "living-learning" environment may become abrasive when there are insufficient provisions for privacy.

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274Gaff, *op. cit.*, p. 125. Note that these percentiles were based on "use norms" rather than representative national norms.

Education elsewhere may be impersonal and the students powerless, but for the cluster college students the problems are different: they arise as the result of too many personal contacts and too much involvement.276

Overexposure to the faculty may also lead to the same abrasive results. Overexposure, particularly when it results in faculty being pressured to perform functions for which they do not feel qualified, may actually lead to erosion of institutional impact.277

Relationship with majority culture. A further mark of achievement is a measure of the degree of success in relating to the majority community external to the experiment, a problem typical for innovative groups. Because the cluster college was designed to maintain a distinctive climate within a larger setting its survival is dependent upon the tolerance, if not the goodwill, of the majority culture. The experimental group must also maintain some degree of openness if it is to benefit from the greater diversity of the majority group. Thus polarization between the two communities would threaten the validity, if not the viability, of the experimental group. Gaff cites the establishment of a negative identity for the majority group as one instance of polarization between two communities.

After the cluster college gave College of the Pacific a specific negative identity, whenever Raymond advanced its own ideals, it implicitly criticized its neighbor.278


278Ibid., p. 298.
Maintenance of innovative spirit. If the cluster college is by definition "experimental," then it must maintain its specific distinctive quality. Martin notes that innovative colleges are "seldom more experimental than in their first period of idealism and energy, after which change tends back toward tradition." A sixth measure by which a cluster college may be evaluated as successful is avoidance of the trend toward institutionalizing its practices.

Changes effected. A measure for evaluation suggested by Sanford is that of amount of change induced.

The measurement of change offers a fair test of what a small college or a new college can do ... The educator who adopts this approach, instead of boasting about how many bright students his college can attract, will talk about how many challenging educational problems confront the college and about what he and his colleagues are doing to solve them. He will let the college be known by the changes it induces.

Environmental Press. Finally, because the concept of the peer group as educationally influential is central to the cluster college concept, two hypotheses offered by Pace and Baird are especially relevant to the measurement of success in an experimental college.

(1) The pattern of attainment of similar students in contrasting subcultures will be related to the press of the subculture. The same will be true of contrasting students in similar subcultures. In short, attainment will be more frequently consistent with environmental emphases than with personality characteristics.

279Martin, op. cit., p. 76.

(2) Attainment will be more strongly related to the environmental press of subcultures within the college than to the press of the total college environment.281

In summary, the success of a cluster college may be measured by the number or proportion of students it graduates, by Graduate Record scores, by financial economies, by avoiding attitudes or practices incongruous with its philosophical stance, and by measurement of the extent and variety of change which it induces in its students.

V. PSYCHOSOCIAL CHARACTERISTICS OF FRESHMEN

Literature to be reviewed in this section will deal with three main topics: (1) late adolescence as a developmental stage, (2) dynamics involved in the transitional status of freshmen, and (3) institutional challenges presented by entering freshmen. Emphasis will be placed upon the psychosocial characteristics and no attempt will be made to deal specifically with cognitive or other types of development.

Freshmen as Late Adolescents

The typical freshman entering college is in late adolescence. His developmental stage may be viewed in terms of a descriptive-normative model for development282 or in terms of a psychosocial model.283


Among students of child development Erik Erikson has, more than any other, delved into the period of late adolescence.\textsuperscript{284} Although his approach to theory and his techniques for data collection rest upon psychoanalytic concepts, his emphasis is less upon the psychic defense mechanisms and more upon adaptive maneuvers of the ego. Rather than cite development steps, as do many developmental theorists, Erikson uses the analytical device of polarities which must be resolved in order to master the requirements of a particular developmental stage.\textsuperscript{285} Phase Five in which the adolescent deals with the polarities of Identity vs. Role-Confusion is the phase which Erikson develops most fully. It is from this phase that the term "identity crisis" developed.\textsuperscript{286} Dimensions of this phase include resolution of:

\begin{itemize}
  \item[(1)] Time perspective vs. Time diffusion
  \item[(2)] Self-certainty vs. Apathy
  \item[(3)] Role experimentations vs. Negative Identity
  \item[(4)] Anticipation of achievement vs. Work-paralysis
  \item[(5)] Sexual identity vs. Bisexual diffusion
  \item[(6)] Leadership polarization vs. Authority diffusion
  \item[(7)] Ideological polarization vs. Diffusion of ideals\textsuperscript{287}
\end{itemize}

\textsuperscript{284}Ibid.
\textsuperscript{286}Erikson, \textit{op. cit.}, pp. 261-263.
\textsuperscript{287}Maier, \textit{op. cit.}, pp. 57-61.
Friedenbergs in citing the psychosocial requirements of integrity and competence for adolescent development contends that "adolescence, as a developmental process, is becoming obsolete," and that society, including the schools is frustrating the processes which would allow the natural progression of adolescence.288

Growth trends and processes. There is a high degree of consensus in the work of three major contributors to the theories on late adolescence: R. W. White, Nevitt Sanford and Arthur Chickering. The processes they describe include:289

(1) Establishing identity (b) and Stabilizing of ego identity (a) (c), Becoming autonomous (b), as well as General development and strengthening of the ego (c).

(2) Freeing of interpersonal relationships (a) (b) (c), and Managing of emotions (b).

(3) Deepening of interests (a) (c), and Clarifying of purposes (b).

(4) Humanizing of values (a) (c), and Developing integrity (b).

(5) Expansion of caring (a).

(6) Achieving competence (b).290


289In order to differentiate the specific terms of each man within the same topic (a) will be used to designate terms used by White, (b) for terms used by Chickering, and (c) for terms used by Sanford. Robert W. White, Lives in Progress (New York: Rinehart and Winston, 2nd ed. 1966), pp. 374-405; Arthur W. Chickering, Education and Identity (San Francisco: Jossey-Bass Inc., 1969), pp. B-19; Nevitt Sanford, Self and Society (New York: Atherton Press, 1966), pp. 277-278.

290Although Chickering uses the term "the young adult" and White refers to "young adulthood" it is clear that they are referring to the same developmental phase which Sanford terms "late adolescence."
Changes which typically occur during the collegiate years have been researched with empirical studies; their results may be extrapolated to focus upon the characteristics in which change may be anticipated. First, lowered scores on measures of authoritarianism are noted. Concomitantly, changed scores on ethnocentrism are noted as well as increases in independence. The second major area of change noted is increases in scores reflecting social maturity and developmental status and impulse expression. Chickering also noted an increased interest in the arts and humanities as well as a decreased concern for material possession and practical achievement. The researchers note that most of these changes occur during the first two years of college.

The impact of a new environmental setting upon adolescents may be anticipated using Bloom's thesis, "Variations in the environment have the


292 Korn, loc. cit.

293 Freedman, loc. cit.

294 Korn, op. cit., p. 134.

295 Freedman, op. cit., pp. 27-29; Chickering, loc. cit.

296 Chickering, loc. cit.

297 Freedman, loc. cit.; Ralph L. Berdie, "Changes in University Perceptions During the First Two College Years," College Student Personnel, Vol. 2, No. 9, (1968), p. 87; Chickering, loc. cit.
greatest quantitative effect upon a characteristic at its most rapid period of change . . ." and the conclusion which he drew from his research:

It is also likely that the greatest changes may take place in the individual when he enters a new level of school environment, that is, high school or college, if the new environment is different from the previous one and if it is a powerful and consistent learning environment.298

The crucial nature of development at this late-adolescence stage is underscored by Feldman and Newcomb who state, "... if one does not change during this period one is not likely to change thereafter."299

Characteristics of Freshmen as a Social Group

When a group of adolescents is admitted to college they assume a group identity or status which labels them "freshmen"; they are then viewed as a collectivity. Two characteristic patterns of freshmen are noted, regardless of differences between colleges entered. First, freshmen tend to be ideologists and, second, they tend toward authoritarianism.

Freshmen as a group tend to be "much less theoretical than ideological."300 This bent toward ideology is expressed in a variety of ways. College-bound seniors describe their pre-conceptions of college in highly idealized terms which are "representative of no actual institution at


Stern refers to this idealized expectation of college as the "freshman myth." The freshman myth suggests a student's readiness to accept the school as a citadel for consummatory learning. Their expectations reflect a naive faith in the college as an instrument for rationality, commitment, integrity, and mutuality, a new City of God, dedicated to reason and served by a community of scholars who are not withdrawn from life but in it; not detached from others but loving, not preparing but being.

The second major characteristic of freshmen as a group is their lack of internalization of value structures, in short, their authoritarianism. It was Sanford who summarized the freshman psychological development as essentially that of an authoritarian personality structure. This state of affairs at the core of the personality is reflected at the surface in characteristic ways: in stereotyped thinking, intolerance of ambiguity, punitive morality, subserviency toward the powerful and dominance toward the weak, conventionality, anti-intellectualism, hostility toward people perceived to be different from oneself. Because the authoritarian structure is so dependent upon external support for value stances, the freshman has difficulty finding adequate support for his self-esteem and oscillates in both his self-conception and his accord with reality. A number of studies have identified the model

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302 Ibid.
303 Ibid., p. 179.
305 Ibid., p. 266.
freshman values as privatistic, that is, considering family, economic security and (for men) career as the primary sources of future satisfactions. 306

Despite the freshman ideological bent and his authoritarian tendencies, the "entering freshman is a natural generalist." 307 He is impressed with complexity, seeks to understand ideas in their context, and tries to impose connections. 308

Freshmen as Persons in Transit

Freshmen are basically late adolescents entering a social setting whose requirements are both new and unknown. 309

Anticipation of change is the most characteristic feature of freshman expectations. The pervasive nature of the Freshman Myth has already been noted. 310 The very expectation of change is likely to precipitate self-doubt since freshmen tend to be ambivalent about the prospect of change; simultaneously they hold great expectations and fantastic hopes while experiencing little confidence in their own ability to bring about

306 Feldman and Newcomb, op. cit., p. 12.
308 Ibid., p. 212.
309 This statement applies primarily to the freshman entering a residential college. It is true, but to a lesser degree, for the student entering a junior college in his home community.
310 Stern, loc. cit.
desired changes. The transition from high school to college was extensively studied in a nation-wide research project. The researchers concluded,

Our data support the generalization that college-bound adolescents anticipate the transition from high school to college as a socially complex and intellectually demanding experience, although the nature of the academic challenge varies according to the institutional characteristics of the different college environments.

The extent to which the students are justified in their perception of this transition as a crucial one is supported by Bloom's longitudinal research data.

As individuals leave one environment and enter another they seem to be especially susceptible to the effects of the new environment in the initial period in the new environment. Several ... studies ... suggest that changes in the individuals are greater in the first time unit (a semester, year, etc.) in the new environment than in succeeding units of time. (Emphases mine)

The ideal resolution of the anxiety and uncertainty involved in the transitional situation is not necessarily satisfaction. Martin's research indicates "... an inverse relationship exists between experience and familiarity with the college environment and satisfaction with college."

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313 Bloom, op. cit., p. 196.

The resolution of the freshman's transitional state is also partly dependent upon the expectations held for him by his collegiate institution. Some colleges strive to precipitate personality development in their students while others stress socialization to their particular setting. Although these objectives are seldom stated, most colleges tacitly acknowledge one goal or the other through their institutional practices. The differentiation is significant because socialization refers to "learning what society [Collegiate, in this case] expects and will tolerate," modifying a broad range of attitudes and behaviors without touching the basic character structure. Changes associated with personality development are often subtle but more pervasive and less subject to future change.315

Relevance of Developmental Tasks

Areas of Change. Certain personality characteristics and attributes are less subject to change than are others. LeVine cites a hierarchy of variables in order of their malleability. The order ranges from those least susceptible to change (1) to those most susceptible (4).

1. **Biological attributes** to which expectations as to belief and behavior are typically, or stereotypically, linked.

2. **Social characteristics stemming from the student's categorical context** (class, parental occupation, religion, and the like.)

3. **Social characteristics generated from the student's group context.**

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4. Personal traits presumably derived from experiences implicit in the foregoing.316

Illustrative of these variables and the manner in which they relate to the freshman's developmental status, Coons presented a list of five prominent developmental tasks for the college student. He stated that the manner in which these tasks were resolved was crucial, not only to the student's adjustment to college, but also to his later life style. The five tasks are:

1. Shift in the nature of one's relationship with one's parents, i.e., from a child-parent to an adult-adult relationship.

2. Resolution of a personal sexual identity.

3. Creation of a value system which fits the student as a truly unique individual.

4. Development of the capacity for true human intimacy.

5. Choice of a life's work.317

Developmental Status of Entering Freshmen

Major Goals of Development. Katz contends that three developmental tasks are so crucial that they should be "met in a classroom before other tasks are undertaken." These are:

1. Each student needs to acquire a positive and realistic conception of his own abilities in the world of higher learning and in the world at large.


2. He needs to reach the point of being able to see the structure and interrelations of knowledge so that he may begin the process of forming judgments on his own.

3. He needs to see the relevance of higher learning to the quality of his own life and to see that life in relation to the new kinds of judgments he now makes.\(^{318}\)

Sanford urges colleges not only to understand the developmental status of entering freshmen but also to have some awareness of techniques for precipitating desired developments in their students. He cites three major goals which it is possible for the college to facilitate or hamper.

1. **Freeing of impulse.** The curriculum may be a major instrument in this process. It may facilitate the development of imagination, introduce new behavioral norms, facilitate expression of feeling as opposed to the constraints of ignorance, increase awareness which in turn facilitates a range of responses, and provide stimuli to counteract the conforming influences of the peer group.

2. **Enlightenment of conscience.** "Conscience is individualized and enlightened when the individual's moral standards and values are supported by his own knowledge, thought and judgment . . . ." No longer are they remnants of childhood, copies of the consciences of parents or other authority figures, or imitations of the peer-group. "Values and standards are now the individual's own . . . based on his own experience . . . espoused by his own motives."

3. **Differentiation and integration of the ego.** The major requirement for ego development is performance of a wide range of tasks calling for a variety of ego performances. Academic work assists through requirement of making fine discriminations and judgments and criticisms. Teaching plays a crucial role in facilitating awareness of one's own processes.\(^{319}\)

**Requirements or Pre-conditions for Development.** In order for

\(^{318}\)Committee on the Student in Higher Education, _op. cit._, pp. 10-11.

\(^{319}\)Sanford, _op. cit._, pp. 271-281.
development as discussed in the previous section to occur there are certain pre-conditions or situational requirements.

"Desocialization" is one of the primary pre-conditions for socialization, or re-socialization, to collegiate norms. Desocialization involves pressures to "unlearn certain past values, attitudes, and behavior patterns."320

"Congruence," "fit," and "match" are all terms recently used to describe the happy match of a collegiate institution's characteristics with the needs of a particular incoming student. Stern defined congruence as "the actual combinations of needs and press found characterizing . . . spontaneously flourishing groups."321 The attempt to predict congruence was the basis for development of Stern's tests for measurement of environmental press (College Characteristics Index) and individual need (Activities Index).322

"A congruent relationship would be one producing a sense of satisfaction or fulfillment for the participant," according to Stern.323 In addition, congruence is said to be a crucial factor in facilitating a student's development.

320 Feldman and Newcomb, op. cit., p. 89.
322 George G. Stern, Scoring Instructions and College Norms: Activities Index and College Characteristics Index (Syracuse: Psychological Research Center, 1963).
Our findings incline us to favor a congruence theory: Where major aspects of a student's goals or dispositions are initially congruent with those of the institution, he is more likely to be influenced and undergo changes in the direction of the institution's values and norms.324 Newcomb contends that educational impact also depends upon the goodness of fit between student and institution.325

Chickering has taken issue with the benign interpretation of congruence. Interpreting congruence as "a comfortable fit between college and student," he retitles this concept "in loco uterus" and anticipates that

... development is proceeding along vectors of change set by the general cultural and genetic forces at work in our society. The colleges neither accelerate nor retard that development. They simply provide a safe haven where it can occur.325

In addition to the problem of congruence between a specific student and a specific institution, there is a more general problem of congruence, that is, the degree to which contemporary collegiate institutions are no longer suited to the needs of contemporary students. Commager cites two major areas of incongruity. First, American colleges were intended to be terminal but are increasingly becoming preparatory for graduate school. Second, college was designed to "take care of boys rather than young men" and its chief concern was to mold character.


325Feldman and Newcomb, op. cit., p. 335.

Concluding that the traditional functions of the college are being usurped, Commager focuses upon the problem of institutional offerings not matching constituency's needs.327

A second condition conducive to the development of a student is that of an opportunity for "unforced intellectual maturing." Bell contends that the current erosion in American colleges does not relate to curricular patterns or institutional structure. They reflect

... the pressure on the student to choose a career early, to define a vocational intention, to specify a major, to narrow his interests, and to accelerate through school.328

This provision of absence of pressure does not reflect lack of challenge but is much the same kind of hiatus which Erikson refers to as "psychosocial moratorium."329

A third condition cited to facilitate continuing development is the opportunity to experience a sense of achievement or competence. Katz states, "The freshman year should end in some feeling of success, competence, something new learned, and some new capacity for enjoyment acquired."330

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This list is not intended to be inclusive, only to illustrate the relevance of environmental setting as a medium in which development can proceed.

**Processes of Development.** Rather than concentrate on specific results or end-products of development, this section will focus on the dynamics, the psychosocial processes which facilitate the development of a student.

First, accentuation is a process which Newcomb repeatedly notes in his studies of collegians. It is a process in which "an initially favorable or unfavorable attitude...becomes more so over time." Newcomb considers accentuation a major factor in college impact. He states the principle as,

> Whatever the characteristics of an individual that selectively propel him toward particular educational settings—going to college, selecting a particular one, choosing a certain academic major, acquiring membership in a particular group of peers—those same characteristics are apt to be reinforced and extended by the experiences incurred in those selected settings.

Second, coping strategies are a useful means of dealing with the ambiguities inherent in the movement between two environments and two developmental stages. Coelho states that coping strategies involve management of self-esteem and anxiety regarding new standards for competition, as well as management of environmental resources.

The tasks are critical in the sense that the adolescent confronts them while he is resolving the social ambiguities of living between

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331Feldman and Newcomb, op. cit., p. 55.
332Ibid., p. 333.
two worlds--no longer a 'school kid' and not yet the finished
'college man.' In a relatively pluralistic and open society,
the adolescent is exposed to new possibilities of becoming
--that is, developing desired characteristics consonant with
his concept of the adult person he would like to be one day.333

Coping strategies provide a useful means of dealing with the dual processes of (1) role transition and (2) developmental change.334

Third, socialization to a particular setting facilitates development. Socialization of new members (freshmen)

... always involves teaching them the norms governing social interaction within the organizational setting, and the ways
such norms are combined into roles and higher order systems.335

The freshman is taught the constituents of the collegiate social norms. These include

1. Status categories (who): terms and symbols used to differentiate among an organization's members.
2. Occasions (when and where): events and their situational settings which may be expected to occur with relevance to each status category, especially his own.
3. Responses (what, how): which responses are appropriate and inappropriate to various status categories.
4. Consequences (why): what may be expected to follow his and others' responses to given occasions.336

333Coelho, Hamburg, and Murphey, op. cit., p. 335.
334Ibid.
336Ibid., p. 17.
While socialization will occur among most freshmen, the crucial question relates to which persons or groups are the actual socializing agents as opposed to the formal, designated representatives of the institution. The social norms presented by these groups may be markedly divergent and highly relevant to educational impact.337

Fourth, identification is a process inherent in the conditions for student development. Bloom cites major characteristics of an environment which will effect the development of general intelligence and school achievement. These include

... communication and interaction with adults, motivation and incentives for achievement and understanding of the environment, and availability of adult models and exemplars of language, communication, and reasoning.338 (emphasis mine)

The interactional nature of this process must be noted for "... it is not only the availability of the elements but also the extent to which the individual interacts with and makes use of these elements."339

Finally, liberation is the process through which a liberal arts institution exerts an influence upon the development of its students.

The university cannot remake a world ... It cannot even remake men. But it can liberate young people by making them aware of the forces that impel them from within and constrict them from without ... This ... is the enduring rationale of a liberal education and the function of the college years.340

337ibid., pp. 18-19.
338Benjamin Bloom, Stability and Change in Human Characteristics (New York: John Wiley and Sons, Inc., 1964), p. 188.
339ibid.
340Bell, op. cit., p. 152.
Challenges of the Freshman Year

Developmentally powerful environment. To the extent that the freshman year of a collegiate program is able to induce dramatic changes in the stable characteristics of its students, it is referred to as "developmentally powerful." It is possible that the shape of the growth curve of intelligence after age 17 is more a function of the environment in which individuals live and work than it is a consequence of biological and maturational processes. This view is supported by longitudinal studies of persons who receive varying amounts of education after age 16. The effect of environment upon general intelligence is also demonstrated by the significant increases in measured intelligence during the first year of college in contrast with the smaller increments over the next three years of college, suggesting that new and intensive learning experiences have a more powerful effect than the continuation of these same experiences.

Developmentally powerful environments have one practice in common, the use of challenge to precipitate change. Sanford points out, . . . a person develops through being challenged: for change to occur, there must be internal or external stimuli which upset his existing equilibrium, which cause instability that existing modes of adaptation do not suffice to correct, and which thus require the person to make new responses and so to expand his personality.

Stable characteristics are reflective of an individual's basic psychological mechanisms and processes, usually derived from interactional patterns and life styles, and reflective of unconscious, deep-seated characteristics, thus less subject to conscious manipulation and more likely to be long-term or stable. Bloom, op. cit., pp. 4-5.

Bloom, op. cit., pp. 89-90.

Few educational institutions, particularly colleges, induce marked changes in their students. The institutions which succeed, however, are characterized by common features cited in the following summary.

1. **Motivation**: incoming students highly motivated in direction of institutional aims and voluntarily attending.

2. **Isolation**: absence of distracting stimuli and influences to detract from institutional environment.

3. **Consistency of goals**: students and instructors are in accord regarding objectives, and dissident sub-groups are minimal.

4. **Explicitness of values and role-models**: there is little ambiguity about what kind of behavior is deemed desirable.

5. **Practice of positively valued responses**: students are actively involved in imitating role-models and are now allowed to be passive agents for the instructors.

6. **Sanctions**: a variety of both rewards and punishments is utilized.\(^{344, 345}\)

**Engagement of the freshmen in new learning styles.** In addition to the provision of a developmentally powerful environment, it is necessary to engage the individual student in learning styles and modes deviant from those to which he previously was accustomed. Coleman has cited some

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\(^{345}\)Few colleges are able to exert such a drastic and consistent impact on students owing to divergent conditions such as motivation among majority of students, peer-culture values in conflict with institutional aims, and difficult of maintaining isolation. Bennington was the only college cited; other powerful educational institutions cited as examples were nurses' training programs and medical internships, Chinese thought-reform schools for intellectuals, and British officer-training schools. LeVine, *op. cit.*, p. 114.
relevant characteristics of high-school adolescents such as their discontent with passive roles, their reliance upon conformity, and their lack of experience with academic work that is other than "prescribed," resulting in their characteristic or frequent assumption of passive, reactive roles. By contrast, the freshman in a liberal arts college should be expected to move into new modes of analysis and conceptualization.

... The distinctive function of the college must be to teach modes of conceptualization, explanation, and verification of knowledge... the distinctive function of the college is to deal with the grounds of knowledge: not what one knows but how one knows.

The challenge of this aspect of the freshman year is whether or not the student becomes committed to continuing inquiry.

Success Indices for a Freshman Year Program. Within this section some novel measures of success will be cited; those measures which might be presumed from the foregoing materials will not be reintroduced.

Progression of students in the direction of becoming "Reasonable Adventurers" may be regarded as one measure of freshman year success. Reasonable Adventurers are characterized in the following way:

Ego functioning: integrative; Reactivity: appropriate; Common defense: reasoning; Attitude toward instinctual self: accepting; Social motive: to communicate; Regnant motive: to explore; Problem: frontier; Impression on others: independent, sensitive, playful, and compassionate; Characteristic utterance: "If only, then..."


347 Bell, op. cit., p. 8.

348 Ibid.
Reasonable Adventurers are contrasted with four other prototypes, the Non-committer, the Hustler, the Plunger, all of whose defining characteristics are implicit in their labels.349

A second measure of success is that of disabusing the incoming students of the "freshman myth." "The freshman myth is just that, a reflection of the idealized institution of higher education in our society." and, as Stern indicates, "no mere college could fulfill such expectations."350 The challenge of the freshman year is to disabuse the student of the freshman myth without losing him to the intellectual enterprise.

Chickering conceives of a third measure of success, that measure of impact which a college has upon its Misfits. He states that every institution has two kinds of misfits, "those whose development has not yet proceeded to the general level at which the college operates, and those whose development has gone beyond the operating level of the college." His thesis is that the "most important index of college success and of its social contribution may be the quality of its drop-outs." For the Misfits who enter near the college's upper limits, a program is successful which helps the freshman "clarify his own purposes and potentials . . . and then helps them move on to more developmentally powerful or roomy settings. . . ." For the Misfits whose development at entrance has not yet reached the level at which the college operates, "the college


which helps such students survive and which helps them accelerate their own development through that struggle to survive..." is successful.\textsuperscript{351}

Finally, Sanford contends that the major aim of the freshman year should be to win the student to the intellectual enterprise.

... with full recognition of the fact that for many it is now or never .... Most essentially, the student must be shown that college education is a means for the expression of his impulse life, an opportunity for the gratification of his natural curiosity, and not merely a set of painful tests designed to make him more appreciative of his college degree.\textsuperscript{352}

VI. SUMMARY

The first section (I) of review of the literature focused upon those aspects of contemporary higher education which held special relevance for cluster colleges. Further focus was provided by selecting literature descriptive of persons participating in cluster colleges or characteristics of the milieu in which cluster colleges have been founded. Problems in the general area of contemporary higher education were noted as well as a few specific proposals for change or reformation. Some innovation proposed as ameliorative of the problems were also noted. Finally divergent views regarding the objectives of liberal education were presented along with parallel measures for evaluating the success of a liberal arts program.

Institutional characteristics and the concept of collegiate

\textsuperscript{351}Chickering, op. cit., pp. 5, 8.

climate were the topics reviewed in the second section (II) of literature. Various systems of classifying educational institutions were cited. The concept of collegiate climate was introduced along with various techniques for identifying the defining characteristics of a collegiate climate. Theoretical bases from which the concept developed were cited. Illustrations of the uses and relevance of this concept were noted.

Section three of review of the literature (III) was divided into two parts, the first dealing with theoretical principles of innovation and the second dealing with specific instances of innovation in collegiate institutions. Definitions of technical terms were provided. Social factors relating to the acceptance of an innovation were noted. The personality characteristics of persons who become innovators were cited along with their relationship to the rate of adoption of an innovation. Finally, phases of the innovative process were described.

The second part of the section III dealt with innovations in contemporary higher education. Factors which predispose an institution to innovation were described followed by citing of the specific features of an educational innovation which relate to its acceptance. Characteristics of innovators, both individuals and institutional were described next. The final division dealt with a variety of innovative roles possible within a collegiate institution.

The fourth section (IV) of review of the literature dealt with experimental colleges, the problem of defining them and the trends and practices by which they are identified. A variety of experimental models were presented, including utopian ventures, progressive colleges,
sub-colleges, and experiments based upon either a need for economy or upon a modified organizational structure. Following a brief introduction to the de-centralized model for a college, including the concept of federation, the remainder of the section was focused upon the cluster colleges. Their problem of definition, their objectives and history and areas of experimentation were presented. Participants—students, faculty, and administrators—were described. The last part of this section dealt with measures of success relevant for an experimental college.

The final section (V) of the review dealt with the psychosocial characteristics of freshmen. The developmental stage of late adolescence was noted along with the growth trends and processes by which it is characterized. Freshmen as persons involved in multiple transitions were discussed, including goals of development, areas of expected change, preconditions for development and the psychodynamic processes involved in development. The final part of this section dealt with the challenges of the freshman year. The necessity for provision of a developmentally powerful environment and the engagement of freshmen in new learning styles was reviewed. Measures by which the success of a freshman year might be evaluated were cited.
CHAPTER III

DESIGN OF THE STUDY

Introduction

Participation in the initial phase of an educational institution is an uncommon experience. No accounts were found in the literature describing persons who choose to become involved in the experience of initiating an educational institution.¹

The purpose of this research was to collect and analyze data descriptive of the participants in the initial phase of a new collegiate institution.

Objectives of the Study

Statement of the problem: Experimental colleges are, by definition, social innovations.² Persons participating in a social innovation may thus be termed innovators.

What were the characteristics (psychosocial, demographic, and attitudinal) of students who chose to participate in an innovative experience, specifically, the charter year of an experimental college?

¹Goodwin Watson (1964) wrote a descriptive essay about the participants of New College, an experimental college which operated during the 1930s. Gusfield and Riesman have also written about the "educational pioneers" in experimental colleges. (Gusfield & Riesman, 1968) Neither, however, provided empirical data or focused specifically upon members of the charter class or faculty.

For purposes of this research the charter class of Callison College (Freshmen, Fall 1967) was studied.¹

Research Questions

1. What were the identifiable features, the modal patterns and the regularities of the Charter Class?

2. For the persons who participated in the charter year of an experimental college, the innovators, what were their expectations or images of the experimental college?

3. All students in the Charter Class may be defined as innovators. To what extent were the innovators a homogeneous group? Can it be demonstrated that the participants represented a variety of styles of innovator?

4. In what areas were the actuarial data on the Callison innovators consistent with those characteristics described in the literature and in what areas were they discrepant?

Research Assumptions and operational definitions

1. A college is a social unit. The unit contains both tangible elements, such as its faculty, staff and students, as well as intangible elements, such as the college's image.⁴

³Callison College was the third of the University of the Pacific's "cluster colleges."

2. When a college defined itself as experimental, it was assumed to be attempting novel educational goals or programs.5

3. The attempt to utilize novel elements, or to organize common curricular elements in a novel manner, was assumed to represent a form of innovation.

4. Persons who elected to participate in the initiation of a social organization which defined itself as experimental were here identified as innovators.

5. Persons who elected to remain with a social organization which defined itself as experimental were defined as innovators.

6. During the charter year of a college's operation, the most significant element in the institution's developing image was assumed to be its immediate participants, the charter class and faculty.

Research Design

Assessment methodology. Assessment methodology provided the theoretical rationale for collecting data relevant to the description of Carlison College and its emergent image. Factors contributing to this image were incoming students and faculty as well as related environmental factors.6 The techniques originally developed by Stern, Stein and Bloom

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are also referred to as Transactional Approach.\(^7\)

Basic to this approach is the assumption that success in college, as all behavior, is a function of the transactions between the individual and his environment. Individuals affect and are affected by their environments. Consequently, for purposes of prediction it is important to understand both the characteristics of the individual and the environment.\(^8\)

The objective of the transactional approach is predictive, however, and the prediction of college success, or success of a college, would be premature for a charter group. Data, therefore, were collected which would lead, at some later date, to development of a success criterion (or criteria), that is "psychological characteristics that an individual needs to possess if he is to achieve a standard of performance."\(^9\)

In the terminology of transactional methodology standard of performance has a specialized meaning, "... that level or quality of achievement that an individual is said to have attained by the significant others."\(^10\)

\[\text{Italics mine}\] The significant others are the crucial decision-makers in any social setting although they are not necessarily the formally designated organizational leaders. The standard of performance as used here is an ascribed or achieved rather than an arbitrarily designated level of achievement. Early in a social innovation, such as the initiation of a college, it would be impossible to identify the significant others, hence


\(^8\) Ibid., p. 50.

\(^9\) Ibid.

\(^10\) Ibid.
the standard of performance could not be accurately discerned during the early phases of an innovation.

Thus the philosophy underlying the research design for data collection was that of the transactional approach although it was not possible to adhere strictly to any of its specific methodologies.

**Exploratory research.** The present study was not experimental. It may be classified as Exploratory. Exploratory studies are those empirical research investigations one purpose of which is to increase 

"... the investigator's familiarity with a phenomenon or a setting to lay the basis for more precise future research..."11 The distinctive feature of this approach is the expectation that the investigator should go beyond, or interrelate, the qualitative and quantitative data in an attempt to conceptualize the interrelationships of the variables; he should attempt to place his data into some conceptual framework.12 This particular research is best described as one variety of the Exploratory model, Exploratory-Descriptive.

Combined exploratory-descriptive studies are those exploratory studies which seek to thoroughly describe a particular phenomenon. The concern may be with one behavioral unit, as in a case study, for which both empirical and theoretical analyses are made. The purpose of these studies is to develop ideas and theoretical generalizations. Descriptions are in both quantitative and qualitative form, and the accumulation of detailed information by such means as participant observation may be found. Sampling

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12Ibid.
procedures are flexible, and little concern is usually given to systematic representativeness.\textsuperscript{13}

Rationale for research design. The research design allowed for a range of measurements which were thought to be distinctly useful for the purposes of this study. Most educational innovations are advocated in reaction against a previously unsatisfactory practice.\textsuperscript{14} Cluster colleges are no exception. Campbell notes that most social reforms are advocated as though they were certain to be successful and that this certainty, along with the political advantage of success, leads to difficulty in making accurate assessments of the success of these reforms.\textsuperscript{15} For this reason it was decided that Exploratory research with a wide range of measurements offered the best opportunity for developing "persuasive evidence . . . which . . . comes through a triangulation of measurement processes."\textsuperscript{16}

Finally, use of the Exploratory approach allowed for a detachment for the investigator from a bias toward outcomes congruent with the plans and objectives of the college's founders. The importance of measuring unanticipated consequences and developments was recognized. Gaff notes "... plans and new programs often unleash unanticipated consequences

\begin{itemize}
\item \textsuperscript{13}Ibid., p. 256.
\item \textsuperscript{14}Paul Dressel
\item \textsuperscript{15}Donald T. Campbell, "Reforms as Experiments," \textit{American Psychologist}, Vol. 24, No. 4 (April, 1969), p. 409.
\end{itemize}
and . . . sometimes these consequences are undesirable; occasionally they may even be antithetical to the original purpose."17

Minimizing the Hawthorne Effect was a further objective intended to be facilitated by use of the Exploratory approach.

Hawthorne effect is a phenomenon characterized by awareness on the part of the subjects of special treatment created by artificial experimental conditions. This awareness . . . leads . . . to ambiguous results.18

The Exploratory approach allowed the investigator to be an anticipated part of any of the activities of the Charter Class; both students and faculty understood that measurements were not to be limited to formal psychometric testing. A certain amount of Hawthorne effect was inevitable because of the general effect upon students of being "guinea pigs"; it was not anticipated, however, that this effect would be limited to data collecting processes of the present research.

When the awareness of being tested has an effect upon data collection it is also referred to as Reactive Measurement Effect.19 Of the possible varieties of reactive measurement effect, it was presumed that three of these effects may have been relevant while one effect was unlikely.


(1) The guinea pig effect—awareness of being tested.\textsuperscript{20}
This effect was assumed to be an inevitable part of the experimental college setting, particularly for a charter class.

(2) Role selection. The subjects under investigation were placed in a role-defining situation in which they were required to ask, "What kind of a person should I be as I answer these questions or do these tasks?"\textsuperscript{21} This requirement for role-defining was assumed to be as much a part of freshmen adjustment and membership in an experimental college as it was of the measurement task per se. It was assumed that the test data would reflect the role selection process which was presumably taking place.

(3) Measurement as change agent. Social scientists recognize that "initial measurement activity introduces real changes in what is being measured."\textsuperscript{22} The researchers must assume that some research topics created in the subjects a level of awareness, or perhaps only a question, which did not previously exist. To this extent they may no longer be regarded as naive subjects.

(4) Response sets. This measurement effect relates to a tendency to prefer positively stated items to negatively stated ones, left-oriented items rather than right-oriented ones, strong statements as opposed to moderate ones, etc.\textsuperscript{23} It refers to any organizational device which may influence the respondents, irrespective of the content of the test. Since correction for this type of measurement error is built into most standardized tests, it was assumed that this measurement effect would be minimal in the data which were empirical.

Selection of Population

A saturation sample was taken of Callison's Charter Class. All members of the class were administered tests and questionnaires to be noted later. (Appendix A) For purposes of this research then, the focal group was the Charter Class of Callison College at point of entrance.

\begin{footnotes}
\item[21] Ibid., p. 16.
\item[22] Ibid., p. 18.
\item[23] Ibid., p. 20.
\end{footnotes}
Two important reference groups for the Callison freshmen were the freshmen at nearby Raymond College, also a cluster college, and the freshmen at College of the Pacific. Data were available from the Raymond freshmen on two of the same measures used with the Callison students. This allowed for comparison of the freshmen from a new cluster college with freshmen from an already-established cluster college. All University of the Pacific freshmen are regularly administered a questionnaire from the American Council of Education which collects demographic and attitudinal data. This instrument was included in the research data since it allowed for comparisons between Callison, Raymond, and College of the Pacific freshmen.

Instruments Used in Describing Callison Freshmen

Standardized tests. The bulk of data fell under the heading of standardized testing instruments suitable for individualized interpretation. In addition a test to measure various aspects of "collegiate climate," the College Characteristics Index, was administered during the first day of Freshmen Orientation. Students were instructed to respond to the test's descriptive items in terms of what they expected Callison College to be.25

24Each of these colleges was also a unit of the University of the Pacific and located on the same campus as Callison College.

Three measures of personal characteristics were utilized. First, the Activities Index, which is a companion test to the College Characteristics test and shares the same format. Second, the California Personality Inventory (CPI) was administered one week after the previous two tests. The final instrument to be administered specifically for this research was the Strong Vocational Interest Blank.

In addition, all university freshmen were administered the Washington Grade Prediction Tests and results derived from this standardized measure were available for research purposes.

Sources of demographic and attitudinal data. Demographic characteristics and attitudinal measures were another important source of information. American Council on Education provides each of its member institutions with standardized questionnaires for collection of data descriptive of an entering freshmen class. These data are computer-processed and returned to the university in the form of percentage data for the specific college and, in this case, University of the Pacific norms, as well as national norms for each item. Information provided from this instrument included educational and career aspirations, including anticipated major, collegiate objectives, various items descriptive of high school achievements,

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26 Ibid.
both academic and extracurricular including dating and recreational patterns, the student's estimation of his areas of competence, data regarding his choice of college, financial arrangements, opinions on currently controversial subjects, and some basic demographic data. These data were reported for the entire class and were not subject to individual interpretation.

Another source of demographic and attitudinal data was a questionnaire developed specifically for this research. This questionnaire, hereafter referred to as Callison Personal Data Sheet, (C.P.D.S.) was administered approximately one week after the beginning of the freshmen term and on the same day as the California Personality Inventory. Much of its information duplicated that of the ACE questionnaire but the fact of local administration and provision for identification of the subject allowed these data to be correlated with other data collected for a specific individual. Two content areas not included in the ACE instrument were included in the Callison questionnaire because they related to topics relevant to Callison's emphasis on internationalism. The first area was that of the student's experience with mobility (number of moves of family homesite, extent of overseas travel, and national origin of grandparents). The second area was that of the student's ordinal position in his family.

Finally, admission data were available. College Entrance Examination data, Verbal, Mathematics, and Composite scores, were recorded for every student. The dates of admission to the college were charted for the entire group. Washington Pre-College Test scores for the Callison
Charter Class were also included in the research materials.

Other Sources of Data

Comparative data from other freshmen groups within the University were utilized. CCI profiles and ACE data were available for the Freshman class at Raymond College, an established cluster college of the same size projected for Callison. ACE data were available for College of the Pacific freshmen as well as the overall University of the Pacific norms and national norms for all entering freshmen in the Fall of 1967.

Data Gathering Procedures for Callison Freshmen

Both the College Characteristics Index and the Activities Index were collected during Freshman Orientation Camp. The literature emphasize the speed with which attitudes are modified once freshmen assemble;29 thus every attempt was made to measure collegiate expectations before students had an opportunity to modify their attitudes on the basis of any perceived dissonance with peers. At the same time ACE forms for Data on Entering Freshmen were filled in.

One week later the California Personality Inventory (CPI) and the Callison Personal Data sheet (CPDS) were administered. These tests were administered on campus. At the time of this testing students had lived in the dormitories less than one week.

One month later the Strong Vocational Interest Blank (SVIB) was administered to students.

**Objectives in the Data-gathering Process**

Data collection should proceed in as unobtrusive fashion as possible in order that the natural group processes may proceed spontaneously. An attempt was made to explain no test scale or score in a manner which might suggest motivations or expectations. In the same vein, it was important not to suggest that any test measured a characteristic which was cumulatively valued, that is, the more of the characteristic one possessed, the more he was distinctive or valued. Technically this would constitute implying a "direction of goodness," an implication known to skew subjects' test responses.³⁰

Finally, it was important to present test instructions in a manner that would minimize defensiveness. It was also important to minimize any feeling on the part of the subject that he was special or different simply by virtue of the investigator's interest; this could have led to activation of a Hawthorne effect. To minimize defensiveness the students were assured of the confidentiality of their test results. At each testing session they were told that their test scores would not be available to Callison administrators or faculty and that they would not be utilized in decisions regarding their eligibility for the year in India. To further remove the test data from any aura of mystery, and to place them in

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³⁰Webb, op. cit., p. 16.
the students' minds as merely one kind of social science data, each student was offered the return of his scored tests along with an interpretation in order to clarify any possible misunderstandings or misconceptions.

Methods of Data Analysis

Scoring. All standardized test instruments were computer scored by a firm which specialized in scoring psychological data. At the same time statistical means and standard deviations were calculated for the scales of each test and, where appropriate, separate norms developed for male and female groups. These standardized tests included the College Characteristics Index, the Activities Index, the California Personality Inventory, and the Strong Vocational Interest Blank.31

Although American Council on Education data on Entering Freshmen were not collected specifically for this research these data were available for use. These data, reported in percentage form, referred to the entire college; there were no individual reports. Along with the data for a specific college the norms were reported for the university to which the college belonged as well as the norms based on a nationwide scale.

The biographical data form (CPDS) which was designed for the Cali-son study was constructed for reporting in terms of percentages and ranks.

31 supra, p. 134.
As part of the application process students submitted their scores on the College Entrance Examination Board scores. Each student's Verbal, Mathematics, and Cumulative score was reported. These data were ranked. Means and Standard deviations were computed for each of the three measures.

All students entering the university were required to take the Washington Grade Prediction Test. Scoring norms were standardized in terms of past student populations in University of the Pacific. These data were ranked. Means and standard deviations were computed. Distribution of scores was reported.

Major statistical treatment. The number of variables measured was large and many of these variables were interdependent or overlapping. Both for reasons of economy and clarity an attempt was made to discover the underlying structure through the statistical technique of factor analysis.\textsuperscript{32} O-type factor analysis, following Tryon's methods, was attempted in order to clarify patterns of relationships. This statistical procedure allows for the development of typologies based upon the empirically measured characteristics of the research population. Members of different typologies can then be described in terms of their varying profiles of scores for the various factors.\textsuperscript{33}


The objective of the major statistical analysis was to develop a typology descriptive of students in one experimental college. From this analysis it was anticipated that certain interpretations of the population might be made which would amplify theories regarding student characteristics and, hopefully, lead to development of further hypotheses for testing or support for theoretical positions.

SUMMARY

Material in this chapter focused upon the design of the study that was to collect information bearing on the description of characteristics of members of Callison's Charter Class. The specific research questions related to identification of the modal patterns of the class as well as the extent of homogeneity within the group, their collegiate expectations, and the extent to which the freshmen were similar to various styles of innovators.

Basic assumptions relating to the research were identified. Research design was to be exploratory but based generally upon the assumptions derived from work in assessment methodology. Discussion of the rationale for the research design was presented.

The population studied was a saturation sample of the freshmen entering Callison College's Charter Class. Instruments for testing and other sources of descriptive data were identified along with the schedule for data collection. The objectives around which the data collection was organized were discussed.

Finally, methods of data treatment were described. These included
statistics used for description of the entire group as well as the technique used for the major statistical treatment, a device for identifying major constructs underlying the mass of more specific statistics.
CHAPTER IV

PRESENTATION OF THE DATA: PART ONE

Data in this chapter will deal with two specific research questions. Initially a profile of Callison's charter class will be presented. Data will first be presented in summary form to provide the reader a picture of the group; all data collected will be noted in this summary. Following this presentation data will be organized as they are relevant to the questions of collegiate expectations held by the charter class.

PROFILE OF THE CHARTER CLASS

Rationale for Order of Presentation

All data in this chapter may be referred to as "input variables." They may be of differential value in highlighting the psychological dimensions related to the choice of an experimental college, particularly a college in its initial year of operation. The significance of these input variables\(^1\) is that they serve as conditions of "exposure" to agents of change and, also, that they provide a basis for an adequate research design for evaluating educational impact of an institution or educational changes in individual students.\(^2\)

Data in the first section will be organized according to a

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\(^2\)Ibid.
developmental scale for classification of input variables.

Categories of Input Variables

1. Biological Attributes: commonly linked with expectations of differing beliefs and behavior: Age, Sex, Race
2. Social characteristics stemming from the student's categorical context: nativity, place of residence, parental income, occupation, religion, education
3. Social characteristics generated in the student's group context especially his role in pre-college groups: Position in the family, relationships with parents, activity with pre-college peers, size of school and achievement in it, frequency of moving.
4. Variables which measure Personal Traits deriving from experiences implicit in the three foregoing categories: Values, skills, knowledge, and attitudes; Plan for the future; some Personality variables including motivation toward scholarly activity, political preferences, originality, academic attitudes, student's attitudes toward his college and the education generally and toward the future, leisure time habits and preferences; Self image.

The following data are organized according to this schema because, "As the classes of attributes move from gross and ascribed to refined and achieved there is a roughly parallel change in the nature of peer group influence."\(^4\)

Biological Attributes

All members of the charter class were freshmen; no transfer students were admitted for the charter year. The majority were eighteen year olds. None was more than one year younger than his classmates; none was an adult entering college for the first time. Of the seventy-nine initial students,

\(^3\)Ibid., pp. 94-106.

\(^4\)Ibid., p. 94.
fifty-two were females and twenty-seven were males. This made the ratio of females to males two to one. The class was predominantly Caucasian (91%). Three Orientals, one American Indian and one Negro were the only minority group representatives in the Charter Class. (Table I.)

Social Characteristics of Origin

Place of residence. Charter class members, except one, were citizens of the United States; there was one foreign student in the charter class. Hometowns of more than half of the freshmen were within one hundred miles of Stockton; less than one-quarter of the freshmen class were from out of state (22%).

Family Data. Most of the students came from intact families, broken neither by death or divorce (85%). (Table II.)

Mothers of most of the students fell in the age range between forty-one and sixty years (78%). The majority had some college experience and more than one-third held bachelor's or graduate degrees (37%). Although the modal pattern was for the mother to be occupied as a housewife, almost half of the group was employed outside of the home (46%) with only slightly more engaged in non-professional occupations than professional occupations. Although Republican was the modal choice of political party (49%) for mothers, it should be noted that a sizeable segment (22%) were cited as "Other" or "None," possibly implying independence of voting pattern. Maternal grandparents of the majority of freshmen were native Americans (59%) although the next largest group immigrated from northern European countries (32%). The patterns of national origins for grandfathers
**TABLE I**

**INPUT VARIABLES DESCRIPTIVE OF FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967: BIOLOGICAL ATTRIBUTES**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>As of 31 December 1967:</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age: 17 years</td>
<td>4.6</td>
<td>03</td>
</tr>
<tr>
<td>18 years</td>
<td>86.2</td>
<td>56</td>
</tr>
<tr>
<td>19 years</td>
<td>9.2</td>
<td>06</td>
</tr>
<tr>
<td><strong>Sex:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>32.3</td>
<td>26</td>
</tr>
<tr>
<td>Female</td>
<td>67.7</td>
<td>52</td>
</tr>
<tr>
<td><strong>Racial Background:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>90.8</td>
<td>59</td>
</tr>
<tr>
<td>Negro</td>
<td>1.5</td>
<td>01</td>
</tr>
<tr>
<td>American Indian</td>
<td>1.5</td>
<td>01</td>
</tr>
<tr>
<td>Oriental</td>
<td>4.6</td>
<td>03</td>
</tr>
<tr>
<td>Other</td>
<td>1.5</td>
<td>01</td>
</tr>
</tbody>
</table>

* Data from American Council on Education Data on Entering Freshmen, Fall 1967. Note that total number responding is not always the same because every student did not respond to every item.

** Data from Callison Personal Data Sheet.
TABLE II
INPUT VARIABLES DESCRIPTIVE OF FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967: SOCIAL CHARACTERISTICS OF ORIGIN

<table>
<thead>
<tr>
<th>Place of Residence</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citizenship**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States citizen</td>
<td>98.7</td>
<td>77</td>
</tr>
<tr>
<td>Non-U.S. citizen</td>
<td>1.3</td>
<td>01</td>
</tr>
<tr>
<td>Hometown**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 100 miles of college</td>
<td>56.4</td>
<td>44</td>
</tr>
<tr>
<td>Within California</td>
<td>20.5</td>
<td>16</td>
</tr>
<tr>
<td>Out of state</td>
<td>23.1</td>
<td>18</td>
</tr>
<tr>
<td>Family Data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intact family **</td>
<td>85.2</td>
<td>67</td>
</tr>
<tr>
<td>Disrupted family</td>
<td>14.8</td>
<td>11</td>
</tr>
<tr>
<td>Mother's Age: **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 40 years</td>
<td>17.9</td>
<td>14</td>
</tr>
<tr>
<td>41-60 years</td>
<td>78.2</td>
<td>61</td>
</tr>
<tr>
<td>61 years or over</td>
<td>0.0</td>
<td>00</td>
</tr>
<tr>
<td>Don't know</td>
<td>3.8</td>
<td>03</td>
</tr>
<tr>
<td>Mother's education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>21.6</td>
<td>16</td>
</tr>
<tr>
<td>Some college</td>
<td>39.2</td>
<td>29</td>
</tr>
<tr>
<td>College graduate</td>
<td>32.4</td>
<td>24</td>
</tr>
<tr>
<td>Post-graduate degree</td>
<td>6.8</td>
<td>05</td>
</tr>
<tr>
<td>Mother's occupation **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>50.6</td>
<td>39</td>
</tr>
<tr>
<td>Non-professional occupation</td>
<td>27.3</td>
<td>21</td>
</tr>
<tr>
<td>Professional occupation</td>
<td>19.5</td>
<td>15</td>
</tr>
<tr>
<td>Other</td>
<td>2.6</td>
<td>02</td>
</tr>
<tr>
<td>Mother's political preference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democratic</td>
<td>29.5</td>
<td>23</td>
</tr>
<tr>
<td>Republican</td>
<td>46.7</td>
<td>38</td>
</tr>
<tr>
<td>Other or None</td>
<td>21.8</td>
<td>17</td>
</tr>
<tr>
<td>National origin:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maternal grandmother **, (a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North. European</td>
<td>32.1</td>
<td>25</td>
</tr>
<tr>
<td>Russian-Slavic</td>
<td>3.8</td>
<td>03</td>
</tr>
<tr>
<td>Asia-Pacific area</td>
<td>2.6</td>
<td>02</td>
</tr>
<tr>
<td>Native American</td>
<td>58.9</td>
<td>46</td>
</tr>
<tr>
<td>Unscorable</td>
<td>2.6</td>
<td>02</td>
</tr>
<tr>
<td>National origin:</td>
<td>Percentage</td>
<td>Number</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Maternal grandfather **, (a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North. European</td>
<td>33.3</td>
<td>26</td>
</tr>
<tr>
<td>South. European</td>
<td>2.6</td>
<td>02</td>
</tr>
<tr>
<td>Russian-Slavic</td>
<td>1.3</td>
<td>01</td>
</tr>
<tr>
<td>Asia-Pacific area</td>
<td>2.6</td>
<td>02</td>
</tr>
<tr>
<td>Native American</td>
<td>58.9</td>
<td>46</td>
</tr>
<tr>
<td>Unscorable</td>
<td>1.3</td>
<td>01</td>
</tr>
<tr>
<td>Father's age: **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 40 years</td>
<td>05.1</td>
<td>04</td>
</tr>
<tr>
<td>41-60 years</td>
<td>85.2</td>
<td>67</td>
</tr>
<tr>
<td>61 years or over</td>
<td>02.6</td>
<td>02</td>
</tr>
<tr>
<td>Don't know or Unscorable</td>
<td>06.4</td>
<td>05</td>
</tr>
<tr>
<td>Father's education **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>21.3</td>
<td>15</td>
</tr>
<tr>
<td>Some college</td>
<td>17.3</td>
<td>13</td>
</tr>
<tr>
<td>College graduate</td>
<td>25.3</td>
<td>19</td>
</tr>
<tr>
<td>Post-graduate degree</td>
<td>33.3</td>
<td>25</td>
</tr>
<tr>
<td>Don't know</td>
<td>02.7</td>
<td>02</td>
</tr>
<tr>
<td>Father's occupation **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-professional</td>
<td>14.5</td>
<td>11</td>
</tr>
<tr>
<td>General or Business</td>
<td>36.8</td>
<td>28</td>
</tr>
<tr>
<td>Professional or Executive</td>
<td>43.4</td>
<td>33</td>
</tr>
<tr>
<td>Other</td>
<td>05.3</td>
<td>04</td>
</tr>
<tr>
<td>Father's Political Preference **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democratic</td>
<td>35.9</td>
<td>28</td>
</tr>
<tr>
<td>Republican</td>
<td>42.3</td>
<td>33</td>
</tr>
<tr>
<td>Other or None</td>
<td>21.8</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Origin: Paternal Grandmother **, (a)</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>North. European</td>
<td>33.3</td>
<td>26</td>
</tr>
<tr>
<td>South. European</td>
<td>02.6</td>
<td>02</td>
</tr>
<tr>
<td>Russian-Slavic</td>
<td>01.3</td>
<td>01</td>
</tr>
<tr>
<td>Asia-Pacific area</td>
<td>02.6</td>
<td>02</td>
</tr>
<tr>
<td>Native American</td>
<td>58.9</td>
<td>46</td>
</tr>
<tr>
<td>Unscorable</td>
<td>01.3</td>
<td>01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Origin: Paternal Grandfather **, (a)</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>North. European</td>
<td>32.1</td>
<td>25</td>
</tr>
</tbody>
</table>
TABLE II (continued)

<table>
<thead>
<tr>
<th>Family Data (continued)</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian-Slavic</td>
<td>03.8</td>
<td>03</td>
</tr>
<tr>
<td>Asia-Pacific area</td>
<td>02.6</td>
<td>02</td>
</tr>
<tr>
<td>Native American</td>
<td>58.9</td>
<td>46</td>
</tr>
<tr>
<td>Unscorable</td>
<td>02.6</td>
<td>02</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated Parental Income *, (a)</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6,000-$7,999</td>
<td>09.5</td>
<td>06</td>
</tr>
<tr>
<td>$8,000-$9,999</td>
<td>03.2</td>
<td>02</td>
</tr>
<tr>
<td>$10,000-$14,999</td>
<td>25.4</td>
<td>16</td>
</tr>
<tr>
<td>$15,000-$19,999</td>
<td>06.3</td>
<td>04</td>
</tr>
<tr>
<td>$20,000-$24,000</td>
<td>11.1</td>
<td>07</td>
</tr>
<tr>
<td>$25,000-$29,999</td>
<td>06.3</td>
<td>04</td>
</tr>
<tr>
<td>$30,000 or more</td>
<td>09.5</td>
<td>06</td>
</tr>
<tr>
<td>Have no idea</td>
<td>28.6</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Source of Financial Support During Frm. Year</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Savings or employment</td>
<td>07.7</td>
<td>05</td>
</tr>
<tr>
<td>Parental or Family Aid</td>
<td>73.8</td>
<td>48</td>
</tr>
<tr>
<td>Repayable Loan</td>
<td>15.4</td>
<td>10</td>
</tr>
<tr>
<td>Scholarship/Grant/Gift</td>
<td>32.3</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concern About Financing Education *</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>38.5</td>
<td>25</td>
</tr>
<tr>
<td>Some Concern</td>
<td>50.8</td>
<td>33</td>
</tr>
<tr>
<td>Major Concern</td>
<td>10.8</td>
<td>07</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Influence in Deciding to Attend This College *</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent or Other Relative</td>
<td>44.6</td>
<td>29</td>
</tr>
<tr>
<td>H.S. teacher or counselor</td>
<td>20.0</td>
<td>13</td>
</tr>
<tr>
<td>Friends attending this college</td>
<td>09.2</td>
<td>06</td>
</tr>
<tr>
<td>Grad. or other college representative</td>
<td>18.5</td>
<td>12</td>
</tr>
<tr>
<td>Counseling or Placement service</td>
<td>1.5</td>
<td>01</td>
</tr>
<tr>
<td>Athletic program of the college</td>
<td>0.0</td>
<td>00</td>
</tr>
<tr>
<td>Other extracurricular activities</td>
<td>1.5</td>
<td>01</td>
</tr>
<tr>
<td>Social life of the college</td>
<td>0.0</td>
<td>00</td>
</tr>
<tr>
<td>Change to live away from home</td>
<td>15.4</td>
<td>10</td>
</tr>
<tr>
<td>Low cost</td>
<td>0.0</td>
<td>00</td>
</tr>
<tr>
<td>Academic reputation of the college</td>
<td>35.4</td>
<td>23</td>
</tr>
<tr>
<td>Most students are like me</td>
<td>4.6</td>
<td>03</td>
</tr>
<tr>
<td>Religious affiliation</td>
<td>3.1</td>
<td>02</td>
</tr>
</tbody>
</table>
TABLE II (continued)

<table>
<thead>
<tr>
<th>Family Data (continued)</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious Background *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protestant</td>
<td>62.5</td>
<td>40</td>
</tr>
<tr>
<td>Roman Catholic</td>
<td>7.8</td>
<td>05</td>
</tr>
<tr>
<td>Jewish</td>
<td>7.8</td>
<td>05</td>
</tr>
<tr>
<td>Other</td>
<td>6.3</td>
<td>04</td>
</tr>
<tr>
<td>None</td>
<td>15.6</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Present Religious Preference *</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protestant</td>
<td>40.6</td>
<td>26</td>
</tr>
<tr>
<td>Roman Catholic</td>
<td>7.8</td>
<td>05</td>
</tr>
<tr>
<td>Jewish</td>
<td>6.3</td>
<td>04</td>
</tr>
<tr>
<td>Other</td>
<td>14.1</td>
<td>09</td>
</tr>
<tr>
<td>None</td>
<td>31.3</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ordinal Position in Family **</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>First or Only</td>
<td>47.3</td>
<td>37</td>
</tr>
<tr>
<td>Middle</td>
<td>32.1</td>
<td>25</td>
</tr>
<tr>
<td>Youngest</td>
<td>20.5</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mobility Experiences</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Homesite Moves **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>23.6</td>
<td>18</td>
</tr>
<tr>
<td>One or Two</td>
<td>39.6</td>
<td>30</td>
</tr>
<tr>
<td>Three or more</td>
<td>13.2</td>
<td>10</td>
</tr>
<tr>
<td>Five or more</td>
<td>23.6</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overseas Experience **</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>25.7</td>
<td>19</td>
</tr>
<tr>
<td>Tourist-minimal</td>
<td>35.1</td>
<td>26</td>
</tr>
<tr>
<td>Tourist-extensive</td>
<td>20.3</td>
<td>15</td>
</tr>
<tr>
<td>Residence</td>
<td>18.9</td>
<td>14</td>
</tr>
</tbody>
</table>

* Data from ACE Survey on Entering Freshmen, Fall, 1967.

** Data from Callison Data Sheet

(a) Only categories for which there are entries shown.
were not noticeably different than that for grandmothers.

Fathers of the charter-class freshmen were mostly in the forty-one to sixty years of age category (86%). The modal category for the fathers' education was Post-graduate degree (32%) although those with either Some College or a College degree accounted for 41 per cent of the group. As might be implied from the educational data, the modal category for father's occupation was Professional/or Executive (43%) although General/or Business category accounted for 37 per cent of the group. Tendency to vote Republican was only slightly less pronounced among the fathers (42%) than among the mothers but the number citing "Other or None," which may be interpreted as Independent, was the same as among the mothers. Paternal grandparents of the charter class were again predominantly of native-American origin (59% and 59%) and the second largest group (32%) immigrated from northern European countries.

In estimating Parental Income 29 per cent of the freshmen cited "No Idea." Approximately one-quarter of the freshmen cited estimated parental income in the $10,000-$14,999 category. Students citing family incomes of $20,000 and upwards accounted for 26.9 per cent of the class. For the major source of financial support during their freshmen year most students cited Parental or Family Aid (74%) and 38 per cent of the freshmen indicated they had "No Concern" about financing their education.

Parental influence in the choice of a college appeared to be a significant factor. Almost one-half of the freshmen (45%) indicated that a Parent or Other Relative had been the Major Influence in Deciding to Attend this College. This was not only the modal category but was also
nine percentage points in advance of the next most popular category (Academic Reputation of the College).

In indicating Religious Background the largest category was Protestant (63%); presumably this category indicated the religious preference of the family. It should be noted, however, that 22 per cent indicated the family religious preference as "Other or None"; this represented the second largest group in the class. Students of Roman Catholic and Jewish backgrounds each accounted for 8 per cent and 6 per cent of the population. On another instrument (Personal Data Sheet) which allowed for more specific identification of the religious body, 41 per cent indicated a family religious preference other than the conventional choices (Protestant, Roman Catholic, Jewish).

The student's ordinal position within the family was considered to be an item of potential significance. First/or Only Children accounted for 47 per cent of the Charter Class membership. 5

Mobility was a common experience for the families of the charter class freshmen. From one to four moves of family homesite had been experienced by 53 per cent of the freshmen. In addition 19 per cent of the freshmen report having resided outside the United States. 6 Furthermore, travel outside the United States had been experienced by most of the

5This figure (47%) does not differ from chance expectation at the .05 level of significance. If, however, it is predicted that first/or only children are likely to be more prevalent in the Charter Class than are youngest (i.e., last) children, then the difference is significant at the .01 level.

6No freshman indicated that he resided out of the country without his parents.
freshmen, although this travel did not necessarily include parents. Only 26 per cent of the freshmen had not been outside the country! Presumably even the parents who did not themselves travel with their children were not unaffected by these experiences.

Variables Related to Student's Role in Pre-college Groups

Introduction. Variables reported in this section are those which have the possibility of acting as a "filtering agent," sorting out some students and passing others through. The filter effect also relates to having an enhancing effect upon a student's interests or capabilities in a particular area, or just the reverse.

High School. The majority of students attended large public high schools (67%). The second largest group (22%) was made up of those students who had attended small private high schools. Many students had attended more than one high school, often changing both type and size of school. (Table III.)

Many of the experiences which the students cited as Frequent or Occasional during their senior year related to school-based activities. Studying with other students (94%), Voting in a student election (74%), Arguing with a teacher in class (80%) or being a Guest in a Teacher's Home (69%), were items which fell in the most popular ranks. (Table IV.)

Scholastic involvement and achievement was noted in a number of items. In reporting Secondary School Achievements 51 per cent of the freshmen cite having been members of the Scholastic Honor Society and 14 per cent cite National Merit Recognition. If membership in an honor
### TABLE III

**CHARACTERISTICS OF HIGH SCHOOLS ATTENDED BY FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>Type</th>
<th>Parochial</th>
<th>Private</th>
<th>Public</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 500 students</td>
<td>1.31*</td>
<td>14.57</td>
<td>6.58</td>
<td>22.37</td>
<td>(n17)</td>
</tr>
<tr>
<td>500-1000 students</td>
<td>0.00</td>
<td>0.00</td>
<td>6.58</td>
<td>6.58</td>
<td>(n5)</td>
</tr>
<tr>
<td>Over 1000 students</td>
<td>0.00</td>
<td>3.95</td>
<td>67.10</td>
<td>71.05</td>
<td>(n54)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.31</strong></td>
<td><strong>18.42</strong></td>
<td><strong>80.27</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(n1)</td>
<td>(n14)</td>
<td>(n61)</td>
<td>(n76)</td>
<td></td>
</tr>
</tbody>
</table>

*Percentages of respondents (n 76)

Data from Callison Personal Data Sheet
### TABLE IV

**ACTIVITIES OF THE PAST YEAR REPORTED BY FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voted in student election</td>
<td>76.2</td>
<td>72.7</td>
<td>73.8</td>
</tr>
<tr>
<td>Came late to class</td>
<td>57.1</td>
<td>65.9</td>
<td>63.1</td>
</tr>
<tr>
<td>Played a musical instrument</td>
<td>47.6</td>
<td>68.2</td>
<td>61.5</td>
</tr>
<tr>
<td>Studied in the Library</td>
<td>61.9</td>
<td>45.5</td>
<td>50.8</td>
</tr>
<tr>
<td>Checked out a Library book</td>
<td>57.1</td>
<td>68.2</td>
<td>64.6</td>
</tr>
<tr>
<td>Arranged date for another student</td>
<td>42.9</td>
<td>47.7</td>
<td>46.2</td>
</tr>
<tr>
<td>Overslept and missed a class</td>
<td>33.3</td>
<td>29.5</td>
<td>30.8</td>
</tr>
<tr>
<td>Typed a homework assignment</td>
<td>42.9</td>
<td>52.3</td>
<td>49.2</td>
</tr>
<tr>
<td>Participated in demonstrations</td>
<td>42.9</td>
<td>34.1</td>
<td>36.9</td>
</tr>
<tr>
<td>Was late with homework assignment</td>
<td>76.2</td>
<td>61.4</td>
<td>66.2</td>
</tr>
<tr>
<td>Argued with a teacher in class</td>
<td>85.0</td>
<td>77.3</td>
<td>82.7</td>
</tr>
<tr>
<td>Was guest in a teacher's home</td>
<td>76.2</td>
<td>69.9</td>
<td>71.2</td>
</tr>
<tr>
<td>Rode on a motorcycle</td>
<td>57.1</td>
<td>65.1</td>
<td>62.5</td>
</tr>
<tr>
<td>Slept or dozed in class</td>
<td>52.4</td>
<td>40.9</td>
<td>48.6</td>
</tr>
<tr>
<td>Studied with other students</td>
<td>95.2</td>
<td>93.2</td>
<td>94.8</td>
</tr>
<tr>
<td>Did extra reading for a class</td>
<td>19.0</td>
<td>23.5</td>
<td>21.2</td>
</tr>
<tr>
<td>Took sleeping pills</td>
<td>4.8</td>
<td>9.1</td>
<td>7.7</td>
</tr>
<tr>
<td>Tutored another student</td>
<td>71.4</td>
<td>63.6</td>
<td>66.2</td>
</tr>
<tr>
<td>Played chess</td>
<td>66.7</td>
<td>47.7</td>
<td>53.8</td>
</tr>
<tr>
<td>Saw a foreign movie</td>
<td>19.0</td>
<td>29.0</td>
<td>23.1</td>
</tr>
<tr>
<td>Took a tranquilizing pill</td>
<td>9.5</td>
<td>9.1</td>
<td>9.2</td>
</tr>
<tr>
<td>Discussed a religion</td>
<td>52.4</td>
<td>54.5</td>
<td>53.8</td>
</tr>
<tr>
<td>Took vitamins</td>
<td>61.9</td>
<td>70.5</td>
<td>67.7</td>
</tr>
<tr>
<td>Visited art gallery or museum</td>
<td>90.5</td>
<td>95.5</td>
<td>93.8</td>
</tr>
<tr>
<td>Took trip of more than 500 miles</td>
<td>76.2</td>
<td>70.5</td>
<td>72.3</td>
</tr>
<tr>
<td>Got a traffic ticket</td>
<td>28.6</td>
<td>20.5</td>
<td>23.1</td>
</tr>
<tr>
<td>Missed school because of illness</td>
<td>4.8</td>
<td>4.5</td>
<td>4.6</td>
</tr>
<tr>
<td>Smoked cigarettes</td>
<td>14.3</td>
<td>18.2</td>
<td>16.9</td>
</tr>
<tr>
<td>Discussed politics</td>
<td>47.6</td>
<td>63.6</td>
<td>58.5</td>
</tr>
<tr>
<td>Played tennis</td>
<td>76.2</td>
<td>65.9</td>
<td>69.2</td>
</tr>
<tr>
<td>Drank beer</td>
<td>47.6</td>
<td>38.6</td>
<td>41.5</td>
</tr>
<tr>
<td>Played bridge</td>
<td>23.8</td>
<td>15.9</td>
<td>18.5</td>
</tr>
<tr>
<td>Discussed sports</td>
<td>42.9</td>
<td>14.0</td>
<td>23.4</td>
</tr>
<tr>
<td>Asked teacher for advice</td>
<td>23.8</td>
<td>29.5</td>
<td>27.7</td>
</tr>
<tr>
<td>Had vocational counseling</td>
<td>42.9</td>
<td>50.0</td>
<td>47.7</td>
</tr>
<tr>
<td>Stayed up all night</td>
<td>61.9</td>
<td>84.1</td>
<td>76.9</td>
</tr>
</tbody>
</table>

*Frequently only; all other items Frequently plus Occasionally
Data from ACE Survey on Entering Freshmen, Fall 1967*
society was combined with membership in a subject matter interest club, then it was the most frequently cited high school activity. (Callison Personal Data Sheet). Grades appeared correspondingly high; 26 per cent of the freshmen reported an A- through an A+ average grade in high school while only 11 per cent reported C+ average or less. (Table V.)

Achievement did not appear to be evenly distributed in all areas. No students reported achievements in science (N.S.F. Summer Program, State or Regional Science contest). The majority, however, had experience in activities requiring verbal facility and self-expression (Had Original Writings Published, Edited School Paper, State or Regional Speech Contest). Writing activities ranked fourth, (35%); speech and drama activities were cited by 18 and 26 per cent respectively. Achievement in sports to the extent of being awarded a Varsity Letter was cited by only 23 per cent, males being over-represented in this figure, but sports participation was the second most popularly ranked item and membership in a sport organization (support) was only slightly less popular.

A student's scores on tests of scholastic aptitude is partially a function of the extent to which his high school activities have facilitated preparation for college. For the Charter Class Scholastic Aptitude Test scores on the College Entrance Examination Board yielded a composite mean score of 1089 with a standard deviation of 138 points. The Verbal mean score for the class was 523 and the Mathematics mean score for the class was 525. Women scored slightly higher than men on Verbal and Mathematics scales as well as the Composite. (Table VI.) The difference between males and females which reached statistical significance at the .05 level
### TABLE V
HIGH SCHOOL ACHIEVEMENTS OF FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th>Average Grade in High School</th>
<th>Male (n=21)</th>
<th>Female (n=44)</th>
<th>Total (n=65)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A or A+</td>
<td>0.0</td>
<td>13.6</td>
<td>9.2</td>
</tr>
<tr>
<td>A-</td>
<td>14.3</td>
<td>18.2</td>
<td>16.9</td>
</tr>
<tr>
<td>B+</td>
<td>19.0</td>
<td>25.0</td>
<td>23.1</td>
</tr>
<tr>
<td>B</td>
<td>42.9</td>
<td>22.7</td>
<td>29.2</td>
</tr>
<tr>
<td>B-</td>
<td>14.3</td>
<td>9.1</td>
<td>10.8</td>
</tr>
<tr>
<td>C+</td>
<td>9.5</td>
<td>6.8</td>
<td>7.7</td>
</tr>
<tr>
<td>C</td>
<td>0.0</td>
<td>4.5</td>
<td>3.1</td>
</tr>
</tbody>
</table>

**Other Achievements**

<table>
<thead>
<tr>
<th>Achievement</th>
<th>Male (n=21)</th>
<th>Female (n=44)</th>
<th>Total (n=65)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elected president student organization</td>
<td>33.3</td>
<td>40.9</td>
<td>38.5</td>
</tr>
<tr>
<td>High rating state music contest</td>
<td>9.5</td>
<td>4.5</td>
<td>6.2</td>
</tr>
<tr>
<td>State/Regional speech contest</td>
<td>9.5</td>
<td>15.9</td>
<td>13.8</td>
</tr>
<tr>
<td>Major part in a play</td>
<td>19.0</td>
<td>29.5</td>
<td>26.2</td>
</tr>
<tr>
<td>Varsity letter (sports)</td>
<td>47.6</td>
<td>11.4</td>
<td>23.1</td>
</tr>
<tr>
<td>Award in art competition</td>
<td>4.8</td>
<td>11.4</td>
<td>9.2</td>
</tr>
<tr>
<td>Edited school paper</td>
<td>4.8</td>
<td>31.8</td>
<td>23.1</td>
</tr>
<tr>
<td>Had original writing published</td>
<td>42.9</td>
<td>43.2</td>
<td>43.1</td>
</tr>
<tr>
<td>NSF summer program</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>State/Regional science contest</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>School Honor Society</td>
<td>38.1</td>
<td>56.8</td>
<td>50.8</td>
</tr>
<tr>
<td>National Merit recognition</td>
<td>9.5</td>
<td>15.9</td>
<td>13.8</td>
</tr>
</tbody>
</table>

*No member of the class had less than a C average.*

Data from ACE survey on Entering Freshman, Fall 1967
### TABLE VI

SCHOLASTIC APTITUDE SCORES FROM COLLEGE ENTRANCE EXAMINATION BOARD FOR FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th>Mean Scores</th>
<th>Males (n 28)</th>
<th>Females (n 52)</th>
<th>Total (n 80)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal</td>
<td>538</td>
<td>577</td>
<td>563</td>
</tr>
<tr>
<td>Math</td>
<td>506</td>
<td>535</td>
<td>525</td>
</tr>
<tr>
<td>Composite</td>
<td>1079</td>
<td>1094</td>
<td>1039*</td>
</tr>
</tbody>
</table>

*Composite standard deviation was 138

Data analyzed by Preceptor Douglas Moore, Callison College
was the tendency of females to score higher than males on the Verbal part of the test. Washington Grade Prediction Test, an instrument which has been standardized on previous classes of the University of the Pacific, was administered to the freshmen of Callison's charter class as well as all other freshmen entering the university. Of the thirteen measures included in the Pre-College tests females achieved a higher mean score than did the males on all measures except Reading Speed, Applied Mathematics, Mathematics Achievement, Spatial Ability, and Mechanical Reasoning. Differences which reached either the .05 or .01 level of significance are noted in Table VII.

Interests relating to internationalism are often initiated or facilitated through high school activity groups. (Table VII.) More than one quarter (26%) of the Callison freshman belonged to either American Field Service groups, student exchange clubs, Model United Nations, or other internationally oriented interest groups. The above percentage does not include membership in language groups, such as a French Club, which might also facilitate this same interest. Neither does it include those students whose community welfare interest groups may have dealt with peoples "culturally different" from the student, even though this activity was more intercultural than international.

**Church Related Data**

Although the majority of freshmen in Callison's charter class cited some formal religious affiliation (56%), a sizable proportion may be said to be disaffected. As earlier indicated, the percentage of students citing
TABLE VII
WASHINGTON PRE-COLLEGE TEST RESULTS FOR FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967a

<table>
<thead>
<tr>
<th></th>
<th>Males n 24</th>
<th>Females n 46</th>
<th>Total n 70</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition **</td>
<td>55.125</td>
<td>63.086</td>
<td>60.357</td>
</tr>
<tr>
<td>Vocabulary*</td>
<td>58.200</td>
<td>63.065</td>
<td>61.400</td>
</tr>
<tr>
<td>English Usage **</td>
<td>51.375</td>
<td>60.434</td>
<td>57.328</td>
</tr>
<tr>
<td>Spelling **</td>
<td>53.708</td>
<td>60.347</td>
<td>58.071</td>
</tr>
<tr>
<td>Reading Speed</td>
<td>58.083</td>
<td>57.043</td>
<td>57.400</td>
</tr>
<tr>
<td>Reading Comprehension n.s.</td>
<td>58.375</td>
<td>63.233</td>
<td>61.571</td>
</tr>
<tr>
<td>Verbal Composite **</td>
<td>54.750</td>
<td>63.043</td>
<td>60.200</td>
</tr>
<tr>
<td>Quantitative Skills</td>
<td>54.375</td>
<td>55.673</td>
<td>55.228</td>
</tr>
<tr>
<td>Applied Mathematics</td>
<td>56.166</td>
<td>55.673</td>
<td>55.842</td>
</tr>
<tr>
<td>Mathematics Achievement</td>
<td>53.333</td>
<td>52.5435</td>
<td>52.814</td>
</tr>
<tr>
<td>Quantitative Composite</td>
<td>54.125</td>
<td>54.869</td>
<td>54.614</td>
</tr>
<tr>
<td>Spatial Ability</td>
<td>52.625</td>
<td>51.500</td>
<td>51.685</td>
</tr>
<tr>
<td>Mechanical Reasoning</td>
<td>49.417</td>
<td>47.500</td>
<td>48.157</td>
</tr>
</tbody>
</table>

* Differences significant at the .01 level

** Differences significant at the .05 level

These data were derived from the Pre-College Test Results section of the Washington Pre-College Testing Program. This testing program was administered to all freshmen entering University of the Pacific. The Grade Prediction and other sections of these test programs will not be reported.
TABLE VIII
HIGH SCHOOL EXTRACURRICULAR ACTIVITIES
OF CALLISON FRESHMEN, FALL 1967

<table>
<thead>
<tr>
<th>Activity</th>
<th>Males n 26</th>
<th>Females n 52</th>
<th>Total n 78</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scholastic Honor Society</td>
<td>34.6 (#3)</td>
<td>71.1 (#1)</td>
<td>58.9 (#1)</td>
</tr>
<tr>
<td>Sports Participation</td>
<td>69.1 (#1)</td>
<td>34.6</td>
<td>46.1 (#2)</td>
</tr>
<tr>
<td>Speech</td>
<td>15.4</td>
<td>19.2</td>
<td>17.9</td>
</tr>
<tr>
<td>Drama</td>
<td>11.5</td>
<td>34.6</td>
<td>26.5</td>
</tr>
<tr>
<td>Student Government</td>
<td>46.1 (#2)</td>
<td>36.5</td>
<td>39.7 (#3)</td>
</tr>
<tr>
<td>Journalism</td>
<td>19.2</td>
<td>46.1 (#3)</td>
<td>37.1 (#5)</td>
</tr>
<tr>
<td>Music</td>
<td>23.1</td>
<td>32.7</td>
<td>29.5</td>
</tr>
<tr>
<td>Organizational support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for Sports</td>
<td>7.7</td>
<td>53.8 (#2)</td>
<td>38.4 (#4)</td>
</tr>
<tr>
<td>International Interests</td>
<td>15.4</td>
<td>30.8</td>
<td>25.6</td>
</tr>
<tr>
<td>Civic-Inspirational</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>19.2</td>
<td>28.8</td>
<td>25.6</td>
</tr>
</tbody>
</table>

Data from Callison Personal Data Sheet

aNumber in parenthesis indicates ranking, only high rankings noted.
current religious preference was lower than the percentage for the same denomination under Religious Background. Both the percentages citing Other and None (religious preference) double when one moved from background to current preference. (Table II, p. 149.) Nevertheless, 55 per cent cited membership in some church related activity (not necessarily formal affiliation with a congregation) and 26 per cent cited attendance at church services as weekly or more often. Most frequently cited activities were Religious instruction (42%) and Youth group activities (46%), neither of which necessarily implies current commitment or motivations that are religious per se. (Table IX.) The fact that 54 per cent report frequently discussing religion during the past year suggests that the disaffection may be with institutional religion rather than the experiential aspect or value orientation. (Table IV, p. 154.)

Mobility patterns. Changes in residence require a person to change his constellation of roles or to re-establish those roles in a new setting. Either requires an assessment of self-concept, an evaluation of the new setting, and the flexibility to modify old role-based behaviors or establish new, more appropriate, roles. More than one-third (36%) of the Callison freshmen had experienced three or more moves of homesite during their lifetime; of this number eighteen (23%) had moved five or more times. (Table II, p. 149.)

Another method of experiencing mobility is through travel. Of the seventy-nine members of Callison's charter class only nineteen (26%) had never been outside the United States. Furthermore, 72.3 per cent of the
TABLE IX
CHURCH RELATED ACTIVITIES REPORTED BY FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th>Membership--any church related organization</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>55.8%</td>
<td>43</td>
</tr>
<tr>
<td>No</td>
<td>44.2%</td>
<td>34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attendance church services</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly or more often</td>
<td>25.6%</td>
<td>20</td>
</tr>
<tr>
<td>Usually, not always--Occasionally</td>
<td>38.5%</td>
<td>30</td>
</tr>
<tr>
<td>Rarely-Never</td>
<td>35.9%</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participation Church Activities</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Attend religious instruction</td>
<td>42.3%</td>
<td>33</td>
</tr>
<tr>
<td>Taught religious instruction</td>
<td>23.1%</td>
<td>18</td>
</tr>
<tr>
<td>Youth group activities</td>
<td>46.15%</td>
<td>36</td>
</tr>
<tr>
<td>Music activities</td>
<td>19.2%</td>
<td>15</td>
</tr>
<tr>
<td>Worship services only</td>
<td>17.9%</td>
<td>14</td>
</tr>
<tr>
<td>Other</td>
<td>6.4%</td>
<td>5</td>
</tr>
<tr>
<td>None</td>
<td>12.8%</td>
<td>10</td>
</tr>
</tbody>
</table>

(a) One response unscorable
* Multiple scorings
Data from Callison Personal Data Sheet
freshmen report having made a trip of 500 or more miles within the past year. (Table IV, p. 154.)

Other role-relevant variables. Perceiving oneself as capable or competent in an area allows for the possibility of participating in that activity, along with the potentiality of influence and counter-influence with other participants. Using the data in which the students cited skills, "I can presently do this well," items of high frequency and items of low frequency were identified. Because males may be expected and encouraged to develop different skills from those emphasized for females, the groups were treated separately. Data on Competencies are presented in Table X. Items most popularly cited by males involve sports skills (Do at least fifteen pushups, 91%; Swim a mile without stopping, 71%; Score a tennis match, 67%; and Referee a sporting event, 57%). Least popular items involve skill in the fine arts (Sketch recognizable people, 10%; Sight-read piano music, 10%), science skills (Identify constellations of stars, 10%; Identify fifteen species of birds, 5%), domestic skills (Use a sewing machine, 5%), and technology (Program a computer, 0%).

Females, on the other hand, cited domestic skills in three of their most popularly ranked items: Bake a cake from scratch (86%), Set a table for a formal party (81%), and Use a sewing machine (77%). But their competencies were not limited to the domestic area. More than three quarters (79%) claimed they could describe the Bill of Rights well; this was the third most popularly ranked item among the females and 31.9 percentage points more than the percentage cited for the same item by the males. Least popular items involve sports (Break 100 in golf, 5%; Sail a boat,
TABLE X
AREAS OF COMPETENCE ACKNOWLEDGED BY CALLISON FRESHMEN, FALL 1967

<table>
<thead>
<tr>
<th>Activity</th>
<th>Callison</th>
<th>Universities Natl. Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>I can presently do this well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 40 words per minute</td>
<td>33.3</td>
<td>59.1</td>
</tr>
<tr>
<td>Sketch recognizable people</td>
<td>9.5</td>
<td>18.6</td>
</tr>
<tr>
<td>Speak second language fluently</td>
<td>19.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Break 100 in Golf</td>
<td>30.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Water-ski</td>
<td>42.9</td>
<td>40.9</td>
</tr>
<tr>
<td>Ski on snow</td>
<td>19.0</td>
<td>31.8</td>
</tr>
<tr>
<td>Sight-read piano music</td>
<td>9.5</td>
<td>34.1</td>
</tr>
<tr>
<td>Read music (singing)</td>
<td>19.0</td>
<td>36.4</td>
</tr>
<tr>
<td>Identify 15 species of birds</td>
<td>4.8</td>
<td>13.6</td>
</tr>
<tr>
<td>Referee a sporting event</td>
<td>57.1</td>
<td>32.6</td>
</tr>
<tr>
<td>Recite long passages from memory</td>
<td>28.6</td>
<td>26.8</td>
</tr>
<tr>
<td>Identify architectural styles</td>
<td>33.3</td>
<td>27.3</td>
</tr>
<tr>
<td>Sail a boat</td>
<td>14.3</td>
<td>9.1</td>
</tr>
<tr>
<td>Identify constellations of stars</td>
<td>9.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Use a sewing machine</td>
<td>4.8</td>
<td>77.3</td>
</tr>
<tr>
<td>Use Roberts Rules of Order</td>
<td>35.0</td>
<td>30.2</td>
</tr>
<tr>
<td>Mix a dry martini</td>
<td>33.3</td>
<td>29.5</td>
</tr>
<tr>
<td>Set a table for a formal party</td>
<td>42.9</td>
<td>81.4</td>
</tr>
<tr>
<td>Name players of professional ath. team</td>
<td>42.9</td>
<td>13.6</td>
</tr>
<tr>
<td>Score a tennis match</td>
<td>66.7</td>
<td>55.8</td>
</tr>
<tr>
<td>Identify many music compositions</td>
<td>33.3</td>
<td>20.5</td>
</tr>
<tr>
<td>Program a computer</td>
<td>0.0</td>
<td>6.8</td>
</tr>
<tr>
<td>Use a slide rule</td>
<td>47.6</td>
<td>29.5</td>
</tr>
<tr>
<td>Swim a mile without stopping</td>
<td>71.4</td>
<td>27.3</td>
</tr>
<tr>
<td>Name the animal phyla</td>
<td>28.6</td>
<td>13.6</td>
</tr>
<tr>
<td>Describe diff. between stocks/bonds</td>
<td>38.1</td>
<td>29.5</td>
</tr>
<tr>
<td>Develop and print photographs</td>
<td>19.0</td>
<td>11.6</td>
</tr>
<tr>
<td>Bake a cake from scratch</td>
<td>20.0</td>
<td>85.4</td>
</tr>
<tr>
<td>Describe the Bill of Rights</td>
<td>47.8</td>
<td>79.5</td>
</tr>
<tr>
<td>Do at least 15 push-ups</td>
<td>90.5</td>
<td>47.7</td>
</tr>
</tbody>
</table>

Data from ACE Summary of Data on Entering Freshmen, Fall 1967
* n=65
9%), Science (Identify a constellation of stars, 5%), and Technology (Program a computer, 7%).

Competence is important for other reasons that that of facilitating interaction with peers. The level of confidence implied in describing oneself as "able" has considerable relevance for a student's educational career. Under the heading of "I CAN PRESENTLY DO THIS WELL" a higher proportion of the Callison freshmen cited themselves as competent than did students in the national norms on 21 of the thirty items; this difference was significant at the .05 level. If one separated the males from the female subjects, the source of difference became more evident. Callison males did not differ significantly from national norms, that is, they were not likely to exceed the national norms on a statistically significant proportion of items. Females, however, exceeded the national norms on twenty-five of the thirty items, a difference significant at the .01 level, (probably higher). (These data are presented on Table XI.) Whether this tendency to identify oneself as competent in a variety of areas was a "real" difference, i.e., based on a wide range of skills, or simply a difference in the way the student viewed and reported himself, i.e., a higher level of self-confidence, was a moot question. For purposes of this research, however, it was important that the Charter class, particularly the females of the Charter class, viewed themselves as competent more frequently and in a wider range of areas than that which was true for the national sample.

Dating patterns in high school as reported by the freshmen implied more stability or continuity than has been implied in some of the other
data. Most students cited A Series of Steady Dates (37%) while a much smaller proportion reported the more venturesome patterns of A Few Friends but No Steadies (15%) and Pretty Much Play the Field (19%). The least frequently reported patterns were those which implied stability, either from lack of opportunity or from rejection of opportunity: Seldom or Never Date (13%) and One Steady Girl or Boy Friend (16%). The pattern suggested a continuity of influence from the peer group without necessarily seeing oneself as "tied down" to any one pattern or partner. (Table XII.)

Other experiences of the past year which might be indicative of the defining characteristics of the class were noted. (Table IV, p. 154.) Almost every freshman (94%) reported having visited an art gallery or museum within the past year. Since this proportion was markedly above that of the national average, one must assume the interest as a defining (distinctive) one for the Callison freshmen. In a similar vein, 23.1 per cent reported having frequently seen foreign movies within the past year. This percentage in itself did not appear important until it was compared with the national average (8%) and noted that access to foreign movies would not have been uniformly accessible to all freshmen.

The activist propensities of the group emerged in the fact that even before entering college 36.9 per cent had participated in demonstrations, a proportion that more than doubled the national norm.7

7There was no indication of the specific causes for which the students were demonstrating.
TABLE XI

ACKNOWLEDGEMENTS OF COMPETENCE MADE BY CALLISON FRESHMEN AND BY A NATIONAL SAMPLE OF FRESHMEN, FALL 1967

<table>
<thead>
<tr>
<th></th>
<th>Callison</th>
<th>National</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>All class (n 65)</td>
<td>21</td>
<td>09</td>
<td>.05</td>
</tr>
<tr>
<td>Males (n 21)</td>
<td>16</td>
<td>14</td>
<td>n.s.</td>
</tr>
<tr>
<td>Females (n 44)</td>
<td>25</td>
<td>05</td>
<td>.01</td>
</tr>
</tbody>
</table>

30 items cited in ACE data on Entering Freshmen under heading "I can presently do well." Data above indicate number of instances where local group percentage exceeds national norm, or visa versa.

TABLE XII

DATING PATTERN IN HIGH SCHOOL REPORTED BY FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th></th>
<th>(Percentages)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Total*</td>
</tr>
<tr>
<td>One steady girl or boy friend</td>
<td>26.3</td>
<td>11.6</td>
<td>16.1</td>
</tr>
<tr>
<td>A series of steady dates</td>
<td>36.8</td>
<td>37.2</td>
<td>37.1</td>
</tr>
<tr>
<td>A few friends, but no steadies</td>
<td>15.8</td>
<td>14.0</td>
<td>14.5</td>
</tr>
<tr>
<td>Pretty much play the field</td>
<td>15.8</td>
<td>20.9</td>
<td>19.4</td>
</tr>
<tr>
<td>Seldom or never date</td>
<td>5.3</td>
<td>16.3</td>
<td>12.9</td>
</tr>
</tbody>
</table>

Data from the ACE Summary of Data on Entering Freshmen, Fall 1967.

*Total n was 62 but separate n were not cited for males and females.
The presentation of self as capable, or more competent than others, was further reinforced by two items: 66.2 per cent of the freshmen tutored another student during the past year, and 53.8 per cent played chess, a game frequently identified with intellectuals. These items were particularly important because in both instances the Callison students exceeded the national norms and the males reported a higher percentage of activity than did the females. However, when one compared the "chess playing rate" of Callison females with the national norms for females, the Callison females were 21 percentage points higher, i.e., more likely to be participant in an activity that is identified as masculine and intellectual.

Variables Which Measure Personal Traits and Personality Variables

Values and Attitudes. The only values and attitudes to be dealt with in this section are those which relate to the students' view of the future, his expectations of himself and his orientation to later life.

The modal category for Highest Academic Degree Planned was Masters Degree (40%); for some students this level of aspiration was equated with a teaching credential (Personal Data Sheet). More than a quarter of the class anticipated no more than a bachelor's degree. The number planning to work for a doctorate (Ph.D. or Ed.D.) was markedly smaller than the two previous levels and less than ten per cent planned to work for any professional degree, (M.D., D.D.S., D.M.V., B.D., LL.B. or J.D.).

Probable Major Field of Study was most frequently cited as History/Political Science by both males and females (41%). Second most popular choice was Psych/Soc/Anthro (18%). Only a small percentage of the class
(6%) indicated they were undecided as to major but all of the undecided were females (9% of female group and 0% of males).

Probable Career Choice is not clearly predictive of field of study. The undecided members represented twenty-two per cent of the class; this number includes almost three females for every male. The majority of the students cited Other Choice (41%) rather than one of the thirteen careers cited. Where a specific career choice was cited, Secondary Educator was the modal group (13%). (Table XIII.)

Characteristics of an Ideal Job provided some clue as to the students' vocational views. The most frequently cited characteristic of an ideal job was the opportunity to be Creative and Original and, next most frequently cited, To Be of Service to Others. Make Money or Have a Stable, Secure Future were the least frequently cited categories. (Table XIV.)

Objectives considered to be Essential or Very Important are congruent with the previously cited choices of major. The four most popular objectives were Develop a Philosophy of Life, 91%; Help Others in Difficulty, 80%; Keep up with Political Affairs, 77%; and Join Peace Corps or Vista, 68%. The items least frequently cited all imply developing a level of expertise (Be an Expert in Finance, 2%; Contribute to Scientific Theory, 5%; Become an Outstanding athlete, 8%; Perform or Compose Music, 8%). To the extent that these objectives were implemented, they may be regarded as part of the students' view of the future.

Personality Variables. Personality variables were presented under four subdivisions: those relating to Intellectual Orientation; Emotional Expression; Socialization, Maturity and Responsibility; and Vocational
TABLE XIII
ANTICIPATED MAJOR FIELD OF STUDY AND TERMINAL DEGREE REPORTED BY FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th>Probable Major Field of Study</th>
<th>Percentages *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture (including Forestry)</td>
<td>0.0</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>0.0</td>
</tr>
<tr>
<td>Business</td>
<td>0.0</td>
</tr>
<tr>
<td>Education</td>
<td>11.1</td>
</tr>
<tr>
<td>Engineering</td>
<td>0.0</td>
</tr>
<tr>
<td>English</td>
<td>3.2</td>
</tr>
<tr>
<td>Health Professions (non-M.D.)</td>
<td>1.6</td>
</tr>
<tr>
<td>History, Political Science</td>
<td>41.3</td>
</tr>
<tr>
<td>Humanities (Other)</td>
<td>14.3</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>1.6</td>
</tr>
<tr>
<td>Mathematics or Statistics</td>
<td>0.0</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>0.0</td>
</tr>
<tr>
<td>Pre-Professional</td>
<td>3.2</td>
</tr>
<tr>
<td>Psychol, Sociol, Anthropol.</td>
<td>17.5</td>
</tr>
<tr>
<td>Other Fields (Technical)</td>
<td>0.0</td>
</tr>
<tr>
<td>Other Fields (nontechnical)</td>
<td>0.0</td>
</tr>
<tr>
<td>Undecided</td>
<td>6.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Highest Degree Planned</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.0</td>
</tr>
<tr>
<td>Associate (or Equivalent)</td>
<td>1.5</td>
</tr>
<tr>
<td>Bachelors Degree (B.A., B.S.)</td>
<td>29.2</td>
</tr>
<tr>
<td>Masters Degree (M.A., M.S.)</td>
<td>40.0</td>
</tr>
<tr>
<td>Ph. D. or Ed.D.</td>
<td>18.5</td>
</tr>
<tr>
<td>M.D., D.D.S., or D.V.M.</td>
<td>3.1</td>
</tr>
<tr>
<td>L.L.B. or J.D.</td>
<td>3.1</td>
</tr>
<tr>
<td>B.D.</td>
<td>1.5</td>
</tr>
<tr>
<td>Other</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Data from ACE Survey on Entering Freshmen, Fall 1967

* Based on n of 63.
TABLE XIV

ESSENTIAL OR VERY IMPORTANT OBJECTIVES AND CHARACTERISTICS OF
IDEAL JOB CITED BY FRESHMEN ENTERING CALLISON COLLEGE,
FALL 1967

<table>
<thead>
<tr>
<th>Objectives: Essential or Very Important*</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieve in a performing art</td>
<td>23.1</td>
</tr>
<tr>
<td>Be an authority in my field</td>
<td>50.0</td>
</tr>
<tr>
<td>Obtain recognition from peers</td>
<td>32.3</td>
</tr>
<tr>
<td>Perform or compose music</td>
<td>7.7</td>
</tr>
<tr>
<td>Be an expert in finance</td>
<td>1.6</td>
</tr>
<tr>
<td>Be administratively responsible</td>
<td>20.0</td>
</tr>
<tr>
<td>Be very well-off financially</td>
<td>16.9</td>
</tr>
<tr>
<td>Help others in difficulty</td>
<td>80.0</td>
</tr>
<tr>
<td>Join the Peace Corps or Vista</td>
<td>67.7</td>
</tr>
<tr>
<td>Become an outstanding athlete</td>
<td>7.7</td>
</tr>
<tr>
<td>Become a community leader</td>
<td>26.2</td>
</tr>
<tr>
<td>Contribute to scientific theory</td>
<td>4.6</td>
</tr>
<tr>
<td>Write original works</td>
<td>30.8</td>
</tr>
<tr>
<td>Not be obligated to people</td>
<td>10.8</td>
</tr>
<tr>
<td>Create works of art</td>
<td>37.5</td>
</tr>
<tr>
<td>Keep up with political affairs</td>
<td>76.9</td>
</tr>
<tr>
<td>Succeed in my own business</td>
<td>21.9</td>
</tr>
<tr>
<td>Develop a philosophy of life</td>
<td>90.8</td>
</tr>
</tbody>
</table>

Characteristics of Ideal Job**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Characteristic</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1.</td>
<td>Creative-original</td>
<td>48.05</td>
</tr>
<tr>
<td>#2.</td>
<td>Service</td>
<td>40.26</td>
</tr>
<tr>
<td>#3.</td>
<td>Special abilities</td>
<td>27.27</td>
</tr>
<tr>
<td>#4.</td>
<td>Stable, secure future</td>
<td>5.19</td>
</tr>
<tr>
<td>#5.</td>
<td>Money</td>
<td>3.90</td>
</tr>
</tbody>
</table>

*Data from ACE Survey on Entering Freshmen, Fall 1967, with n of 65.

**Data from Callison Personal Data Sheet, based on n of 78 with more than one citation possible.
Interests. For clarity of description scale scores falling within one standard deviation either side of the mean will be termed average (or high-average and low-average); scale scores falling more than one but less than two standard deviations from the mean will be referred to as High or Low, and scales falling beyond that range will be termed Very High or Very Low. Under each sub-division data from several tests will be integrated or noted.

Intellectual Orientation. One of the factor scores on the Stern's Activities Index is entitled Intellectual Orientation. For this factor the area total, a composite score, for males in the average range and for females was in the very high range. Females scored high or very high on all scales in this factor with the exception of Applied Interests while males score very high only on Self-Assertion and low on Applied interest. (Figure 1.)

Educability is a score derived from factor analysis of Activities Index scales. Stern indicates that it is a factor "of considerable less magnitude" than the factors of Intellectual Orientation, Dependency Needs, and Emotional Expression. 8

... it combines elements of both intellectuality and submissiveness ... it excludes the more self-assertive aspects of Intellectual Orientation ... and the most self-denying, inhibiting aspects of Dependency Needs. Insofar as scores on this dimension reflect a strong interest in intellectual activities, coupled with

8George G. Stern, Scoring Instructions and College Norms: Activities Index and College Characteristics Index (Syracuse: Psychological Research Center, 1963), p. 17.
Factor I: Intellectual Orientation

Area Total Scores:
- Males: 07
- Females: 4.04

Standard Scores:
- Mean: 0
- Standard deviation: 2

Legend:
- Males
- Females

Figure 1

INTELLECTUAL ORIENTATION FACTOR: MEAN FACTOR SCORES FOR MALES AND FEMALES ENTERING CALLISON COLLEGE, FALL 1967

Intellectual Orientation Factor Scores derived from George G. Stern's Activities Index
orderliness and conformity, it seems likely that this factor is specifically associated with academic achievement.9

Data in Table XV indicated the scales which contribute to the Educability Factor as well as the overall area total score. As the figures in the table indicate, females exceeded males on all component scales as well as the area total score, with the exception of the Orderliness scale.

The California Personality Inventory groups three scales under Achievement Potential and Intellectual Efficiency. All mean scores were within the average range. Both males and females scored higher on Achievement via Independence than Achievement via Conformance. Females, however, scored markedly higher on Intellectual Efficiency than did the males. (Table XVI.)

The Strong Vocational Interest Blank also included a measure of Academic Achievement. Here it is important to note that this score does not reflect what the student had achieved but how similar his interests were to those of a criterion group whose vocation required academic achievement.10 On this measure males achieved a standard score of fifty and females a standard score of fifty two. (Table XVI.)

Emotional Expression. A six scale factor on the Activities Index is entitled Emotional Expression. On the mean score for this factor males scored at the top of the very high range, a mean score that hit the top

9Ibid.

TABLE XV
EDUCABILITY FACTOR SCORES FOR FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967a

<table>
<thead>
<tr>
<th>Component Scales</th>
<th>Standard Score Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males (n 27)</td>
</tr>
<tr>
<td>Intellectual Interests</td>
<td>.55</td>
</tr>
<tr>
<td>Motivation</td>
<td>.29</td>
</tr>
<tr>
<td>Applied Interests</td>
<td>.55</td>
</tr>
<tr>
<td>Orderliness</td>
<td>-1.80</td>
</tr>
<tr>
<td>Submissiveness</td>
<td>2.01</td>
</tr>
<tr>
<td>Area Total (Educability)</td>
<td>-0.84</td>
</tr>
</tbody>
</table>

aEducability factor score derived from George G. Starr's Activities Index

TABLE XVI
OTHER MEASURES OF INTELLECTUAL ORIENTATION FOR FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th>Scale name and test</th>
<th>Standard Score Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males (n 27)</td>
</tr>
<tr>
<td>Achievement via Conformance (CPI)</td>
<td>46.66</td>
</tr>
<tr>
<td>Achievement via Independence (CPI)</td>
<td>51.51</td>
</tr>
<tr>
<td>Intellectual Efficiency (CPI)</td>
<td>43.92</td>
</tr>
<tr>
<td>Academic Achievement (SVIB)</td>
<td>49.70</td>
</tr>
</tbody>
</table>
of the chart. Females, however, scored in the average range. On the scales within the factor males scored high on Sensuousness and Self-Assertion and very high on Expressiveness. Only on the Self-Assertion scale did the females mean scores go outside the average boundaries. (Figure 2.)

The California Personality Inventory groups six scales together under the heading of measures of Poise, Ascendency and Self-Assurance. On the scales for Dominance, Capacity for Status, Sociability, and Social Presence both male and female mean scores fell within the average range and showed only small differences. On the scale for Self-Acceptance males scored slightly above the average range while females were a few standard scores lower and within the average. On the Well-Being scale males fell below the average range and females mean score was 10.41 standard scores above them. (Table XVII.)

Socialization, Maturity, and Responsibility. Six scales of the California Personality Inventory are grouped under this heading. Both males and females fell within average range on the scales for Responsibility, Socialization, Self-Control, Good-Impression, and Communality. On the scale for Tolerance, however, females scored 8.53 standard scores higher than the males. This was the largest discrepancy between males and females within this group of scales although both groups fell within average ranges. (Table XVIII.)

The third major factor of the Activity Index is entitled Dependency Needs. (Figure 3.) It includes seven scale scores and an area total. On the total factor score males were in the low range (-2.05) and females in the low-average (-1.77). The nomenclature of interpretation should not
MEASURES OF EMOTIONAL EXPRESSION: MEAN FACTOR SCORES FOR MALES AND FEMALES ENTERING CALLISON COLLEGE, FALL 1967

aEmotional Expression factor scores derived from George G. STern's Activities Index.
### TABLE XVII

OTHER MEASURES OF EMOTIONAL EXPRESSION FOR FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th>California Personality Inventory scales</th>
<th>Standard Score Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males (n 27)</td>
</tr>
<tr>
<td>Dominance</td>
<td>55.92</td>
</tr>
<tr>
<td>Capacity for Status</td>
<td>52.14</td>
</tr>
<tr>
<td>Sociability</td>
<td>53.59</td>
</tr>
<tr>
<td>Social Presence</td>
<td>57.51</td>
</tr>
<tr>
<td>Self-Acceptance</td>
<td>61.22</td>
</tr>
<tr>
<td>Sense of Well-Being</td>
<td>37.22</td>
</tr>
</tbody>
</table>

### TABLE XVIII

OTHER MEASURES OF SOCIALIZATION, MATURITY, AND RESPONSIBILITY FOR FRESHMEN ENTERING COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th>California Personality Inventory</th>
<th>Standard Score Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males (n 27)</td>
</tr>
<tr>
<td>Responsibility</td>
<td>43.85</td>
</tr>
<tr>
<td>Socialization</td>
<td>49.48</td>
</tr>
<tr>
<td>Self-Control</td>
<td>40.88</td>
</tr>
<tr>
<td>Tolerance</td>
<td>43.62</td>
</tr>
<tr>
<td>Good-Impression</td>
<td>44.88</td>
</tr>
<tr>
<td>Communality</td>
<td>44.77</td>
</tr>
</tbody>
</table>
Factor II: Dependency Needs

Area Total Scores:
- Males: -2.05
- Females: -1.77

Standard Scores:
- Mean
- Standard deviation

Males
Females

Figure 3

MEASURES OF SOCIALIZATION, MATURITY, AND RESPONSIBILITY:
MEAN FACTOR SCORES FOR MALES AND FEMALES ENTERING
CALLISON COLLEGE, FALL 1967

*Dependency Needs factor score derived from George G. Stern's Activities Index.
obscure the fact that these mean scores were in the same general area.

A few scales within this factor were markedly different than the sum implied by the factor score. On Expressiveness (as opposed to Constraint) males achieved the maximum scores while females scored in the normal ranges, yet males scored on the average range for Timidity-Audacity. Males were low on Applied Interests while females were in the average range. On the Closeness scale males scored somewhat higher than females; both were in the average range. Males and females were most similar on scales measuring Diffidence, Orderliness and Submissiveness.

In an earlier unpublished manuscript Stern developed an Authoritarian scale using Activity Index items. Authoritarian when used to describe character traits

... denotes a disposition uniting zealous obedience to a hierarchic superior, obsequiousness and sycophancy toward the stronger in general, with overbearing and scornful demeanor toward those who are in one's power.11

This concept relates to the foregoing items in that the reliance upon authoritarian modes of thought and behavior implied tendency to relate in a dependent fashion to persons or institutions perceived to be more powerful than self. The concept may also be interpreted as a form of immaturity.12

The AI scale measuring Authoritarianism is reported in percentage form. Callison freshmen scores ranged from zero per cent to sixty eight


per cent. Stern defined 70 per cent as the identifying mark for Authoritarian; no Callison student reached this percentage. The modal range for females was 20-29 per cent while the modal range for males was 30-39 per cent. Anti-authoritarian are defined by Stern as persons scoring below the 32 per cent mark. 62.74 per cent of the female group reached this mark and 55.59 per cent of the males also. (Table XIX.)

Included in the concept of authoritarianism are behaviors characterized as rigid (or lacking flexibility) and anti-introspective. Two CPI scales relate to these behaviors. On the Flexibility scale females scored in the high ranks and males were only seven standard scores below, just at top of average ranks. On Psychological Mindedness both males and females mean scores fell in average range. (Table XX.)

Masculinity or Femininity scales are commonplace on psychological tests; these scores reflect, not sexuality per se, but the extent to which the test subject is similar to socially sanctioned concepts of appropriate masculine or feminine behavior. (Table XXI) Both the mean scores for Masculinity on SVIB and the Femininity scores on CPI tend to confirm the picture of the Callison males as atypical of social stereotypes of "masculine."

Vocational Interests. Vocational interest scores as measured by the Strong Vocational Interest Blank reflect the test subject's degree of similarity to persons of his same sex who are occupied in a specific vocation. 

---

13Gould and Kolb, loc. cit.

14Strong, op. cit.
### TABLE XIX

**AUTHORITARIANISM SCALE SCORES FOR MALES AND FEMALES ENTERING CALLISON COLLEGE, FALL 1967**

<table>
<thead>
<tr>
<th>Authoritarianism Score</th>
<th>Males</th>
<th>Females</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Range 70% or higher</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Middle Range</td>
<td>12</td>
<td>19</td>
<td>31</td>
</tr>
<tr>
<td>Low Range 32% or lower</td>
<td>15</td>
<td>32</td>
<td>47</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27</td>
<td>51</td>
<td>78</td>
</tr>
</tbody>
</table>

*aAuthoritarian Scale derived from George G. Stern's Activities Index*

### TABLE XX

**SEVERAL MEASURES OF AUTHORITARIAN TENDENCY FOR FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967**

<table>
<thead>
<tr>
<th>Scale and Test</th>
<th>Mean Standard Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authoritarianism (AI)</td>
<td>33.03</td>
</tr>
<tr>
<td>Flexibility (CPI)</td>
<td>58.03</td>
</tr>
<tr>
<td>Psychological-Mindedness (CPI)</td>
<td>51.11</td>
</tr>
</tbody>
</table>

### TABLE XXI

**MEASURES OF MASCULINITY-FEMININITY FOR FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967**

<table>
<thead>
<tr>
<th></th>
<th>SVIB</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Masculinity-Femininity</strong></td>
<td>34.18 M-F</td>
<td>55.95</td>
</tr>
<tr>
<td><strong>Femininity</strong></td>
<td>53.25 F-M</td>
<td>47.25</td>
</tr>
</tbody>
</table>

Numbers represent mean standard scores

*Note reversal of M-F scale in male and female SVIB forms.
Callison males. The profile of mean scores for the Callison males was varied, showing many clear-cut preferences and rejections. High scores were in Group VI (Aesthetic-Cultural): Librarian, Musician Performer, and Music Teacher; Group V (Social Service): Social Worker, Social Science Teacher, Rehabilitation Counselor, and Y.M.C.A. secretary; and in Group X (Verbal-Linguistic): Advertising Man, Lawyer, and Author-Journalist. All the occupations cited fell above the "men in general" area, a shaded area on each scale which reflects extent to which a score is distinctively higher than average. An additional high score was that for Chamber of Commerce executive, a score falling within the Supplemental Occupational scales. On Specialization Level, "interpreted as measuring a desire or willingness to narrow one's interests," the mean standard score for males was 43 (SVIB) manual, 18). This score would be interpreted as moderately low, not quite one standard deviation below the normative mean. On Occupational Level, "a measure of the 'socioeconomic level' of the individual's interests," the mean standard score for males was 60, almost a standard deviation above the normative mean. (Table XXII.)

Callison females. Vocational interest data for Callison females were also gathered using the Strong instrument, but the test form was that for women, a somewhat less detailed test than that used for males. High occupational scores fell in Group II (Verbal-Linguistic): Artist,

15 Ibid., p. 18.
16 Ibid.
TABLE XXII
VOCATIONAL INTEREST SCORES FOR FRESHMEN
ENTERING CALLISON COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th>Rank</th>
<th>Occupation Title and Group</th>
<th>Mean Standard Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1</td>
<td>Musician Performer (VI)</td>
<td>44.22</td>
</tr>
<tr>
<td>#2</td>
<td>Librarian (VI)</td>
<td>44.00</td>
</tr>
<tr>
<td>#3</td>
<td>Music Teacher (VI)</td>
<td>41.07</td>
</tr>
<tr>
<td>#4</td>
<td>Social Worker (V)</td>
<td>40.81</td>
</tr>
<tr>
<td>#5</td>
<td>Author-Journalist (X)</td>
<td>39.74</td>
</tr>
<tr>
<td>#6</td>
<td>Advertising Man (X)</td>
<td>39.59</td>
</tr>
<tr>
<td>#7</td>
<td>Chamber of Commerce Exec. (Supp. Scal.)</td>
<td>39.51</td>
</tr>
<tr>
<td>#8</td>
<td>Lawyer (X)</td>
<td>39.14</td>
</tr>
<tr>
<td>#9</td>
<td>Social Science Teacher (V)</td>
<td>37.37</td>
</tr>
<tr>
<td>#10</td>
<td>Rehabilitation Counselor (V)</td>
<td>35.88</td>
</tr>
<tr>
<td>#11</td>
<td></td>
<td>35.70</td>
</tr>
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</table>

Non-Occupational Scales: (Mean standard scores)

<table>
<thead>
<tr>
<th>Specialization Level</th>
<th>Masculinity-Femininity</th>
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</thead>
<tbody>
<tr>
<td>42.88</td>
<td>34.18</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupational Level</th>
<th>Academic Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>59.81</td>
<td>49.70</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rank</th>
<th>Occupation Title and Group</th>
<th>Mean Standard Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1</td>
<td>Speech Pathologist (Supp. Scales)</td>
<td>41.38</td>
</tr>
<tr>
<td>#2</td>
<td>Artist (II)</td>
<td>40.65</td>
</tr>
<tr>
<td>#3</td>
<td>Author (II)</td>
<td>40.21</td>
</tr>
<tr>
<td>#4</td>
<td>Music Performer (I)</td>
<td>39.90</td>
</tr>
<tr>
<td>#5</td>
<td>Social Worker (III)</td>
<td>39.42</td>
</tr>
</tbody>
</table>

Non-Occupational Scales: (Mean standard scores)

| Femininity-Masculinity | 53.25 |
| Academic Achievement   | 51.96 |
and Author; Group I (Music) Music Performer; Group III (Social Service) Social Worker, and among the Supplemental Scales, Speech Pathologist.

Again, all these mean scores fell beyond the "women in general" area. On the women's form of SVIB the only Non-Occupational Scales are Femininity-Masculinity on which the group achieved a mean score of 53.25 and Academic Achievement for which the group's mean score was 51.96. The profile of occupational interests for females in the Callison freshmen was not nearly as well defined in its groupings as was that of the males although this may be an artifact of the test. Occupations with the lowest mean scores were those to which women have the easiest access or which are thought to relate to women's "traditional" interests. They were Buyer and Business Education Teacher (Group V), Home Economics Teacher and Dietitian (Group VI).

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COLLEGIATE EXPECTATIONS

"The freshman myth" is the term which has been applied to the fact that "university-bound high school seniors . . . share a highly idealized image of college life representative of no actual institution at all."17 In the absence of pre-existing institutional norms, the freshman is all the more vulnerable to his fantasies regarding the nature of college life. Expectations of what Callison as an institution might become may have revealed much about the needs and objectives of the incoming students. In addition, the nature of their expectation would contribute to a "self-

fulfilling prophecy"; students of the charter class stood a good chance to create an institution in the image of their own expectations.18

College Characteristics Index. This test developed by George G. Stern measures the environmental press conditions likely to facilitate or impede the expression of student personality needs.19 It is based on Murray's concept of complimentarity of needs and presses and was derived from the basic rationale of "transactional methodology."20 The instrument itself consists of three hundred items, divided into thirty scales. Included on the scored profiles are factor scores which were derived on the basis of factor analysis of the thirty scores and which provide stronger measures than any one of the scales. The College Characteristics Index measures the qualities of the collegiate institution, either as perceived or, as in the case of the present research, as they are expected to be. The companion test of CCI is the Activities Index, a test using the same scale format but on which the student describes himself. The rationale for scales on the AI and CCI being the same is based on the attempt to match individual needs with institutional characteristics in order to

18Thomas Ford Hout, Dictionary of Modern Sociology (Totowa, New Jersey: Littlefield, Adams and Co., 1969), p. 288. "Self-fulfilling prophecy" is a term coined by Robert Merton descriptive of "a prediction which is false as stated but which evokes behavior such that the original statement finally becomes true . . . ."


assess the degree of congruence or dissonance.21

The major means of studying collegiate expectations of the Callison freshmen was through a study of their responses to the College Characteristics Index. This test was administered during the first day of freshman orientation, before many of the students had even been on campus. The students were instructed to respond in terms of the way they expected Callison College, not the University of the Pacific in general, to be.

Factor analysis by the author of the test allowed the thirty scales of the CCI to be combined into a smaller number of statistically more powerful measures. It should be noted that while the scales themselves were purely theoretical constructs, the factors represent empirically derived clusters of statistically related scores. These factors fall into two clusters. One was labeled Non-Intellectual Climate and deals primarily with social life, extracurricular opportunities, and organization of the non-academic aspects of a collegiate institution. The first factor, labeled Intellectual Climate, deals with conventional aspects of the academic program, standards of achievement set by students as well as faculty, opportunities for the development of self-assurance, as well as non-custodial student personnel practices and the absence of vocationalism. The second was labeled Non-Intellectual Climate and deals primarily with social life, extracurricular opportunities, and organization of the non-academic aspects of a collegiate institution.22 From the College Characteristics

22Ibid., p. 56.
Index, the following factors were derived. Their component scales and the interpretative meaning attributed to them by Stern will be indicated.

(Table XXIII,)

Scale scores and factor scores far removed from the normative mean (0) were regarded as reflecting a population distinctively different from the national sample. Whether this distinctiveness was based on distinctive qualities of students selecting an experimental college, or qualities common to many freshmen, or some other defining quality, could not be discerned from the present data.  

Table XXIV shows the mean CCI factor scores for the Callison freshmen. Factors falling under Intellectual Climate were generally elevated above the normative mean. Only the Work-Play factor fell slightly below the average. Its component scales reflect not only the extent of work anticipated but also a degree of caution, attention to detail, and lack of impulse expression which were not characteristic of the Callison freshmen. Highest of the factor scores in this section was Self-Expression indicating that the students expected the college to provide for them opportunities for development of the qualities in which they were already most experienced. This response is illustrative of the principle which Newcombe terms accentuation. He defined accentuation as, "An initially favorable or

23Although the theoretical basis of the College Characteristics Index is a need-press conceptual scheme, the scales are not referred to as "press for--." It is, however, important to keep in mind that the scale measures behaviors or practices intended to encourage—or press—for practices indicated by the scale name.
I. Intellectual Climate
   A. Work-Play
      1. Scales: Prudishness, Harm-Avoidance, Work, and Deliberation
      2. Interpretation: "... it reflects an absence of activities associated with dating, athletics, and other forms of collegiate play or amusement."
   B. Nonvocational Climate
      1. Scales: Impracticalness, Sensuality, Restiveness, Disorder, Defensiveness
      2. Interpretation: "... it reflects opportunities to engage in theoretical, artistic, and other 'impractical' activities and the absence of pressures to conform to conventional values."
   C. Aspiration Level
      1. Scales: Counteraction, Change, Fantasied Achievement, Understanding
      2. Interpretation: the extent to which "... students perceive that they are expected to aim high and are considered capable of making it. They are introduced to individuals and ideas calculated to provide models for intellectual and professional achievement. The students are also given opportunities to participate in decision-making processes involving the administration of the school, and given to understand through the receptivity of the central administration that student efforts to make some impact on the environment are likely to be successful."
   D. Intellectual Climate
      1. Scales: Reflectiveness, Humanities-Social Sciences, Sensuality, Understanding, and Fantasied Achievement
      2. Interpretation: "... reflect the qualities of a staff and plant specifically devoted to scholarly activities in the humanities, arts, and social sciences.
   E. Student Dignity
      1. Scales: Objectivity, Assurance, and Tolerance
      2. Interpretation: "This factor reflects administrative concern for the maintenance of a high level of self-determination and personal responsibility among the students." "A high score ... indicates that the institutional climate is nonauthoritarian and that student conduct is regulated by means other than administrative fiat ... . There is a minimum of coercion at such schools ... students are treated with the respect and consideration accorded any mature adult."
TABLE XXIII (continued)

F. Academic Climate
1. Scales: Humanities-Social Science, Science
2. Interpretation: "... limited specifically to academic excellence in staff and facilities in the conventional areas of the humanities, social sciences, and natural sciences." A high score implies presence of good libraries and laboratories, etc.

G. Academic Achievement
1. Scales: Achievement, Energy, Understanding Counteraction, and Connnctivity
2. Interpretation: This scale measures extent to which schools set high standards of achievement for their students, as indicated by practices such as special courses, examinations, honors, tutorials, etc.

H. Self Expression
1. Scales: Ego Achievement, Emotionality, Exhibitionism, and Energy
2. Interpretation: This factor is concerned with "opportunities offered the student for the development of leadership potential and self assurance," such as "public discussions and debates, projects, student drama and musical productions, and other forms of participation in highly visible creative acts."

II. Nonintellectual Climate
A. Self-Expression
1. See Area H under Intellectual Climate

B. Group Life
1. Scales: Affiliation, Supplication, Nurturance, Adaptability
2. Interpretation: Descriptive of "various forms of mutually supportive group activities among the student body. The activities are of a warm, friendly character, more or less typifying adolescent togetherness..." but also reflecting "... a more serious aspect of the college culture as represented in activities devoted to the welfare of fellow students and to other less fortunate members of the community."

C. Academic Organization
1. Scales: Blame, Order, Conjunctivity, Deliberation, Deference, and Narcissism
2. Interpretation: This factor reflects the extent to which institutions "stress organization and structure in the academic environment." It is the counterpart of "needs for orderliness and submissiveness in the individual."

D. Social Form
1. Scales: Narcissism, Nurturance, Adaptability, Dominance, Play
TABLE XXIII (continued)

2. Interpretation: Shares fifty percent of its items with Group Life (Factor 7) but emphasis is upon formal institutionalization of these activities and there is a "stronger emphasis on proper social form.", "a heightened self-awareness and a consciousness of position and role." "Schools characterized by this factor apparently offer opportunities for the development of social skills."

E. Play-Work

1. Scales: Sexuality, Risktaking, Play and Impulsiveness
2. Interpretation: Activities reflected in this factor indicate a school offers "opportunity for participation in a form of collegiate life reminiscent of the popular culture of the 1920's." These are the institutions described by F. Scott Fitzgerald as "fountains of knowledge where students gather to drink."

F. Vocational Climate

1. Scales: Practicalness, Puritanism, Deference, Order, and Adaptability
2. Interpretation: Practices measured by this factor include: practical applied activities, the rejection of aesthetic experience, and a high level of orderliness and conformity in student-faculty relationships."

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TABLE XXIV

COLLEGE CHARACTERISTICS INDEX FACTOR PROFILE FOR FRESHMEN
ENTERING CALLISON COLLEGE, FALL 1967

FACTOR SCORE PROFILE—COLLEGE ENVIRONMENT (CCI)

STANDARD SCORES (\( \mu = 0 \), \( \sigma = 2 \))

<table>
<thead>
<tr>
<th>I. INTELLECTUAL CLIMATE</th>
<th>II. NON-INTELLECTUAL CLIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intellectual Climate</td>
<td>1. Non-Intellectual Climate</td>
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<tr>
<td>2. Intellectual Climate</td>
<td>2. Non-Intellectual Climate</td>
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<td>3. Intellectual Climate</td>
<td>3. Non-Intellectual Climate</td>
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<tr>
<td>4. Intellectual Climate</td>
<td>4. Non-Intellectual Climate</td>
</tr>
<tr>
<td>5. Intellectual Climate</td>
<td>5. Non-Intellectual Climate</td>
</tr>
</tbody>
</table>

X mean deviation either side of mean
unfavorable attitude that becomes more so over time."^{24}

Three factors reflected students' expectations of how they would be treated by the college. These were Achievement Level (the extent to which the college views its students as capable), Academic Achievement (extent to which college organizes special practices which encourage high achievement), and Student Dignity (extent of concern for maintenance of high level of self-determination and personality responsibility.) On each of these measures the Callison freshmen scored far above the norms. They anticipated that a high level of performance would be expected for them in each of these areas.

As students described the college per se (their expectations of what it would be) the scores were less elevated. They did not expect markedly better than average facilities or staff (Academic Climate). When attitudinal variables are included in the foregoing the factor is somewhat stronger and the score rises (see Intellectual Climate factor); that is, students seemed to be investing their expectations more in attitudinal variables than in specific qualities of buildings and facilities. Non-vocational climate was anticipated to be above average as might be expected in a college specifically devoted to liberal education and offering no vocational subjects or majors whatsoever.

Non-intellectual Climate includes some of the same factors which are used in Intellectual Climate. In the case of the Work-Play scale it is inverted to emphasize the Play aspect of the continuum, and the same

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practice is followed with the Vocational Climate score.

Group Life and Social Form are two factors which share many of the same items. Social Form, however, places more emphasis upon formal provision of activities planned to encourage "togetherness," esprit de corps, etc. Group life has more connotation of spontaneity and was the higher of the two scores for the Callison freshmen. Academic Organization is a factor whose score measures practices that are orderly, hierarchically arranged, and imply a bureaucratic organization; Callison freshmen scored below the mean on this factor.

Freshmen norms and Callison freshmen. When these Callison factor scores were compared on the same factors with a large number of freshmen from other schools it was possible to cite areas in which the Callison freshmen differ from the typical freshmen groups. (Table XXV.)

They were similar in the amount of work which they felt would be required of them as well as the expectation that many opportunities would be available for the development of leadership potential and self-assurance. They were also similar in the expectations that the schools would utilize a variety of learning devices to stimulate learning and provide good facilities for this learning. They showed a moderate degree of similarity in expecting peer-related activities, "collegiate fun culture."

Callison freshmen anticipated a higher intellectual climate and a less vocationally related curriculum than did most freshmen. Self-assurance may be the defining quality explaining both a higher expectation of Student Dignity and an expectation of a higher Aspiration Level; they anticipated being treated as persons capable of handling a challenge. They
TABLE XXV
CALLISON FRESHMEN AND A LARGE SAMPLE OF OTHER FRESHMEN

FACTOR SCORE PROFILE—COLLEGE ENVIRONMENT (CCI)
NORMS BASED UPON 1993 JUNIORS AND SENIORS ENROLLED IN 32 COLLEGES
STANDARD SCORES (μ = 0, σ = 2)

I. INTELLECTUAL CLIMATE
II. NON-INTELLECTUAL CLIMATE

*Number of Schools/Number of Students
--------Freshmen 4/3075*
---------Callison Freshmen 1/79*
were not similar to the national sample of freshmen in their anticipation of bureaucracy. They did not anticipate a college which was highly and formally organized, nor did they expect the imposition of a stereotyped program of social activities.

Scale Scores. Data on the thirty CCI scales are presented in the form of mean standard scores and deviations in Table XXVI. Definitions of each Need-Press scale are cited in the following table. (Table XXVII.)

Freshmen of the Charter class anticipated that Callison College would be very high (two standard deviations beyond the norm) in the following qualities. The groupings are arbitrary and used only for purposes of interpretation.

(a) Assurance, Emotionality, and Exhibitionism. The freshmen anticipated the college would encourage self-display and attention-seeking as well as providing support which would allow for the experiences to be congruent with certainty, self-confidence, and/or self-glorification. They expected to be taught how to assume leadership roles or be in the limelight and to do so with self-assurance and aplomb.

(b) Counteraction and Energy. The qualities of persistence and energetic striving were clearly part of what the freshmen thought the college would expect of them. They expected to be presented with tasks or requirements which would tax their abilities and require sustained effort.

(c) Ego Achievement and Fantasied Achievement. The freshmen thought the college would have great expectations of its students as reflected in the scales for Ego Achievement and Fantasied Achievement. The qualities of drama and power are added to the expectations of high personal achievement and public recognition.

The extent to which projection plays a significant role in these extreme scores cannot be ignored. In a situation in which the respondents would not possibly know the nature of the institution they were describing
TABLE XXVI

COLLEGE CHARACTERISTICS INDEX SCALE PROFILE FOR FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967

SCALE SCORE PROFILE—COLLEGE ENVIRONMENT (CCO)
NORMS BASED UPON 1963 JUNIORS AND SENIORS ENROLLED IN 32 COLLEGES

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</thead>
<tbody>
<tr>
<td></td>
<td>-6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6</td>
<td></td>
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TABLE XXVII
SCALE DEFINITIONS
COLLEGE CHARACTERISTICS INDEX

Bi-polar items. A positive score indicates a tendency toward the first pole. A negative score indicates a tendency toward a second pole.

Item List

1. ABA Abasement--ASS Assurance: Self-depreciation and self devaluation as reflected in the ready acknowledgment of inadequacy, ineptitude, or inferiority, the acceptance of humiliation and other forms or self-degradation versus certainty, self-confidence, or self-gloration.

2. ACH Achievement: Surmounting obstacles and attaining a successful conclusion in order to prove one's worth, striving for success through personal effort.

3. ADA Adaptability--DFS Defensiveness: Accepting criticism, advice, or humiliation publicly versus resistance to suggestion, guidance, direction, or advice, concealment or justification of failure.

4. AFF Affiliation: Gregariousness, group-centered, friendly, participatory associations with others versus social detachment, social independence, self-isolation, or unsociableness.

5. AGG Aggression--BLA Blame Avoidance: Indifference or disregard for the feelings of others as manifested in hostility either overt or covert, direct or indirect, versus the denial or inhibition of such impulses.

6. CHA Change--SAM Sameness: Variable or flexible behavior versus repetition and routine.

7. CNJ Conjunctivity--DSJ Disjunctivity: Organized, purposeful, or planned activity patterns versus uncoordinated, disorganized, diffuse, or self-indulgent behavior.

8. CTR Counteraction: Persistent striving to overcome difficult, frustrating, humiliating, or embarrassing experiences and failures versus avoidance or hasty withdrawal from tasks or situations that might result in such outcomes.

9. DFR Deference--RST Restiveness: Respect for authority, submission to the opinions and preferences of others perceived as superior versus noncompliance, insubordination, rebelliousness, resistance, or defiance.
TABLE XXVII (continued)

10. **DOM** Dominance--**TOL** Tolerance: Ascendancy over others by means of assertive or manipulative control versus nonintervention, forbearance, acceptance, equalitarianism, permissiveness, humility, or meekness.

11. **E/A** Ego Achievement: Self-dramatizing, idealistic social action, active or fantasied realization of dominance, power, or influence achieved through sociopolitical activities in the name of social improvement or reform.

12. **EMO** Emotionality--**PLC** Placidity: Intense, open emotional expression versus stolidness, restraint, control, or constriction.

13. **ENY** Energy--**PAS** Passivity: High activity level, intense, sustained, vigorous effort versus sluggishness or inertia.

14. **EXH** Exhibitionism--**INF** Inferiority Avoidance: Self-display and attention-seeking versus shyness, embarrassment, self-consciousness, or withdrawal from situations in which the attention of others might be attracted.

15. **F/A** Fantasized Achievement: Daydreams of success in achieving extraordinary public recognition, narcissistic aspirations for fame, personal distinction, or power.

16. **HAR** Harm Avoidance--**RSK** Risktaking: Fearfulness, avoidance, withdrawal, or excessive caution in situations that might result in physical pain, injury, illness, or death versus careless indifference to danger, challenging or provocative disregard for personal safety, thrill-seeking, boldness, venturesomeness, or temerity.

17. **HUM** Humanities, Social Science: The symbolic manipulation of social objects or artifacts through empirical analysis, reflection, discussion, and criticism.

18. **IMP** Impulsiveness--**DEL** Deliberation: Rash, impulsive, spontaneous, or impetuous behavior versus care, caution, or reflectiveness.

19. **NAR** Narcissism: Self-centered, vain, egotistical, preoccupation with self, erotic feelings associated with one's own body or personality.

20. **NUR** Nurturance: Supporting others by providing love, assistance, or protection versus disassociation from others, indifference, withholding support, friendship, or affection.

21. **OBJ** Objectivity--**PRO** Projectivity: Detached, nonmagical, unprejudiced, impersonal thinking versus autistic, irrational, paranoid, or otherwise egocentric perceptions and beliefs--superstition, suspicion.
<table>
<thead>
<tr>
<th>No.</th>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Order--DSO Disorder</td>
<td>Compulsive organization of the immediate physical environment, manifested in a preoccupation with neatness, orderliness, arrangement, and meticulous attention to detail versus habitual disorder, confusion, disarray, or carelessness.</td>
</tr>
<tr>
<td>23</td>
<td>Play--WRK Work</td>
<td>Pleasure-seeking, sustained pursuit of amusement and entertainment versus persistently purposeful, serious, task-oriented behavior.</td>
</tr>
<tr>
<td>24</td>
<td>Practicalness--IMP Impracticalness</td>
<td>Useful, tangibly productive, businesslike applications of skill or experience in manual arts, social affairs, or commercial activities versus a speculative, theoretical, whimsical, or indifferent attitude toward practical affairs.</td>
</tr>
<tr>
<td>25</td>
<td>Reflectiveness</td>
<td>Contemplation, introspection, preoccupation with private psychological, spiritual, esthetic, or metaphysical experience.</td>
</tr>
<tr>
<td>26</td>
<td>Science</td>
<td>The symbolic manipulation of physical objects through empirical analysis, reflection, discussion, and criticism.</td>
</tr>
<tr>
<td>27</td>
<td>Sensuality--PUR Puritanism</td>
<td>Sensory stimulation and gratification, voluptuousness, hedonism, preoccupation with esthetic experience versus austerity, self-denial, temperance or abstinence, frugality, self-abnegation.</td>
</tr>
<tr>
<td>28</td>
<td>Sexuality--PRU Prudishness</td>
<td>Erotic heterosexual interest or activity versus the restraint, denial, or inhibition of such impulses, prudishness, priggishness, asceticism.</td>
</tr>
<tr>
<td>29</td>
<td>Supplication--AUT Autonomy</td>
<td>Dependence on others for love, assistance, and protection versus detachment, independence, or self-reliance.</td>
</tr>
<tr>
<td>30</td>
<td>Understanding</td>
<td>Detached intellectualization, problem-solving, analysis, theorizing, or abstraction as ends in themselves.</td>
</tr>
</tbody>
</table>

their descriptions were as reflective of the nature of their fantasy as they were of any actuality.

The following mean scale scores fell at least one but not more than two standard deviations from the mean.

(a) Objectivity, Reflectiveness, Understanding, Humanities-Social Science. The high mean scores on all of these scales seemed to reflect the freshmen's expectations of an intellectual atmosphere that was tranquil, provides periods of time for unhurried contemplation or meditation, where issues are dealt with in an unemotional manner and not beclouded with human foibles, and in which the subject matter is focused upon Humanities and Social Sciences, i.e., "people related." The high Humanities-Social Science score was more meaningful when viewed in comparison with the Science score, whose mean was in the average ranges but whose standard deviation was extremely large, reflecting a wide range of variability in the students' expectations of dealing with science-related issues.

(b) Affiliation, Nurturance, Tolerance. The emphasis upon adolescent togetherness appeared to be extended into the students' view of the college's expectations of them. The picture would seem to be of a college living as one large family, or commune. The Tolerance score was particularly important in that its definition carries a strong implication of passivity and/or non-violence as opposed to competitiveness or other forms of aggression toward one's peers.

(c) Achievement, Defensiveness, Restiveness, Impulsivity. Scales grouped together here relate to anticipation of how Callison College would expect its students to react to obstacles and challenges. There was a striving quality implied in the Achievement scales; the freshmen anticipated being asked to surmount obstacles and saw the process as a test of self-worth. The scores for Restiveness and Impulsivity both implied an expected lack of structure or regularity in the collegiate program as well as a tolerance of impulsive actions by the students. These scores also implied a pattern of resistance to requirements, even carrying the possibility of encouraging iconoclastic behavior among the students. The Defensiveness score suggested this same expectation of restiveness but may also have suggested that freshmen felt expected to present a good front to the outside world in terms of the success of the college program. It may be that the role of innovator in an experimental college is perceived as involving the commitment to making the experiment look successful to outside observers.
All the scales in this grouping carry some implication of an expectation that the students should maintain a stance of disinterest. The style is that of being expected to appear as adequate and, if one experiences a failure, to conceal it quickly in order not to disturb the posture of adequacy.

Scores falling in the middle range may usefully be interpreted by checking extent of variability as well as mean score. This allows for interpretation as to whether the middle-range score is a by-product of a wide range of scores among the respondents or whether it represents a genuine middle-range position held by the majority of the students. By visual inspection it was possible to determine that there was considerable agreement among the students as to the extent of Risktaking which the college would expect of its students and only slightly less as to the balance between Play-Work and Order-Disorder. About the same degree of agreement characterized the students' expectations of Impracticalness on the part of the college, an expectation that the school would not be organized or run like a commercial or business venture, nor would stress be placed on learning marketable skills. The degree to which the organization of the college would be conjunctive, that is characterized by orderly and purposeful planning of activities, is a topic on which there was an extremely wide divergence of opinion. The divergence was so large that it might be anticipated as a source of stress or disillusionment.

Item Analysis. A further means of studying the collegiate expectations of incoming freshmen is through a collection of test items which receive the highest endorsement. Table XXVIII notes the items on which
TABLE XXVIII

COLLEGE CHARACTERISTICS INDEX ON WHICH FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967, SCORED A LEVEL OF 95 PER CENT AGREEMENT

(Items in parentheses indicate direction of scoring, and scale in which the item is placed.)

181. Faculty members are impatient with students who interrupt their work. (false) (Abas. vs. Assur.)

211. The school administration has little tolerance for student complaints and protests. (false) (Abas. vs. Assur.)

241. Students don't argue with professors; they just admit they are wrong. (false) (Abas. vs. Assur.)

62. Most courses require intensive study and preparation out of class. (true) (Achiev.)

272. Most courses are a real intellectual challenge. (true) (Achiev.)

3. In many courses grade lists are publicly posted. (false) (Adapt. vs. Defens.)

213. Frequent tests are given in most courses. (false) (Adapt. vs. Defens.)

94. The professors seem to have little time for conversation with students. (false) (Affil. vs. Reject.)

124. The school helps everyone get acquainted. (true) (Affil. vs. Reject.)

154. Students almost never see the professors except in class. (false) (Affil. vs. Reject.)

274. The professors really talk with the students, not just at them. (true) (Affil. vs. Reject.)

187. In most classes, the presentation of material is well planned and illustrated. (true) (Conj. vs. Disjunct.)

240. The campus religious program tends to emphasize the importance of acting on personal conviction, rather than the acceptance of tradition. (true) (Counteract. vs. Infer. Avoid.)

219. Faculty members and administrators see students only during scheduled office hours or by appointment. (false) (Defer. vs. Restiv.)
TABLE XXVIII (continued)

279. A controversial speaker always stirs up a lot of student discussion. (true) (Defer. vs. Restiv.)

193. Faculty members put a lot of energy and enthusiasm into their teaching. (true) (Energy. vs. Passiv.)

71. Many students here develop a strong sense of responsibility about their role in contemporary social and political life. (true) (Ego Achiev.)

161. Students are actively concerned about national and international affairs. (true) (Ego Achiev.)

191. Students are encouraged to take an active part in social reform or political programs. (true) (Ego Achiev.)

227. Course offerings and faculty in the social sciences are outstanding. (true) (Human-Soc.Sci.)

287. In many courses the broad social and historical setting of the material is not discussed. (false) (Hum.-Soc.Sci.)

50. There are courses which involve field trips to slum areas, welfare agencies, or similar contact with underprivileged people. (true) (Nurt. vs. Reject.)

259. Society orchestras are more popular here than jazz bands or novelty groups. (false) (Narciss.)

51. The value most stressed here are open-mindedness and objectivity. (true) (Objectiv. vs. Projectiv.)

291. Many faculty members seem moody and unpredictable. (false) (Objectiv. vs. Projectiv.)

172. The campus and buildings always look a little unkempt. (false) (Order vs. Disord.)

55. There would be a capacity audience for a lecture by an outstanding philosopher or theologian. (true) (Reflect.)

295. There is considerable interest in the analysis of value systems, and the relativity of societies and ethics. (true) (Reflect.)

119. Students here are encouraged to be independent and individualistic. (true) (Supplic. vs. Autonom.)
TABLE XXVIII (continued)

179. Most of the faculty are not interested in students' personal problems. (false) (Supplic. vs. Autonom.)

239. The professors go out of their way to help you. (true) (Supplic. vs. Autonom.)

210. Most of the professors are dedicated scholars in their fields. (true) (Understanding.)

240. In class discussions, papers, and exams, the main emphasis is on breadth of understanding, perspective and critical judgment. (true) (Understanding)

95 per cent or more of the students agreed.25

Observation of the list substantiates the impressions already presented under the discussion of factor and scale scores. What is not readily apparent using the composite scores is the extent to which the items of high agreement are biased in a favorable direction. Not one of these high agreement items is critical or even negative toward the college.

Comparison with other cluster college freshmen. In order further to explore the question of distinctiveness among the Callison College freshmen CCI responses will be presented from the freshmen entering Raymond College, another of the cluster colleges of the University of the Pacific. Raymond College had been established in 1962, was of the same projected

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25In order to reach the .01 level of significance it would require only 52 of the 79 students (62.82 per cent) scoring in the same direction, and the .05 level could be reached by 50 students (63.30 per cent) scoring in the same direction. The number of items on which either level of significance was reached was so large as to make a listing meaningless and uninterpretable. Therefore, it was decided to limit the list to the more difficult to reach level of 95 per cent or better agreement.
size as Callison, and occupied the same general area of the campus.26

Table XXIX presents the comparative profiles for the freshmen from the two cluster colleges, Raymond and Callison. In order to test the significance of observed differences in standard mean scores all scales and factors were compared using the test for significance of difference.27

TABLE XXIX

COLLEGE CHARACTERISTICS INDEX SCORES DIFFERENTIATING RAYMOND AND CALLISON COLLEGE FRESHMEN

<table>
<thead>
<tr>
<th>Factor Scores</th>
<th>Raymond (n 61)</th>
<th>Callison (n 79)</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Climate</strong></td>
<td>3.54</td>
<td>1.36</td>
<td>*</td>
</tr>
<tr>
<td><strong>Scale Scores</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>2.46</td>
<td>-0.61</td>
<td>***</td>
</tr>
<tr>
<td>Nurturance</td>
<td>0.32</td>
<td>3.15</td>
<td>**</td>
</tr>
<tr>
<td>Adaptability-Defensiveness</td>
<td>-1.43</td>
<td>-3.29</td>
<td>**</td>
</tr>
<tr>
<td>Fantasied Achievement</td>
<td>6.65</td>
<td>4.56</td>
<td>*</td>
</tr>
<tr>
<td>Dominance-Tolerance</td>
<td>-1.63</td>
<td>-3.49</td>
<td>*</td>
</tr>
</tbody>
</table>

* Differs significantly from chance at .05 level
** Differs significantly from chance at .01 level
*** Differs significantly from chance at the .001 level

26This is important because the cluster colleges occupy the same "territory," a fact that is popularly referred to as "beyond the eucalyptus curtain." Most of the College of the Pacific buildings, the professional schools, and the University administrative offices are separated from the cluster colleges by this "eucalyptus curtain."

27The method used here is one suggested by Stern in Scoring Instructions and College Norms: Activities Index and College Characteristics Index, p. 26.
Academic Climate is one of the less comprehensive of the CCI's factors in that it is made up of only two scales, Humanities-Social Science and Science. While the two groups of freshmen do not differ significantly in their expectations of a Humanities-Social Science emphasis, (Scale 17) the comparatively unenthusiastic expectations regarding Science (Scale 26) among the Callison students would appear to have accounted for the difference in the expectations reflected in the Academic Climate factor. (Table XXX.)

Callison freshmen were significantly higher (.001 level) than Raymond freshmen in their expectation of Nurturance. In view of this expectation of giving to others, it was meaningful to note the scores on Defensiveness and Tolerance, both of which represent means of handling threats to one's self. The implication was that of a dominant pattern among the Callison students of avoiding hostile confrontations, aggressive competition especially when directed toward one's peers, or avoiding any public form of humiliation or reprimand which would precipitate anger.

For both of the freshmen groups Fantasied Achievement is very high but the Raymond students expectations exceeded those of the Callison students (.05 level).

Other data descriptive of collegiate expectations. Data derived from the ACE survey are presented in Table XXXI. The items selected are those relevant to collegiate expectations.

Callison freshmen in the charter class may be described as having

TABLE XXX

COLLEGE CHARACTERISTICS INDEX PROFILES CONTRASTING FRESHMEN ENTERING RAYMOND COLLEGE AND CALLISON COLLEGE, FALL 1967

<table>
<thead>
<tr>
<th>SCALES</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACHIEVEMENT-ASSURANCE</td>
<td>3.29</td>
<td>4.18</td>
</tr>
<tr>
<td>ACHIEVEMENT</td>
<td>3.39</td>
<td>3.05</td>
</tr>
<tr>
<td>ADAPTABILITY-DEFENSIVENESS</td>
<td>3.48</td>
<td>5.92</td>
</tr>
<tr>
<td>AFFILIATION-REJECTION</td>
<td>2.59</td>
<td>2.06</td>
</tr>
<tr>
<td>AFFECTIVE-BLAME AVOIDANCE</td>
<td>3.36</td>
<td>2.03</td>
</tr>
<tr>
<td>ACHIEVEMENT-APPROVAL</td>
<td>1.84</td>
<td>1.43</td>
</tr>
<tr>
<td>ACHIEVEMENT-DISINHIBITION</td>
<td>3.45</td>
<td>4.49</td>
</tr>
<tr>
<td>CONTACT-OWNERSHIP</td>
<td>6.66</td>
<td>5.22</td>
</tr>
<tr>
<td>USEFULNESS</td>
<td>4.26</td>
<td>3.92</td>
</tr>
<tr>
<td>DOMINANCE TOLERANCE</td>
<td>1.63</td>
<td>3.49</td>
</tr>
<tr>
<td>EGO-ACHIEVEMENT</td>
<td>4.51</td>
<td>4.63</td>
</tr>
<tr>
<td>EMOTIONALITY-FLUENCY</td>
<td>6.62</td>
<td>4.17</td>
</tr>
<tr>
<td>EMOTIONALITY-INSUFFICIENCY</td>
<td>5.20</td>
<td>4.47</td>
</tr>
<tr>
<td>PERSISTENCE</td>
<td>3.62</td>
<td>4.66</td>
</tr>
<tr>
<td>FANTASY-ACHIEVEMENT</td>
<td>6.08</td>
<td>4.56</td>
</tr>
<tr>
<td>FANTASY-AVOIDANCE-RISK TAKING</td>
<td>3.01</td>
<td>1.07</td>
</tr>
<tr>
<td>HUMANITIES-SOCIAL SCIENCE</td>
<td>3.53</td>
<td>2.28</td>
</tr>
<tr>
<td>IMPULSIVITY-DELIBERATION</td>
<td>4.27</td>
<td>3.93</td>
</tr>
<tr>
<td>INFLEXIBILITY</td>
<td>5.61</td>
<td>4.11</td>
</tr>
<tr>
<td>MENTAL MATURENESS</td>
<td>3.32</td>
<td>3.15</td>
</tr>
<tr>
<td>OBJECTIVITY-PROJECTIVITY</td>
<td>3.97</td>
<td>3.38</td>
</tr>
<tr>
<td>ORDER-DISORDER</td>
<td>2.06</td>
<td>1.43</td>
</tr>
<tr>
<td>PLAN WORK</td>
<td>7.46</td>
<td>1.22</td>
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<tr>
<td>INTELLECTUALISM</td>
<td>2.05</td>
<td>1.34</td>
</tr>
<tr>
<td>INDEPENDENT ACTION</td>
<td>2.36</td>
<td>2.24</td>
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<tr>
<td>INDEPENDENCE</td>
<td>2.50</td>
<td>2.48</td>
</tr>
<tr>
<td>REFLECTIVENESS</td>
<td>2.35</td>
<td>2.35</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>2.45</td>
<td>0.61</td>
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<tr>
<td>SELF-CONCEPT</td>
<td>2.39</td>
<td>1.82</td>
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<td>SOCIAL-STIGMA</td>
<td>3.04</td>
<td>0.03</td>
</tr>
<tr>
<td>APPLICATION-AUTONOMY</td>
<td>4.11</td>
<td>1.23</td>
</tr>
<tr>
<td>USEFULNESS</td>
<td>3.22</td>
<td>2.27</td>
</tr>
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</table>

(A) RAYMOND COLLEGE (n 61) ---
(B) CALLISON COLLEGE (n 79) ---
<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>CALLISON</th>
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<tbody>
<tr>
<td></td>
<td>n65</td>
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<tr>
<td>Highest Degree Planned</td>
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<tr>
<td>None</td>
<td>0.0</td>
</tr>
<tr>
<td>Associate (or equivalent)</td>
<td>1.5</td>
</tr>
<tr>
<td>Bachelors Degree (B.A., B.S.)</td>
<td>29.2</td>
</tr>
<tr>
<td>Masters Degree (M.A., M.S.)</td>
<td>40.0</td>
</tr>
<tr>
<td>Ph.D., Ed. D.</td>
<td>18.5</td>
</tr>
<tr>
<td>M.D., D.D.S., D.V.M.</td>
<td>3.1</td>
</tr>
<tr>
<td>Ll.B. or J.D.</td>
<td>3.1</td>
</tr>
<tr>
<td>B.D.</td>
<td>1.5</td>
</tr>
<tr>
<td>Other</td>
<td>3.1</td>
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<tr>
<td>Major Field of Study</td>
<td></td>
</tr>
<tr>
<td>Agriculture (incl. Forestry)</td>
<td>0.0</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>0.0</td>
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<tr>
<td>Business</td>
<td>0.0</td>
</tr>
<tr>
<td>Education</td>
<td>11.1</td>
</tr>
<tr>
<td>Engineering</td>
<td>0.0</td>
</tr>
<tr>
<td>English</td>
<td>3.2</td>
</tr>
<tr>
<td>Health Professions (non-M.D.)</td>
<td>1.6</td>
</tr>
<tr>
<td>History, Political Science</td>
<td>41.3</td>
</tr>
<tr>
<td>Humanities (Other)</td>
<td>14.3</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>1.6</td>
</tr>
<tr>
<td>Mathematics or Statistics</td>
<td>0.0</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>0.0</td>
</tr>
<tr>
<td>Pre-Professional</td>
<td>3.2</td>
</tr>
<tr>
<td>Psychol, Socio, Anthropol</td>
<td>17.5</td>
</tr>
<tr>
<td>Other Fields (Technical)</td>
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</tr>
<tr>
<td>Other Fields (Nontechnical)</td>
<td>0.0</td>
</tr>
<tr>
<td>Undecided</td>
<td>6.3</td>
</tr>
<tr>
<td>Major Influences in Deciding to</td>
<td></td>
</tr>
<tr>
<td>Attend This College</td>
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</tr>
<tr>
<td>Friends attending this college</td>
<td>9.2</td>
</tr>
<tr>
<td>Athletic program of the college</td>
<td>0.0</td>
</tr>
<tr>
<td>Other extracurricular activities</td>
<td>1.5</td>
</tr>
<tr>
<td>Social life of the college</td>
<td>0.0</td>
</tr>
<tr>
<td>Chance to live away from home</td>
<td>15.4</td>
</tr>
<tr>
<td>Low cost</td>
<td>0.0</td>
</tr>
<tr>
<td>Academic Reputation of college</td>
<td>35.4</td>
</tr>
<tr>
<td>Most students are like me</td>
<td>4.6</td>
</tr>
<tr>
<td>Religious affiliation</td>
<td>3.1</td>
</tr>
<tr>
<td>ITEM DESCRIPTION</td>
<td>CALLISON</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>Major Sources of Financial Support During Freshman Year</strong></td>
<td></td>
</tr>
<tr>
<td>Personal svgs or employment</td>
<td>7.7</td>
</tr>
<tr>
<td>Parental of Family Aid</td>
<td>73.8</td>
</tr>
<tr>
<td>Repayable loan</td>
<td>15.4</td>
</tr>
<tr>
<td>Scholarship/Grant/or Other Gift</td>
<td>32.2</td>
</tr>
<tr>
<td><strong>Concern About Financing Education</strong></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>38.5</td>
</tr>
<tr>
<td>Some Concern</td>
<td>50.8</td>
</tr>
<tr>
<td>Major Concern</td>
<td>10.8</td>
</tr>
<tr>
<td><strong>Objectives Considered To Be</strong></td>
<td></td>
</tr>
<tr>
<td>Achieve in a Performing Art</td>
<td>23.1</td>
</tr>
<tr>
<td>Be an Authority in my Field</td>
<td>50.1</td>
</tr>
<tr>
<td>Obtain Recognition from Peers</td>
<td>32.3</td>
</tr>
<tr>
<td>Perform or Compose Music</td>
<td>7.7</td>
</tr>
<tr>
<td>Be an Expert in Finance</td>
<td>1.6</td>
</tr>
<tr>
<td>Be Administratively Responsible</td>
<td>20.0</td>
</tr>
<tr>
<td>Be Very Well-off Financialally</td>
<td>16.9</td>
</tr>
<tr>
<td>Help Others in Difficulty</td>
<td>80.0</td>
</tr>
<tr>
<td>Join the Peace Corps or Vista</td>
<td>67.7</td>
</tr>
<tr>
<td>Become an Outstanding Athlete</td>
<td>7.7</td>
</tr>
<tr>
<td>Become a Community Leader</td>
<td>26.2</td>
</tr>
<tr>
<td>Contribute to Scientific Theory</td>
<td>4.6</td>
</tr>
<tr>
<td>Write Original Works</td>
<td>30.8</td>
</tr>
<tr>
<td>Not be Obligated to People</td>
<td>10.8</td>
</tr>
<tr>
<td>Create Works of Art</td>
<td>37.5</td>
</tr>
<tr>
<td>Keep up with Political Affairs</td>
<td>76.9</td>
</tr>
<tr>
<td>Succeed in my Own Business</td>
<td>21.9</td>
</tr>
<tr>
<td>Develop a Philosophy of Life</td>
<td>90.8</td>
</tr>
<tr>
<td><strong>Students Estimate Chances are</strong></td>
<td></td>
</tr>
<tr>
<td>Very Good That They Will</td>
<td></td>
</tr>
<tr>
<td>Get married While in college</td>
<td>3.1</td>
</tr>
<tr>
<td>Marry Within a Year After College</td>
<td>24.6</td>
</tr>
<tr>
<td>Obtain Avg. Grd. of A- or Higher</td>
<td>3.1</td>
</tr>
<tr>
<td>Change Major Field</td>
<td>23.1</td>
</tr>
<tr>
<td>Change Career Choice</td>
<td>27.1</td>
</tr>
<tr>
<td>Fail One or More Courses</td>
<td>1.5</td>
</tr>
<tr>
<td>Graduate With Honors</td>
<td>10.8</td>
</tr>
<tr>
<td>Be Elected to a Student Office</td>
<td>4.6</td>
</tr>
<tr>
<td>Join Social Frat or Sorority</td>
<td>1.5</td>
</tr>
<tr>
<td>Author a Published Article</td>
<td>16.9</td>
</tr>
<tr>
<td>Be Elected to an Honor Society</td>
<td>12.3</td>
</tr>
<tr>
<td>Participate in Demonstrations</td>
<td>21.5</td>
</tr>
<tr>
<td>Drop out Temporarily</td>
<td>0.0</td>
</tr>
<tr>
<td>Drop out Permanently</td>
<td>1.6</td>
</tr>
<tr>
<td>Transfer to Another College</td>
<td>12.3</td>
</tr>
</tbody>
</table>
modest educational aspirations; few anticipated either long-term programs of study or professional degrees.

History and/or Political Science was the overwhelming intended major field of study. No two other fields combined reach the level of popularity anticipated for History-Political Science.

The popularly cited Academic Reputation of the College (35%) as the most popular Major Influence in Deciding to Attend this College was a problem for interpretation. Since Callison College itself had no possibility of having established an academic reputation, it may be assumed either that the students were generalizing from (1) overall University of the Pacific reputation, (2) supposed similarity to Raymond College on the basis of being a nearby cluster college, or (3) responding to the image presented in early literature and that presented by the recruiters, or (4) projecting their fantasy onto the institution. Since all groups noted cite Academic Reputation as their most popular reason, it would be more parsimonious to assume that freshmen believe they choose a college primarily on the basis of its academic reputation.

Although slightly over half of the Callison students indicated some concern over financing their education, the majority (74%) were financially dependent on their families during their freshman year.

The Objectives Considered to be Important category may be assumed to provide some measure of the anticipations and goals toward which the student is working. Most of these goals are idealistic (Develop a philosophy of life, 91%) and nurturant (Help Others in Difficulty, 80%; Join Peace Corps or Vista, 68%). Only one popular objective might be termed
instrumental, that is, Keep up with Political Affairs (77%). Although 50 per cent acknowledged becoming an authority in a field as an important objective, the specific items denoting expertise all received very low endorsements. (Be Expert in Finance, 2%; Contribute to Scientific Theory, 5%; Become an outstanding athlete, 8%; etc.) There seemed to be a generalized rejection of expertise, whether in athletics, vocational, or business fields, or leadership roles.

Using Table XXXI, p. 209, it was also possible to compare three freshmen groups entering the University of the Pacific in the Fall of 1967.

For highest Degree Planned the Callison distribution of scores resembled College of the Pacific and the National Norms. Raymond College students anticipate more advanced degrees and more professionally related degrees. (Table XXX, p. 208.)

Because of the greater variety of alternatives available to the COP students and to those students represented in the national norms, comparison of Anticipated Field of Study with those groups may be inappropriate. Raymond's scores were comparatively evenly distributed between four subject matter areas, while Callison's were bulked in one subject and supported by three much less popularly cited choices.

Concern about Financing Education was indicated ("Some Concern") as the most frequent response in all the groups except COP where over half of the respondents indicated No Concern. In extent of dependency on family for financial support during the freshman year, only COP freshmen were in the same high range with Callison students for dependency upon parental
resources.

The two cluster colleges do not differ from COP or the national norm group in their first ranked objective; all freshmen gave highest priority to Develop a Philosophy of Life. Both COP and national group, however, rank Be an Authority in my Field as second and only then cite the nurturant concerns of Help Others in Difficulty.

Finally, as students cited events they think may happen during their college years, one defining feature emerged, that is, freshmen at both cluster colleges were consistently open to change. Their high ranking items involve changes of major field of study, career choice, and participation in demonstrations presumably aimed at change. The one item in which Callison was more like COP and the national sample was the expectation of marrying within a year after college. Raymond students' extensive plans for graduate studies may presumably be related to the difference in this item. In both the COP and the national samples high ranking items relate to commitment rather than change; they anticipate joining a fraternity or sorority, and marrying within a year after college. For these groups the items relating to change in either area of study or career objective follow in third rank after those relating to commitment.

SUMMARY OF PRESENTATION OF THE DATA: PART ONE

Material presented in this chapter included a description of the Charter Class as a group. Characteristics were grouped in a hierarchial schema ranging from those least malleable to peer-group influence to those characteristics most malleable. The data were summarized as follows:
1. BIOLOGICAL ATTRIBUTES: The majority of the entering class were eighteen year old Caucasians. Females outnumbered males two to one.

2. SOCIAL CHARACTERISTICS OF ORIGIN:
   (a) All members of the Charter Class, except one, were citizens of the United States. The majority came from hometowns less than one hundred miles from Stockton.
   (b) Family Data: The majority of the students came from intact families. Almost one half were first-or-only children. Mothers and fathers were in middle-age range, tended to vote Republican, identified as Protestants, and were cited by their children as being the major influence in choice of a college. Both maternal and paternal grandparents of the freshmen were, in the majority, native Americans. More than one-third of the mothers held bachelors or graduate college degrees and almost one half were employed outside the home. The modal educational level for fathers was a post-graduate degree and the modal occupational category was Professional/or/Executive.

3. SOCIAL CHARACTERISTICS FROM STUDENTS PRE-COLLEGE GROUP:
   (a) High School. The majority of freshmen had attended large public high schools, although a significant minority had transferred between schools of varying size and control. The students reported extensive involvement in school related activities during their senior year; membership in either an honor society or a subject-matter interest club were the most frequently cited activities. Achievements in science-related activities were underrepresented while activities requiring verbal facility and self-expression were among the most frequently cited achievements. Sports participation was a frequently cited activity although as an area of achievement it was not in the high ranks. The data did not provide indication of extent to which high school activities may have contributed to an interest in inter-cultural activities. On formal measures of scholastic achievement females achieved higher mean scores on Verbal, Mathematics, and Composite scores of the College Entrance Examination tests. On the Washington Pre-College tests females scored at a statistically significant level higher than males on seven of the thirteen measures.
   (b) Church. A sizable proportion of the freshmen experienced disaffection with their religious background as indicated by a marked drop from percentage citing a specific religious background to the percentage citing a current religious preference for the same category. Protestants were both the most popular group and the group experiencing the largest decrease in preference. Religion was frequently discussed by the majority of the freshmen during the previous year. Participation in church-related activities was reported almost half of the freshman,
youth group activities being the most popular.
(c) Mobility. More than one-third of the freshmen had experienced three or more moves of homesite. Seventy-four per cent of the freshmen had traveled outside the United States and 72 per cent report having made a trip of more than five hundred miles within the previous year. These mobility experiences are interpreted as having contributed to the students' social characteristics.
(d) Other role-relevant variables. Most popularly cited descriptions of competence for males involve sports skills; while females most popularly cited items involving mostly domestic skills, they also claim competency in non-domestic areas. Members of the Charter Class exceeded national norms in twenty-one of the thirty skills in which they might cite themselves as competent. Females were even more inclined than males to attribute competence to themselves, exceeding national norms for females on twenty-five of the thirty items. Dating patterns. The most frequently cited category was "a series of steady dates" and the categories least frequently cited were those implying either total lack of activity or a definite commitment. Higher than average interest in fine arts was indicated by frequently reported visits to museums and attendance at foreign films. Activities propensities may be indicated by the high percentage of freshmen who anticipate participating in demonstrations as part of their collegiate career.
4. VARIABLES WHICH MEASURE PERSONAL TRAITS AND PERSONALITY VARIABLES
(a) Values and Attitudes, specifically those relating to self-concept and orientation to the future. The modal category of Highest Academic Degree Planned was a master's degree. History/Political Science was markedly in advance of any other field of study as a choice of major for both males and females. Most students avoided citing a specific Career choice; the most popular category, that of Secondary Educator, was cited by only 13 per cent of the class.
(b) Personality Variables:

Intellectual Orientation. Six scale or factor scores, derived from three separate test instruments, were presented as measures of intellectual orientation. The freshmen as a group fall in the average ranges on scale scores for Achievement via Independence, Achievement via Conformance, Intellectual Efficiency--derived from the California Personality Inventory, and Academic Achievement score derived from Strong Vocational Interest Blank. On each of these scales females achieved a higher mean score than did the males. Two factor scores were presented which related to intellectual orientation, Intellectual Orientation and Educability, both derived from the
Activities Index. The Educability factor is the less powerful of the two, and females score higher on most component scales as well as the overall factor score. On the more powerful Intellectual Orientation factor males score in the average range while females mean factor score falls in the very high range.

Emotional Expression. The single factor score in this category is that of Emotional Expression, derived from the Activities Index. Males scored in the very high range while females scored in the average range. Only on one component scale score, Self-Assertion, did both males and females score in the high ranges. From the CPI six measures of emotional expression that were used, scales measuring Dominance, Capacity for Status, Sociability, Social Presence, Self-Acceptance, and Sense of Well-Being. Both males and females fell within the average range on each scale with the exception of Well-Being on which the males scored slightly below the average range.

Socialization, Maturity, and Responsibility. (1) Six scales from the CPI were used to measure the above qualities: Responsibility, Socialization, Self-Control, Good-Impression, Communality and Tolerance. Mean scale scores fell in the average range with no consistent differences between males and females, except for the Tolerance scale on which the females achieved a decidedly higher score. (2) Dependency Needs, a factor score drawn from the Activities Index, was the second measure used. Both males and females scored in the low ranges for acknowledgment of dependency needs, but the mean factor score for the males was the more extreme. (3) A third measure of the above qualities was the score for an Authoritarian scale derived from Activities Index items. None of the Callison freshmen scored as authoritarians; 47 per cent scored as anti-authoritarians. (4) Measures of masculinity/femininity were also included under this heading. While Callison females mean scale scores for Femininity (CPI) and F-M (SVIB) fell in the average ranges, the Callison males scored higher than the females on CPI's Femininity scale and low on SVIB's M-F scale. These scores suggest that Callison males did not conform to socially stereotyped concepts of masculinity.

Vocational Interests. (1) Males' highest mean scores fell in three occupational areas, Aesthetic-Cultural, Social Service, and Verbal-Linguistic. Specific occupations were noted on which the Callison males achieved mean scores all of which exceeded the "men-in-general" criterion. Specialization Level mean score reflected low level of endorsement for occupations.
requiring a narrowing of interests. Callison males scored low on the Masculinity-Femininity scale. Occupational Level mean score for males was almost one standard deviation above the normative mean, implying endorsement of occupations with a high socio-economic status. Academic Achievement, a measure of similarity to persons whose vocation required extensive schooling was a scale on which Callison males scored close to the normative mean. (2) Females achieved a high mean score on occupations in the Verbal-Linguistic, the Social Service, and Music groups. Specific occupations on which mean scores fell above the "women-in-general" level were noted. Both the Femininity-Masculinity scale and the Academic Achievement scale fell very close to the normative mean. Occupations receiving the lowest endorsement were those into which women are most frequently directed and are regarded as "traditional."

The second section of Chapter IV dealt with collegiate expectations held by members of Callison's Charter Class.

1. Expectations of Intellectual Climate were indicated by scores far above the normative mean on all factors except Academic Climate which was slightly above the mean and Work-Play which was slightly below the mean. Highest of the factor scores was that of Self-Expression, a factor on which freshmen characteristically score extremely high.

2. Expectations of Non-Intellectual Climate were more moderate. The factor scores reflected the absence of expectations of bureaucracy (Academic Organization) or conventional expectations of propriety (Social Form). Group Life factor score reflected expectations of esprit-de-corps and encouragement of "togetherness." The factor scores for Academic Organization and Social Form, as well as Vocational Climate, differentiated the Callison freshmen from other freshmen in a national sample.

3. The following scales on which the Callison freshmen scored far beyond the normative means were used to identify the distinctive characteristics of the group. The organization is arbitrary and simply to aid interpretation.

   (a) Assurance, Emotionality, and Exhibitionism
   (b) Counteraction and Energy
   (c) Ego Achievement and Fantasied Achievement

4. Scales on which the Callison freshmen were less distinctive but still different from the normative group were
(a) Objectivity, Reflectiveness, Understanding, and Humanities-Social Science.
(b) Affiliation, Nurturance, Tolerance.
(c) Achievement, Defensiveness, Restiveness, and Impulsivity.

5. Areas of discrepancy in expectations, as well as areas of convergent expectations, were identified through comparison of standard deviation for each scale. Expectations were most convergent for the scales of Harm Avoidance, Play-Work, and Order-Disorder. They were highly divergent on the extent to which Science would be emphasized and on the extent to which the school's activities would be highly planned and purposefully organized (Conjunctivity).

6. Item analysis allowed for the identification of thirty-three of the CCI's three hundred items on which the Callison freshmen achieved an agreement level of 95 per cent or better. None of these items was scored in a direction which would be interpreted as critical of the college.

7. CCI profiles for Callison freshmen were compared with those of freshmen entering Raymond College.

(a) Raymond freshmen scored higher on the Academic Climate factor, (significant at .05 level).
(b) Raymond freshmen scored higher on the scales measuring expectations in Science (.001 level), and Fantasied Achievement (.05 level).
(c) Callison freshmen scored higher on the scales measuring expectations of Nurturance (.01 level), Defensiveness (.01 level), and Tolerance (.05 level).

8. Using the ACE data descriptive of entering freshmen, three themes emerge as defining characteristics for the Callison freshmen.

(a) Their objectives may be described as idealistic and nurturant.
(b) They indicate a generalized rejection of expertise.
(c) They consistently choose alternatives which leave them open to change while other freshmen elect alternatives which move them toward commitment.
CHAPTER V

PRESENTATION OF THE DATA: PART TWO (a)

I. HETEROGENEITY WITH THE CHARTER CLASS

Data presented in the previous chapter were stated in terms of summative statistics, terms descriptive of the properties of the whole. Callison's Charter Class was described regarding their biological attributes, social origins, pre-college activities and scholastic achievements, as well as personality variables including expectations of their collegiate experience. Freshmen classes entering Raymond College and College of the Pacific were contrasted to the Callison freshmen. These descriptive data focused upon summarizing properties of each group.

Within this section data will be presented and analyzed bearing upon the question of extent of heterogeneity within the Charter Class of Callison College. Heterogeneity will be defined as the extent of statistical dispersion, or range, which can be demonstrated on the various tests used in measuring the class characteristics.

Rationale for the Attempt to Develop a Typology

Analytic techniques and data presented in this section addressed the question, did the sample (Callison's Charter Class) contain sufficient variation in the characteristics of its members that it should be regarded as a collection of several small, and significantly different subgroups,
rather than a collectivity?\(^1\)

If such sub-groups existed, the question was whether the defining qualities of each was sufficiently distinct to regard it as a type, or the various groups as a typology. A typology functions as a way of describing groups of individuals in terms of homogeneous characteristics.

When . . . homogeneous groups are established on the basis of meaningful constellations or clusters of personality characteristics and when the total constellation is utilized in the sense of a single variable then the investigator is using a typological analysis of psychological variables.\(^2\)

A typology may be based on either theoretical or empirically derived constructs. A theoretical typology will utilize a conceptual schema and attempt to categorize instances (situations or persons) according to their similarity to the defining qualities of the schema. At times empirical data are operationally defined to screen data which illustrate the schema from those which do not. An empirical typology will not depend upon pre-conceived schema but will analyze data according to the variables which are statistically most closely related. The techniques used are those of cluster analysis or rotational factoring of various measures.\(^3\)

The rationale for an attempt to develop a typology was stated by Stein:

\(^1\)"Collectivity" is defined as ". . . any aggregation of persons who are conscious of sharing a set of common values and norms and therefore feel somewhat bound to one another . . .:" Thomas Ford Hout (compiler), Dictionary of Modern Sociology (Totowa, New Jersey: Littlefield, Adams and Co., 1969), p. 69.


\(^3\)Ibid.
Individuals do not behave as the manifestation of single variables. They are better described as possessing a constellation of interacting variables.⁴

Methodology for Developing a Typology

Factor analysis was the technique used for statistical treatment of the data.

Factor analysis is a method for determining the number and nature of underlying variables among a large number of measures. It may also be called a method for extracting common factor variances from sets of measures.

The objective of the methodology is the identification of the factors, constructs, hypothetical entities assumed to underlie tests and test performance.⁶ This is illustrative of the major reasons for use of factor analysis, that is, parsimony or data reduction.⁷ For this reason it is frequently used in both exploratory work or later, in developing empirical typologies.⁸

Data to be presented here were analyzed according to the principal components method of factor analysis. The defining feature of the principal components method lies in the fact that it extracts a maximum amount of variance as each factor is calculated; that is, the resulting correla-

⁴Ibid., p. 47.
⁶Ibid.
⁸Ibid., p. 450.
tional matrix is expressed in the smallest number of factors by this method. 9

Identification of Factors

Forty-seven variables descriptive of individuals in Callison's Charter Class were treated. (Table XXXII.) The specific variables were selected to present data from the maximum number of sources, in this case, five different tests. The second objective was to present those scores which contained the maximum amount of data; for this reasons the first twenty-seven variables were either composite scores or factor scores. Variables twenty-eight through forty-seven represented scale scores, i.e., less powerful measures. Only two scores from the Strong Vocational Interest Blank could be utilized because of the differing test formats for males and females.

The resulting correlational matrix is presented in Appendix B. This matrix, necessary for the factoring process, allowed for selection of variables which were highly intercorrelated. 10

The factoring process allowed the structure of the data to be described either in terms of its statistical qualities or in terms of its

9 Kerlinger, loc. cit.

10 "The coefficients of correlation express the degree of linear relationship between the row and column variables of the matrix. The closer to zero the coefficient, the less the relationship; the closer to one, the greater the relationship. A negative sign indicates that the variables are inversely related . . . To interpret the coefficient, square it and multiply it by 100. This will give the per cent variation in common for the data on the two variables." Rummel, op. cit., p. 461.
TABLE XXXII

VARIABLES SUBJECTED TO PRINCIPLE COMPONENTS FACTOR ANALYSIS

<table>
<thead>
<tr>
<th>From College Characteristics Index</th>
<th>From California Personality Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying Number</td>
<td>Factors</td>
</tr>
<tr>
<td>(1)</td>
<td>Work-Play</td>
</tr>
<tr>
<td>(2)</td>
<td>Non-Vocational Climate</td>
</tr>
<tr>
<td>(3)</td>
<td>Aspiration Level</td>
</tr>
<tr>
<td>(4)</td>
<td>Intellectual Climate</td>
</tr>
<tr>
<td>(5)</td>
<td>Student Dignity</td>
</tr>
<tr>
<td>(6)</td>
<td>Academic Climate</td>
</tr>
<tr>
<td>(7)</td>
<td>Academic Achievement</td>
</tr>
<tr>
<td>(8)</td>
<td>Self-Expression</td>
</tr>
<tr>
<td>(9)</td>
<td>Group Life</td>
</tr>
<tr>
<td>(10)</td>
<td>Academic Organization</td>
</tr>
<tr>
<td>(11)</td>
<td>Social Form</td>
</tr>
<tr>
<td>From Activities Index</td>
<td></td>
</tr>
<tr>
<td>(12)</td>
<td>Self-Assertion</td>
</tr>
<tr>
<td>(13)</td>
<td>Audacity-Timidity</td>
</tr>
<tr>
<td>(14)</td>
<td>Intellectual Interests</td>
</tr>
<tr>
<td>(15)</td>
<td>Motivation</td>
</tr>
<tr>
<td>(16)</td>
<td>Applied Interests</td>
</tr>
<tr>
<td>(17)</td>
<td>Constraint-Expressiveness</td>
</tr>
<tr>
<td>(18)</td>
<td>Diffidence-Egoism</td>
</tr>
<tr>
<td>(19)</td>
<td>Orderliness</td>
</tr>
<tr>
<td>(20)</td>
<td>Submissiveness</td>
</tr>
<tr>
<td>(21)</td>
<td>Closeness</td>
</tr>
<tr>
<td>(22)</td>
<td>Sensuousness</td>
</tr>
<tr>
<td>(23)</td>
<td>Friendliness</td>
</tr>
<tr>
<td>(24)</td>
<td>Educability</td>
</tr>
<tr>
<td>(25)</td>
<td>Authoritarianism</td>
</tr>
<tr>
<td>From College Entrance Examination Boards</td>
<td></td>
</tr>
<tr>
<td>(26)</td>
<td>Board scores, Verbal</td>
</tr>
<tr>
<td>(27)</td>
<td>Board scores, Mathematics</td>
</tr>
</tbody>
</table>
graphic or geometric properties. The geometric presentation of these data was orthogonal, that is, the dimensions were defined "by residuals from which variance from other cluster-defined dimensions had been removed ..." thereby making a correlation of zero (orthogonal) with other dimensions.

Following several iterations of the data it was established by the scree test what number of factors to retain for rotation. The scree test is based upon change in proportion of variance accounted for by each factor. Six factors were retained.

The six factor Verimax solution is presented in Table XXXIII. The table indicates the variables contributing to the factor, the test from which each emerged, and the "loading" or correlation between variable and factor. For practical purposes only those variables which contributed + or - .50 to the factor will be further noted. A detailed description of variables citing those retained and rejected, factor loadings for all variables, and the proportion of variance accounted for by each factor are


12Ibid., p. 4.

13The term scree refers to "the straight line of rubble and boulders which forms at the pitch of sliding stability at the foot of a mountain." By analogy, the scree test assists in the separation of non-trivial common variance (NCV) from trivial common variance. Ibid., p. 249.


15On Factors 5 and 6 the criterion was lowered to + or - .40 in order to allow all factors to have a minimum of five component scales.
<table>
<thead>
<tr>
<th>Factor 1: Constriction</th>
<th>Factor 2: Ascendancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constraint-Express. (AI)*</td>
<td>Aspiration Level (CCI)</td>
</tr>
<tr>
<td>0.7240</td>
<td>0.7378</td>
</tr>
<tr>
<td>Self Control (CPI)</td>
<td>Tolerance (CPI)</td>
</tr>
<tr>
<td>0.5270</td>
<td>0.7334</td>
</tr>
<tr>
<td>Authoritarian (AI)</td>
<td>Intellect. Effic. (CPI)</td>
</tr>
<tr>
<td>0.5240</td>
<td>0.6598</td>
</tr>
<tr>
<td>Dominance (CPI)</td>
<td>Psych. Minded. (CPI)</td>
</tr>
<tr>
<td>-0.5295</td>
<td>0.6471</td>
</tr>
<tr>
<td>Friendliness (AI)</td>
<td>Student Dignity (CCI)</td>
</tr>
<tr>
<td>-0.5793</td>
<td>0.5993</td>
</tr>
<tr>
<td>Self Assertion (AI)</td>
<td>Achiev-Indep. (CPI)</td>
</tr>
<tr>
<td>-0.6073</td>
<td>0.5810</td>
</tr>
<tr>
<td>Sensuousness (AI)</td>
<td>Verbal-Board (CEEB)</td>
</tr>
<tr>
<td>-0.6135</td>
<td>0.5726</td>
</tr>
<tr>
<td>Sociability (CPI)</td>
<td>Flexibility (CPI)</td>
</tr>
<tr>
<td>-0.6894</td>
<td>0.5467</td>
</tr>
<tr>
<td>Social Presence (CPI)</td>
<td>Capacity-Status (CPI)</td>
</tr>
<tr>
<td>-0.6982</td>
<td>0.5352</td>
</tr>
<tr>
<td>Social Acceptance (CPI)</td>
<td>Orderliness (AI)</td>
</tr>
<tr>
<td>-0.7399</td>
<td>-0.5080</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 3: Anomie</th>
<th>Factor 4: Goal Directedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility (CPI)</td>
<td>Intellect. Intr. (AI)</td>
</tr>
<tr>
<td>0.5402</td>
<td>0.8888</td>
</tr>
<tr>
<td>Good Impress (CPI)</td>
<td>Educbility (AI)</td>
</tr>
<tr>
<td>-0.5134</td>
<td>0.8710</td>
</tr>
<tr>
<td>Communality (CPI)</td>
<td>Applied Intr. (AI)</td>
</tr>
<tr>
<td>-0.5177</td>
<td>0.8055</td>
</tr>
<tr>
<td>Orderliness (AI)</td>
<td>Audacity-Timid. (AI)</td>
</tr>
<tr>
<td>-0.5424</td>
<td>0.7695</td>
</tr>
<tr>
<td>Sense Well-Being (CPI)</td>
<td>Motivation (AI)</td>
</tr>
<tr>
<td>-0.5655</td>
<td>0.6920</td>
</tr>
<tr>
<td>Self-Control (CPI)</td>
<td>Acad.Achiev. (SVIB)</td>
</tr>
<tr>
<td>-0.6548</td>
<td>0.5597</td>
</tr>
<tr>
<td>Responsibility (CPI)</td>
<td>Authoritarian (AI)</td>
</tr>
<tr>
<td>-0.7399</td>
<td>0.5403</td>
</tr>
<tr>
<td>Socialization (CPI)</td>
<td></td>
</tr>
<tr>
<td>-0.7433</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 5: Pessimism</th>
<th>Factor 6: Compliancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work-Play (CCI)</td>
<td>Submissiveness (AI)</td>
</tr>
<tr>
<td>0.4749</td>
<td>0.7062</td>
</tr>
<tr>
<td>Academic Climate (CCI)</td>
<td>Closeness (AI)</td>
</tr>
<tr>
<td>-0.6424</td>
<td>0.7004</td>
</tr>
<tr>
<td>Aspiration Level (CCI)</td>
<td>Academic Achievement (CCI)</td>
</tr>
<tr>
<td>-0.7093</td>
<td>0.5155</td>
</tr>
<tr>
<td>Social Form (CCI)</td>
<td>Academic Organization (CCI)</td>
</tr>
<tr>
<td>-0.7324</td>
<td>0.4598</td>
</tr>
<tr>
<td>Group Life (CCI)</td>
<td>Good Impress. (CPI)</td>
</tr>
<tr>
<td>-0.7709</td>
<td>0.4115</td>
</tr>
<tr>
<td>Intell. Clim. (CCI)</td>
<td></td>
</tr>
<tr>
<td>-0.7894</td>
<td></td>
</tr>
<tr>
<td>Self-Expression(CCI)</td>
<td></td>
</tr>
<tr>
<td>-0.7955</td>
<td></td>
</tr>
</tbody>
</table>

---

1. *n* preceding scale name refers to used scale component as a need.
2. *p* preceding scale name refers to press for component to which scale name refers.

Initials in parentheses refer to tests in which scales originated: AI, Activities Index; CPI, California Personality Inventory; CCI, College Characteristics Index; CEEB, College Entrance Examination Board; SVIB, Strong Vocational Interest Blank.
presented in Table XXXIV.

Names designating each factor were arbitrarily assigned and based upon subjective interpretation. Factor names must be considered as tentative, only an attempt to illustrate the essence of the factor. The factors are essentially domain correlations and, while they may represent a psychological reality, it is also possible that the correlations were purely a function of mathematics.

Identification of the Typology

Using the six factors derived it was now possible to obtain scores on each of the factors for every individual in the Charter Class. Horn's method #1 was utilized. The procedure is parallel to that used in the O-type components of the BC TRY system. The factor score matrix was divided using the standard deviation as the unit of partition. Clustering of partitions was begun on the basis of the similarities of profiles of mean factor scores. New centroids (averages) were formed by successive

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16 Kerlinger, op. cit., p. 683.

17 Tryon and Bailey also state, "Factors are any place in the configurations that one may want to run an axis through . . . It is therefore quite seriously misleading to call any such arbitrarily-placed dimension an "underlying" factor, as if its position refers to some deep-seated biological, social or psychological 'cause' or 'source' trait. To be sure, such a dimension may refer to such an entity, but there is absolutely no basis inherent in the procedures of factoring to justify such an inference. Evidence on causation must come from other sources than mere procedures of factoring correlations." Tryon and Bailey, op. cit., p. 48.

## TABLE XXXIV

LOADING OF VARIABLES IN SIX FACTOR VERIMAX SOLUTION

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>(1) Work-Play</td>
<td>0.390</td>
</tr>
<tr>
<td>(2) Non-Vocational Climate</td>
<td>0.070</td>
</tr>
<tr>
<td>(3) Aspiration Level</td>
<td>-0.132</td>
</tr>
<tr>
<td>(4) Intellectual Climate</td>
<td>-0.078</td>
</tr>
<tr>
<td>(5) Student Dignity</td>
<td>0.116</td>
</tr>
<tr>
<td>(6) Academic Climate</td>
<td>0.006</td>
</tr>
<tr>
<td>(7) Academic Achievement</td>
<td>0.163</td>
</tr>
<tr>
<td>(8) Self-Expression</td>
<td>-0.194</td>
</tr>
<tr>
<td>(9) Group Life</td>
<td>-0.018</td>
</tr>
<tr>
<td>(10) Academic Organization</td>
<td>-0.038</td>
</tr>
<tr>
<td>(11) Social Form</td>
<td>-0.206</td>
</tr>
<tr>
<td>(12) Self-Assertion</td>
<td>(-0.607)</td>
</tr>
<tr>
<td>(13) Audacity-Timidity</td>
<td>-0.284</td>
</tr>
<tr>
<td>(14) Intellectual Interests</td>
<td>-0.076</td>
</tr>
<tr>
<td>(15) Motivation</td>
<td>-0.228</td>
</tr>
<tr>
<td>(16) Applied Interests</td>
<td>0.083</td>
</tr>
<tr>
<td>(17) Constraint-Expressiveness</td>
<td>(0.724)</td>
</tr>
<tr>
<td>(18) Diffidence-Egoism</td>
<td>0.341</td>
</tr>
<tr>
<td>(19) Orderliness</td>
<td>0.267</td>
</tr>
<tr>
<td>(20) Submissiveness</td>
<td>-0.065</td>
</tr>
<tr>
<td>(21) Closeness</td>
<td>-0.345</td>
</tr>
<tr>
<td>(22) Sensuousness</td>
<td>(-0.613)</td>
</tr>
<tr>
<td>(23) Friendliness</td>
<td>(-0.579)</td>
</tr>
<tr>
<td>(24) Educability</td>
<td>-0.000</td>
</tr>
<tr>
<td>(25) Authoritarianism</td>
<td>(0.524)</td>
</tr>
<tr>
<td>(26) Board Scores, Verbal</td>
<td>0.043</td>
</tr>
<tr>
<td>(27) Board scores, Mathematics</td>
<td>0.424</td>
</tr>
<tr>
<td>VARIABLES</td>
<td>FACTORS</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>(28) Dominance</td>
<td>-529</td>
</tr>
<tr>
<td>(29) Capacity for Status</td>
<td>-430</td>
</tr>
<tr>
<td>(30) Sociability</td>
<td>-689</td>
</tr>
<tr>
<td>(31) Social Presence</td>
<td>-698</td>
</tr>
<tr>
<td>(32) Self-Acceptance</td>
<td>-739</td>
</tr>
<tr>
<td>(33) Sense of Well-Being</td>
<td>-088</td>
</tr>
<tr>
<td>(34) Responsibility</td>
<td>055</td>
</tr>
<tr>
<td>(35) Socialization</td>
<td>-072</td>
</tr>
<tr>
<td>(36) Self-Control</td>
<td>(527)</td>
</tr>
<tr>
<td>(37) Tolerance</td>
<td>-015</td>
</tr>
<tr>
<td>(38) Good Impression</td>
<td>209</td>
</tr>
<tr>
<td>(39) Communality</td>
<td>-202</td>
</tr>
<tr>
<td>(40) Achievement via Conform.</td>
<td>-202</td>
</tr>
<tr>
<td>(41) Achievement via Independ.</td>
<td>205</td>
</tr>
<tr>
<td>(42) Intellectual Efficiency</td>
<td>-352</td>
</tr>
<tr>
<td>(43) Psychological Mindedness</td>
<td>-382</td>
</tr>
<tr>
<td>(44) Flexibility</td>
<td>129</td>
</tr>
<tr>
<td>(45) Femininity</td>
<td>-213</td>
</tr>
<tr>
<td>(46) Academic Achievement</td>
<td>098</td>
</tr>
<tr>
<td>(47) Masculinity-Femininity</td>
<td>179</td>
</tr>
</tbody>
</table>

| Proportion of Variance        | 119     | 122      | 108      | 109      | 096      | 063      | 620      |          |          |

*aLeading zeros and decimal points have been omitted.*

*bVariables enclosed within parentheses are those which are the defining components for each factor.*
iterations which continued until the points did not change in their reassignment to $O$-types. The procedure was "essentially a program of 'pattern recognition' that discovers a pattern of clusters if such a pattern exists in the cloud of individual points in the score space."\(^{19}\) And, in general, "when there is a clear cluster structure, the $O$-type component of the BC TRY finds it."\(^{20}\)

Table XXXV presents the resulting typology and the mean factor scores for each typological group. One individual was identified whose pattern of scores was so divergent from the pattern of any of the types that he could not be correctly placed in any one of the groups; he is termed a "uniquer." Figure 4 presents the same data as in Table XXXV but in graphic form for visual comparison. It may be observed that the factoring allowed for maximum separation of the groups on the various factors.

The titles assigned to each typology were arbitrary, based upon interpretation of the common thread of meaning represented by the component factor loadings. The term "Reasonable Adventurers" was borrowed from Heath who found in his research a group of students which he characterized by this title. He described Reasonable Adventurers in the following manner:

(1) Ego functioning: integrative; (2) Reactivity: appropriate; (3) Common defense: reasoning; (4) Attitude toward instinctual self: accepting; (5) Regnant motive: to explore; (6) Problem: frontier; (7) Impression on others: independent, sensitive, playful, compassionate; (8) Characteristic utterance: "If only, then--"\(^{21}\)

\(^{19}\)ibid., p. 14.
\(^{20}\)ibid., p. 20.
### TABLE XXXV

**MEAN FACTOR SCORES OF ARBITRARY TYPES DESCRIPTIVE OF FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967**

<table>
<thead>
<tr>
<th>Mean Factor Scores</th>
<th>Type I (n 17)</th>
<th>Type V (n 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&quot;Moderates&quot;</td>
<td>&quot;Nay-sayers&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.504</td>
<td>Compliancy (6)</td>
<td>1.561</td>
</tr>
<tr>
<td>-0.391</td>
<td>Constriction (1)</td>
<td>0.169</td>
</tr>
<tr>
<td>-0.404</td>
<td>Goal Directedness (4)</td>
<td>-0.398</td>
</tr>
<tr>
<td>-0.581</td>
<td>Anomie (3)</td>
<td>-0.542</td>
</tr>
<tr>
<td>-0.588</td>
<td>Pessimism (5)</td>
<td>-0.780</td>
</tr>
<tr>
<td>-0.844</td>
<td>Ascendancy (2)</td>
<td>-1.590</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type II (n 9)</th>
<th>&quot;Cosmopolitans&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.961</td>
<td>Ascendancy (2)</td>
</tr>
<tr>
<td>0.782</td>
<td>Pessimism (5)</td>
</tr>
<tr>
<td>-0.429</td>
<td>Goal Directedness (4)</td>
</tr>
<tr>
<td>-0.457</td>
<td>Constriction (1)</td>
</tr>
<tr>
<td>-0.523</td>
<td>Compliancy (6)</td>
</tr>
<tr>
<td>-0.698</td>
<td>Anomie (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type III (n 10)</th>
<th>&quot;Anomies&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.962</td>
<td>Anomie (3)</td>
</tr>
<tr>
<td>0.242</td>
<td>Ascendancy (2)</td>
</tr>
<tr>
<td>-0.066</td>
<td>Pessimism (5)</td>
</tr>
<tr>
<td>-0.449</td>
<td>Constriction (1)</td>
</tr>
<tr>
<td>-0.630</td>
<td>Compliancy (6)</td>
</tr>
<tr>
<td>-1.059</td>
<td>Goal Directedness (4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type IV (n 23)</th>
<th>&quot;Reasonable Adventurers&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.024</td>
<td>Goal Directedness (4)</td>
</tr>
<tr>
<td>0.449</td>
<td>Anomie (3)</td>
</tr>
<tr>
<td>0.273</td>
<td>Ascendancy (2)</td>
</tr>
<tr>
<td>0.031</td>
<td>Compliancy (6)</td>
</tr>
<tr>
<td>-0.167</td>
<td>Constriction (1)</td>
</tr>
<tr>
<td>-0.390</td>
<td>Pessimism (5)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type VI (n 4)</th>
<th>&quot;Fatalists&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.859</td>
<td>Constriction (10)</td>
</tr>
<tr>
<td>-0.810</td>
<td>Ascendancy (2)</td>
</tr>
<tr>
<td>0.720</td>
<td>Pessimism (5)</td>
</tr>
<tr>
<td>0.668</td>
<td>Compliancy (6)</td>
</tr>
<tr>
<td>0.075</td>
<td>Goal Directedness (4)</td>
</tr>
<tr>
<td>-0.861</td>
<td>Anomie (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type VII (n 12)</th>
<th>&quot;Bureaucrats&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total n: 78</td>
<td></td>
</tr>
</tbody>
</table>

Number in parentheses is identification number of factor.
Figure 4

MEAN FACTOR SCORES FOR TYPOLOGICAL DESCRIPTION OF FRESHMEN ENTERING CALLISON COLLEGE FALL 1967
The term "Anomics" for Type III was, insofar as can be ascertained, original. It is the nominal form of the term anomie which refers to a social condition characterized by a general breakdown, or absence, of norms governing groups and individual behavior. or . . . personal disorganization characterized by an individual's feeling of detachment from his society and its norms...22

The designation was not intended to imply psychopathology but to describe individuals whose state of "norm-less-ness" was analogous to that implied in the second half of the definition.

The term "Nay-Sayers" utilized to describe Type V refers to a term drawn from the area of psychometrics. Some individuals are more prone to respond in the negative, "nay," rather than "yea," regardless of the content of the test item. Persons of this proclivity are known as "nay-sayers."23

The titles chosen for the other types: Moderates for Type I, Cosmopolitans for Type II, Fatalists for Type VI, and Bureaucrats for Type VII, would seem to lend themselves readily to interpretation.

SUMMARY: CHAPTER V: PART TWO (a)

Data treatment described in this chapter focused upon the question of heterogeneity within the Charter Class. The specific research question


was whether sufficient variation was observed in the characteristics of
the group members for identification of sub-groups to be attempted, i.e.,
did the Charter Class represent a simple collectivity or was it a more
complex structure made up of several significantly different sub-groups?

The difference between an empirically based typology and a theoreti-
cally based typology was noted. The two major statistical techniques for
developing an empirical typology, factor analysis and cluster analysis,
were cited. The rationale for developing a typology, that of more realis-
tic description of behavior, was provided.

Major statistical treatment of the data were accomplished using
principal components methods of factor analysis. Forty-seven variables
from five different test measures were treated.

The solution produced six factors with loadings of better than +
or − .50. On the basis of the loadings on the component scales the fac-
tors were labeled (1) Constriction, (2) Ascendency, (3) Anomie, (4) Goal-
Directedness, (5) Pessimism, and (6) Compliancy. These factors accounted
for 62 per cent of the variance in the data pool.

Each member of the Charter Class was rescored using his original
data now reorganized into the above six factors. These scores underwent a
succession of iterations until a clear cluster structure appeared. These
structures represented a typology with seven categories. The factoring
process had allowed for maximum separation of groups on the various factors.

On the basis of factor loadings the types were titled "Moderates,"
"Fatalists," and "Bureaucrats." Only one member of the Charter Class was a
"uniquer," that is, unable to fit into any one of the typological groups.
The varying pattern of factor loading for each type was described as well as portrayed in graph form.

PRESENTATION OF THE DATA: PART TWO (b)

A CALLISON TYPOLOGY AND THE CHARACTERISTICS OF INNOVATORS

The establishment of an empirically derived typology for members of Callison's charter class was not an end within itself; a typology is only a means to an end.

The basic criterion of the 'reality' of any construct, any factor, is its empirical scientific 'reality.' If, after uncovering a factor, we can successfully predict relations from theoretical presuppositions and hypotheses, then the factor has 'reality.'

The Cultural Context of Innovators

The following concepts should be regarded as contributing rather than necessary causes in the cultural context of persons who are innovative. Seven concepts will be presented: Accumulation of Ideas, Concentration of Ideas, Collaboration of Effort, Expectation of Change, Traditional Sources of Authority being non-functional, Competition of Rivals, and Deprivation of Essentials.

A. Accumulation of Ideas. This concept is only a gross screen and it was assumed to apply to the entire class. Accumulation of ideas

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refers to the complexity of a society's cultural inventory\textsuperscript{25} and is only used to indicate that complex societies have more conceptual tools to utilize in innovation than do simple societies.

B. Concentration of Ideas. Having access to sources of information about innovations or persons involved in innovation tends to increase an individual's innovative potential.\textsuperscript{26} It was assumed that either a prior interest in experimental colleges or interest in an overseas educational experience might be the features which attracted an individual to Callison.

A majority (78\%) of the Charter Class were residents of the State of California. Since 1965 the State's universities, particularly on the Berkeley campus, had been the scene of demonstrations and resulting self-searching and self-criticism. When the University of California's campus, Santa Cruz, opened in 1965 its publicity emphasized innovation, individualized education, et cetera. During their last two years of high school it would have been virtually impossible for most members of the Charter Class to have been unaware of issues of educational reform and innovation. Although out-of-state students accounted for 50 per cent of the Anomies and 29 per cent of the Moderates, it is unlikely, because of widespread national publicity that the out-of-state students would have been unaware of the questions raised by the protests.

Concentration of Ideas was also facilitated by the proximity of


\textsuperscript{26}Ibid., p. 41; Everett M. Rogers, Diffusion of Innovations (Glencoe, Illinois: The Free Press, 1962), p. 111.
many freshmen's hometowns. Because 25 per cent of the freshmen hometowns were within one hundred miles of Stockton, it was logical to assume that many of the students would have been aware of Raymond College, University of the Pacific's original cluster college. During its early years Raymond College received considerable publicity as an innovative college and was frequently contrasted with the large state colleges and universities, especially those experiencing disturbances. In the minds of the potential students and their parents, Raymond College may have served as a catalyst for their interest in the Callison program.

Concentration of Ideas could also have been enhanced by overseas travel which led the student to develop interest in travel in general or specific cultures.\textsuperscript{27} 74 per cent of the Callison Charter Class had been outside the continental United States. The Fatalists had no overseas travel experience whatsoever but every member in the Anomies group had at least traveled outside the country. Residing outside the country of one's nationality would seem even more conducive to developing an interest in internationalism. The Reasonable Adventurers (Type IV) had the highest percentage of members who had resided overseas (32%).

C. Collaboration of Effort. Concentration of Ideas may remain in the realm of the theoretical but Collaboration of Effort requires interaction

\textsuperscript{27}The term "overseas travel" was simply used for convenience. Data collecting instrument (Callison Personal Data Sheet) noted all travel out of the boundaries of the United States. Trips of short duration, or to sites in Canada or Mexico, were scored as "minimal" while trips requiring longer periods of time or travel over a wider range of territories were scored as "extensive."
with other persons who are involved with an innovation. There was little
evidence to indicate that students sought to enter Callison because they
felt it would enable a collaboration of effort with other like-minded indi-
viduals. Five per cent indicated their major influence in deciding to
attend this college was because "Most students are like me" and 9 per cent
indicated the major factor influencing them was the fact that they had
friends attending this college (ACE). Both of these reasons were very low
in the ranking of reasons for attending; thus it did not appear that they
were seeking to associate with like-minded peers. It is possible that, in
seeking a program which provided certain qualities which they valued, they
collaborated with experts to facilitate admission to an innovative program.
The Callison freshmen cited "Graduate or Other College Representative"
(18%) and "High School teacher or Counselor" (20%) as having been major in-
fluences to attend this college. Both college representatives and high
school teachers might be considered as technical or specialized experts,
upon whom the students relied. Collaboration of effort also entails the
possibility of community support. In this case it was assumed that the
citing of "Parent or Other Relative" as a major influence, especially in
view of the educational level of the parents, would be interpreted as col-
laboration in the intention to innovate.

Although it was assumed that each Callison freshman both anticipated
and experienced some Collaboration of Effort regarding his collegiate
choice, the quality of this effort should be noted because it is likely to
be a very different style of collaboration for the differing typological
groups. The Bureaucrats (VII) and the Moderates (I) could be presumed on
the basis of their Compliancy score to have attempted to find a "proper" or "approved" manner in which to proceed and then collaborated as organizers in that direction. (Table XXV, p. 195.) Reasonable Adventurers (IV) with their moderate degree of compliancy would have collaborated if it suited their purposes (Goal Directedness) but also had sufficient self-confidence (Ascendancy) and lack of conventional orientation (Anomie) that they would not have collaborated simply for the sake of being cooperative. Similarly the Cosmopolitans would likely collaborate only if it suited their purposes; they were sufficiently self-assured and aware of their own values (negative loading on Anomie) that they did not need any psychic rewards which might come for compliancy. The Fatalists and Anomics might become involved in a collaboration of effort simply because it was a course of least resistance rather than from any conviction of purpose or optimism regarding success. Finally the position of the Nay-Sayers on collaboration of effort illustrated an important source of innovation. The Nay-Sayers were assumed to be highly prone to discontent and harsh feelings of envious distinction. They might collaborate, even innovate, in order to obtain redress for a sense of deprivation, but they would not do so out of either optimism or idealism.28

D. Expectation of Change. It must be assumed, by virtue of having elected to participate in Callison's Charter Class that all of the freshmen held a positively valued attitude toward innovation. Their decision to participate in an innovative experiment testified to their pro-innovative

28 Barnett, op. cit., p. 80.
stance. For purposes of this research, however, it became important to identify the personal qualities which they brought to the innovative setting. Some freshmen may have been motivated to experience change out of a deep sense of frustration or dissatisfaction with themselves; others sought out a change-producing situation simply out of interest or curiosity or desire for the stimulation of change. It was highly probable that these two divergent motivations would reflect markedly different psychological makeup and self-concept.

Two factors contributing to the typology, Ascendancy and Pessimism, were assumed to be primarily related to the degree to which one could anticipate change. The Ascendancy factor contains scales which imply an expectation of a press for high aspiration as well as the presence of self-descriptive factors positively correlated with openness to change, such as Tolerance, Psychological Mindedness, Achievement-via-Independence, and Flexibility. The Pessimism factor, by contrast, is made up of scales descriptive of collegiate expectations all of which have a negative loading, that is, the student did not expect to be provided with opportunities for Self Expression, a distinctive Intellectual Climate, the togetherness implied in Group Life, etc.; his expectations are altogether negative. It was assumed that if a freshman came to college with pessimistic expectations, his chances for change were less than those who came with optimistic expectations.29

29Supra Ch. IV, footnote 18 for definition of "self-fulfilling prophecy."
Reasonable Adventurers (Type IV) illustrated a type whose cultural context had allowed them to develop a pro-innovative orientation. They were moderately high on Ascendancy, allowing for the supposition of necessary ego-strength and self-confidence, and low on Pessimism, that is, high in their expectations of positively valued experiences in college. The Anomics (Type III) illustrated another group with comparatively high change potential. While they were neither as self-confident nor optimistic as the Reasonable Adventurers, their other qualities all were arranged in such a manner as to suggest openness to change, although in a more muted, less dramatic fashion than the Reasonable Adventurers. The Anomics simply did not have any built-in values or orientations which would interfere with change.

Both the Moderates and the Nay-Sayers illustrated a different orientation toward change. Both groups indicated high expectations of their collegiate experience and both scored on the Ascendancy factor in a range that led to the interpretation of low-self confidence and the lack of pro-innovative qualities. It seemed highly probable that these two groups had sought out an innovative setting in the hopes of achieving some change in themselves. The high Constriction score and the low Compliancy score of Nay-Sayers would suggest that they would have great difficulty in achieving any personal change which would result in long-range personality modification. They might, however, have become associated with an innovation in the category of dissidents who are classified as early acceptors of an innovation. Barnett cites the defining quality of these individuals as "negativism."
They are independent, sensitive, tortured, and alone. Their *a priori* rejection of a group norm leaves them unhappy because they have nothing to take its place. . . . They feel "left out"; and regardless of whom they blame, themselves or others, they would welcome some answers to their wants other than those that are available to them. They would like to be sociable save for what sociability entails. They would prefer to love and to be loved if they could give affection and have it on terms other than those that are expected of them.30

The Moderates clearly perceived themselves as inadequate but held high expectations for their collegiate experience. Their Compliancy score implied, however, that they were more likely to be able to tolerate and fit into an innovative setting than were the Nay-Sayers. Although their self-perception was low (the second lowest of all the types) demographic data suggests that they have had extensive leadership and academic success.31

The Moderates were more likely to fill the role of Advocates, persons who publicize an innovation and who often fill a more socially crucial role in the survival of the innovation than does the actual innovator.32

The Cosmopolitans and the Bureaucrats appeared to be groups which sought out the experimental college for personal reasons, but neither group appeared to be seeking personal change. Both groups illustrated

30Barnett, op. cit., p. 382.

31The Moderates scored a higher percentage than did any of the groups on citing Activity in Student Government (53%) and Membership in Scholastic or Honor Societies (82%). This information was derived from the Callison Personal Data Sheet.

32Technically all the Callison freshmen were advocates, or early acceptors, rather than innovators. The focus of this research was not the innovation of the cluster college concept but the social innovation of Callison as a collegiate organization.
comparatively well-organized personality structures. They were both high in self-confidence (Ascendancy) and low in their expectation of what the collegiate situation would provide for them (Pessimism). Both described themselves as having well-functioning values based on rather conventional values and behaviors (negative loading on Anomie). The Bureaucrats however had incorporated an ideology based upon doing what was necessary in order to "succeed." The Bureaucrats had learned a means of success, that of compliancy and, probably, hard work; the goal per se was not as important to these persons as instrumental success (Factors Goal Directedness and Anomie). Their choice of an experimental college with an overseas program likely fit some pre-conceived plan which they intended to follow with diligence; there was little reason to assume that they anticipated personal change or were unusually concerned with social change. The Cosmopolitans, on the other hand, were unlikely to become highly involved in change because they felt little or no personal need for change. They knew their values and were self-confident. Both their score on Pessimism and their negative score on Compliancy suggested that they did not need outside sources; they were self-reliant. There was little in the data to suggest that the Cosmopolitans were seeking change. They might however have been seeking out an experimental or innovative setting primarily for its novelty appeal.

E. Traditional sources of authority in disequilibrium or non-functional. It was assumed that all members of the charter class were effected by the disruption of collegiate institutions that occurred
following 1964. For students whose parents had collegiate experience it was assumed that the demonstrations and destruction were more likely to be perceived as representing threats to established sources of authority. Among the mothers of the charter class members 39 per cent held college or post-graduate degrees and among the fathers of the group 60 per cent held these degrees. (A.C.E.)

Other indications of disruption of traditional authority sources were noted. The most prominent was the frequency with which freshmen indicated that they, or their parents, are not affiliated with traditional organizations. In citing parental political affiliation, students cited "Other/or None," in preference to "Democratic" or "Republican," in 22 per cent of the cases for father's and 22 per cent of the cases for mothers. In citing their own Political Preferences, the trend was even more apparent. Either "none" or an adjective descriptive of a political stance (such as "New Left" or "Independent") was written in by 55 per cent of the freshmen. The pattern of disaffection with Establishment is further

33Demonstrations beginning in October 1964 at the University of California, Berkeley, are cited as having initiated the "Age of Protest." Mayhew states, "Above all, students personified most clearly the mood of public disillusion about higher education. Protest which began in 1964 over matters of free speech gradually increased in range and intensity so that by 1969 some of the more militant students could believe that higher education was so bad that it should be destroyed, while more moderate students insisted that the size, curriculum, system of governance and priorities were wrong and should be changed quickly while there was yet time." Lewis Mayhew, "And Now the Future," 1945-1970: Twenty-five Years (San Francisco: Jossey-Bass Inc., p. 310 and p. 317.

34"Establishment" in this context is used to mean "existing power structure in society, a field of endeavor ... institutional authority ..." as cited in Random House Dictionary of the English Language, unabridged edition (New York: Random House, 1969), p. 487.
illustrated by comparing citations for Religious Background with citations for Present Religious Preference. (Table II, p. 149.) Religious background indicated as "Other" or "None" accounted for 22 per cent of the group while the percentage jumped to 46 per cent when present religious preference was indicated.35

It should not be interpreted that disaffection with traditional sources of authority was a consistent phenomenon within the Charter Class. As might be expected on the basis of their late-adolescent developmental status, there was a curious admixture of dependence and iconoclastic stances. The curious inconsistency is illustrated by the 85 per cent agreement that "Faculty should make curriculum" and the 74 per cent agreement that "Faculty pay should be based upon student evaluations." The data did not suggest that the inconsistency was a new phenomenon, possibly related to the freedom accorded by an undefined situation. The students indicated that during high school they had "Argued with a teacher in class" (80%), "Participated in Demonstrations" (40%) -- iconoclastic positions -- while they also "Asked Teacher for Advice" (28%), "Had Vocational Counseling" (48%), and "Was Guest in Teacher's Home" (69%) -- positions which would not be interpreted as iconoclastic. (A.C.E.)

The difference between typological groups was more clear with regard to relationship to sources of authority than it was with regard to any

35The "losses" are primarily accounted for with the drop in the number citing Protestant preference. Roman Catholics did not drop in percentage and students citing Jewish preference dropped only 1.5 per cent.
other factor in the cultural context. A negative, or low, score on Anomie suggested that an individual saw himself positively with regard to conformity as a means of achievement, socialization, responsibility, self-control, etc. He had incorporated much of society's middle-class expectations within his self-concept. Both the Moderates and the Bureaucrats scored on the Anomie factor in such a way as to indicate that they had incorporated conventional sources of authority although they both did so with such a degree of Constriction or Compliancy that there was an implication of submission to an authority source perceived as stronger than themselves. The Cosmopolitans, on the other hand, had the negative scoring on Anomie, that is, they described themselves as having accepted and incorporated certain conventional standards but their high score on Ascendancy and low scores on Constriction and Compliancy implied that theirs was a position of choice rather than one of constraint. The Cosmopolitans appeared to rely upon inner-directed standards and to do so with a confidence that suggested this was an orientation which they have held for some time, one with which they were comfortable and which they took for granted.

Reasonable Adventurers described themselves as comparatively unconventional (high Anomie) but this stance was supported by a strong sense of direction (Goal Directedness) as well as adequate self-confidence (Ascendancy).

The difference between the Anomies and the Nay-Sayers illustrated characteristic stances in relationship to society's authority sources. The Anomies scored as a bland group of individuals; they held no strong, direction-giving values nor did they have specific goals or specific
animosities to give them direction. They were moderately resistant to compliancy with any conventional sources. The Nay-Sayers, on the other hand, were strongly uncompliant, constricted individuals; they were characteristically against any imposed authority, regardless of source. Both the Anomies and the Nay-Sayers may be regarded as deviants, and likely to be functioning in general society only with difficulty. Their association with innovations was likely to be in revolt against established patterns rather than in support of or in cooperation with any group of other persons.

F. Competition of Rivals. Competition of rivals as a stimulus to innovation is a theory consistent with the Economic Man theory and found most frequently in the field of economics or business. It may be regarded as a contributing factor in some innovations but should not be interpreted as a necessary cause or major force in the majority of innovative occurrences.

Within the data gathered on the Charter Class there were no measures bearing a direct relationship to competitiveness as a personality characteristic or extent to which rivalry may have been a stimulus to become involved in an experimental college.

Neither the Admissions personnel nor the public relations literature described admission to Callison College in a manner likely to arouse competitive or rivalrous feelings. Admissions personnel recruited for

36 Barnett, op. cit., p. 72.

37 Conversation: Dean of Admissions Elliott Taylor.
all units within the university. Neither was there any requirements for admissions to Callison which did not apply to the rest of the university. Furthermore, acceptance of a student made him eligible to attend any college within the university. There appeared little threat that any potential Callison student would be prevented from attending college is not accepted by University of the Pacific. Only 11 per cent of the freshmen indicated that they made application to no other college; only 5 per cent indicated they had no acceptances from other colleges. (ACE) Draft deferment regulations at the time made many of the males feel it imperative that they be a college student but no males in the Charter Class were without acceptances from other colleges and 10 per cent had acceptances from as many as four other colleges. Therefore, it must be assumed that choice to attend Callison was based upon features distinctive to Callison rather than upon prestige or presumed difficulty of admission.

The sort of competition which leads one to seek a non-traditional solution may derive from a long-term characterological orientation. It is entirely plausible that one of the important motivating features which brought students to Callison was the perception that it was not intended to be a competitive environment. The college founders have speculated that many students associated an India-related-curriculum with Ghandian ideology; to this they added their current strong convictions regarding non-violence and anti-Vietnam sentiment. The fact that Callison program was described as one in which the student was expected to participate on a one-to-one basis with his professors may have been interpreted as meaning the program was non-competitive, non-authoritarian, and non-judgment-
tal. 38

If one hypothesizes that pro-innovativeness is stimulated by the necessity of competing with rivals, then one might anticipate that middle children within a family constellation would be more innovation-prone. Thirty-two per cent of the Charter Class were "middle children." There were no "middle children" in the Cosmopolitan group; every other group had a statistically significant higher percentage of "middle children." 39 The Cosmopolitans, the group with no "middle child experience," was also the group with the highest factor score on Ascendancy should not be ignored. The group with the highest percentage of "middle child experience" was the Nay-Sayers, but they were not significantly different from any of the other groups except the Cosmopolitans.

Participation in a Sports Activity might be regarded as an experience which by its emphasis upon competition inclines an individual to be pro-innovative. But no one of the typological groups differed significantly from any of the others in degree of sports activity.

38 The substitution of term letters for a conventional grading system, the absence of pre-determined disciplinary codes and student government, and emphasis upon interplay between faculty and students were factors potentially contributing to the perception of the program as non-authoritarian, etc. The following statements made by Provost Jackson in his initial speech to the Charter Class provided support for this perception: "Interplay between faculty and students is required to correctly solve issues regarding Callison's program;" "We expect students to demand rational explanations of any rules, etc." "We hope the Callison community might become a community where human beings are willing to support one another." /emphases were Provost Jackson's/.

39 The difference from Anomies, Reasonable Adventurers, and the Nay-Sayers was significant at the .01 level of significance; the difference from the Moderates, the Fatalists, and the Bureaucrats was significant at the .05 level.
The data here presented cannot definitively illustrate the related, or non-relatedness, of competition as a stimulus to innovation. It would seem a more likely interpretation that those rivals whose psychological impact was sufficient to incline an individual to innovation would be those whose relationship had a highly idiosyncratic basis, the rivalry being distinctive or peculiar to the relationship rather than a general feature descriptive of many innovators.

G. Deprivation of Essentials. Deprivation of essentials like Competition of Rivals is another theory which may apply in gross situations, such as national disaster or crisis, but on an individual basis is not highly correlated with psychological data. The kind of deprivation which might predispose an individual to innovation are likely to be highly personalized, not applicable to all members of a single typology.

It seemed highly probable that the high level of Constriction which characterized Nay-Sayers could have been the result of a psychological deprivation. This type was noted since it carried the implication of more intrasigence than did some of the other types whose characteristics might be modified with maturity and experience. To the extent that psychological deprivation damages an individual it seems likely to interfere with his ability to innovate. He might, however, become associated with an innovation on the basis of his pervasive dissatisfaction and marginal status in society.

Personality Characteristics of Innovators

Cognitive Abilities. Participation in the social innovation of an
experimental college must be related to the cognitive skills of the participants.

The process by which innovations are adopted by individuals is essentially a limited example of how any learning takes place. 40

It was not assumed that the typological groups would differ significantly in their overall intelligence level but that the variance of their psychological makeup, as reflected in the pattern of factor loadings, would imply differing uses of their cognitive abilities.

Each typological group will be discussed with reference to four cognitive abilities: n Abstraction, n Credibility, n Structuralization, and n Creativity. These needs were summarized from reviewing the literature relating to the cognitive characteristics of innovators. Summary tables presented at the beginning of each section will indicate level of need as it compares with that indicated by other groups; no comparison on any absolute standard is implied.

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<th>Cognitive Need</th>
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<td>n Abstraction</td>
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<td>n Structuralization</td>
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<tr>
<td>n Credibility</td>
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<td>n Creativity</td>
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Moderates were assumed to be above average in their n Structuralization.

tion and n Credibility. Their high Compliancy suggested the need to perform tasks in an approved fashion. Organizing materials in such a fashion that rational problem solving could proceed would be characteristic of this group. In like manner they would rely on creditable sources and wish to separate the most authoritative from the less authoritative in order to assure accuracy. The probability of use of rational problem solving and the most creditable resources may be viewed as a means of defense if one considers the low Ascendency score of the Moderates. They described themselves as low on Intellectual Efficiency, Achievement via Independence, but somewhat higher on Orderliness. n Abstraction was interpreted as being a relatively weak need for the Moderates. Their moderate score on Goal Directedness implied lack of strong need for pursuit of Intellectual interests, Applied Interests, or Motivation related to academic need achievement. It is doubtful whether the Moderates would be characterized as having a high n Creativity. Although they were not highly constricted personalities, an orientation which would interfere with creativity, their low score on Ascendency implied a lack of Tolerance, Psychological-Mindedness, Achievement-via-Independence, and Flexibility, all of which would be positively correlated with creativity.

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<th>COSMOPOLITANS</th>
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<td>Cognitive Need</td>
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<td>n Abstraction</td>
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Cosmopolitans were assumed to be higher in n Creativity than in other needs relating to cognitive ability. Both their high Ascendancy score, with its implication of confidence, and their low score on Constriction, the lowest for any of the groups, implied a freedom and a flexibility needed for creativity.

Cosmopolitans need for Structuralization should be assumed to be average on the basis of low Anomie score and mid-range Constriction score. An average level of n Abstraction may be interpreted on the basis of the component scales of Aspiration Level and Intellectual Efficiency which are major contributors to the Ascendancy factor, the factor on which Cosmopolitans scored higher than any other group. The same principle seemed relevant for n Credibility. Cosmopolitans perceived themselves as "winners" (Ascendancy) but it would be on their terms rather than those made by others (low Compliancy). Thus three of the Cognitive needs appeared to be expressed in non-academic settings rather than in pursuit of academic goals (n moderate Goal-Directedness and high Pessimism). Cognitive abilities it appeared were focused in a direction other than that defined as intellectual.

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<th>ANOMICS</th>
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<td>n Structuralization</td>
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<td>n Credibility</td>
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Anomies low scores on Goal Directedness and high scores on Anomie both suggested a lack of structure, one relating to educational pursuits, the other relating to conventional values. The fact that the Goal Directedness score was markedly lower than that of any other group suggested the possibility that the Anomies may have been reacting against any form of structure. Their anti-convention orientation (low Compliancy and low Goal Directedness) would also have led them to prefer an unusual or an original source for facts to a more usual, recognized, or creditable one (n Credibility). The extent of n Abstraction was not clear from these data. It was only clear that abstraction for the Anomies would not likely take place in pursuit of conventional goals or problems. It would be parsimonious to say that there were no data to suggest that the Anomies were not capable of experiencing n Abstraction providing it related to their distinctive goals or objectives. Their n Creativity, however, would be quite high as their negative score on Constriction, high score on Anomie, and the moderate score on Ascendancy imply prerequisite psychological qualities.

REASONABLE ADVENTURERS

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<th>Cognitive Need</th>
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<td>n Abstraction</td>
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<td>n Structuralization</td>
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<td>n Credibility</td>
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Reasonable Adventurers, more than any other type, gave evidence of characterological orientations which would make possible the use of
cognitive abilities toward innovative pursuits. It should be noted that twenty-two of the twenty-three members of this group were females and that females scored significantly higher than males on most of the measures of academic competence. (Table VI, p. 157, and Table VII, p. 159). Reasonable Adventurers were higher than any other type on Goal Directedness, a factor whose component scales include measures of Intellectual and Applied Interests and Motivation as well as the concomitant anticipation of being expected to meet high standards of achievement. n Abstraction and n Credibility were substantiated by the high Goal Directedness score as well as the moderately high Compliancy score. Their score for Anomia, second highest for any of the groups, suggested lack of need for Structuralization. This interpretation was supported by the indications of above average n Creativity. The probability of above average n Creativity was indicated by a low score on Constriction and a moderately high score on Ascendancy. Thus the actual measures of intellectual achievement before college, as well as the pattern of factor scores for Goal Directedness, Constriction and Ascendancy suggested that the Reasonable Adventurers have many of the cognitive abilities which characterize innovators.

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The Nay-Sayers may have had the cognitive resources but personality factors were likely to interfere with their utilization. The very high Constriction score implied a high degree of structure (n Structure) but the possibility of using this structure in the usual manner for rational problem solving was low. Their extreme lack of Compliancy suggested they would have difficulty either following the usual steps for problem solving or utilizing creditable sources; their lack of compliancy would preclude acceptance of sources of authority or direction from others; therefore expression of n Credibility would be low. n Abstraction may have been a part of the Nay-Sayers personality makeup but other factors noted above, plus the lack of intellectual objectives implied in the low Goal Directedness score indicated that other needs were far stronger than n Abstraction. The low score on Pessimism, a factor which includes scales specific collegiate anticipations, reinforced the interpretations that the Nay-Sayers were not responding to n Abstraction, n Structuralization, or n Credibility. What has already been cited regarding the constriction of the Nay-Sayers as well as the negativism implied in organization of other factors--i.e., no indication of positive inclination toward anything--should preclude any presumption of n Creativity.

**FATALISTS**

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<th>Cognitive Need</th>
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<td>n Abstraction</td>
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<td>n Structuralization</td>
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Fatalists appear to have lacked an important incentive for using their cognitive abilities in pursuit of innovation, that is, optimism. Their score on Pessimism implied an over-riding lack of confident anticipation of their collegiate experiences and the extremely low Ascendancy score implied a similar lack of confidence in self. n Abstraction may be interpreted on basis of the factor score on Goal Directedness for all of the groups. Both n Structuralization and n Credibility may be assumed on the basis of mid-range scores on Compliancy and Construction factors. n Creativity must be assumed to be absent or repressed because Constriction, although moderate, considerably exceeded Ascendancy. It must be concluded that although the Fatalists might have had the intellectual resources for developing cognitive skills in Abstraction, Credibility etc. their overwhelming pessimism would have precluded the attempt or led them to failure on the basis of their expectation of failure.

**BUREAUCRATS**

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<th>Cognitive Need</th>
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<td>n Abstraction</td>
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<td>n Structuralization</td>
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<td>n Creativity</td>
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Bureaucrats were likely to meet whatever requirements were designated as the mark of success. They expected to be challenged and perceived themselves as capable of meeting that challenge (Ascendancy). They were, however, highly constricted, highly compliant personalities who must be
assumed to experience high \( n \) Structure and high \( n \) Credibility. Both the Goal Directedness score and the Ascendancy score allowed for the assumption of high \( n \) Abstraction. There was little in the organization of factors for the Bureaucrats to suggest that they would utilize abstraction, structuralization, or credibility except as it met a specific goal designated to bring them tangible reward. The defining quality of this type -- his conventionality (low Anomie) and his constriction (Constriction), counterindications of \( n \) Creativity, did not suggest that his behavior was directed toward meeting his own inner needs but toward compliance with conventional sources of authority.

**Summary of Cognitive Abilities.** Cognitive resources were demonstrated as being more accessible among the Reasonable Adventurers, the Cosmopolitans, and the Bureaucrats than to the other groups. The goals to which these cognitive abilities are directed were likely to be highly divergent between the three groups. Moderates were likely to be adequate, without being brilliant, and expected to rely on conventional means such as good organization (Structure) and creditable sources with little need felt for Creativity. Bureaucrats were likely to be more than adequate, regardless of what standard was set for adequacy, but by dint of effort. Anomies were most likely to achieve best use of their cognitive resources through Creativity; the more structured forms of problem-solving seemed less compatible with their personality makeups. Nay-Sayers and Fatalists were shown to be handicapped in the use of their cognitive abilities by personality and attitudinal factors. It should not be assumed that their resources were less than those of other groups but simply that they were
less available.

**Social and Interpersonal Abilities Conducive to Innovation.** There have been few studies relating adequate measures of personality variables to innovativeness. The personality characteristics related to social and interpersonal abilities have been summarized as n Flexibility, n Individualism, and n Image or Reputation consistent with the innovation (hereafter referred to as n Congruency).

<table>
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<th>Social Needs</th>
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<tr>
<td>n Flexibility</td>
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<td>n Congruency</td>
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Moderates were a very conventional group, one in which high n Individualism would not be anticipated. Espousal of conventional values was implied by their low score on Anomie and by the fact that they were high on the Compliance factor. Their high score on Constriction would counterindicate the assumption of n Flexibility. Their low score on Pessimism factor suggested an optimism toward their collegiate experiences which seemed to imply n Congruence with an educational innovation. The factor scores which relate to Flexibility and Individualism did not imply that the Moderates had, as incoming freshmen, the social skills characteristic of innovators. Neither, however, did they imply a personality so

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41Ibid., p. 178.
fixated that Flexibility and Individualism might not increase.

At the time the Charter Class entered Callison College there was no established collegiate image. The Pessimism factor allowed only for assessing the degree of optimism which the student invested in his collegiate expectations, but not the degree to which his qualities matched those which the institution was to develop. It was possible, however, to identify similarities between typological characteristics and types of innovators. The Moderates appear to be most like the innovators who are Advocates, or Early Adopters. Advocate assets are cited as prestige which in some manner relates to the innovation, personality characteristics not offensive to a wide-range of people, a clientele or large number of persons who would more readily accept his recommendation than that of a stranger, and an ability to convey the impression that the innovation will inevitably become accepted by the majority.42 All of these Advocate characteristics fit the Moderates well.

COSMOPOLITANS

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<th>Social Needs</th>
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The Cosmopolitans were one of the more individualistic of the typological groups (n Individualism). They were self-confident (Ascendancy),

low on Compliance, and did not appear to be relying on the collegiate experience as a source of personal change (Pessimism). Consistent with their lack of collegiate expectation, they did not score high on Goal-Directedness with all of its educationally relevant scales. Their individualism did not, however, imply a lack of concern with social norms; their low-ranking Anomie score suggested rather the possible interpretation of inner-directedness. The Cosmopolitans could not be described as indicating a high n Flexibility although they would hardly be characterized as rigid or constricted (lowest group on Constriction), neither were they anomic or value-less. Their score for Anomie was the next to the lowest for the various types and implied that they perceived themselves as well socialized, responsible, self-controlled, orderly, achieving via conformance, etc.—fairly consistent espousal of middle-class values. This was supported by the values implied in their high Ascendancy score, Tolerance, Psychological Mindedness, expectation of being treated with Dignity, Flexibility, etc.

The extent of Congruency experienced by the Cosmopolitans is questionable. Their moderate level of Goal Directedness and high level of Pessimism (collegiate) suggest that the Cosmopolitans may be responding to the novelty value of an experimental college more than to its specific

43 "Inner directedness," a term coined by David Riesman, indicating a "basic personal orientation characterized by stress on 'good character,' so that the inner directed person internalizes goals and ideas that guide his behavior almost regardless of changing social conditions." Thomas Ford Hoult (compiler), Dictionary of Modern Sociology (Totowa, New Jersey: Littlefield, Adams and Co., 1969), p. 164.
intelectual offerings.

It may be assumed that the Cosmopolitans were Advocates. All of the aforementioned advocate qualities applied. There was, however, an added feature on "novelty characteristics" which related to the innovative potential of the Cosmopolitans. Of all the typological groups they had the highest percentage of participation during high school in International clubs (67%). This experience is consistent with one item relating to acceptance of a novelty (innovation), termed "Meaning" by Barnett.

To be acceptable a novelty must provide some basis for an identification which will permit assimilation or projection to proceed. It must be associated with some previous experience of the acceptor.45

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n Flexibility was the defining quality for the Anomic type. Although they were only moderately high on Ascendancy, they were much lower on Constriction, a defining ratio for Flexibility. On the factors which relate to n Individualism the group scored high (Anomie), that is, they did not describe themselves as conforming to conventional middle-class values; they were low on Compliancy, and very low on Goal Directedness.

44 supra, Ch. II, Section C.
The Anomics appeared to be so individualistic and flexible that they virtually lacked boundaries to provide direction. In this sense they were ideal candidates for association with an innovation. But their n Congruence did not appear to relate to the educational aspects of the innovation, being lowest of the groups on Goal Directedness and only scoring in the moderate negative range on Pessimism, thus suggesting their motivations did not relate to education. Whether their psychological makeup allowed for prolonged association with a project, or the endurance to stay with a project once the novelty had worn off, was a matter open to question.

The factor loadings for Anomics suggested they were very much like the innovator (here separating the innovator as the originator from the early adopters and advocates.) The extent of Anomie and lack of Goal Directedness as well as his lack of Constriction allowed for consideration of the possibility of Venturesomeness, the salient quality of innovators. Innovators are also characterized by participating in cosmopolite social relationships. A higher percentage (40%) of the Anomics than any other group had experienced the greatest rate of homesite moves (five or more). It is plausible that the experience of moving contributed to becoming more cosmopolite.

**REASONABLE ADVENTURERS**

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46*supra*, Ch. II, Section C.

Reasonable Adventurers. Reasonable Adventurers may be characterized by n Individualism if their Anomie score is interpreted as moderately unconventional and their Compliancy score as adequate to smooth the path for social intercourse without implying a passive orientation. With regard to n Flexibility they were characterized by moderate degree of Ascendancy and a lower degree of Constriction, allowing for the interpretation of flexibility. The defining quality for this group was its Goal Directedness, higher than that of any other typological group. These freshmen had clearly defined and educationally relevant goals in the forefront of their objectives. Innovative qualities such as flexibility and individualism would be instrumental, but secondary, to their educational objective. These factors were interpreted as demonstrating a high degree of n Congruence with the Callison innovation.

The fact that all members of the Reasonable Adventurers, except three, were females and represented 42 per cent of the female class population, means that their characteristics were highly relevant in the development of collegiate climate.

The term drawn from the literature on innovation which best describes the Reasonable Adventurers is that of Early Adopters, a group whose salient quality is the respect they receive from their reference group. Early Adopters had a higher degree of opinion leadership than did any of the adopter categories. They were able to serve as role models for other members of their society because they were "not too far ahead of the
average individual." The Early Adopter is said to be the "embodiment of successful and discrete use of new ideas."\(^{48}\)

**NAY-SAYERS**

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<th>Social Need</th>
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<td>n Congruency</td>
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Both n Individualism and n Flexibility were muted in the Nay-Sayers by high levels of Constriction and Compliancy. They did not have the freedom from constriction to experience flexibility. Although their level of Ascendancy was not so low as to necessarily be a major handicap, they did not have the focus on self-worth or confidence which would have allowed them to think in individualistic terms; instead they were focused on relating to forces outside themselves through resistance and negativism. The Constriction and Compliancy scores were so extreme as to imply that most of the individual's psychological energies would be taken up in coping with these variables. The Nay-Sayers indicated more optimism (negative Pessimism score) than did any other group. The fact that this enthusiasm was not necessarily related to specific educational goals (low Goal Directedness) may have indicated the Nay-Sayers were ready for a change, regardless of direction.

More than any other group the Nay-Sayers illustrated one particular mode of innovation. In describing characteristics relevant to acceptance

\(^{48}\)Ibid., p. 170.
of an innovation, Barnett noted that dissatisfaction or unsatisfaction may be pervasive attitudes in some individuals.

Those who manifest such a diffuse attitude of apathy or dissatisfaction tend to be universal acceptors. They are most likely to be the impersonal friends, the reluctant participants, and, if they have the courage, the chronic dissenters and escapists. They are the truly marginal individuals.49

Their commitment to an educational innovation was more likely to be a form of protest against other educational forms and an escape from the imposition of conventional requirements than it was an affirmation of the characteristics of the innovation.

FATALISTS

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<td>n Flexibility</td>
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<td>n Congruency</td>
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Fatalists may be referred to as moderately individualistic, that is, experiencing a moderate degree of n Individualism. Their score on Anomie was mildly non-conformist, and their score on Compliancy was in the negative ranges, implying a resistance to following expected modes of behavior; this may be interpreted as indicative of individualism, although not to any extreme degree. Flexibility, however, was lacking in these individuals, despite only a moderate degree of Construction. The lack of Flexibility and the low Ascendancy appear to be interdependent. The Fatalists may not

have been constricted personalities but they were so unsure of themselves, that they would lack the confidence to attempt an original or novel approach which did not have group sanction. They could not be flexible because they were sure that they would select the wrong path.

Looking at the Fatalists' scores for Goal Directedness, Anomie, Constriction, and Compliancy, they did not appear to be deviant from his fellow students. The fact that their scores on Pessimism were the highest for any group and their score for Ascendancy were the lowest of any group marked Fatalists as a group with crippling lack of optimism. This constellation of scores implied that the Fatalists were not likely to be congruent with this innovation.

In psychological makeup the Fatalists were most like the adopters who are categorized as the "late majority" whose salient characteristic is that of skepticism. They adopt on the basis of economic necessity or social pressure rather than conviction as to the intrinsic value of the innovation. Rogers noted that "The weight of public opinion must definitely favor the innovation before the late majority is convinced." The Pessimism score suggested the Fatalists entered the Callison innovation without yet being convinced!

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50Rogers, op. cit., p. 171.
Individualism Low
Congruency Average

Factor loading scores for the Bureaucrats implied neither n Flexibility nor n Individualism (high Constriction and low Anomie). While they had sufficient self-confidence to be flexible, they did not have the psychological freedom to do so (Constriction). In terms of being non-conformist or non-conventional (Anomie), they scored lower than any of the other types and their Compliancy score was sufficiently high that it was assumed they are more responsive to the expectations of others than to inner needs; thus it could not be assumed that they felt n Individualism. While most of their characteristics do not suggest n Congruence, their high Ascendance score as well as their need to meet the expectations of others suggest that they may be sufficiently responsive to their needs for success as to mold themselves a role within the innovative community.

The category of innovator which most closely parallels that of the Bureaucrats is that of Change Agent. The change agent is a professional person who tries to influence the direction that decisions on adoption will take. This permits the distinction between one who simply introduces change and the innovator who is really the first person within the system to adopt an innovation.

Most change agents are local-level bureaucrats whose access to more

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51 The freshmen were not assumed to be functioning as Change Agents at the time they entered Callison. This categorization simply focuses on the similarities between the characteristics needed to function as a change agent and those input characteristics of Bureaucrats.

cosmopolitan influences allows them to function as a 'linkage' between the local and the cosmopolitan groups. 53

Summary of Social and Interpersonal Abilities of Innovators. Social and interpersonal skills are not summative qualities but ones which are relevant to the objectives and settings in which they are utilized. Thus it must be assumed that the members of the various typologies had differing motivations, goals, and differing anticipations of success toward which they directed their skills. Anomies were the most likely to become the first members of their group to become involved in an innovation; they were highly flexible without strong ties to any setting. Cosmopolitans also were likely to be first members, based on their self-confidence and lack of need for psychic supports. The Moderates and the Reasonable Adventurers and the Bureaucrats were comparable to early innovators, stable working members of an organization whose social skills allowed them to facilitate the success of the program. Fatalists had the social prerequisites to participate as supporting members of an innovation providing their crippling self-doubt did not prevent initial participation. It was possible for Nay-Sayers to contribute to an innovation provided it was directed against an established form; at the point at which the innovation began to take on some degree of continuity, or was threatened by newcomers who wish to change its format, the Nay-Sayers were likely to cease to be

able to participate.  

Intrapersonal or Psychological Characteristics

Although the focus in this research has been primarily upon personality characteristics of a group of students involved in a social innovation, it should be noted that personality characteristics, characteristics of the specific innovation, and characteristics of the persons advocating the innovation are interdependent.

... no one of these components can be treated as if it functioned independently. In reality all three are intimately conjoined and are mutually influential. Variables of all three are present in any concrete instance.

The personality characteristics of innovators, as cited in the literature will be placed in a structure of need patterns and reviewed as follows: n Venturesomeness, n Autonomy, n high degree of emotional cathexis, n Endurance, n Creativity, n Self-Description. Each Callison typological group will be discussed with reference to these characteristics.

It was not assumed that all innovators would possess these characteristics. Rather it is assumed that they would apply differentially depending upon the particular role in an innovation which a person plays.

54This pre-supposition is based on the input data. Should members of the Nay-Sayers change their Constriction and anti-Compliance stance their probability of being contributing members of a social innovation would be modified.


56Hereafter this need will be referred to as n Cathexis but the characteristic implies a higher than average need for cathexis.
or his particular motivation for innovating.

MODERATES

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<th>Intrapersonal Need</th>
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<td>Venturesomeness</td>
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Moderates. By virtue of the caution and moderation with which they dealt with their surroundings, it could not be assumed that the Moderates would generally have been regarded as possessing a marked degree of venturesomeness. While they were neither constricted nor so tied in with specific goals as to have prevented attempting a novelty, their lack of ascendancy suggested they would lack self-confidence to seek out novel paths or solutions. The fact that Compliancy was their highest factor scoring also bears out this interpretation; they were likely to follow others' directions rather than venture into novel territory.

The above interpretation is presented as a general interpretation of venturesomeness. It seems more psychologically consistent, however, to view specific behaviors as venturesome or non-venturesome in terms of the constellation of an individual's other personality characteristic. An act which might be venturesome for a Moderate or a Nay-Sayer might be commonplace and require no degree of venturesomeness from a Cosmopolitan or an
Anomie. Therefore the degree of venturesomeness will be noted in comparison to other typological groups as well as in reference to a group's constellation of characteristics.

For persons with the psychological makeup of the Moderates, especially their low Ascendancy and high Compliance, the choice of an experimental college, particularly for its charter year, was indeed venturesome. In Autonomy could not be presumed as a motivating force for the Moderates in view of their high Compliancy score.

In Endurance cannot be said to be directly measured by any of the factors. The quality of endurance is however psychologically consistent with many of the components of the Anomie factor, that is, Achievement via Conformance, conventional Socialization, Responsibility, Self-Control, Orderliness, etc. Therefore it was assumed that a negative scoring on Anomie implied the possibility of n Endurance.

Moderates may be assumed to have more n Endurance than most of their Callison classmates. Their group ranked third lowest on the Anomie factor implying absence of qualities that would mediate against endurance. Presence of n Endurance was also psychological consistent with their high Compliancy score.

The extent of emotional cathexis which characterizes an individual has a great deal to do with the emotion and energy he has to invest in an

57The Anomie factor consists of these scales expressed in negative form; that is, absence of Achievement via Conformance, lack of Socialization, etc. Thus a negative score on the Anomie factor itself implies affirmation of the qualities implied by scale names.
innovation. There was no factor in these data, however, which might be said directly to measure this need. The Pessimism factor measured only the degree of optimism invested specifically in the collegiate expectations. Therefore, the assumption was made that the range between the highest and lowest factor score for a typological group would serve as a rough equivalent of the range of emotional resources. It should again be noted that the term cathexis implies only "investment of libidinal energy in a person, object, or idea" and does not necessarily counterindicate negatively charged emotions.

Although the Moderates appeared to have invested a high level of optimism in their collegiate expectations, they ranked lowest among the groups for degree of emotional cathexis; here too their moderation and caution were evident. This interpretation of lack of cathexis was further reinforced when one viewed the ranking for various types per factor; on no factor did the Moderates rank as either the highest or the lowest of the groups.

Creativity should relate to the degree of affect which one invests in projects or creations. It also may be related to high scores on Ascendancy but it is counterindicated by low scores on Constriction.


59 It would be possible to invest a high degree of affect in an enterprise without necessarily being creative. It does not seem possible, however, to be a person characterized as creative unless one has a substantial emotional investment in one's work. Paul Heist, (ed.), The Creative College Student (San Francisco: Jossey-Bass Inc., 1968), pp. 42-42.
The Moderates were not described as particularly constricted individuals, but their lack of Ascendancy as well as their low degree of cathexis precluded the interpretation of this group as possessing any significant amount of n Creativity.

The problem of operationally defining n Self-Definition involved separating groups according to degree of concern with this need. First, it must be assumed that all freshmen experience a certain degree of n Self-Definition; it is indigenous to their developmental status.60 The n Self-Definition was assumed to apply to all the freshmen; however those whose scores on any of the following factors: Compliancy, Constriction, Anomie, or Ascendancy fell in the middle ranges were assumed to experience greater degree of n Self-Definition than did the others. This assumption was made because each of these four factors contained a group of scales which were internally consistent and descriptive of a constellation of personality traits.

According to the above operational definition Moderates could not be assumed to be experiencing n Self-Definition. Their lack of Ascendancy, with its components of Tolerance, Psychological-Mindedness, and Flexibility, plus their Compliancy, with its components of Submissiveness and n Closeness, implied a rather well-defined self-concept, albeit, filled with self-doubt.

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<tr>
<th>COSMOPOLITANS</th>
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<td>n Venturesomeness</td>
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60This would not include freshmen who were in age ranges other than late adolescence. But, there were no freshmen in Callison's Charter Class other than seventeen to nineteen year olds.
n Autonomy
n Cathexis
n Endurance
n Creativity
n Self-Definition

Cosmopolitans. A high degree of Venturesomeness was probably characteristic of the Cosmopolitans, in the light of their high Ascendancy score and their negative scoring on Constriction. Both factors imply a self-confidence based on a range of social and intellectual skills which would have allowed the Cosmopolitans to participate in venturesome projects without threat to their sense of self-worth or value. This parallels the earlier cited need for security in order to have the freedom to innovate; the Cosmopolitans had a sufficient psychic security that they were not threatened by the uncertainty of an innovative experience. These same qualities, plus the low scoring for Compliancy, supported the supposition of n Autonomy.

The extent to which Cosmopolitans experienced n for emotional cathexis is questionable. Although they have the third highest range between their highest and lowest factor scores, a measure which has been operationalized to measure degree of cathexis, there was some suggestion of a self-protective non-involvement or caution against over-involvement. It was difficult to conceive of a person with a high degree of emotional cathexis entering college with expectations as guarded as those implied by the Cosmopolitans' Pessimism scale. The same logic holds true for the negative scoring on Goal-Directedness, most of whose component scales relate to
educationally relevant variables such as Intellectual Interests, Educability, Motivation, etc. The interpretation appeared probable that while Cosmopolitans had the emotional resources for high emotional cathexis they invested their energies and loyalties cautiously.

Support for the above interpretation was indicated by the n Endurance measure, derived from the Anomie factor, the lowest factor score for the Cosmopolitans group. They described themselves not as anomic but as conforming, socialized (sic), responsible, self-controlled; from this description it appeared likely that they would endorse endurance as a characteristic descriptive of themselves.

The same qualities support n Creativity as those earlier indicated as relating to venturesomeness. A low degree of Constriction and a higher score on Ascendancy implied the psychological resources needed for creativity.

The n Self-Definition could not be assumed to relate to the Cosmopolitans. They provided consistent self-descriptive data via the Ascendancy factor, on which they scored higher than any other group, and the Anomie factor, on which they are the second lowest of the groups.

ANOMICS

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<td>n Autonomy</td>
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<td>n Endurance</td>
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Creativity
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Anomies. Extent of Venturesomeness among the Anomies was open to two interpretations, that of high degree of venturesomeness based on lack of commitment or that of venturesomeness based on reaction against conventional middle-class values. Their degree of Ascendancy and their lack of Constriction was adequate to support Venturesomeness. Both the negative Compliancy and the negative Goal-Directedness scores conveyed the impression of lack of openness and probability of reaction against some value orientations. This interpretation was not meant to imply lack of Venturesomeness, simply to indicate that the Anomies may have had less openness to venture in a variety of directions and that their innovativeness was more likely to be directed against values with which they have become disaffected.

The moderate degree of emotional cathexis (n Cathexis), as indicated by the span of factor scores, may have been the salient characteristic of the Anomies. Their lack of value-commitment was reinforced by their lack of emotional commitment. Further indication of this was provided by their middle-range Pessimism score; they were neither enthusiastic nor pessimistic regarding their collegiate expectations.

n Autonomy was implied both by the low Compliance factor score and by the low Goal-Directedness score. Evidently the Anomies had neither committed themselves to educationally relevant goals (Goal Directedness) nor were they characteristically likely to seek approval from other persons through submissive or dependent behaviors (Compliancy). These attitudinal
factors did not seem consistent with the expectation of \( n \) Endurance and the high Anomie score provided further support for the interpretation of anti-conformist, anti-conventional values, such as \( n \) Endurance.

\( n \) Creativity was a more realistic expectation for Anomics. Although their scores are not dramatic, both the low Constriction and the higher Ascendancy scores implied the probability of \( n \) Creativity as one of the Anomics distinguishing characteristics.

\( n \) Self-Definition seemed to be counter-indicated by the Anomie factor score, highest for any of the groups. The Anomie factor contains scale scores such as Achievement via Conformance, Socialization, Responsibility, Self-Control which correlate negatively with the factor's title. Hence the Anomics group by scoring high on the Anomie factor implied a well-defined constellation of personality factors.

**REASONABLE ADVENTURERS**

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Reasonable Adventurers provided illustration of Venturesomeness well supported with other qualities which would sustain the participants through later phases of innovation. The Reasonable Adventurers by virtue
of their self-confidence (Ascendancy) describe themselves as having the
cognitive and social skills to sustain innovation while their Anomie score
implied a freedom from conventionality which would allow them to adventure
into new territory. Moderate scores on the Constriction and Compliance
factors implied the lack of constriction and a degree of autonomy needed
for the freedom to venture.

Endurance was not necessarily a part of the Reasonable Adventurers' profile. Their Anomie score, second highest for any of the groups, described the lack of qualities which are concomitant with n Endurance.

The n for emotional cathexis presented a problem of interpretation. Reasonable Adventurers ranked sixth in the measure for range of available emotional energy. The fact that the only group with a lower ranking was the Moderates may have provided the clue for interpretation. Both groups were characterized by low Pessimism factor scores; that is, they enthusiastically anticipated their collegiate experiences. Both groups represented something of an "Establishment" mentality and it seemed probable they were less likely to expend time and energy upon either introspection or venting of emotions than they were to be actively engaged in dealing with a problem. Both groups whose combined membership constituted 64 per cent of the Charter Class illustrate an activist orientation which characterized the majority of the class. The Goal Directedness score was further indication of the Reasonable Adventurer's style. They perceived themselves as actively engaged in pursuit of educationally relevant goals.

supra, Footnote 34 this chapter.
It was as if the stage of innovation where high degree of cathexis was useful had already been passed for these students; they were already involved in the work of the innovation.

The moderate cathexis score did not necessarily counterindicate n Creativity. The Reasonable Adventurers gave evidence of the requisite qualities, low Constriction and higher Ascendancy.

n Self-Definition could not be interpreted as a pressing need for the Reasonable Adventurers group. As implied in their title, they had defined themselves as open to change, willing to participate in innovation, but always with the provision that it was instrumental to the achievement of their objectives. Their self-definition must be assumed to be developmental rather than based upon dramatic insights or situations of self-testing. Reasonableness was a consistently defining quality in the self-concept of this group.

### NAY-SAYERS

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**Nay-Sayers.** Neither the Ascendancy factor score nor the Anomie factor score was sufficiently extreme to counterindicate n Venturesomeness for the Nay-Sayers. But their Constriction score, highest for any of the
groups, precluded the freedom to be venturesome.

The related qualities of Autonomy and Creativity seemed out of range for the Nay-Sayers. Their Compliance score was so extreme, the lowest for any of the types, that it appeared likely the group, although appearing to be autonomous, was tied to the very forces which they were so actively engaged in resisting. For the same reason it was necessary to presume that they would not have available energies for creativity, although their high level of constriction would have precluded it in any case.

The degree of emotional cathexis experienced by the Nay-Sayers was high. They expended a great deal of affect in resistance (compliance) and in constraining the expression of any affective materials (Constriction). The interpretation could be made, however, that this high level of cathexis was pro-innovative; the affect was utilized in self-protection and defensive maneuvers rather than directed toward the process of innovation.

Endurance for the Nay-Sayers was dubious. Their moderate score on the Anomie factor plus their extremely high Constriction score—both factors being composed of scales which would be psychologically concomitant with Endurance—suggested that endurance as a desirable quality would not be a characteristic which the Nay-Sayers would attribute to themselves. An impartial observer might anticipate a higher degree of Endurance from them on the basis of their scale scores on Self-Control, Authoritarianism; they might doggedly pursue an objective rather than initiate a decision to change.

Self-Definition was clearly counter-indicated by the extreme
scores for Constriction and Compliancy, both of which contain scales descriptive of personality characteristics which form a consistent pattern. To the extent that the Nay-Sayers had a highly negative score on Self-Acceptance, negative on Closeness and Sensuousness, negative on Friendliness and Good Impression, they were presumed to have had a well defined, even rigid self-concept. There was little in the component scale scores to imply probability of marked personality change during their college years.

**FATALISTS**

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<th>Intraperonal Needs</th>
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<td>Venturesomeness</td>
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<td>Autonomy</td>
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<td>Cathexis</td>
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Fatalists. The extreme negative correlation with Ascendancy precluded any consideration of Venturesomeness as a characteristic need for the Fatalists. They did not perceive themselves as Intellectually Efficient, Psychologically Minded, Tolerant, Flexible, or Achieving-via-Independence, all of which qualities relate to venturesomeness.

n Cathexis was assumed to be very high on the basis of wide range between their very high Pessimism score and their very low Ascendancy score.

They may be characterized as having had a moderate degree of n
Autonomy. The source of this need may, however, be more a defensive separation from anticipated rejection by their peers than from a psychologically based need for acknowledging inner-directedness. The same implication of alienation was substantiated by the measure for n Endurance; rather than implying the endurance needed to sustain an innovation it simply reinforced the Fatalists' perception of themselves as separated and alien to their fellows. n Creativity was also blunted by their lack of self-confidence, as indicated in the low Ascendancy score.

n Self-Definition was more clearly counterindicated for the Fatalists than for any other group. Their self-image was already established by their overwhelming lack of confidence, in themselves or in their collegiate future. The picture which emerged was one of assurance in the inevitability of failure. The moderate factor scores for Goal-Directedness, implying educationally relevant concerns, Anomie sufficient to allow for new value perspectives, and only moderate degree of Constriction might have been thought to auger well for this group. The spread between the high and low factor score, greater than for any other group, was interpreted to indicate a tremendous emotional investment, an investment that appeared to support the fatalistic belief in inevitable failure rather than the optimistic belief in the potential success of an innovation. Thus it appeared that the Fatalists had, even before coming to college, defined themselves as doomed to failure and held to this conviction with considerable emotional force.
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**Bureaucrats.** Bureaucrats had the self-confidence (Ascendancy) for venturesomeness but lacked the freedom from conventional social bonds (Anomie) or the freedom from Constriction. While it was true that the group did not fit into the operationally defined measures for indicating venturesomeness, the question was also asked, to what extent was the decision to enter the charter class of an experimental college an act of venturesomeness for this particular group? Here the variations in expressions of venturesomeness became apparent. For the Bureaucrats, the choice of an experimental college itself was an unconventional assertion and to elect membership in the charter class was likely to have been perceived as involving an element of risk.

There were little data to support the contention that Bureaucrats experienced Autonomy; they were too skillful in managing Compliancy to be supposed to feel Autonomy. Along with their high levels of Constriction and Compliance, there was a consistency to the expectation of Endurance. As extrapolated from a negative score on the Anomie factor, it may be supposed that the Bureaucrats perceived themselves as Achieving via Conformance, well Socialized, Responsible, characterized by Self-Control, Orderliness, etc., all qualities which are consistent with a high degree.
with n Endurance.

As measured by the range between high and low factor scores the extent of cathexis for Bureaucrats was comparatively low. Their Constriction score, higher than that for any other group, implied they would be cautious in the extreme about expression of any affect-laden material. Expectation of n Creativity was lowered by this constriction although the Ascendancy score of the Bureaucrates appeared adequate to support the supposition of n Creativity. It is probable that the sense of ascendancy was derived from behaviors which were not creatively oriented.

The assumption that the Bureaucrats felt a need for Self-Definition was precluded by high scores on both the Constriction factor and low score, lowest for any group, on the Anomie factor. Both of these scores implied definite personality orientations which were mutually consistent. It was likely that the Bureaucrats had a reasonably clear self-concept and felt little need for Self-Definition.

Summary of Intrapersonal or Psychological Characteristics of Callison Typological Groups. Each typological group exhibited n Venturesomeness to a differing degree. It was concluded, however, that the characteristic of venturesomeness was relative to other personality characteristics and that no summative evaluation of venturesomeness would be appropriate. Reasonable Adventurers best illustrated the characteristic personality components of venturesomeness.

n Autonomy was assumed to be a contributing factor in innovativeness but it was demonstrated that not all persons high in n Autonomy would
necessarily be pro-innovative. The Nay-Sayers group provided illustration for this principle. Both the Anomics and the Cosmopolitan groups were low on Compliancy and presumed therefore to be high in n Autonomy.

It was only possible to assess n Endurance on the basis of extrapolation from a negative score on Anomie. If one perceived himself as Achieving via Conformance, high on Socialization, characterized by Responsibility, Self-Control, and Orderliness, then it was assumed he would also be characterized by n Endurance. The concept was highly dependent upon the conventionality of value systems. Three groups, the Bureaucrats, the Cosmopolitans and the Moderates, were evaluated as characterized by n Endurance to a greater extent than the other groups.

n Creativity was more evident in the Cosmopolitans, the Anomics, and the Reasonable Adventurers than in other groups. It must be noted however that related personality characteristics strongly suggested that the motivations for creativity and the directions in which the creativity was expressed might be expected to differ dramatically between the three groups.

Extent of emotional cathexis (n Cathexis) was a concept designed to assess the extent to which persons could allow themselves emotional involvement, on the basis that an innovative project requires a considerable emotional investment from its participants. The concept was operationally defined as the range between the highest and lowest of the factor scores which defined the typologies. The two groups scoring the lowest range were numerically the largest groups and may have represented male and female modal patterns. This raised the question as to whether the concept
was interdependent with extent of goal-directedness, involvement with the
innovative goal, or extent of previous commitment. The groups exhibiting
the highest ranks for cathexis were the Fatalists and the Nay-Sayers.
This observation led to the interpretation that the use of range of scores
as a measure for cathexis might better be interpreted as measure of free-
floating affect, i.e., affect unattached to a specific goal.

Self-Definition was operationally measured by the absence of ex-
treme scores on factors which were heavily loaded with scales descriptive
of personality orientations; that is, Compliancy, Constriction, Anomie, and
Ascendancy. The only group which might be assumed to feel n Self-Defini-
tion under this definition was Reasonable Adventurers. Their scores on the
aforementioned factors were all in the moderate ranges. There was some
suggestion that this group may already have achieved a level of functioning
adequate to their self-concept and at the time of entering college be more
involved with the educationally relevant objectives implied by their Goal
Directedness score than in self-discovery.

SUMMARY: CHAPTER V: PART TWO (b)

Material presented in this chapter attempted to deal with the ques-
tion of extent to which characteristics of each Callison type were similar
to those characteristics which the literature ascribes to innovators. The
data were divided into two major sections, first, that dealing with the
cultural context of innovators and, second, that dealing with the person-
ality characteristics of innovators, including their cognitive abilities,
their social and interpersonal abilities, and their intrapersonal or
psychological characteristics.

The following descriptions of cultural context should be regarded as contributing, but not necessary, factors in the experiences of persons who become innovators.

A. Accumulation of Ideas. All members of the Charter Class, having been reared in complex rather than simple societies, were assumed to have been exposed to an accumulation of ideas.

B. Concentration of Ideas.

1. Recognition of educational reform issues was assumed to have been equally accessible to all members of the class because of widespread national publicity following the 1965 demonstrations at the University of California in Berkeley, and subsequent countrywide demonstrations.

2. Awareness of the cluster colleges as an innovation was thought to have been heightened by the fact that 25 per cent of the students' hometowns were within one hundred miles of Stockton. Presumably they were exposed to the publicity for the University of the Pacific's first cluster college, Raymond.

3. Finally, experience in travel outside one's native country was assumed to have contributed to concentration of interest in internationalism. Seventy-four per cent of the freshmen had traveled outside the continental United States. The types differed widely on extent of travel, ranging from the Fatalists, none of whom had traveled outside the United States, to the Anomics, all of whom had traveled outside the United States. Residing outside of the United States was considered to have provided an even more intensive concentration of experiences; 32 per cent of the Reasonable Adventurers had resided outside the United States.

C. Collaboration of Effort.

1. The effort required to become associated with an innovative project may be illustrated through the process of choosing a college. Students indicated they did not seek out Callison on the basis of expectation of encountering like-minded peers; instead, their major influences were adults, parents, high school teachers, and college representatives, all of whom would carry a certain connotation of expertise on the basis of their collegiate experiences.

2. Different styles of collaboration were noted and each typological group was identified on the basis of the style of collaboration which might be anticipated judging by profile of his various scores.

D. Expectation of Change. While all the students were defined as pro-innovative, it was assumed that their motives for innovation would
differ according to the characteristics of their typological group. On the basis of two factor scores, Ascendancy and Pessimism, interpretations were made regarding each type's expectations of change. Reasonable Adventurers and, to a lesser extent, Anomies were interpreted to have a high expectation of and high potential for change. Moderates and Nay-Sayers were interpreted as having placed themselves in a situation in which they might expect to experience change but their personal characteristics would interfere with the potentiality of change. Conversely, Cosmopolitans and Bureaucrats seemed to possess the personal characteristics prerequisite to change but to hold little hope of the collegiate situation as one which would present a challenge to change. Fatalists presented the most extreme pattern of low Ascendancy and high Pessimism scores, a pattern which was assumed to define low potential for change.

E. Traditional sources of authority in disequilibrium or non-functional.

1. All freshmen were assumed to have been equally exposed to collegiate disruptions of the post-1965 era, but the extent to which their parents were college graduates was presumed to have inclined the students to perceive the demonstrations as indicative of a state of disequilibrium in collegiate authority.

2. Perception of traditional authority sources as non-functioning may have more related to the class members' patterns of dependency rather than to an actuarial report of fact. Responses to items indicative of dependency and items indicative of iconoclastic behaviors were often contradictory for the class as a whole.

3. A tendency toward non-affiliation with traditional organizations was interpreted from data descriptive of both the freshmen and their parents.

4. The Anomie factor was interpreted to be a measure of extent to which a person perceived himself as conventional, i.e., characterized by a series of authority sanctioned behaviors, or non-conventional, characterized as non-conventional or anomie behaviors. Types reporting themselves as conventional were the Bureaucrats, Cosmopolitans, and Moderates. Fatalists and Nay-Sayers were in the moderate ranges, presumably more compelled by intrapsychic factors than by perception of external forces. Groups which reported themselves as non-conventional or high in Anomie were the Reasonable Adventurers and the Anomies.

F. Competition of Rivals.

1. There was no indication that the Callison's admission practices were likely to have precipitated competitive behaviors which led or forced the potential freshmen to be more innovative.

2. It was interpreted that some students may have perceived Callison as a non-competitive or even anti-competitively oriented institution. No data were presented relevant to this possibility.

3. Being the middle child in a family structure was assumed
to have exposed a person to more competition of rivals than would any other ordinal position. Thirty-two per cent of the Charter Class members were "middle children." The typological group with the highest percentage of "middle children" was the Nay-Sayers. Cosmopolitans included no "middle children" and differed at a statistically significant level from all other typological groups.

4. Participation in Sports Activity as a measure of competitiveness did not differentiate the typological groups.

G. Deprivation of Essentials.

1. None of the data could be interpreted as direct measures of deprivation of essentials. It was noted that this feature was more applicable to gross deprivation such as a national disaster, rather than individual deprivation which might be reflected in psychological or demographic data.

2. It was postulated that the high level of Constriction which characterized the Nay-Sayers might have been the result of extreme psychological deprivation, but there was no data relevant to testing this postulation.

Psychological characteristics of innovators was divided into three sections: cognitive abilities, social and interpersonal abilities, and intrapersonal or psychological abilities. Within each section needs were cited, the satisfaction of which was reflected in the above characteristics. Typological groups were compared for the extent to which these needs were evident in their data profiles.

A. Cognitive Abilities

1. Abstraction was interpreted to be low for the Moderates and Nay-Sayers, average for the Cosmopolitans and Fatalists, and high for Reasonable Adventurers and Bureaucrats. The extent to which Anomics experienced Abstraction could not be interpreted from the data.

2. Structuralization was interpreted to be low for the Anomics and the Reasonable Adventurers, average for the Cosmopolitans and the Fatalists, and high for the Moderates, Nay-Sayers, and Bureaucrats.

3. Credibility was interpreted to be low for the Anomics and Nay-Sayers, average for the Cosmopolitans and Fatalists, and high for the Moderates, Reasonable Adventurers, and Bureaucrats.
4. n Creativity was interpreted to be low for the Moderates, Nay-Sayers, Fatalists, and Bureaucrats. No group was interpreted as being in the average category. Cosmopolitans, Anomies, and Reasonable Adventurers were interpreted as high in n Creativity.

B. Social and Interpersonal Abilities

1. n Flexibility was interpreted to be low for the Moderates, Nay-Sayers, Fatalists and Bureaucrats. It was interpreted as average for the Reasonable Adventurers and Cosmopolitans, and high for the Anomies.

2. n Individualism was interpreted to be low for the Moderates, Nay-Sayers and Bureaucrats, average for the Reasonable Adventurers and Fatalists, and high for the Anomies and Cosmopolitans.

3. n Congruency was interpreted to be low for Fatalists, average for Moderates, Anomies, Bureaucrats and Cosmopolitans, and high for Reasonable Adventurers and Nay-Sayers.

C. Intrapersonal or Psychological Characteristics

1. n Venturesomeness was interpreted to be low for the Moderates, Nay-Sayers, Fatalists, and Bureaucrats. No typological group fell in the average range. Cosmopolitans and Reasonable Adventurers were interpreted to be high on n Venturesomeness. The extent to which the Anomie group experienced n Venturesomeness was unclear.

2. n Autonomy was interpreted to be low for the Moderates, Anomies, and Bureaucrats, average for the Reasonable Adventurers and the Fatalists, and high for the Cosmopolitans and the Nay-Sayers.

3. n Cathexis was interpreted to be low for the Reasonable Adventurers and Bureaucrats, average for the Moderates, Cosmopolitans, and Anomies, and high for the Nay-Sayers and Fatalists.

4. n Endurance was interpreted to be low for the Anomies, Reasonable Adventurers, and Nay-Sayers, average for the Fatalists, and high for the Moderates, Cosmopolitans, and Bureaucrats.

5. n Creativity was interpreted to be low for the Moderates, Nay-Sayers, Fatalists, and Bureaucrats. No group fell in the average range. Cosmopolitans, Anomies, and Reasonable Adventurers were interpreted as being high in n Creativity.

6. n Self-Definition All seven typological groups were interpreted as being low in n Self-Definition.
CHAPTER VI

CONCLUSIONS BASED UPON THE INVESTIGATION AND RECOMMENDATIONS FOR FURTHER RESEARCH

Data collected in this research were directed toward the identification of psychosocial characteristics of seventy-nine students who chose to enter the Charter Class of Callison College in the Fall of 1967. A further objective involved the extent to which the characteristics of these students were comparable to the characteristics ascribed to persons identified as innovators in the social science literature.

The research procedures were exploratory and without predesignated hypotheses. Techniques of assessment methodology, however, provided the rationale for the organization of data collection procedures. Some data from two other collegiate groups was presented but no attempt was made to use either as a control group.

Material in Chapter II was drawn from literature on contemporary higher education and dealt with the topics relevant to the cluster college concept, studies of collegiate climate and institutional characteristics, theoretical principles of innovation and specific collegiate instances, experimental colleges, and, finally, the psychosocial characteristics of freshmen.

The research design, including description of specific data collecting instruments and schedules, was presented in Chapter III. Statistical treatment planned for the data was also presented in Chapter III.
Research data were presented in two parts. Chapter IV dealt with a description of the class as a whole. It was organized to introduce material ranging from descriptions of characteristics least malleable to peer-group influences to those most malleable to peer-group influences. The subsequent section presented material descriptive of the collegiate expectations of the class. Some data descriptive of other collegiate groups was presented for illustrative purposes. Chapter V presented the statistical treatment of the data which was directed at identifying distinctive subgroups or types within the class. The second section of Chapter V compared the characteristics of these types with those characteristics of innovators as described in Chapter II.

I. SUMMARY OF FINDINGS

Summary of Modal Characteristics of the Charter Class

A. Background

1. The majority of the entering students were eighteen-year-old Caucasians. Almost half of the class were first-or-only children in their homes. There were almost twice as many females as males in the Charter Class.

2. Most of the Callison freshmen came from conventional middle-class backgrounds. The majority of parents were middle-aged, voted Republican, and indicated religious preference as Protestant. Educational level of parents was high. Fathers tended to be employed in professional or executive capacities and almost half of the mothers were also employed outside the home.

3. Participation and leadership experiences in extracurricular activities was extensive before the students entered college. These activities most frequently emphasized self-expression and verbal facility.

4. Academic preparation for college appeared to be more adequate for the females than for the males, in terms of both
intellectual orientation as indicated on self-report measures and actual measures of achievement were consistently higher for females than for males.

5. The majority of the incoming freshmen had considerable experience with mobility through frequent moves of home-site, travel within the United States as well as overseas travel.

B. Personality Variables

1. On a variety of measures of Intellectual Orientation, Callison freshmen fell in the average ranges, with females usually ranking higher than males.

2. Measures of Emotional Expression were utilized from two different tests. The factor score for Emotional Expression derived from the Activities Index showed males ranking in the very high ranges while females ranked in the average ranges. Only on the mean scale score for Self-Assertion did both the males and females score extremely high. Measures of emotional expression drawn from the California Personality Inventory show both males and females falling within average ranges for most scales. It appeared probable that the two tests were measuring different aspects of emotional expression.

3. Measures of Socialization, Maturity, and Responsibility

a. Both males and females fell in the average range for a variety of scales under this heading. The one exception was the scale for Tolerance on which females scored decidedly higher than males.

b. Freshmen scored in the low range for Dependency Needs but the mean score for males more extreme, i.e., lower.

c. Authoritarianism. None of the Callison freshmen scored in a range which would classify them as authoritarian.

d. Measures of Masculinity-Femininity. Females mean score on two measures of femininity was in the average range. Scores for the males indicated they did not conform to conventional, socially-stereotyped concepts of masculinity.
e. **Summary.** The Charter Class showed a high level of consensus on a number of measures of socialization, maturity, and responsibility. The lack of acknowledgment of dependency needs and the low level of reliance upon authoritarian supports was especially notable.

4. **Vocational Interests**

a. Vocational interest scores were most similar to those of persons in Verbal-Linguistic and Social Service occupations. Males also scored high in Aesthetic-Cultural occupations and females in Music occupations, but this may represent only a difference in the format of the male and females forms of the Strong Vocational Interest Blank.

b. Academic Achievement mean scores for both males and females were close to the normative mean.

c. Mean scores for the Femininity (F-M) of vocational choices fell in the average range for females. But Masculinity (M-F) mean scores fell in the low ranges for males.

d. Specialization was not a desirable occupational goal for males. The socioeconomic level (Occupational level) of the males' most popular vocations was high. These scales were not included on the female form of the Strong Vocational Interest Blank.

**Summary of Freshmen's Expectations of Callison College**

A. **Intellectual Climate**

1. In most respects freshmen expected the college to require and provide components of an intellectual atmosphere far more intensive than average. They were not, however, high in their expectation of the amount of work required, nor did they expect academic resources to be above average.

2. There was consensus among the freshmen in the expectation of a certain amount of confusion and disarray in the college's immediate physical environment.

3. Little consensus was apparent in the students' anticipations of the extent to which science would be emphasized in the curriculum.
4. Rejection of specialization or expertise as a personal objective was evident in much of the students' data.

B. Extra-curricular Climate

1. A high level of bureaucratic organization was not anticipated in either the manner in which the college was administered nor in the formal program of social activities.

2. The amount of esprit-de-corps and peer-group togetherness anticipated was only moderate.

3. The extent to which the college would expect a student to engage in "risk-taking" behavior and the expected balance of work and play were areas in which the freshmen scores showed the greatest consensus.

4. Least consensus was apparent in their expectations of the extent to which the college's activities would be purposefully organized.

5. Personal objectives of the students were identified as both idealistic and nurturant.

C. Miscellaneous Expectations

1. Freshmen expected to choose a variety of alternatives which would leave them free to change rather than those alternatives which involved commitment.

2. Freshmen arrived with a high level of pro-Callison bias. From the college descriptive items on which there was the highest level of consensus, not one item was scored in a direction which could be interpreted as critical of the college.

Summary of Findings of Heterogeneity within the Charter Class

A. Forty-seven variables derived from five different measures were subjected to factor analysis using the principal components method. The solution produced six factors with loadings of + or -.50 or better.

B. These factors were labeled (1) Constriction, (2) Ascendancy,
(3) Anomie, (4) Goal-Directedness, (5) Pessimism, and (6) Compliancy. They accounted for sixty-two per cent of the variation in the data pool.

C. Individual student data was reorganized to provide a score for each of the above factors. These scores were processed using a component of the BC TRY system known as OTYPE, the objective of which is to develop a series of clusters which allow for pattern recognition.

D. Seven groups emerged which differed from each other at statistically significant levels. One freshman could not be identified with any of the groups and was labeled a "uniquer."

E. On the basis of the varying pattern of mean factor scores the groups were labeled Moderates (n 17), Cosmopolitans (n 9), Anomies (n 10), Reasonable Adventurers (n 23), Nay-Sayers (n 5), Fatalists (n 4), and Bureaucrats (n 10). Number of individuals falling in each group is indicated by n above.

Summary of Findings Relating the Callison Typology to the Characteristics of Innovators

A. All members of the Charter Class were exposed to an accumulation of ideas relevant to innovation.

B. Concentration of Ideas

1. All members of the Charter Class had been exposed to a concentration of ideas regarding educational reform and innovation through national publicity of collegiate demonstrations subsequent to 1965.

2. Additional exposure to ideas of educational innovation occurred on the basis of proximity of students' home-towns to University of the Pacific where the innovation of a series of cluster colleges was being attempted.

3. Extensive travel experience was thought to have provided further ideational resources for innovation.

C. Collaboration of Effort
1. In their choice of college the Callison freshmen did not appear to be demonstrating collaboration of effort with like-minded peers. The collaboration noted was with adults whose positions implied a level of expertise relating to choice of college. The choice of a curriculum such as Callison offered may have implied to potential students an opportunity for collaboration of effort.

2. It was anticipated that each typological group would be motivated and participate in collaboration of effort in a distinctly different manner. Using the varying patterns of factor scores by which the types were identified the anticipated styles of collaboration were illustrated for each type.

D. Expectation of Change

1. High expectation of change and high potential for change were characteristic of members of the Reasonable Adventurers group and, to a lesser extent, the Anomic group.

2. High expectation of change but limited potential for change was characteristic of members of the Moderates and Nay-Sayers groups.

3. Low expectation of change but adequate personal potential for change was characteristic of the Cosmopolitan and Bureaucrat groups.

4. Low expectation of change and low potential for change characterized the Fatalists group.

E. Traditional Sources of Authority in Disequilibrium or Malfunctioning

1. Students whose parents had collegiate experience were interpreted to be more likely to perceive the post-1965 collegiate disruptions as indicating malfunction of a traditional source of authority.

2. Patterns of authority dependence were assumed to be interrelated with extent to which a student perceived external sources of authority as malfunctioning. There were areas of inconsistency in student's descriptions of the manner in which they expected to relate to sources of authority within the collegiate setting.
3. Both the freshmen and their parents were characterized as avoiding many traditional affiliations with sources of authority.

4. Anomie scores were interpreted as a measure of relatedness to traditional sources of authority. Bureaucrats, Cosmopolitans and Moderates were interpreted to be conventional while Reasonable Adventurers and Anomics were interpreted as non-conventional. Fatalists and Nay-Sayers appeared to be more responsive to other sources of motivation than traditional sources of authority.

F. Competition of Rivals

1. Admission practices of Callison College were not likely to have aroused competitive or rivalrous feelings in potential students.

2. The anticipation of Callison College as an institution whose practices would be non-competitive and non-rivalrous was discussed.

3. Thirty-two per cent of the Charter Class members were "middle-children" within their families, a position which was considered as a potential factor contributing to competitiveness. Nay-Sayers group contained a higher proportion of "middle children" than did other groups. Cosmopolitans had no "middle children" among their members.

4. Participation in Sports Activities, used as a measure of competitiveness, was not differentially represented in the typological groups.

G. Deprivation of Essentials

1. This concept was considered not to be directly measurable with individual data.

2. It was postulated that the Nay-Sayers' high level of Constriction might have been the result of extreme psychological deprivation but no data measures were appropriate to testing this postulation.

Findings Descriptive of the Psychological Structure of Callison Innovators
Findings Descriptive of the Psychological Structure of Callison Innovators

A. Cognitive Abilities

From the literature four qualities were identified as characteristic of the cognitive functioning of innovators. Stated as needs the satisfaction of which would result in pro-innovative behaviors, the qualities were n Abstraction, n Structuralization, n Credibility, and n Creativity. Scores for each typological group were reviewed in order to estimate extent to which their defining characteristics reflected implications of each need.

1. Moderates were interpreted to be high in n Structuralization and n Credibility, and low in n Abstraction and n Creativity.

2. Cosmopolitans were interpreted to be average in n Abstraction, n Structuralization and n Credibility but low in n Creativity.

3. Anomies were interpreted to be low in n Structuralization and n Credibility, and high in n Creativity. The level of n Abstraction was not clear.

4. Reasonable Adventurers were interpreted to be high in n Abstraction, n Credibility, and n Creativity but low in n Structuralization.

5. Nay-Sayers were interpreted to be high in n Structuralization, and low in n Abstraction, n Credibility, and n Creativity.

6. Fatalists were interpreted to be average in n Abstraction, n Structuralization and n Credibility but low in n Creativity.

7. Bureaucrats were interpreted to be high in n Abstraction, n Structuralization, and n Credibility but low in n Creativity.

B. Social and Interpersonal Abilities

Needs relating to the social and interpersonal behavior were identified as n Flexibility, n Individualism, and n Congruency. Typological groups were found to differ in the extent to which their test scores implied the presence of these needs.

1. Moderates were interpreted to be low in n Flexibility and
n Individualism but average in n Congruency.

2. Cosmopolitans were interpreted to be average in n Flexibility and n Congruency but high in n Individualism.

3. Anomies were interpreted to be high in n Flexibility and n Individualism but average in n Congruency.

4. Reasonable Adventurers were interpreted to be average in n Flexibility and n Individualism but high in n Congruency.

5. Nay-Sayers were interpreted to be low in n Flexibility and n Individualism but high in n Congruency.

6. Fatalists were interpreted as low in n Flexibility and n Congruency but moderate in n Individualism.

7. Bureaucrats were interpreted as low in n Flexibility and n Individualism but average in n Congruency.

C. Intrapersonal or Psychological Characteristics

Needs relating to intrapersonal or psychological characteristics were identified as n Venturesomeness, n Autonomy, n Cathexis, n Endurance, n Creativity, and n Self-Definition. Typological groups were found to differ in the extent to which their test scores implied the presence of these needs.

1. Moderates were interpreted to be low in n Venturesomeness, n Autonomy, n Creativity, and n Self-Definition. In n Cathexis they were average and in n Endurance they were interpreted to be high.

2. Cosmopolitans were interpreted to be high in n Venturesomeness, n Autonomy, n Endurance, and n Creativity. On n Cathexis they were interpreted to be average and on n Self-Definition they were low.

3. Anomies were interpreted to be low on n Autonomy, n Endurance and n Self-Definition. Their n Creativity was high but their n Cathexis was low. n Venturesomeness was thought to be provisional.

4. Reasonable Adventurers were interpreted to be high in their n Venturesomeness and n Creativity. In n Autonomy they were average. They fell in the low ranges for
5. Nay-Sayers were interpreted as being low on Venturesomeness, Endurance, Creativity, and Self-Definition. They were high only on Autonomy and Cathexis.

6. Fatalists were interpreted to be low on Venturesomeness, Creativity and Self-Definition. They were average on Autonomy and Endurance and high on Cathexis.

7. Bureaucrats were interpreted to be low on Venturesomeness, Autonomy, Cathexis, Creativity, and Self-Definition. They were high only on Endurance.

II. CONCLUSIONS BASED UPON THE FINDINGS

Based upon specific findings stated in the previous sections, the following themes were identified as characteristic of the students who chose to become members of Callison College's Charter Class.

A. Individualistic. Individualism was a highly valued quality among the entering freshmen. At point of college entrance they already had experienced extensive peer-group interaction and leadership but the data gave little support to the idea that they were peer-group oriented in the sense of being dependent upon their peers for either sense of direction or approval; they themselves may, even during their high school years, have served as opinion leaders and social models. Expectations of collegiate activities illustrated accentuation of the individualistic pattern. They stressed objectives of personal development rather than vocational skills or effectiveness training. They did not anticipate that this development would take place on the basis of identification with faculty members on whom they had a dependent relationship. Instead, their expectations seemed to involve a laissez-faire situation in which
their development could proceed on the basis of interests and activities, analogous to an unfolding process.

The individualistic proclivities of the entering students gave promise of their innovative potential. The likelihood of innovative production, either conceptual or physical, was implied in their insistence upon freedom to explore, experience, and organize perceptions according to their own interpretations, the end-product of which was original or novel.¹

B. Activists and Initiators. The Callison freshmen were also prototypical in their venturesomeness, the quality which is said to be an obsession with innovators.² They were more oriented to experiential learning than theoretical pursuits, more likely to learn by doing than by introspection. These activist propensities were expressed both in relation to their academic goals and their political and social objectives. Leadership roles appeared to be assumed less on the basis of competitive motivation than on the basis of enthusiastic commitment to an objective, often based simply on perception of redress of social injustice or political injustice.

C. Communicators. Members of the Charter Class placed a high value on self-expression and verbal facility. Their background in communication-based activities as well as their persistent tendency to involve


²Ibid., p. 169.
themselves in situations depending upon interpersonal communication allowed them to prepare themselves for innovation roles requiring good communication such as early adopter, change agent, or innovator.

D. Sense of Competence. The sense of competence which characterized the freshmen, particularly the females, supported both the venturesomeness and the mastery of new and complex roles requirements which are characteristic of innovators. While it was a partial reflection of their previous successes, it also allowed them to involve themselves in an unstructured setting such as a new college without being crippled with the fear that their personal well-being rested on others outside themselves. Because they trusted themselves they could allow themselves to experience an educational novelty without undue feelings of threat or apprehension.

E. Disaffiliated. Students in the Charter Class preferred to remain unaffiliated or to participate in small or avant-garde groups in preference to affiliation with traditional organizations. In statements of objectives for the future they persistently choose those objectives which would not require a long-term commitment.

F. Mobile and Open to Change. The concomitant anticipation to continuing mobility was a defining quality for the freshmen. Not only were their backgrounds more cosmopolite than that of typical freshmen, their aspirations were also more cosmopolitan. Their mobility was not only physical but also cognitive—they persistently sought novelty. Statements of collegiate and post-collegiate aspirations characteristically left them open to change rather than commitment to a well-defined
course of action.

In summary, members of Callison's Charter Class, even at point of entrance, perceived themselves as individualists, seekers of the novel and the original experiences which would allow them to enhance the sense of competence and impetus to leadership or social change with which they already had had some familiarity. In many ways they appear to have sought a college which would allow them room to develop rather than a college which would define a path in which they were to develop.

III. RECOMMENDATIONS FOR FURTHER RESEARCH

Exploratory research is designed not to provide definitive answers but to generate theories and research hypotheses for further testing. The following recommendations are presented on the basis of implications derived from the present research.

**Longitudinal Research**

A. "Output data," information descriptive of the students upon graduation, is needed to complement the "input data" presented in this research. It would also be valuable to collect another variety of output data, characteristics of dropouts, those members of the Charter Class who did not remain in Callison College until graduation.

B. The typology developed on the basis of entering students' data presents two questions for further research. To what extent was membership in a typological group stable? While it is assumed that all students developed and matured, would the groupings of students be relatively the same by the end of their Senior Year? The second question involves differential patterns of growth and development. To what extent would typological groups differ in their rates of change or the areas in which major changes were observable?
C. Motivational and attitudinal patterns as well as academic preparation appeared to be quite different for females and males in the Charter Class. The extent to which these differences persisted would be a subject of significant research.

D. Given the combination of the distinctive qualities of the Charter Class members and the distinctive features of Callison's curriculum, the question of academic achievement becomes a crucial one. While many students were motivated by objectives other than academic goals, it is relevant for a college to question whether a distinctive curriculum has indeed produced measurably different results, either in academic achievements or in psychosocial development, than would be anticipated from a traditional curriculum.

Institutional Research

A. To what extent did Callison College develop along the lines which the freshmen anticipated? Was the "collegiate climate" shaped by the members of the Charter Class or were other forces not measured in this research major factors in the college's direction of development?

B. To what extent and in what characteristics were subsequent freshmen classes similar to the Charter Class? Will data on subsequent freshmen groups support the thesis that initial members of an innovative group are indeed distinctive from subsequent members, or will the data support the hypotheses that the distinctive characteristics relate to preference for an experimental college?

C. What was the faculty's role in shaping the "collegiate climate" of Callison? Did this role relate to personality characteristics, or perception of a distinctive career pattern, or a distinctive educational philosophy, or to some other unidentified feature?
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BIBLIOGRAPHY

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**C. MISCELLANEOUS**

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APPENDIXES
APPENDIX A

SOURCES OF INFORMATION DESCRIPTIVE OF
FRESHMEN ENTERING CALLISON COLLEGE, FALL 1967

College Entrance Examination Board Scores (Verbal and Mathematics)

Washington Pre-College Test Results:
- Only scores for the following measures utilized: English Composite, Vocabulary, English Usage, Spelling, Reading Speech, Reading Comprehension, Verbal Composite, Quantitative Skills, Applied Mathematics, Mathematics Achievement, Quantitative Composite, Spatial Ability, and Mechanical Reasoning.

Callison Personal Data Sheet (biographical information)

American Council on Education Survey of Entering Freshmen, Fall, 1967

Stern Environmental Indexes (College Characteristics Inventory)
Stern Activities Index

California Personality Inventory

Strong Vocational Interest Blank
APPENDIX B

PERSONAL DATA SHEET
CALLISON COLLEGE
FALL 1967

Name

<table>
<thead>
<tr>
<th>Last</th>
<th>First</th>
<th>Middle</th>
</tr>
</thead>
</table>

Sex: ______ Male

Age: ______ Younger than 17 years 6 months

________ 17 years 6 months to 19 years 11 months

________ 20 years or older

Citizenship or nationality: What country:

Have you served in the Armed Forces: ______ If so, how long?

Name your overseas assignment, if any:

Home Town:

Have you lived in town other than that where you now live:

Describe briefly

Birthplace:

Where have you traveled or lived outside the U.S.? Describe briefly:

Family Data

(Indicate family members who are deceased and mark their names with DEC and year of death. In cases where parent or parents are re-married give data for stepparent, if possible; mark this way: Stepparent - John Doe, 56 years, etc.)
What is your political preference?

Give some adjectives or phrases that describe your political attitudes:

Briefly, why do you hold the political views that you hold?

High school attended ______ parochial
______ private
______ public

Approximate number of students enrolled: ______

Describe briefly the extracurricular activities in which you participated. Underline the one that was most meaningful to you.

Which category best fits the educational plans you have for yourself?
______ at least one year of college
______ at least two years
______ four years or bachelor's degree (B.A., B.S., etc.)
______ master's degree or teaching credential
______ professional degree (M.D., D.D.S., etc.)
______ doctorate (Ph.D., Ed.D.)

To what extent do you expect to be self-supporting while in college? (Make a % estimate)

If working, approximately how many hours per week?

My vocational plans are: ________ definite
______ I have a vocational preference but have not ruled out other occupations
______ undecided.
What do you consider the most important feature of an ideal job?

_______ provides an opportunity to use one's special abilities.

_______ permits one to be creative and original.

_______ enables one to look forward to a stable and secure future.

_______ provides one with a chance to earn a good deal of money.

_______ gives one an opportunity to be of service to others.
## APPENDIX C

### INTERCORRELATIONS OF VARIABLES TREATED BY FACTOR ANALYSIS

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<thead>
<tr>
<th>VARIABLE NAME</th>
<th>1</th>
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<th>4</th>
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b. Complete scale name and test score in Table
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