

71-21,639

DUNNING, James E., 1936-
VALUES AND HUMANITIES STUDY: AN OPERATIONAL
ANALYSIS OF THE HUMANITIES USING THE MYERS-
BRIGGS TYPE INDICATOR.

Claremont Graduate School and University
Center, Ph.D., 1970
Education, psychology

University Microfilms, A XEROX Company, Ann Arbor, Michigan

© 1971

James E. Dunning

ALL RIGHTS RESERVED

VALUES AND HUMANITIES STUDY:
AN OPERATIONAL ANALYSIS OF THE HUMANITIES
USING THE MYERS-BRIGGS TYPE INDICATOR

by

JAMES E. DUNNING

A Dissertation submitted to the Faculty of
Claremont Graduate School in partial
fulfillment of the requirements for the
degree of Doctor of Philosophy in the
Graduate Faculty of Education

Claremont
1970

Approved by:

John A. Hutchins

We, the undersigned, certify that we have read this dissertation and approve it as adequate in scope and quality for the degree of Doctor of Philosophy.

Visiting Examiner

Faculty Reader

Faculty Reader

Supervisory Committee

J. A. Hutchins

Chairman

Lois Langland

Clyde E. Curran

CONTENTS

	Page
LIST OF TABLES	iv
LIST OF ILLUSTRATIONS	vii
Chapter	
I. INTRODUCTION	1
II. LIBERALIZATION, HUMANIZATION AND IDEOLOGICAL DEVELOPMENT .	7
Relevant Research	
III. THE STUDY	18
The Myers-Briggs Type Indicator	
Questionnaire	
Academic Data	
Population Studied	
Procedures	
IV. PRELIMINARY FINDINGS	32
Biographical and Demographic Characteristics	
Educational Aspirations	
Attraction to Scripps	
Religious Factors	
Political Identification	
Style of Life	
Educational Goals	
College Ecology	
Academic Majors	
Academic Performance	
Myers-Briggs Type Indicator	
V. MYERS-BRIGGS TYPES AND HUMANITIES STUDY	124
Interest	
Aptitude	
Achievement	

VI. FUNCTIONAL IMPLICATIONS FOR SCRIPPS	168
Selection	
Program	
Evaluation	
VII. CRITIQUE AND DIRECTIONS FOR FURTHER STUDY	179
BIBLIOGRAPHY	188

LIST OF TABLES

Table	Page
1. Response to Questionnaire	30
2. Size of Home Community	33
3. Point of Entrance to Scripps	35
4. Type of Secondary School Attended	36
5. Size of High School Graduating Class	37
6. Birth Order	39
7. Family Domestic Status	41
8. Mothers' Educational Attainment	42
9. Fathers' Educational Attainment	43
10. Intent to Transfer from Scripps	45
11. Aspiration to Graduate Study	45
12. Postgraduate Educational Plans of Subjects Indicating Aspirations to Continue	46
13. Attraction to Scripps	48
14. Reasons for Attending Scripps	50
14A. Reasons for Attending Scripps	52
15. Sectarian Affiliation	56
16. Trend in Religious Affiliation	58
17. Church Attendance	61
18. Change in Church Attendance	62
19. General Religious Orientation	63
20. Change in General Religious Orientation	64

Table	Page
21. Theological Tenets	67
22. Theological Tenets at Age 16	68
23. Certainty of Beliefs	70
24. Theories of Value	71
25. Political Identification	73
26. Political Identification of Parents	74
27. Comparison of Student Political Identification to Those of Parents	76
28. Factors in Choice of Career	78
29. Anticipated Post-College Activities	81
30. Factors Contributing to Satisfaction with Future Home Community	82
31. Importance to Students of Curricular and Cocurricular Objectives	84
32. Importance of Curricular and Cocurricular Objectives to Faculty as Perceived by Students	88
33. Disparity Between Student Objectives and Perceived Faculty Objectives	91
34. Degree of Participation in Curricular and Extracurricular Activities	95
35. Impact of College Ecology upon Values and Attitudes	101
36. Comparative Impact of College Ecology upon Values and Attitudes	106
37. Impact of Academic and Institutional Experiences upon Values and Attitudes	112
38. Academic Majors	115
39. Academic Performance by Subject Area	117
40. Frequencies of Individual Preferences	121

Table	Page
41. Two-Preference Combinations	121
42. Percentage of Units in Academic Areas by Type	136
43. Correlation of Verbal Aptitude and Academic Performance . .	151
44. Performance in Subject Areas by Type	154
45. Academic Performance and Aptitude by Preference	156
46. Effect of Intuiting-Feeling Combinations on Separate N and F Preferences	159
47. Effect of Intuiting-Thinking Combinations on Separate N and T Preferences	161
48. Effect of Feeling-Judging Combinations on Separate F and J Preferences	163
49. Effect of Thinking-Judging Combinations on Separate T and J Preferences	164

LIST OF ILLUSTRATIONS

Figure	Page
1. Comparison of Scripps with Other Collegiate Samples	119
2. Frequency of Types by Major	130
3. Percentage of Majors Comprised of Each Type	131
4. Ratio of Percentage of Types in Each Major to Percentage of Total Sample in Each Major	132
5. Ratio of Unit Totals in Academic Areas to Sample Means by Type	135
6. Mean Units in Academic Areas by Preference	138
7. SAT-V and SAT-M Means by Type	142
8. Mean Verbal and Mathematical Aptitude by Type	147
9. Academic Performance and Mathematical Aptitude by Type . . .	148
10. Academic Performance and Verbal Aptitude by Type	149
11. Academic Performance and Verbal Aptitude by Preference . . .	150
12. Cumulative Grade Average Distribution by Preference	157
13. Academic Performance by Major	166

CHAPTER I

INTRODUCTION

The grouping of disciplines known as the humanities appears to be not only traditional, but virtually ubiquitous in the Western liberal arts curriculum. Such studies are almost universally required in the general education programs of colleges featuring the customary liberal arts majors. In addition, even more technically and pragmatically oriented colleges, such as those of business, agriculture, or engineering, nearly always specify some exposure to the humanities, though often in lesser quantities than among institutions of the former type.

Most frequently involved is the election of a given number of humanities-related courses. Alternatively, the insights and content of the component humanistic disciplines may be combined in an interdisciplinary core course under such titles as Western Civilization, Western Traditions, History of Civilization, The Humanities, and so on.

The proper combination of disciplines necessary to these schemes, and the relative emphasis each should receive, is not always clear, but in general Humanities courses attempt to integrate the fine arts, literature, philosophy, religion, and history. Justifications for foreign language study in the humanities curriculum may range from a purely pragmatic service role to an intensely humanizing view.¹

¹Cf. Joseph Katz and Nevitt Sanford, "The Curriculum in the Perspective of the Theory of Personality Development," The American College, ed. Nevitt Sanford (New York: Wiley, 1962), pp. 437-439.

Whatever the merits and rationales for the component fields of study, the fact that the humanities are dealt with as a global concept as well as individual disciplines suggests that the admixture of these adds up to a total greater than the sum of its parts. The intriguing question is what the nature of this larger entity might be. The generic term humanities, it might be held, implies that a process of humanization is the larger end, transcending the messages of the separate component areas. This question does not appear to be adequately answered in the objectives which humanistic education commonly states for itself.

Thus, it might be questioned whether the perennial offering of such a key curricular element as the humanities can be warranted by its very existence, or is it incumbent upon the college and the teacher to view this curricular experience in terms of the overall humanizing development of the student? In this light, Nevitt Sanford points out that the university has much to learn from psychotherapy when it comes to the normal psychodynamic processes of individuals. While education shares with all social institutions the measurement of its success by virtue of some deliberate change wrought upon the persons who undergo it, Sanford finds the university particularly wanting for its lack of "a generally accepted theory of individual human development in accordance with which colleges may state hypotheses pertaining to the relations of ends and means."²

Psychotherapy holds an edge, it could be maintained, in incorporating techniques and procedures which are "derived from some theory in terms of which the practitioner may hypothesize relationships between what

²Nevitt Sanford, "Higher Education as a Social Problem," *ibid.*, p. 22.

he does and the effects that are achieved," so that even though "the results of psychotherapy are often disappointing, but because there is a general rationale of the whole proceeding, failures may often be understood and made a basis for improvement in practice."³ To many minds, the college has an opportunity to bring about by education changes at least as profound as those wrought through psychotherapy, but to do so it would have to rely upon adequate theories whereby its many processes may be understood and altered if necessary. Whereas curricula are most commonly defined either in the philosophical structure of knowledge, on the one hand, or in terms of learning theory and transfer, on the other, the curriculum, just as any other element of the social or physical environment, might also be defined as a complex of stimuli to which students respond in ways other than purely cognitively. In this context, the humanities could be contended to serve as a uniquely potent stimulus.

Systematic humanistic studies in the university curriculum were born of the attempt of the Renaissance to explain human motivations, accomplishments, and their meaning in a man-centered, rather than a theistic framework.⁴ Variations upon the means toward this end, as well as upon the secondary goals to be served, are as abundant as the institutions which offer such study. In general, however, five modes of presentation have been outlined by Paul Dressel and Lewis Mayhew, within which considerable latitude in objectives can still exist. The first two of these seize upon

³Ibid.

⁴Paul L. Dressel and Lewis B. Mayhew, General Education: Explorations in Evaluation (Washington: American Council on Education, 1954), ch. 6.

chronology, one on a time-line basis and the second on an inversion of chronology, projecting backward toward the historical roots of current human issues by focusing on the men, events, and ideas which have shaped the present Western mind.⁵

The next pair are largely aesthetic in orientation. The first is to instill a personal appreciation for literature and the arts in anticipation of the enrichment these will bring to later life. The other mode makes subject matter secondary to active creative endeavor, in the belief that to understand the creations of others, one must first be a creator himself.⁶

The fifth and final method of presenting the humanities holds that it is attitudes and values, rather than pure substance, which constitute the message of these studies. Certain value assumptions are inherent in each academic discipline, and it is the mission of the humanities to dramatize those of which it is the unique custodian and to contrast these with others.⁷

The present paper will focus upon this latter position in the belief that the relative stability and the capacity for self-examined modification characteristic of attitudes and values are appropriate to an understanding of the humanities and humanization. Moreover, the degree of abstraction inherent in these locates them between purely abstract philosophy, on the one hand, and tangible behavior on the other. The utility of this approach is supported by Dressel and Mayhew's dissatisfaction with efforts

⁵ Ibid., p. 140.

⁶ Ibid., p. 141.

⁷ Ibid.

to derive a workable scheme of activities which could serve as valid and reliable behavioral criteria for study in the humanities.⁸

Primarily, the present dissertation seeks to identify a limited number of conative constructs by which humanization can be understood at least in part. Dressel and Mayhew's ACE project had sought to quantify through a Humanities Participation Inventory activities and attitudes which were allegedly humanities-related, and therefore could be considered legitimate outcomes of humanities study. However, the only goals which emerged consensually from analysis of these behaviors included "to understand and enjoy literature, art, music and other cultural expressions of personal and social experience, and to participate to some extent in some form of creative activity."⁹ It was precisely the limitations of this effort which led the authors to emphasize conative categories as central to the outcomes of humanities study.

From one point of view humanities are regarded as means by which values are taught to college students. Proponents of this concept theorize that students are taught to be coldly rational in the solution of their problems in the sciences and social sciences. In the humanities they are shown that all ultimate solutions of the rational sciences rest upon value assumptions, and they are encouraged to examine some of those values. In place of relying upon the methods of science, the humanities utilize methods of religion, philosophy, and esthetic insight.¹⁰

This view provides the impetus for the present investigation to seek an operational definition of the humanities as a mode of inquiry.

⁸Ibid., pp. 159-173.

⁹Ibid., p. 142.

¹⁰Ibid., p. 141

Rather than drawing a priori prescriptions of the humanities method, this approach would infer a syntax from the methods used by persons involved in the humanities as they approach not only scholarship, but the broad spectrum of reality. Toward these ends, students in an institution specifically oriented to the humanities, Scripps College, are to be examined by a psychometric instrument chosen for qualities appropriate to this milieu. The theories underlying the design of the instrument, the Myers-Briggs Type Indicator, are to serve as an operational basis for understanding the humanities and humanization.

CHAPTER II

LIBERALIZATION, HUMANIZATION AND IDEOLOGICAL DEVELOPMENT

It has been facetiously remarked that liberal education is more useless the more liberal it is. Certainly as an area of concentration within the liberal tradition the humanities would virtually epitomize the lack of pragmatic value. As do the liberal arts generically, the humanities examine the roles of man which transcend the marketplace. They look at man qua man, not his occupational roles.

However, it may be that the increasing diffuseness of economic roles will make a paradox of the contention of uselessness. The less substantive aspects of the educational experience may prove to be the more lasting benefits of college, given the escalating fund of information which tends to make obsolete within a few short years the supposed intellectual gains of higher education. Furthermore, within one's economic lifespan, it may become necessary to play more than one or two quite disparate vocational roles. Not only is one's stability within an occupation being lessened, but the lastingness of the occupations themselves is becoming precarious. Rather than aspiring to turn out occupational specialists holding the key to better living, it may now be more realistic for colleges and universities to concentrate on the "better, wiser, more cultivated man."¹¹

Noneconomic roles are changing as well. Expanding opportunities for

¹¹Liberal Education (Summary of a discussion by the trustees of the Carnegie Foundation for the Advancement of Teaching), p. 3.

leisure, for cultural enrichment, for recreation, for continuing education, and for the ever more powerful role of the consumer all make evident the need for a wide dimension of enlightened decision making which is dependent upon freedom which is both inward and outward: inward in respect to an on-going criticism of one's own life style and the rejection of unexamined determinisms, and outward through an ability to shape one's environment in such a way as to maximize satisfying situations. This nature of freedom, states the Harvard report, is not only relevant to the enlightened individual, but is among the very goals of democracy itself.¹²

Again drawing parallels with psychotherapy, the latter--particularly the nondirective school--holds in common the acknowledgement of freedom as a valid outcome of the educational-psychotherapeutic experience. It does not aim to "do something" to the individual, but frees him for further growth. The criteria for success in these processes are analogous, says Axlerod: "The student-client-member emerges from his contact with the instructor-counselor-leader, if the program has been successful, ready to work under his own power. He is now able to instruct, counsel and lead himself."¹³

One may ask which among the many elements of the college curriculum are the most potent in this connection. Insights into the self may be quite directly gained, notes Ruth Munroe, as for instance a student seizing upon a course in biology to satisfy curiosity about his own body.¹⁴ Less direct,

¹²General Education in a Free Society: Report of the Harvard Committee (Cambridge, Mass.: Harvard University Press, 1945), pp. 52-53.

¹³J. Axelrod, "Group Dynamics, Nondirective Therapy, and College Teaching," Journal of Higher Education, XXVI (April, 1955), p. 205.

¹⁴Ruth L. Munroe, Teaching the Individual (New York: Columbia University Press, 1942), cited by Joseph Katz, "Personality and Interpersonal Relations in the College Classroom," The American College, op. cit., p. 393.

though clearly relevant, is the current trend toward ad hoc, experimental college, free university, interdepartmental, etc., courses which titillate students with topics of subjective urgency.

Less immediately discernible, however, are those outcomes of liberal education wherein personality changes stem less from knowledge of the self as an object, but as subject. Encounter with the varied nature of the impulses within the individual may come about more profoundly by more abstract means. Again, such a perception of self is regarded as a process central to psychotherapy.¹⁵ While the functions of liberal education are certainly broader than has been indicated heretofore, the intent of this investigation is to examine the ways in which the humanizing potential of the humanities bears upon these same ends of self-perception and self-realization.

That affective characteristics do distinguish humanities students from majors in other areas, for instance, can be documented. Bereiter and Freedman use a rather extreme category, that of mental disturbance, as a measure. Proposing that the respective disciplines can be represented upon a "neuroticism-mental health" dimension in terms of the collective status of their students, these authors report that majors in the humanities, the social sciences, the natural sciences, and the applied sciences are, in that order, in proximity to the neuroticism polarity.¹⁶ They state that "the groups reporting the most fears, worries, conflict, and the like are almost always in the literary or fine arts field . . . and the applied majors, such as

¹⁵ Carl Rogers, Client Centered Therapy (Boston: Houghton Mifflin, 1951), p. 208.

¹⁶ Carl Bereiter and Mervin B. Freedman, "Fields of Study and the People in Them," The American College, *op. cit.*, p. 571.

engineering, business, agriculture, education, regularly show the fewest of these psychological problems."¹⁷

While not focusing on the humanities as such, Max Wise has noted that social science students who elect courses in abnormal psychology are less normal themselves than are their colleagues who choose classes in other areas of psychology.¹⁸ This lends support to the conclusion of Bereiter and Freedman that persons who are urgently and intimately concerned with human beings and their problems are attracted to those fields of study which seem to promise answers.¹⁹

In a similar vein, Teevan also found less emotional disturbances among students of natural science than among social science and humanities majors. However, he was more specific about the kinds of disturbances peculiar to these groups. Humanities students he found to be characterized by oral-erotic disturbances, "a tendency to seek sensual gratification in oral, including verbal activities."²⁰ Likewise, Bereiter and Freedman, on the basis of specific clinical manifestations, were not convinced that emotional disturbance is monopolized by humanities majors. They refer to studies which indicate that there are large numbers of students who are equally less "well" than average, but whose adjustment is more dependent upon the repression of symptoms, and who, rather than expressing these symptoms in exotic and

¹⁷ Ibid.

¹⁸ L. M. Wise, "Abnormal Psychology as a Selective Factor: A Confirmation and Extension," Journal of Educational Psychology, L (October, 1959), 192-94.

¹⁹ Bereiter and Freedman, op. cit.

²⁰ L. C. Teevan, "Personality Correlates of Undergraduate Field of Specialization," Journal of Consulting Psychology, XVIII (June, 1954), 212-14.

evocative curricula, take refuge in the less personal, more technical fields of study.²¹

Evidence that personality traits do indeed differentiate students in the various major fields subjects the contention that liberal education is essentially useless to examination in another light. Economic or pragmatic judgments on the effectiveness of education might be augmented by--perhaps even subordinated to--understanding the respective curricula as they serve the total developmental history of the individual student. Thus, it may be appropriate to question whether higher education and its specific elements adequately account for their place in the ideological development of persons. The Carnegie report asserts correctly, albeit vaguely, that "the goals of a liberal education are the goals of a lifetime, and few men achieve them"²² If indeed the significant outcomes of higher education do not accrue until later in life, the academy and its curricula should be aware of their proper function on this time dimension, and, as Axelrod points out, they should be gravely troubled over how little is known about the relationship between narrowly conceived "educational" behavior in the classroom and the "internal processes which will bring about the learning that we have set as our long-run goals in education."²³

Relevant Research

Until recent years, research concerning college students was commonly confined to a small number of variables, usually examined one or two at a

²¹Bereiter and Freedman, op. cit.

²²Liberal Education, op. cit., p. 8.

²³Axelrod, op. cit., p. 205.

time. This left to be treated as constants an immense matrix of other cognitive, affective, conative and ecological factors germane to the student's readiness for and response to higher education. The efforts of the 1930's and 1940's were, with some notable exceptions, concerned predominantly with cognitive measures--namely, aptitude and achievement--with some immediate utility in mind, such as improving selection of students through better prediction of academic success. But, as Pace and Stern point out, even with the more exotic variables currently taken into account, predictive techniques have not improved notably over those well known in the 1930's.²⁴ Educators appear now to becoming aware that it is the processes of the university which require attention, not simply the prediction of success.²⁵

While surveying attitudes of students has long served as a rudimentary tool in institutional research, two particular milestones in research technique have facilitated the examination of the more abstract factors known as values. The first of these was the Allport-Vernon-Lindzey Study of Values,²⁶ and the second the classic inquiry into the nature of authoritarianism conducted by Adorno and others.²⁷ The development of psychometric

²⁴C. Robert Pace and George C. Stern, A Criterion Study of College Environment (Syracuse: Syracuse University Research Institute, Psychological Research Center, 1958).

²⁵Statement by Paul Heist, University of California, Irvine, November 7, 1966.

²⁶Gordon W. Allport, Philip E. Vernon, and Gardner Lindzey, Study of Values: A Scale for Measuring the Dominant Interests in Personality (Boston: Houghton Mifflin, 1960).

²⁷T. W. Adorno, E. Frenkel-Brunswik, D. J. Levinson, and R. N. Sanford, The Authoritarian Personality (New York: Harper, 1950).

instruments and techniques, as well as salient constructs, suggested by these pioneer efforts have been of substantial importance in subsequent research.

The Study of Values was designed neither specifically for college students nor as an instrument for research, and has in itself contributed few general findings of significance. In construct validity, the instrument is better suited for individual counseling, using clusters of stereotyped attitudes to connote value typologies in accordance with Spranger's types of men.²⁸ The unusual scoring system of the instrument is also the basis of psychometric criticism. Nonetheless, correlation studies of the AVL with occupational and curricular populations opened up a promising area of inquiry. Of significance for theory as well was Allport's confidence in the continuing ideological development of the individual, as contrasted with prevailing views holding the ideological structure to be largely a closed issue by adolescence.²⁹

The Adorno study likewise was not intended as an investigation into college students per se; rather, the college sample was incidental to the examination of a personality variable. The impact of the study was the revelation that authoritarianism tends to decrease with advancing education, whereas the trait had traditionally been supposed to reinforce itself over the years spanned by college. Subsequent investigators have related this tendency to specifics of the college experience, on occasion seeing fit to

²⁸ Edward Spranger, Types of Men, trans. from fifth German edition of Lebensformen by Paul J. W. Pigors. (Halle: Max Aiemeyer Verlag, 1928).

²⁹ Cf. Lee J. Cronbach, Educational Psychology (New York: Harcourt, Brace and World, 1963). Also, R. F. Peck et al., The Psychology of Character Development (New York: Wiley, 1960).

retitle the construct, such as dogmatism or stereopathy.³⁰

Possibly the most significant psychometric advancement to date in the study of the ideological development of college students, the Omnibus Personality Inventory, parallels the Adorno findings.³¹ Among the earliest and most basic constructs of the instrument is a freeing from bias and an emancipation from unexamined, parochial value orientations, as detected by factoring items which discriminated--without theoretical preconceptions--between entering and graduating college students.³²

Subsequent scales which have emerged identify syndromes which are either conducive to, or inhibitive of, such "attitude growth." It should be noted that the several scales, as well as the administration of the instrument to the large research samples for whom it was intended, has only been feasible with the advent of the computer to social science research. Only thus can the large number of variables entailed be handled with appropriate statistical sophistication.

The same holds true for the use of longitudinal methods in studying a population over a period of time. Early efforts in this technique, though statistically primitive, were nonetheless often profound. The pioneer investigation of this sort was that by Theodore Newcomb, whose study of Bennington College women commenced in the mid-1930's and spanned an entire

³⁰Cf. Milton Rokeach, The Open and Closed Mind (New York: Basic Books, 1960), and I. J. Lehmann and Paul L. Dressel, Critical Thinking, Attitudes, and Values in Higher Education (East Lansing: Michigan State University, 1962).

³¹Paul Heist and George Yonge, Omnibus Personality Inventory, Form F (New York: Psychological Corporation, 1968).

³²Ibid., pp. 2-3.

generation.³³ Another milestone with particularly traumatic effects was Philip Jacob's study which, though published in 1957, was largely a quasi-longitudinal study built upon data gathered from numerous sources in the preceding two decades.³⁴ For this methodological peculiarity, as well as others, Jacob's work has been soundly criticized from many quarters.³⁵

Weaknesses aside, the greatest impact of his book was its sobering conclusions about the general impotency of the college to bring about any changes in students apart from strictly informational ones. Rather than assisting students in becoming more authentically individualistic, claimed Jacob, the college experience serves only to homogenize the middle class values which already predominate among persons who have access to higher education. Higher education would thus be a socializing and not a liberalizing experience. While some individuation is inevitable simply through maturation, the fundamental dynamic within the academy would be that students tend to become more alike over the years. The few changes that do occur, Jacob contended, do not transpire through independence of mind or innovative thinking, but are socially contrived to

. . . bring greater consistency into the value-patterns of the student and fit these patterns to a well-established standard of what a college graduate in American society is expected to believe and do. . . .

³³Theodore Newcomb, Personality and Social Change: Attitude Formation in a Student Community (New York: Dryden Press, 1943).

³⁴Philip Jacob, Changing Values in College (New York: Harper Brothers, 1957).

³⁵Cf. Allen H. Barton, Studying the Effects of College Education (New Haven: Edward W. Hazen Foundation, 1959), and Walter Plant, Personality Changes Associated with a College Education (San Jose: San Jose State College Press, 1962). Barton cites mainly problems of theory, construct definition, and research design, while Plant criticizes Jacob's statistical techniques of assessing homogeneity in groups and measuring change over time.

[The student is a] cultural rubber stamp for the social heritage as it stands. . . .³⁶

Thus it is that advocates of ideological development as a prime outcome of the college experience have been faced with the deflating conclusion that the imparting of information and the training of critical thinking may then be the only feasible objectives for higher education. All other goals, according to Jacob, would appear to be futile.

Two years after Jacob's book, Edward Eddy countered the former's pessimism with a study that credited the American college with a more profound impact upon student values.³⁷ While in agreement with Jacob that the relative position of an individual within his cohort, as defined by certain conative traits, remained reasonably constant, Eddy differed in showing that the value structures of entire cohorts tended to change through the college years. Eddy held that such changes are positively related to the intellectual climate of an institution, with colleges of high standards breeding an aura of self-respect with which low standards on other dimensions of character are incompatible. The fact that conative growth is feasible, the study concludes, justifies the inclusion of such aims in higher education.

Examining students of essentially the same generations as did Jacob and Eddy, Max Wise was able to incorporate more precision in interpreting the uniqueness of the students of the 1950's.³⁸ He found the latter to be conservative, apathetic, introspective, and introverted--fabled character-

³⁶Jacob, op. cit., p. 38.

³⁷Edward Eddy, The College Influence on Student Character (Washington: American Council on Education, 1959).

³⁸Max Wise, They Come for the Best of Reasons: College Students Today (Washington: American Council on Education, 1958).

istics of the "silent generation." Still, he was convinced of a substantial heterogeneity within the college population, contending that students varied more among themselves than did either their antecedent generations or their contemporaries in other countries. By thus pointing out the differences among students, Wise indicted the academy for not improving its teaching respective to varying needs.

If personality factors are to be regarded as variables integral to the various processes of education, then the obligation is to examine them among the various inputs, outputs, and environmental conditions of the academic setting. The question is, "What kinds of students behave in what ways under what conditions?" Within this context, the present ex post facto study of students involved in the study of the humanities is to take place. The foregoing findings suggest that it is reasonable to inquire whether the humanities and the students involved in them can be characterized by some uniquely potent dynamics. For instance, outside of purely cognitive gains, it may be assumed by definition that among the legitimate aims of humanistic study would be that of humanization. This investigation, by operational means, seeks to identify variables which may deepen an understanding of humanization and the aims of humanistic study.

CHAPTER III

THE STUDY

The preceding chapters have stressed two points prefatory to this investigation: one, that the ends of liberal education go substantially beyond substantive, informational gains, and two, that the study of the humanities not only may facilitate, but may even optimize, certain nonintellective changes. An empirical quest for such dynamics associated with study in the humanities will be construed as defining, at least in part, the humanizing element of this particular curricular experience.

According to Kerlinger, operational definition of a construct is comprised of the meaning inherent in the activities or operations necessary to measure it.³⁹ Optimally, then, humanization would be defined by the attainment of appropriate scores on a test of humanization--an instrument of which nature is, to the writer's knowledge, not existent. Presumably one could be contrived, but it would of necessity be grounded in existing categories of personality, attitudes and values on the one hand, or in recognized cognitive skills or acquisitions on the other--perhaps both. Skinner makes it clear that operational definition is particularly called for in connection with a term such as humanization, stating that "the operational attitude, in spite of its shortcomings, is a good thing in any science but especially in psychology because of the presence there of a vast vocabulary

³⁹Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, 1964), p. 33.

of ancient and nonscientific origin."⁴⁰ Kerlinger adds that this is certainly no less true in education, where the traditional terminology is equally imprecise.⁴¹

While numerous operations could be employed in examining the humanities, the preceding sections have suggested one strategy as measuring the potential for appropriate or inappropriate behavior, with stress upon the individual's choice of ways to act. Thus, rather than inquiring into certain intellectually "respectable" modes of thinking or of cognition, this approach would examine one's choice of what type of mental processes he should employ. The research instrument selected for this phase of the study was the Myers-Briggs Type Indicator.⁴²

The Myers-Briggs Type Indicator

The property of this instrument deemed most desirable was its theoretical basis upon the individual's choice of methods typically used in apprehending the world. According to the Jungian personality theory from which the test is derived, persons habitually apply choices between opposite styles, or dichotomous functions, which lead them to behaviors and to situations, which will maximize their enjoyment.⁴³ Thus, what appear to be random variations in human behavior are actually consistent with basic differences

⁴⁰B. F. Skinner, "The Operational Analysis of Psychological Terms," Readings in the Philosophy of Science, ed. H. Feigl and M. Brodbeck (New York: Appleton, 1953), p. 586.

⁴¹Kerlinger, loc. cit.

⁴²Isabel Briggs Myers, The Myers-Briggs Type Indicator (Princeton: Educational Testing Service, 1962).

⁴³Carl G. Jung, Psychological Types (London: Rutledge and Kegan Paul, 1923).

in the way persons use the most fundamental of these preferences, perception or judgment.⁴⁴ The first of these entails the process of becoming aware of the world, and the second the tendency to come to conclusions about it.⁴⁵ The overt forms which these preferences will assume are determined by dichotomous ways in which one focuses his attention: with introversion, or upon the inner world of ideas and concepts; or with extraversion, or the external world of environment.

An affinity for perceiving also indicates that the individual will likely choose between sensing and intuiting as his preferred style of perception. Similarly, a preference for judging most often involves a choice between thinking and feeling as the most satisfying means for arriving at judgments.

From the four dichotomous pairs of preferences are possible sixteen types, each composed of four preferences. While a choice of perception (P) over judgment (J), for example, would make more likely the option of choosing between sensing (S) and intuiting (N)--the commonest modes of perceiving--it is nonetheless possible for the perceptive person to opt between thinking (T) and feeling (F) instead, even though these are typically modes for judgment. This is because the subordinate of the P or J pair nonetheless remains present, and its component function may be sufficiently strong to overrule that which is supposedly inherent in the dominant of the pair. Whether these combinations are used with introversion (I) or extraversion (E) is independent of theoretical association. That is to say, I and E are not theoretically

⁴⁴Myers, op. cit., p. 2.

⁴⁵Ibid.

bound to any of the other preferences.

The Jungian scheme underlying the Indicator, it should be noted, pertains to the entire spectrum of human activity, and not just a circumscribed realm of behavior, as for example education. The constructs represented in the eight preferences and sixteen types are therefore validated against very general and diverse kinds of behavior.

Another salient psychometric assumption of the Indicator is the primacy given to the ascription of types rather than to scaled scores within preferences. The authors hold that the subtle shadings of continuous scores are of substantially less utility in the interpretation of the test than are the more gross descriptions inherent in simple preferences and combinations of preferences.⁴⁶ Because of this, and because clear dichotomizations on the I-E, N-S, F-T, and P-J dimensions are essential, construct validity of the instrument is dependent upon the sharpness of the contrasts to be found within the population. The author and others, however, are quick to point out that dichotomization is not readily found either in the distribution of continuous scores or in the occurrence of the types among the general population.⁴⁷ In general, distribution curves are platykurtic, particularly among samples of college students.⁴⁸ While some particular populations and samples, primarily nonacademic ones, often evidence skews in distributions, rarely if ever is bimodality apparent.⁴⁹

⁴⁶ Ibid., pp. 2-3.

⁴⁷ Cf. L. J. Stricker and J. Ross, A Description and Evaluation of the Myers-Briggs Type Indicator, Research Bulletin 62-6 (Princeton: Educational Testing Service, 1962).

⁴⁸ Myers, op. cit., pp. 17ff.

⁴⁹ Ibid.

Consequently, dichotomization has been validated most often by the regression of some dependent variable against the opposing preferences. To establish this kind of construct validity, then, entails concurrent validation as well, and since many of the concurrent variables employed by Myers have been relevant to college populations and to academic endeavor, these cross-validations are highly informative to this investigation.

Myers stresses the valuational character of the types as they relate to one's own demands of excellence upon himself as he executes the requirements of the preferences in a manner which maximizes satisfactions.

[The] independent development of perception and judgment, beyond the effortless minimum resulting from the bare preferences, is a major factor in individual success and satisfaction. It is tentatively supposed that such development may be related to the effort ⁵⁰ the individual has expended in an endeavor to do something well.

It is Myers' view that the relative strengths of the scores, however, should not be regarded as measurements of the excellence of development.⁵¹ The intended manner of interpreting scores is that a hypothetical score of zero places the individual in the middle of the dichotomy, and he can only be identified with any utility by whichever side of zero his score falls on.

The Myers-Briggs theory of measurement is primarily a positive one. The assessment of traits is based upon supposed strengths in the respective preferences, not upon pathology or alleged weakness in a clinical sense. Thus, while variables such as those cited by Bereiter and Freedman and by Teevan above⁵² discriminate between health and illness, normalcy and

⁵⁰Ibid., p. 73.

⁵¹Ibid.

⁵²Supra, pp. 9-11.

abnormalcy, the Jungian types stress a variety of paths toward self-fulfillment. According to Jung, these preferences emerge very early in life, and may possibly be inborn. Rather than modifying in another direction over the years, the preferences are viewed as becoming more firmly entrenched to the point of habit.⁵³

Concurrent validation of the Indicator is of value not only in verifying and elucidating the constructs inherent in the eight preferences and their numerous combinations, but also in providing associations with a number of educational variables relevant to the present study. While direct comparisons with other personality instruments is handicapped by the lack of comparable scales, it should be noted that one other instrument based on the same theory and utilizing scales identical to those of the MBTI (except for J-P) does exist. The Grey-Wheelwright Psychological Type Questionnaire was developed entirely independently of the Myers-Briggs, yet intercorrelations among the scales have led Myers to conclude that they are essentially two forms of the same test.⁵⁴

Concerning the several regression studies, Myers is content not only that these acceptably cross-validate the MBTI scales, but that they support the theoretical requisite of consistency in the way that subjects describe themselves.⁵⁵ The variety of instruments and scales with which significant correlations have been made is useful. For example, of 180 correlations between the Indicator scales and those of the Strong Vocational Interest

⁵³Jung, op. cit.

⁵⁴Myers, op. cit., pp. 21-22.

⁵⁵Ibid., p. 23.

Blank, ninety-six were significant beyond the .01 level.⁵⁶ The scales of the Allport-Vernon-Lindzey Study of Values, particularly those which correlate well with the Strong, likewise showed significant relationships with the Myers-Briggs; these were particularly pronounced with S-N and T-F.⁵⁷ The Edwards Personal Preference Schedule, despite a set of constructs substantially different from those of the foregoing two instruments, provided twenty-four significant correlations with the MBTI out of a possible sixty (.01 level).⁵⁸

In addition to these paper and pencil personality reports, other educationally relevant variables have provided useful relationships. Ratings by college faculty of students' behavior respective to academic work produced thirty-five significant (.05) correlations out of 104.⁵⁹ In addition, impressive research linking the Myers-Briggs scales to creativity in several occupations has been performed,⁶⁰ as have several studies of occupational success and stability with which educational analogies can be drawn.⁶¹

While the Indicator is germane to virtually any realm of behavior in

⁵⁶Stricker and Ross, op. cit.

⁵⁷Myers, op. cit., pp. 24-25.

⁵⁸Ibid., pp. 25-26.

⁵⁹Ibid., pp. 27-28.

⁶⁰Cf. D. W. MacKinnon, "On Becoming an Architect," Architectural Record, CXXV (1959) 4-6. "The Highly Effective Individual," Teachers College Record, LXI (April, 1960) 367-78. "Architectus Creator Varietas Americanus," Journal of the American Institute of Architects, XXIX (September, 1960) 31-35. The Personality Correlates of Creativity: A Study of American Architects (Berkeley: Institute of Personality Assessment and Research, 1961). "Fostering Creativity in Students of Engineering," Journal of Engineering Education, LII (December, 1961) 129-142.

⁶¹Myers, op. cit., pp. 28-31.

which the preferences can be exercised, Myers suggests that it may be especially apt for understanding educational settings and the persons in them.

The Indicator would seem useful in adapting the educational program with all its aspects--social, disciplinary, extra-curricular, as well as academic--to meet the needs of the majority of students or of groups that find rough sledding therein. In a given setting, what are the typical type preferences of successful students as opposed say, to failures or withdrawals: How do majors in the various departments line up? What are the preference-types of the faculties, or of the admissions committees, and how do these affect selection and the task of motivating students, and how does type color the evaluation of students by faculty?⁶²

Myers has also defined the threefold academic applications of the Indicator: studies of aptitude, of application, and of interest.⁶³ In connection with the first, she is careful to explain, the instrument is not adequate in itself to offer any improvement over existing methods in predicting academic performance; it is not what the types can tell about grades that has utility in aptitude studies, but what grades can tell about the types.⁶⁴

The real utility or the preferences in this respect should be in suggesting reasons for variations in performance, not anticipating them. For instance, while there is little question that IN is strongly associated with academic potential,⁶⁵ fine increments of performance would not lend themselves to a typological approach. A simple high performance-low performance dimension might be more wieldy.

The second academic category, interest, is not dealt with at length

⁶²Ibid., p. 81.

⁶³Ibid., p. 35.

⁶⁴Ibid.

⁶⁵Ibid., pp. 12-13.

in the Myers-Briggs literature, other than in respect to findings on occupational success. The present investigation aspires to illuminate this area to a degree, at least insofar as a limited curricular topic is concerned. The third category of study which Myers has offered, application, may be understood as the conforming of one's attention and efforts to some task which is clearly required. While Myers has enlightened this somewhat with findings from the occupational world, and indirectly through certain personality instruments and by faculty ratings on habits of scholarship, this study will also examine attitudes and habits which pertain most directly to humanistic study.

Questionnaire

Additional data pertaining to the specific setting for this investigation were solicited via a specially prepared questionnaire. Primary among these factors were certain biographical, demographic, and ecological data by which the origins of Scripps students could better be described. In addition, a number of self-reports on attitudes were included, some of which involved religious and political persuasions, but by and large emphasizing each student's purposes and expectations in and through higher education in general, and at Scripps in particular.

A final portion of the questionnaire centered upon the extent and the quality of each subject's involvement with various activities and behaviors--curricular, cocurricular, and extracurricular--on and near the campus. These items also surveyed students' interactions with significant persons in the college environment.

Academic Data

The collegiate academic performance of the subjects was taken into consideration, along with scholastic aptitude as measured by the Scholastic Aptitude Test Verbal and Mathematical scores. Performance was examined via an index of total achievement--the cumulative grade point average--and by subdividing the academic record into specialized areas.

The primary categories in respect to the latter were the Humanities sequence, and work in those disciplines--apart from the Humanities sequence itself--which are considered elements of humanistic study. For purposes of this project, these consisted of course work in English and literature, foreign languages, history, philosophy, religion, and the fine arts. Other disciplinary areas were the social sciences and area studies, and the natural sciences.

Another variable was that of academic majors. These were grouped essentially in line with the academic areas above, with the exception that fine arts majors were regarded separately. No Humanities majors per se are possible in the Scripps program, the term being used generically in the discussion of majors to include those in the related disciplines cited above. Students whose major was uncertain at the time of the survey were treated as yet another category.

Population Studied

Scripps College at the time of this investigation, late 1965, was one of two all-women colleges in the Claremont cluster with an enrollment of 380. Since its founding in 1926, Scripps' curricular emphasis has been on the humanistic tradition. This has shaped discernibly the classroom and extra-classroom programs of the college. Formally, when this study was made, the

Humanities constituted the core of the curriculum by requiring a three year, six unit per semester sequence for all students. In addition, six more units could be elected during the senior year. Thus, while students may report themselves to be majoring in any number of areas, including the fine arts, the social and the natural sciences, as well as the component disciplines of the humanities, such concentrations are likely to total fewer class hours than does the core Humanities sequence. All students are, in essence, Humanities majors.

Procedures

In October, 1965, a letter was sent to every Scripps student over the signatures of the writer and a Scripps faculty member whose personal research interests and moral support both were indispensable to the success of this project. The letter solicited participation in a group testing session, at which time the Myers-Briggs Type Indicator and the questionnaire--both self-administering--were to be completed. A separate letter from the president of the college added his endorsement of the study and his exhortation to take part.

A turnout of only forty-eight students, mostly freshmen, was discouragingly low, and a make-up session the ensuing Saturday elicited only thirty-five more subjects. However, interested faculty, the college president, the student council, and the residence hall presidents resolved that the test materials should then be circulated to all untested students by means of their individual mailboxes and completed on their own time. An officer in each dormitory was designated to retrieve the materials.

The Myers-Briggs Type Indicator and the questionnaire were finally

collected in mid-December, 1965. Usable returns, including those from the early group sessions, numbered 218, or 57.4% of the enrollment. Freshmen were proportionally the most cooperative with eighty-six (68.8%) taking part. Sophomores were the least well represented with only forty-nine (44.5%) responding. Of the juniors, fifty-one (61.4%) participated, as did thirty-two (51.6%) of the seniors.⁶⁶

Before proceeding with the preliminary findings, the obvious frailties of this sampling procedure should be acknowledged. Plainly, all were volunteers, sacrificing a week night, a Saturday morning, or otherwise at least two hours of their time to complete the materials provided. The motives behind taking part either in the group session or in one's own room would naturally be diverse, just as would be the reasons for not taking part. Hopefully among the positive motives would have been a constructive desire for such an appraisal on behalf of the college, and perhaps to contribute to some degree to a scholarly effort. For the sake of the methodological soundness, however, one would have to hope for a similar cross section of negativistic attitudes to the degree that they existed in the untested Scripps population.

A second impetus to respond might have been gullibility, or to be more complimentary, over-reaction to the letters soliciting participation.

⁶⁶At the risk of drawing a priori inferences from this first empirical datum, it is interesting to note an intriguingly consistent similarity between the freshman and junior respondents as groups, and a pairing of less dramatic degree between the sophomore and senior groups. Also in this initial statistic, the sophomores represent an extreme in their collective responses-- a "maverick" quality which will be seen to pervade their reports throughout the study. As a group, sophomores presented the least typical of what might be supposed to be stereotypical Scripps responses. To a lesser degree, the junior group was relatively more conforming to the Scripps stereotype--or more properly to the norms of the overall sample.

TABLE 1
RESPONSE TO QUESTIONNAIRE

Class	Responded to Questionnaire	Population Enrolled	Percentage Responding
Freshman	86	125	68.8
Sophomore	49	110	44.5
Junior	51	83	61.4
Senior	32	62	51.6
Total	218	380	57.4

The heavy involvement of freshmen particularly might have stemmed from sensing a note of compulsion in the cover letters, whereas the more worldly upper classmen may have felt more free to resist even a low-key effort to "coerce" them. However, a strictly linear model of "sophistication versus willingness to participate" would have to be rejected due to the sophomores, and not the seniors, being the least involved of the four classes.

One portion of the questionnaire was conceived as a check over such attitudes of the respondents, this being the concluding item which asked for subjective responses regarding Scripps and this effort to analyze it. The broad range of outlooks voiced seemed to exercise some assurance that the positive-negative attitude spectrum was well represented--though how well in proportion to the parameters of the Scripps population cannot be known.

CHAPTER IV

PRELIMINARY FINDINGS

Biographical and Demographic Characteristics

Demographic origins. When considering a megalopolitan area such as southern California, whence the bulk of these students have come, one might wonder at the futility of describing home origins in terms of population size. Are there substantive differences among a city of 50,000, a suburb, and a city of over one million when one might appear to be living in all three simultaneously? Moreover, can one expect accuracy in the self-reports when students might themselves be confused as to the proper response? Nonetheless, the perceptions of these subjects in making their reports may be more important than responding in politically precise categories. Whether she describes the home community as suburban or as a city of 10,000, for example, does indicate which unit the student perceives as significant: Is the metropolitan center or the local municipality her source of identity? Furthermore, some suburbs could properly be defined as rural, but the term with which the student identifies should indicate which ethos she regards as most influential.

In responding to the options offered (Table 2), seniors represented the least urban origins--assuming that large cities are indeed the most urban--though none indicated purely rural homes. The medium sized town was the most frequently cited home community among that class. Freshmen stemmed most frequently from suburbs of large cities and from medium sized cities.

TABLE 2
 SIZE OF HOME COMMUNITY
 (Percentages in parentheses)

	Class				
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)	Total (N=218)
a. Rural farm, village	5 (5.8)	---	2 (3.9)	---	7 (3.2)
b. Small town (under 10,000)	7 (8.1)	5 (10.2)	4 (7.8)	5 (15.6)	21 (9.6)
c. Medium sized town (10,000-50,000)	15 (17.4)	10 (20.4)	10 (19.6)	10 (31.3)	45 (20.6)
d. Small city (50,000-100,000)	9 (10.5)	4 (8.2)	8 (15.7)	1 (3.1)	22 (10.1)
e. Medium sized city (100,000-500,000)	20 (23.3)	13 (26.5)	7 (13.7)	6 (18.8)	46 (21.1)
f. Large city (over 500,000)	10 (11.6)	8 (16.3)	8 (15.7)	5 (15.6)	31 (14.2)
g. Suburb of a large city	20 (23.3)	7 (14.3)	12 (23.5)	2 (6.3)	41 (18.8)
h. Military base	---	1 (2.0)	---	---	1 (.5)
i. No response	---	1 (2.0)	---	3 (9.4)	4 (1.8)
	(100.0)	(99.9)	(99.9)	(100.1)	(99.9)

The bulk of sophomore respondents also came from medium sized cities, and this group might be considered the most urbanized of all. Juniors were the most evenly distributed among the options listed, with their most typical origins being suburban. Juniors were second only to seniors in having come from smaller communities.

Of the total sample, the typical home had been in a medium sized city, or secondarily in medium sized towns. Suburban origins ranked third, followed by large cities. Only 3.2% of all respondents reported rural homes, and no more than three times that proportion indicated that they were from small towns. Again, the distinctions among these categories and "the suburbs" may be cloudy.

Educational origins. Table 3 ascertains the variety of educational transitions undergone by the students in the sample. The subjects overwhelmingly had followed a normal route from high school to Scripps. Transfer students constituted an insignificant number, these being concentrated among the junior respondents.

The overall sample, as Table 4 indicates, had come heavily from public high schools, and an even larger number had attended coeducational institutions. Only one out of five Scripps students apparently stemmed from a "traditional" private girls' high school. The widest departure on this variable came again among the sophomore class, representing the greatest incidence of high schools which were coeducational, whether private or public.

Differences in the size of high school graduating classes are apparent in Table 5. Sophomores came disproportionately from larger high schools. The greatest number of freshmen were also from large schools, but this class

TABLE 3
POINT OF ENTRANCE TO SCRIPPS

	Class			
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)
a. Entered as a freshman directly from high school	85	49	46	28
b. Entered as a freshman, but had been out of school for a time	1	--	--	2
c. Entered Scripps, transferred to another college, then returned	--	--	1	--
d. Entered Scripps, left school for a time, then returned	--	--	--	1
e. Transferred to Scripps from a junior college	--	--	1	--
f. Transferred to Scripps from a four-year college	--	--	3	1

TABLE 4

TYPE OF SECONDARY SCHOOL ATTENDED
(Percentages in parentheses)

	Class				
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)	Total (N=218)
Public	58 (67.4)	41 (83.7)	30 (58.8)	24 (75.0)	153 (70.2)
Private	28 (32.6)	8 (16.3)	21 (41.2)	8 (25.0)	65 (29.8)
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
Coeducational	66 (23.3)	45 (91.8)	36 (70.6)	26 (81.2)	173 (79.4)
Girls only	20 (76.7)	4 (8.2)	15 (29.4)	6 (18.8)	45 (20.6)
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

TABLE 5
 SIZE OF HIGH SCHOOL GRADUATING CLASS
 (Percentages in parentheses)

	Class				
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)	Total (N=218)
a. Fewer than 50	16 (18.6)	2 (4.1)	13 (25.5)	5 (15.6)	36 (16.5)
b. 51-100	7 (8.1)	2 (4.1)	10 (19.6)	5 (15.6)	24 (11.0)
c. 101-300	12 (14.0)	8 (16.3)	7 (13.7)	6 (18.8)	33 (15.1)
d. 301-500	13 (15.1)	14 (28.6)	11 (21.6)	8 (25.0)	46 (21.1)
e. More than 500	36 (41.9)	23 (46.9)	10 (19.6)	8 (25.0)	77 (35.3)
f. No response	2 (2.3)	---	---	---	2 (.9)
	(100.0)	(100.0)	(100.0)	(100.0)	(99.9)

was more evenly distributed among the less populous alternatives. The most equitable apportionment among categories of school size was in the senior class, who also tended most frequently to be from private school backgrounds.

Overall, the pattern of high school size could be expected to replicate the profile of freshmen, as the large N of this class would dictate. However, the pattern of the total sample resembled that of the senior class more than any of the other upper classes, perhaps suggesting that size of high school is unrelated to persistence at Scripps.

Family variables. It is generally acknowledged that there exist associations between birth order and both college attendance and performance.⁶⁷ A slight under representation of firstborn in the Scripps sample is evidenced in Table 6. Of those women surveyed, firstborn or only children constituted 48.6%. This compares with 47.5% for the general female population and 55.6% for female college students.⁶⁸ Variations among the four classes were slight, ranging from 46.9% for sophomores to 50.0% for seniors.

One purpose in selecting Scripps for this research setting was the supposition that numerous controls on input characteristics were exercised by the socio-economic and intellectual reasons whereby these students had selected Scripps, as well as Scripps having had selected them. The primary control on socio-economic status one would expect to be the high cost entailed in a private residential college. Although not tabulated, a cursory reading of fathers' occupations showed these to have been so overwhelmingly

⁶⁷S. Schachter, "Birth Order, Eminence and Higher Education," American Sociological Review, XXVIII (October, 1963), 757-68.

⁶⁸Alan E. Bayer, "Birth Order and College Attendance," Journal of Marriage and the Family, XXVIII (November, 1966), 480-84.

TABLE 6
 BIRTH ORDER
 (Percentages in parentheses)

	Class				
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)	Total (N=218)
Eldest or only sibling	42 (48.8)	23 (46.9)	25 (49.0)	16 (50.0)	106 (48.6)

professional and managerial as to preclude comparisons among groups. There was a small representation of blue collar parentage, but these were so small in numbers and diverse in type as to obviate any meaningful groupings.

Parents' domestic status. The most surprising of the findings summarized in Table 7 was the paucity of broken homes in the backgrounds of the subjects. Nearly 86% were living with both father and mother at the time of high school graduation. Only 3.3% indicated that there had been separation or divorce in the family, while another 3.2% mentioned a stepparent whose presence might have been due either to divorce or to death of a parent. Differences among the four classes were slight, with sophomores indicating the greatest incidence of intact families--perhaps consonant with their large Roman Catholic affiliation⁶⁹--and freshmen the least. On this dimension, too, the resemblance between freshmen and juniors is evident, as is the atypicality of sophomores.

Parents' educational attainment. As anticipated, the customary pattern of husbands having out-persisted their wives obtained, as Tables 8 and 9 illustrate. Fathers, with the exception of those typically reported by the senior class, tended to have pursued postgraduate or professional educations, while fathers of seniors were clustered more closely at the college graduate level.

Mothers typically were college graduates. Surprisingly, however, there were more cases of fathers having terminated formal education at the grade school level than there were of mothers. While this is not unusual in the population at large, it is striking in light of the socio-economic

⁶⁹Table 15.

TABLE 7
FAMILY DOMESTIC STATUS
(Percentages in parentheses)

Family with whom residing at time of high school graduation	Class				
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)	Total (N=218)
a. Mother and father	72 (83.7)	44 (89.8)	43 (84.3)	28 (87.5)	187 (85.8)
b. Mother (father divorced or separated)	3 (3.5)	---	1 (2.0)	2 (6.3)	6 (2.8)
c. Father (mother divorced or separated)	---	---	---	---	---
d. Father part time, mother part time	---	1 (2.0)	---	---	1 (.5)
e. Mother (father deceased)	4 (4.7)	4 (8.2)	5 (9.8)	1 (3.1)	14 (6.4)
f. Father (mother deceased)	---	---	1 (2.0)	---	1 (.5)
g. Mother and stepfather	2 (2.3)	---	---	1 (3.1)	3 (1.4)
h. Father and stepmother	3 (3.5)	---	1 (2.0)	---	4 (1.8)
i. Other	2 (2.3)	---	---	---	2 (.9)
	(100.0)	(100.0)	(100.1)	(100.0)	(100.1)

TABLE 8
MOTHERS' EDUCATIONAL ATTAINMENT
(Percentages in parentheses)

Highest level attained	Class			
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)
a. Grade school	1 (1.2)	---	---	---
b. Some high school	3 (3.6)	---	2 (3.9)	---
c. High school graduate	13 (15.1)	12 (24.5)	7 (13.7)	4 (12.5)
d. Some college	20 (23.3)	9 (18.4)	15 (29.4)	11 (34.4)
e. College graduate	38 (44.2)	19 (38.8)	20 (39.2)	12 (37.5)
f. Graduate or professional education	10 (11.6)	9 (18.4)	6 (11.8)	5 (15.6)
g. No response or other	1 (1.2)	---	1 (2.0)	---
	(100.0)	(100.1)	(100.0)	(100.0)

TABLE 9
 FATHERS' EDUCATIONAL ATTAINMENT
 (Percentages in parentheses)

Highest level attained	Class			
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)
a. Grade school	1 (1.2)	2 (4.1)	---	---
b. Some high school	---	---	1 (2.0)	---
c. High school graduate	5 (5.8)	4 (8.2)	4 (7.8)	1 (3.1)
d. Some college	13 (15.1)	5 (10.2)	6 (11.8)	6 (18.8)
e. College graduate	22 (25.6)	14 (28.6)	14 (27.5)	13 (40.6)
f. Graduate or professional education	43 (50.0)	23 (46.9)	26 (51.0)	11 (34.4)
g. No response or other	2 (2.4)	1 (2.0)	---	1 (3.1)
	(100.1)	(100.0)	(100.0)	(100.0)

stereotypes of this group of parents. Viewing longitudinally the collective responses of the cohorts, it might be asserted that the less the frequency of early termination of education by parents, the greater the probability that their daughters will persevere at Scripps.

Educational Aspirations

Intent to complete education at Scripps. As expected, the proportion of students who planned to complete their undergraduate education at an institution other than Scripps diminished progressively from the freshman through the senior classes, according to Table 10. Indecision on this question also decreased with time. Apparently there is a watershed between the sophomore and junior years, this being the point where a dramatic drop in the proportion planning to transfer takes place. Perhaps by this time students who had earlier planned to transfer either had done so or had changed their minds. The sophomore year may be the last feasible point at which one can fantasize about one's educational destiny; by the junior year realism has promulgated a commitment.

Postgraduate study. According to Table 11, aspiration to advanced study was found to increase markedly after the freshman year. This was accompanied by a collective tendency away from indecision on the matter. Incongruously, however, proportionally fewer seniors than juniors reported plans for graduate work.

Among the three lower classes, as Table 12 shows, the most frequent objective of advanced study was preparation for an educational profession. Close behind was the desire for an advanced degree in a purely academic discipline, followed by study in professional fields other than education.

TABLE 10
 INTENT TO TRANSFER FROM SCRIPPS
 (Percentages in parentheses)

	Class			
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)
a. Intend seriously to complete undergraduate education at another institution	14 (16.3)	7 (14.3)	3 (5.9)	---
b. No intent to transfer	68 (79.1)	41 (83.6)	48 (94.1)	32(100.0)
c. Undecided or no response	4 (4.7)	1 (2.0)	---	---
	(100.1)	(99.9)	(100.0)	(100.0)

TABLE 11
 ASPIRATION TO GRADUATE STUDY
 (Percentages in parentheses)

	Class			
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)
a. Serious aspiration to graduate study	47 (54.7)	40 (81.6)	43 (84.3)	26 (81.3)
b. No aspiration to graduate study	33 (38.4)	8 (16.3)	8 (15.7)	6 (18.8)
c. Undecided or no response	6 (7.0)	1 (2.0)	---	---
	(100.1)	(99.9)	(100.0)	(100.1)

TABLE 12
 POSTGRADUATE EDUCATIONAL PLANS OF SUBJECTS
 INDICATING ASPIRATIONS TO CONTINUE
 (Percentages in parentheses)

	Class			
	Freshman (N=47)	Sophomore (N=40)	Junior (N=43)	Senior (N=26)
a. Academic discipline (MA, MS, PhD)	17 (36.2)	9 (22.5)	14 (32.6)	15 (57.7)
b. Professional field (medicine, law, social work, professional religion, etc.)	8 (17.0)	6 (15.0)	6 (14.0)	1 (3.8)
c. Education (teaching, ad- ministration, counsel- ing, etc.)	18 (38.3)	13 (32.5)	15 (34.9)	1 (3.8)
d. Other	---	6 (15.0)	5 (11.6)	6 (23.1)
e. Combination of academic discipline and education	1 (2.1)	4 (10.0)	---	3 (11.5)
f. Undecided	3 (6.4)	2 (5.0)	3 (7.0)	---
	(100.0)	(100.0)	(100.1)	(99.9)

The unusually high percentage of "other"'s among sophomores, along with a very low proportion among freshmen, invites speculation. Perhaps freshmen are less realistic about "firm" plans, while by the second year ambivalences and changes in interests have become more vivid.⁷⁰

While the overall percentage of freshmen aspiring to any graduate study at all was low, it is still interesting that they surpassed both sophomores and juniors in affinity to purely academic degrees. It is possible that this was more a socially acceptable response in light of not being fully cognizant of the ramifications of teacher credentialing, or of other professional training.

The responses of seniors were unique, with the purely academic orientation predominating and education holding the least attraction of all groups. Furthermore, intention to pursue professional training was indicated by only one subject among seniors. Two hypotheses come to mind regarding these findings: one, that a move toward genuinely scholarly interests does accrue over a four year period at Scripps, or two, that such a purely academic orientation--or rather the lack of pragmatic vocationalism--relates to persistence in this program.

Attraction to Scripps

Table 13 cites the relative appeal of Scripps as compared with other colleges to which the subjects might have aspired. Through the direct approach of asking which position Scripps had occupied in the hierarchy of

⁷⁰Sophomores were tallied strongly as "other," largely through possible ambiguity between "academic discipline" and "education," when in fact those planning on public school teaching careers must pursue advanced study in both areas. When a subject cited these two preferences together, the tally was "other."

TABLE 13
 ATTRACTION TO SCRIPPS
 (Percentages in parentheses)

Rank of preference for Scripps at the time of making applications for college	Class			
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)
a. First choice	64 (74.4)	31 (63.3)	35 (68.6)	17 (53.1)
b. Second choice	19 (22.1)	10 (20.4)	10 (19.7)	7 (21.9)
c. Third choice	2 (2.3)	6 (12.2)	4 (7.8)	6 (18.8)
d. Fourth or lower choice	---	2 (4.1)	2 (3.9)	2 (6.3)
e. No response	1 (1.2)	---	---	---
	(100.0)	(100.0)	(100.0)	(100.1)

colleges to which applications were made, it was hoped to identify the extent of surrogation, defined as Scripps having served as a substitute for some more ideal campus.

In general, Scripps was reported to have been the first choice at the time these women were completing their applications for higher education. However, some interesting trends differentiated the four classes. Freshmen reported the strongest collective affinity toward Scripps. Seniors, on the other hand, presented a sharp contrast, with the lowest frequency of first choice and the highest frequencies of third and of fourth or more. An innocent prediction would have been that, given an equitable distribution of first, moderate, and low preferences for Scripps in any class, the students who were the most surrogated at the outset would be the least likely to persist. Not only was this contradicted by the data, but one might even infer that the opposite is true: The less the attraction to Scripps, the greater the chance of persevering! While other variables would be needed to illuminate this enigma, it does seem warranted to observe that, despite the unique demands of the Scripps program, it is evidently one to which students can make a satisfying and effective adjustment, even when the match with the campus was questionable to begin with.

A more substantive item concerning affinity to Scripps involved the ranking of a number of reasons for which subjects had selected this institution. Table 14 suggests that, at the time of matriculation, the four cohorts had held reasonably uniform expectations for their education at Scripps College. Another possible explanation for the similarity of these accounts is that sufficient socialization had occurred over a period of time for these retrospective reports to have become consistent with present

TABLE 14
 REASONS FOR ATTENDING SCRIPPS
 (Rank order)

	Class			
	Freshman (N=86)	Sophomore (N=49)	Junior (N=51)	Senior (N=32)
a. Close enough to go home on weekends	21	21	22	22
b. Southern California climate, recreational, and cultural environment	13	14	17	13
c. A residential campus	9	6	5	7
d. No sororities	11	10	10	9
e. Not accepted at colleges of higher preference	22	22	21	16
f. Good program of intercollegiate athletics in the Claremont colleges	23	23	23	23
g. Pressure from parents or other close relatives	20	20	20	20
h. Influence of friends who had attended Scripps	19	18	18	21
i. Scripps' academic reputation	3T	3	4	6
j. A women's college	14	11	12	14
k. Social prestige	18	19	19	18
l. Small enrollment	3T	7	2T	3
m. Access to cultural events and facilities	6	5	9	10
n. Scripps' emphasis on the humanities and liberal arts	2	1	1	1
o. Program of intramural activities and special events	17	16	14	17

	Class			
	Freshman	Sophomore	Junior	Senior
p. Particular strength in an academic area of interest to you	7	9	8	8
q. Small classes and favorable relationship with faculty	1	2	2T	2
r. Extracurricular activities and special events in common with the other Claremont colleges	8	8	7	5
s. Academic reputation of the Claremont colleges	5	4	6	4
t. Access to art studios and equipment	16	17	15	15
u. Library facilities	12	12	13	12
v. Feeling of community and comradeship among Scripps students	10	13	11	11
w. Rules and regulations regarding student conduct	15	15	16	19

TABLE 14A

REASONS FOR ATTENDING SCRIPPS
(Rank order for all classes)

Rank order

- 1 Scripps' emphasis on the humanities and liberal arts
- 2 Small classes and favorable relationship with faculty
- 3 Small enrollment
- 4 Scripps' academic reputation
- 5 Academic reputation of the Claremont colleges
- 6 A residential campus
- 7 Extracurricular activities and special events in common with the other Claremont colleges
- 8 Access to cultural events and facilities
- 9 Particular strength in an academic area of interest to you
- 10 No sororities
- 11 Feeling of community and comradeship among Scripps students
- 12 Library facilities
- 13 A women's college
- 14 Southern California climate, recreational, and cultural environment
- 15 Access to art studios and equipment
- 16 Program of intramural activities and special events
- 17 Rules and regulations regarding student conduct
- 18 Social prestige
- 19 Influence of friends who had attended Scripps
- 20 Pressure from parents or other close relatives

Rank order

- 21 Not accepted at colleges of higher preference
 - 22 Close enough to go home on weekends
 - 23 Good program of intercollegiate athletics in the Claremont colleges
-

knowledge.

Experience with sophomore responses on preceding items would suggest unusual attitudes here, yet their only notably different response was in giving less value to the small enrollment at Scripps. The most distinctive reaction of freshmen was in giving less priority to the residential nature of the college. Juniors were less than normally influenced by Scripps' southern California environment, but on the remaining responses they appeared to parallel most closely the norms for the total sample.

Table 14A examines the ranking of reasons for attending Scripps for the sample as a whole. Ranking a strong first was "Scripps' emphasis on the humanities and liberal arts," with "small classes and favorable relationship with faculty" an equally decisive second. Third choice was "small enrollment," and fourth "Scripps' academic reputation." At the bottom of the ranking was the "good program of intercollegiate athletics in the Claremont colleges," and of next lowest priority was "close enough to go home on weekends." Third lowest was "not accepted at colleges of higher preference"--perhaps perplexing when recalling that nearly one-third of the respondents had indicated that other colleges held more attraction for them than did Scripps.

As anticipated, write-in responses were numerous, the most common of these pertaining to the physical atmosphere and beauty of the campus. Also cited frequently was the Scripps honor code.

Religious Factors

A cursory analysis of the religious identity of each subject involved three levels of conceptualization upon which one's religious engagement

might be defined. The first and most objective was involvement with institutional religion through reports of sectarian affiliation and attendance at religious services. The second level entailed labels of a somewhat more abstract nature--those connoting schools of theological thought. The third level was the most subjective of all, and involved subscribing to one of several theological tenets.

Sectarian affiliation. In retrospective reports on affiliations while in high school, the Episcopalian communion was predominant among the three upper classes, while freshmen were evenly divided between Episcopalian and Presbyterian. The latter was cited second most frequently among juniors and seniors, while these classes cited "none" third.

The most exceptional pattern occurred among sophomores, with Roman Catholic ranking a strong second--well above its level in the other groups--and a lack of affiliation at the smallest proportion among the classes. No striking conclusions were drawn from the affiliations of parents, other than the expected parallels with daughters' affiliations.

Comparing these with affiliations at the time the survey was taken, the dominant trend was to have remained stable, between 68.6% and 80.5% of the respondents in the classes adhering to the traditional preference. When movement did occur, however, it was more frequently from a denomination to no preference than from one sect to another. A denominational identity was eschewed by 14.8% of the subjects subsequent to high school, while 6.0% of the subjects changed their denomination. Two students reported switching from no affiliation to a sectarian one.

Certain studies of attitude and value change might lead one to expect a linear relationship between the modification of identity and exposure to a

TABLE 15

SECTARIAN AFFILIATION
(Percentages in parentheses)

Religious persuasion or affiliation at the time of high graduation and at the time of testing in college	Class							
	Freshman		Sophomore		Junior		Senior	
	High School (N=76)	When Tested (N=76)	High School (N=43)	When Tested (N=42)	High School (N=48)	When Tested (N=47)	High School (N=28)	When Tested (N=29)
a. None	15 (18.3)	8 (34.1)	3 (6.4)	7 (14.9)	10 (19.6)	20 (39.2)	5 (15.6)	9 (28.1)
b. Roman Catholic	8 (9.8)	7 (8.5)	7 (14.9)	7 (14.9)	1 (2.0)	---	1 (3.1)	1 (3.1)
c. Judaism	2 (2.4)	2 (2.4)	---	1 (2.1)	1 (2.0)	2 (3.9)	1 (3.1)	1 (3.1)
d. Baptist-Northern (American)	2 (2.4)	2 (2.4)	---	---	---	---	---	---
e. Baptist-Southern	---	---	---	---	---	---	---	---
f. Disciples of Christ	---	---	---	---	---	---	---	---
g. Methodist	7 (8.5)	4 (4.9)	4 (8.5)	3 (6.4)	4 (7.8)	2 (3.9)	2 (6.3)	1 (3.1)

TABLE 16
TREND IN RELIGIOUS AFFILIATION
(Percentages in parentheses)

Change in sectarian affiliation from time of high school graduation to time of testing in college	Class			
	Freshman (N=82)	Sophomore (N=47)	Junior (N=51)	Senior (N=32)
a. No change in affiliation	66 (80.5)	36 (76.6)	35 (68.6)	25 (78.1)
b. Changed from a conven- tional affiliation to no affiliation	13 (15.9)	5 (10.6)	9 (17.6)	5 (15.6)
c. Changed to a more con- servative affiliation	---	3 (6.4)	2 (3.9)	1 (3.1)
d. Changed to a more liberal affiliation	3 (3.7)	1 (2.1)	3 (5.9)	---
e. Incomplete response	---	2 (4.3)	2 (3.9)	1 (3.1)
	(99.9)	(100.0)	(99.9)	(99.9)

powerful and consistent value climate.⁷¹ Alternatively, one might even expect the process of maturation, formal education notwithstanding, to see such changes occur more frequently the older the subjects get. These possibilities, however, are not reflected in the present data. Whether freshmen or seniors, students evidenced much the same pattern of change: Four out of five retained the same affiliation they had in high school, three to four percent changed from one denomination to another, and about sixteen percent regarded themselves as having dropped whatever sectarian nomenclature they once claimed. Perhaps these changes occur early in college and last at least through the four years. The immediacy of this tendency, when it occurs, suggests that it may be a function of emancipation from the family milieu more than an outcome of an intellectually founded introspection.

Scrutinizing the denominations singly, the Roman Catholics, as anticipated, were the most stable, followed closely by Episcopaleans. Methodists and Presbyterians, both popular choices, suffered some attrition, while the Congregational (United) Church registered a slight gain. Not substantiated by the item, but open to surmise, is the possible impact of a nearby and apparently attractive off campus Congregational church. Also subject to conjecture is the effect of an historical involvement with Congregationalism both in the Claremont Colleges and in the community. However, the College Church of the Claremont Colleges, also nearby and relatively popular, embraced at this point in time a liturgy and a polity which were "liberal protestant

⁷¹Cf. Roy Heath, The Reasonable Adventurer (Pittsburgh: University of Pittsburgh Press, 1964), William A. Scott, Values and Organizations (Chicago: Rand McNally, 1965), and R. S. Vreeland and C. E. Bidwell, "Organizational Effects on Student Attitudes: A Study of the Harvard Houses," Sociology of Education, XXXVIII, 233-50.

ecumenical" more than traditionally Congregationalist.

Church attendance. Patterns of attendance before and during the college years were surveyed not as an indicator of theological orientation or even of religiosity, but rather to judge students' involvement with institutional religion.

While in high school, the sophomore class collectively had been the most consistent churchgoers and juniors the least. While at Scripps the same practices obtained for these classes. The senior class had by far the lowest proportion of regular worshippers, although the junior class had a larger number who reported never attending church. Even at this early point in college, freshmen sensed a decrease in frequency of church attendance. Paradoxically, among juniors was also the largest percentage whose church attendance reportedly increased while in college.

Although a decrease in worship frequency characterized all classes except sophomores (the most heavily Roman Catholic group), it was again enlightening to note that the dropoff occurs apparently at the very outset of the freshman year--a phenomenon parallel to the shedding of denominational labels. It might be acknowledged, however, that certain extrinsic factors could militate against Sunday morning obligations on the part of female students.

General theological orientation. This item asked students to describe themselves in relation to schools of theological thought which are more global and abstract than the categories previously examined. In contrast to the foregoing religious items, this one evidenced clear trends among successive cohorts. One was a progressive tendency toward the liberal end of the options, and the other a steadily declining portion of each class

TABLE 17

CHURCH ATTENDANCE
(Percentages in parentheses)

Frequency of attendance at religious services at the time of high school graduation and at the time of testing in college	Class							
	Freshman (N=86)		Sophomore (N=48)		Junior (N=51)		Senior (N=32)	
a. Once a week or more	33 (38.4)	17 (20.0)	22 (45.8)	11 (22.9)	21 (41.2)	5 (9.8)	10 (31.2)	2 (6.2)
b. Two or three times a month	18 (20.9)	10 (11.8)	11 (22.9)	10 (20.8)	8 (15.7)	5 (9.8)	9 (28.1)	---
c. About once a month	13 (15.1)	9 (10.6)	5 (10.4)	5 (10.4)	2 (3.9)	1 (2.0)	4 (12.5)	3 (9.4)
d. Several times a year	13 (15.1)	12 (14.1)	8 (16.7)	7 (14.6)	7 (13.7)	8 (15.7)	6 (18.7)	8 (25.0)
e. Hardly ever	8 (9.3)	23 (27.1)	1 (2.1)	8 (16.7)	10 (19.6)	7 (13.7)	3 (9.4)	7 (21.9)
f. Never	1 (1.2)	14 (16.5)	1 (2.1)	7 (14.6)	3 (5.9)	25 (49.0)	---	12 (37.4)
	(100.2)	(100.1)	(100.0)	(100.0)	(100.0)	(100.0)	(99.9)	(99.9)

TABLE 18
 CHANGE IN CHURCH ATTENDANCE
 (Percentages in parentheses)

Change in frequency of attendance at religious services from time of high school graduation to time of testing in college	Class			
	Freshman (N=85)	Sophomore (N=48)	Junior (N=51)	Senior (N=32)
a. No change in frequency of attendance at religious services	29 (34.1)	20 (41.7)	8 (15.7)	6 (18.8)
b. Attendance became more frequent during college	3 (3.5)	4 (8.3)	6 (11.8)	1 (3.1)
c. Attendance became less frequent during college	53 (62.4)	24 (50.0)	37 (72.5)	25 (78.1)
	(100.0)	(100.0)	(100.0)	(100.0)

TABLE 19

GENERAL RELIGIOUS ORIENTATION
(Percentages in parentheses)

General religious orientation at the time of high school graduation and at the time of testing in college	Class							
	Freshman		Sophomore		Junior		Senior	
	High School (N=82)	When Tested (N=82)	High School (N=47)	When Tested (N=48)	High School (N=50)	When Tested (N=50)	High School (N=31)	When Tested (N=31)
a. Fundamentalist	3 (3.7)	2 (2.4)	1 (2.1)	---	2 (4.0)	1 (2.0)	1 (3.2)	---
b. Conservative	7 (8.5)	4 (4.9)	13 (27.7)	11 (22.9)	9 (18.0)	6 (12.0)	9 (29.0)	3 (9.7)
c. Neo-Orthodox	4 (4.9)	2 (2.4)	3 (6.5)	3 (6.2)	2 (4.0)	1 (2.0)	3 (9.7)	3 (9.7)
d. Liberal	29 (35.4)	33 (40.2)	18 (38.3)	24 (50.0)	15 (30.0)	17 (34.0)	10 (32.3)	13 (41.9)
e. Agnostic	18 (22.0)	20 (24.4)	4 (8.5)	2 (4.2)	15 (30.0)	18 (36.0)	4 (12.9)	8 (25.8)
f. Atheistic	2 (2.4)	2 (2.4)	---	---	2 (4.0)	2 (4.0)	1 (3.2)	1 (3.2)
g. These categories are not clear to me	19 (23.2)	19 (23.2)	8 (17.0)	8 (16.7)	5 (10.0)	5 (10.0)	3 (9.7)	3 (9.7)

TABLE 20
CHANGE IN GENERAL RELIGIOUS ORIENTATION
(Percentages in parentheses)

Tendency in general religious orientation from time of high school graduation to time of testing in college	Class			
	Freshman (N=63)	Sophomore (N=38)	Junior (N=45)	Senior (N=26)
a. No change in general religious orientation	54 (85.7)	28 (73.7)	27 (60.0)	14 (53.8)
b. Changed in a conservative direction	2 (3.2)	4 (10.5)	6 (13.3)	1 (3.8)
c. Changed in a liberal direction	7 (11.1)	6 (15.8)	12 (26.7)	11 (42.3)
	(100.0)	(100.0)	(100.0)	(99.9)

reporting having had no change in theological orientation while in college.

Most often the subjects considered themselves to have been liberal while in high school. Among juniors, a similar percentage had regarded themselves as agnostic at that time. Interestingly, agnosticism in high school ranked second among freshmen, contrasted with conservatism as the second most popular high school orientation among sophomores and seniors. The reliability of these reports, it should be mentioned, may be impugned by the number of students who admitted that the terms used were not sufficiently clear for them to respond.

Once in college, the preference for liberalism was strengthened substantially in each class, while the proportions in the conservative area of the scale progressively diminished. Gains in agnosticism were recorded among freshmen, juniors and seniors since coming to college. The sophomores, on the other hand, actually netted a loss of agnostics. The very low number of avowed atheists is of perhaps less interest than the fact that in no class was a net gain in atheism while in college registered.

As with most self-reports of change over time cited above, the most frequent phenomenon was stability from high school to college. However, in broad theological orientation, the proportion who remained the same decreased with each successive year. Also, the percentage of each class who had shifted toward a more liberal position showed successive increases, with forty-two percent of the seniors indicating that some liberalization had occurred subsequent to high school. Some net shifts toward conservative orientations were indicated as well, but to a very small extent. These proportions also registered successive gains from the freshman through the junior classes.

Theological tenets. This item offered options among more complex, sometimes compound theological concepts. Construct validity problems were evident in the statements' complexity and lack of clear cut scaling from one polarity to another. These limitations were made particularly lucid by the fact that nearly one out of eight respondents opted for a write-in statement under "other."

The options essentially were gradated from an orthodox anthropomorphic theism to conventional atheism. In each class, the greatest number reported that they had subscribed to the orthodox extreme when they were in high school. The second most common report of high school belief centered on a theism without anthropomorphic characteristics.

A general shift from the most orthodox tenet to a more liberal view of God occurred in each class. Even freshmen reported this trend, and it was most pronounced among sophomores as a group. The two upper classes, however, moved beyond the nonanthropomorphic theism to the third option: a nontheistic humanism.

Of particular interest were the atheistic and agnostic options. Whereas on the preceding item, asking for broad theological labels, 4.1% of the subjects plainly preferred atheism, not one subject subscribed to the statement on this item which was intended to define that position. Even the four students who reported an affinity to this position while in high school had found a more conventional creed by the time of the survey. Similarly, whereas 22.1% of the respondents had identified themselves as agnostic on the preceding item, only 6.0% committed themselves on this item to the appropriate tenet.

This item evidenced much more consistency between theological attitudes

TABLE 21

THEOLOGICAL TENETS
(Percentages in parentheses)

Which of the following statements comes closest to expressing what you now believe about God or ultimate reality?	Class			
	Freshman (N=84)	Sophomore (N=48)	Junior (N=51)	Senior (N=32)
a. I have faith in God as a person who is concerned about me and all mankind and to whom I am accountable	31 (36.9)	12 (25.0)	11 (21.6)	8 (25.0)
b. I don't believe in God as a person, but I do believe in a higher power or being of some kind	28 (33.3)	26 (54.2)	17 (33.3)	11 (34.4)
c. Ultimate reality for me is love for other human beings, but I do not believe in God or a higher power or being	6 (7.1)	1 (2.1)	7 (13.7)	7 (21.9)
d. Ultimate reality is represented for me in the natural and physical laws which man is able to discover	2 (2.4)	3 (6.2)	2 (3.9)	---
e. I have many values and trust many beings, but no one is superior to or pervades all others	---	1 (2.1)	2 (3.9)	---
f. I don't know whether there is a God or ultimate reality and I don't know if there is any way to find out	6 (7.1)	1 (2.1)	3 (5.9)	3 (9.4)
g. I don't believe there is a God or ultimate reality	---	---	---	---
h. Other	11 (13.1)	4 (8.3)	9 (17.6)	3 (9.4)
	(99.9)	(100.0)	(99.9)	(100.1)

TABLE 22

THEOLOGICAL TENETS AT AGE 16
(Percentages in parentheses)

Which of the following statements would have come closest to expressing what you believed about God or ultimate reality when you were about 16 years old?	Class			
	Freshman (N=84)	Sophomore (N=48)	Junior (N=51)	Senior (N=32)
a. I have faith in God as a person who is concerned about me and all mankind and to whom I am accountable	42 (50.0)	23 (47.9)	19 (37.3)	14 (43.8)
b. I don't believe in God as a person, but I do believe in a higher power or being of some kind	25 (29.8)	15 (31.2)	18 (35.3)	12 (37.5)
c. Ultimate reality for me is love for other human beings, but I do not believe in God or a higher power or being	2 (2.4)	2 (4.2)	5 (9.8)	2 (6.3)
d. Ultimate reality is represented for me in the natural and physical laws which man is able to discover	---	1 (2.1)	1 (2.0)	---
e. I have many values and trust many beings, but no one is superior to or pervades all others	1 (1.2)	---	---	---
f. I don't know whether there is a God or ultimate reality and I don't know if there is any way to find out	6 (7.1)	2 (4.2)	3 (5.9)	2 (6.3)
g. I don't believe there is a God or ultimate reality	3 (3.6)	1 (2.1)	---	---
h. Other	5 (6.0)	4 (8.3)	5 (9.8)	2 (6.3)
	(100.1)	(100.0)	(100.1)	(100.2)

held in high school and as assessed in college than did those involving broad terminology. Again, concern should be voiced over discrepancies in constructs and content; despite the precision hopefully incorporated into the tenets, they may be assumed to have failed to sample the universe adequately, as judged by the large number of write-ins. However, the greater utilization of the write-in option to describe the college stance, as opposed to beliefs in high school, may suggest an evolving preoccupation with a commitment which has become more subjective and unique while in college.

Certainty of beliefs. When asked how confident they were about the positions to which they had subscribed above, all classes but sophomores stated most frequently that they sometimes had doubts. Among sophomores, however, was the greatest incidence of feeling no doubts in these areas. Freshmen, on the other hand, reported dramatically less conviction about the positions they stated.

Surprisingly, reports of frequent doubts were more common among juniors and seniors. Furthermore, feelings of ambivalence about one's own theological position appeared to increase, not decrease, with each successive class. Thus, certainty and consistency in beliefs did not appear among this sample automatically to accrue over the years at Scripps. Indeed, upperclassmen reported the greatest ambiguity and lowerclassmen the greatest frequency of certainty. If these findings can be taken as valid and reliable portrayals of the religious development of Scripps students, it might be said that this experience evokes genuine reexamination of such values and attitudes.

Theories of value. Students were also asked which of three value theories they accepted, ranging from an absolutist or metaphysical position

TABLE 23
 CERTAINTY OF BELIEFS
 (Percentages in parentheses)

How certain are you about the beliefs or views which you indicated about God or ultimate reality?	Class			
	Freshman (N=84)	Sophomore (N=48)	Junior (N=50)	Senior (N=32)
a. I have no doubts about this faith or belief	29 (34.5)	20 (41.7)	16 (32.0)	9 (28.1)
b. I sometimes have doubts	39 (46.4)	19 (39.6)	17 (34.0)	11 (34.4)
c. I often have doubts	11 (13.1)	5 (10.4)	11 (22.0)	6 (18.8)
d. I find that I believe this some of the time but not at other times	5 (6.0)	4 (8.3)	5 (10.0)	6 (18.8)
e. Other			1 (2.0)	
	(100.0)	(100.0)	(100.0)	(100.1)

TABLE 24
THEORIES OF VALUE
(Percentages in parentheses)

Which of the following expresses best your views about values in general ?	Class			
	Freshman (N=84)	Sophomore (N=48)	Junior (N=49)	Senior (N=32)
a. There are fundamental value principles in human life which are not man-made and which exist whether man ac- knowledges them or not	43 (51.2)	23 (47.9)	16 (32.7)	14 (43.8)
b. Values are totally man- made; they have no ob- jective existence of their own	23 (27.4)	12 (25.0)	22 (44.9)	10 (31.3)
c. I am uncertain about the objective status of values	18 (21.4)	13 (27.1)	11 (22.5)	8 (25.0)
	(100.0)	(100.0)	(100.1)	(100.1)

through a social or situational theory to a statement of uncertainty.

Among all classes except juniors, the absolute view prevailed. The uncertainty response was least popular overall, but among sophomores it narrowly surpassed the social theory. Freshmen appeared most inclined toward the metaphysical extreme and reflected the least uncertainty. The senior class appeared the most evenly divided among the three options. While the large proportion of uncertain subjects is perhaps surprising at this point in college, it is perhaps consonant with the ambivalence they felt about their religious views in the preceding item. The two responses together perhaps suggest that this educational experience tends to raise more questions in the minds of students over four years than it answers.

Political Identification

This phase of the survey probed not into specific political attitudes, but, much as was the case with religion, into political labels which might serve as bases for identity. Such affiliations were also used to draw comparisons between subjects and their parents.

Student political preferences showed highly irregular patterns among classes. Only in one instance did any two classes share the same first preference, and that was occasioned by a tie. Overall, "independent, leaning toward Republican" appeared most popular. "John Birch Society supporter" was least frequently cited, with "Socialist" next to last. While problems in scaling are obvious, it appears that freshmen were the least liberally inclined and seniors the most. However, Republicans outstripped Democrats by a uniform margin in each of the classes. Five respondents wrote in other preferences, professing nonpartisanship, complete objectivity and nonconcern.

TABLE 25
 POLITICAL IDENTIFICATION
 (Percentages in parentheses)

Which of the following political positions best describes yourself ?	Class			
	Freshman (N=86)	Sophomore (N=48)	Junior (N=51)	Senior (N=32)
a. Socialist	1 (1.2)	1 (2.1)	-----	2 (6.3)
b. Liberal Democrat	11 (12.8)	8 (16.7)	10 (19.6)	8 (25.0)
c. Conservative Democrat	6 (7.0)	2 (4.2)	2 (3.9)	-----
d. Independent -- leaning toward Democrat	11 (12.8)	9 (18.8)	7 (13.7)	3 (9.4)
e. Independent -- leaning toward Republican	20 (23.3)	8 (16.7)	10 (19.6)	6 (18.8)
f. Liberal Republican	18 (20.9)	9 (18.8)	9 (17.6)	8 (25.0)
g. Conservative Repub- lican	13 (15.1)	7 (14.6)	11 (21.6)	4 (12.5)
h. John Birch Society supporter	1 (1.2)	-----	-----	-----
i. Other	2 (2.4)	1 (2.1)	2 (4.0)	-----
j. No response	4 (4.5)	3 (6.2)	-----	1 (3.1)
	(100.2)	(100.2)	(100.0)	(100.1)

TABLE 26

POLITICAL IDENTIFICATION OF PARENTS
(Percentages in parentheses)

	Class											
	Freshman		Sophomore		Junior		Senior		Junior		Senior	
	Father (N=86)	Mother (N=86)	Father (N=48)	Mother (N=48)	Father (N=51)	Mother (N=51)	Father (N=32)	Mother (N=32)	Father (N=51)	Mother (N=51)	Father (N=32)	Mother (N=32)
a. Socialist	1 (1.2)	---	---	---	---	---	---	---	---	---	---	---
b. Liberal Democrat	15 (15.1)	11 (12.8)	6 (12.5)	11 (22.9)	5 (9.8)	4 (7.8)	4 (12.5)	7 (21.9)				
c. Conservative Democrat	5 (5.8)	5 (5.8)	6 (12.5)	6 (12.5)	---	3 (5.9)	2 (6.3)	3 (9.4)				
d. Independent--leaning toward Democrat	7 (8.1)	8 (9.3)	4 (8.3)	3 (6.2)	4 (7.8)	5 (9.8)	2 (6.3)	2 (6.3)				
e. Independent--leaning toward Republican	7 (8.1)	11 (12.8)	4 (8.3)	4 (8.3)	5 (9.8)	3 (5.9)	2 (6.3)	2 (6.3)				
f. Liberal Republican	26 (30.2)	26 (30.2)	14 (29.2)	13 (27.1)	6 (11.8)	10 (19.6)	6 (18.8)	2 (6.3)				
g. Conservative Republican	22 (25.6)	20 (23.3)	9 (18.8)	9 (18.8)	26 (51.0)	23 (45.1)	15 (46.9)	15 (46.9)				

	Class											
	Freshman		Sophomore		Junior		Senior					
	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother
h. John Birch	1 (1.2)	1 (1.2)	1 (2.1)	1 (2.1)	---	---	---	---	---	---	---	1 (3.1)
Society supporter												
i. Other	---	1 (1.2)	---	---	2 (4.0)	2 (4.0)	---	---	---	---	---	---
No response	4 (4.7)	3 (3.5)	4 (8.3)	1 (2.1)	3 (5.9)	1 (2.0)	1 (3.1)	---	---	---	---	---
	(100.0)	(100.1)	(100.0)	(100.0)	(100.1)	(100.1)	(100.1)	(100.2)	(100.2)	(100.2)	(100.2)	(100.2)

TABLE 27
 COMPARISON OF STUDENT POLITICAL
 IDENTIFICATION TO THOSE OF PARENTS
 (Percentages in parentheses)

	Class			
	Freshman	Sophomore	Junior	Senior
a. Students more liberal				
Than father	33 (38.4)	17 (35.4)	21 (41.2)	16 (50.0)
Than mother	32 (37.2)	14 (29.2)	23 (45.1)	14 (43.8)
b. Students more conservative				
Than father	9 (10.5)	8 (16.7)	3 (5.9)	1 (3.1)
Than mother	7 (8.1)	11 (22.9)	2 (3.9)	2 (6.3)
c. Students the same				
As father	34 (39.5)	18 (37.5)	21 (41.2)	14 (43.8)
As mother	39 (45.4)	19 (39.6)	23 (45.1)	15 (46.9)

Overwhelmingly, fathers were identified as Republicans, as were mothers to a slightly lesser extent. Among mothers of seniors was a more obvious polarization between conservative Republicans and liberal Democrats, with mothers of the latter preference reported so more often than were fathers. Senior mothers were reported as liberal Democrats to nearly as great an extent as were the daughters themselves. The greatest concentration of liberal Democratic mothers were those of sophomores, but they were still less numerous than liberal Republicans in that group.

Comparing students with parents revealed that daughters were rarely more conservative than either parent, more often adhered to their parents' persuasions, but most often were more liberal than parents were reported to be. In cases where a student's preference and that of only one parent coincided, it was most likely to be with the mother, not the father. Seniors were most often more liberal than their fathers, and both seniors and juniors reported being more liberal than their mothers. Daughters inclined to be more conservative than either parent were most commonly in the sophomore class; these same students were also less likely to be of the same identity as their parents. Seniors, on the other hand, while also most frequently more liberal than their parents, also led all classes in the proportion who adhered to their parents' political affiliation.

Style of Life

The style of life anticipated by women studying in the humanities should have some distinguishable elements. One item to estimate these asked students to place in rank order the qualities and activities they would demand most as perquisites to a satisfying life or career. The collective

TABLE 28

FACTORS IN CHOICE OF CAREER
 (Rank order with frequency of factor
 cited as most important in parentheses)

	Class				
	Freshman	Sophomore	Junior	Senior	Total
a. Making a lot of money	8 (3)	8	9 (1)	9	9 (4)
b. Opportunities to be original and creative	1 (15)	1 (14)	1 (12)	1 (8)	1 (49)
c. Opportunities to be helpful to others and useful to society	2T (32)	2 (9)	3 (9)	4 (5)	3 (55)
d. Avoiding a high pressure job which takes too much out of you	7	5	8	7	6T
e. Living and working in a world of ideas	2T (9)	4 (9)	2 (5)	2 (4)	2 (27)
f. Freedom from supervision in my work	9	6	6 (1)	6	6T (1)
g. Opportunities for moderate but steady progress rather than a chance of extreme success or failure	6	7	7 (1)	8	8 (1)
h. Opportunities to express leadership	5 (2)	9	5	5 (1)	5 (3)
i. Remaining in the city or area in which I grew up	10	10	10	10	10
j. Opportunities to work with people rather than with things	4 (10)	3 (10)	4 (10)	3 (8)	4 (38)

responses of the respective classes were quite similar. All classes prized "opportunities to be original and creative" above all else. Second or third, depending on the class, were "living and working in a world of ideas" and "opportunities to be helpful to others." "Opportunities to work with people rather than things" was fourth.

Uniformly of the lowest priority was the desire to stay in the city or area in which one had grown up. "Making a lot of money" was cited with next lowest frequency as necessary to the good life.

The slight differences among classes may indicate that the preferences represented only minimally the effect of socialization during college, but that these ideals, by and large, were brought with these students to Scripps. Freshmen were less concerned about "freedom from supervision" in their work than were the other groups, perhaps reflecting a need at this point in time to rely a bit more upon a structured environment than did older students. Sophomores were unusually low in desiring "opportunities to express leadership."

In addition to ranking the optional perquisites, subjects were asked to cite the single most important element of their ideal environment. "Opportunities to be original and creative" was cited most often by all classes except freshmen, who were inclined toward "opportunities to be helpful to others." The upper classes regarded "opportunities to work with people rather than things" as second in importance, while freshmen prized "opportunities to be useful to society" as runner-up. While not ranking high when compared with the other options, "living and working in a world of ideas" was frequently nominated as the single most important factor.

A second item with a similar intent inquired into the kinds of

activities in which these women expected to immerse themselves in later life. In addition, they were asked what degree of satisfaction they might anticipate from such involvements. Again, the four classes were similar, suggesting that such objectives may have been antecedent to the Scripps educational experience.

Overall, "family relationships" and "friends" were most frequently noted. Apparently, humanistic and intellectual pressures of higher education notwithstanding, these women viewed their domestic and personal involvements as inevitably dominating their lives. Interestingly, family relationships were indicated foremost by junior and senior women--perhaps with marriage and child rearing more imminent to them--while lower division students expected more to be involved with friendships. "Artistic and intellectual activities" ranked second among all classes, with the popularity of this area even among freshmen again indicative of such an orientation as an input to the college experience, and not one which is necessarily gained in college. Preferred next overall was one's "occupational career," although this was more so among older students than younger. Descending in popularity were "cultural organizations," and one's relationship to God or to ultimate reality; the latter was given lower priority by seniors than by other classes.

As a whole, the activity in which these women anticipated least being involved was women's clubs. The next lowest expectation was participation in musical ensembles. These were followed by involvement in scouting and country club activities in that order.

A third style of life item entailed ranking of elements of the cultural environment which subjects might find determinative as to their future place of residence. The most frequent response by each class was

TABLE 29
ANTICIPATED POST-COLLEGE ACTIVITIES
(Rank order)

Indicate how extensively you might be involved in these activities after graduation from college.	Class				
	Freshman	Sophomore	Junior	Senior	Total
a. Artistic and intellectual activities	3	3	3	2T	3
b. Sports and hobbies	8	8	7	6	7
c. Family relationships	2	2	1	1	1T
d. Occupational career	5	4T	4	4	4
e. Political activities	10T	14	8T	11	10T
f. Relation to God or ultimate reality	6	6	6	8	6
g. Charitable civic activities	10T	10	8T	10	9
h. Women's clubs	16	15T	15	16	16
i. PTA	12	11T	11	9	10T
j. Friends	1	1	2	2	1T
k. Country club	14	9	12	14T	13
l. Scouting	13	11T	13T	14T	14
m. Church activities	9	11T	13T	13	12
n. Worship	7	7	10	7	8
o. Cultural organizations	4	4T	5	5	5
p. Musical ensemble	15	15T	16	12	15

TABLE 30
FACTORS CONTRIBUTING TO SATISFACTION
WITH FUTURE HOME COMMUNITY

How dissatisfied would you be if your community, after your graduation from college, did not offer access to these activities or resources?	Class				
	Freshman	Sophomore	Junior	Senior	Total
a. Opportunities to hear live performances of serious music	7	4T	4	5	5
b. Opportunities to see serious drama	5	6	5	6	6
c. Opportunities to see professional or college athletics	11	11	11	11	11
d. A good local art museum	4	4T	6	4	4
e. An excellent local bookstore	3	3	3	2	3
f. Opportunities to engage in serious discussion of the basic problems and issues which confront the United States	8	7	7	8	7
g. A theatre which shows foreign and art films	9	10	8	7	8T
h. Opportunities for an active social life	10	8T	9	9	10
i. A good local library	2	2	2	3	2
j. Excellent public schools	1	1	1	1	1
k. Lectures or opportunities to discuss philosophical issues	6	8T	10	10	8T

"good public schools," a response which might portray both maternal responsibility and an appreciation of educational values. The next two items of importance might evidence high esteem of verbal learning, these being access to libraries and bookstores. The fourth and fifth ranked preferences related to other modes of humanistic expression: possibilities for art and serious music. At this point the collective response of freshmen was somewhat counter to the sample, preferring lectures and opportunities to discuss philosophical issues rather than participation in the arts.

Of lowest priority was the opportunity to see professional athletics, followed by opportunities for an active social life. This latter, coupled with the low preference for women's clubs noted on Table 29, yet contrasted with the high esteem in which friendships were held in that same table, perhaps shows a concern for the real quality of relationships. It is interesting to note the low priority of an art film theater, considering the popularity of the local art cinema and the abundance of quality motion pictures shown among the Claremont colleges.

Educational Goals

The first phase of this item was to respond to the merits of a number of educational objectives as the subjects perceived them. The second was to judge the importance of these goals as they imagined them to be in the minds of Scripps faculty. Thus, in addition to a sort of functional philosophy of education based on student values, and a perception of the intellectual press at Scripps, any disparity between the two could also be informative.

All classes concurred that the acquisition and use of "skills and habits involved in critical and constructive thinking" were paramount.

TABLE 31

IMPORTANCE TO STUDENTS OF CURRICULAR AND COCURRICULAR OBJECTIVES
(Rank order)

Rate these objectives which might apply to the curricular and cocurricular experiences in college on their importance to you.	Class				
	Freshman	Sophomore	Junior	Senior	Total
a. To master a classification of knowledge in a field	21	18	20	20T	20
b. To master certain techniques applicable to one's vocation or field of special interest	5	8	7	6T	6
c. To acquire specific information and techniques in preparation for further study in a particular field	20	17	6	12	14
d. To acquire and use the skills and habits involved in critical and constructive thinking	1	1	1	1	1
e. To develop a code of behavior based on democratic and ethical principles	15	11	9	9	10
f. To express one's thoughts effectively	3	2	2	2	2
g. To recognize the fact of world interdependence	24	24	24	18	24
h. To learn to get along with people	7T	4	10T	6T	7
i. To acquire a degree of expertness in a certain field	18	19	21T	22	21
j. To experience a realistic sampling of one's chosen vocation	13	21	18	23T	19
k. To attain a satisfactory emotional and social adjustment	2	3	3T	10	4

	Class				
	Freshman	Sophomore	Junior	Senior	Total
l. To know the major developments in a vocational field or field of special interest	23	22	21T	23T	23
m. To understand other cultures and people	12	13	13T	11	12
n. To understand the ideas of others	6	6	5	4	5
o. To habitually apply scientific thought to the discovery of facts	26	26	25	26	26
p. To bring up to date one's knowledge in a special field of interest or a vocational field	17	20	17	16T	18
q. To become proficient in one's chosen field	9T	9T	13T	13	11
r. To understand and enjoy literature, art and music	7T	7	8	6T	8
s. To understand one's physical and social environment	14	15T	16	19	16
t. To develop certain physical skills	25	25	26	25	25
u. To move smoothly from high school to adult independence	19	23	23	20T	22
v. To develop a broad general outlook and familiarity with a variety of subjects	9T	9T	10T	5	9
w. To develop knowledge and understanding making possible a more effective choice of life work	4	5	3T	3	3
x. To acquire knowledge and attitudes basic to a satisfying family life	11	12	12	15	12
y. To develop the ability to do significant independent research	22	14	19	14	17

	Class				
	Freshman	Sophomore	Junior	Senior	Total
z. To provide principles by which the diversity of knowledge may be unified or integrated	16	15T	13T	16T	15

Second, except among freshmen, was the ability to express one's thoughts effectively, and third was the development of "knowledge and understanding making possible a more effective choice of life work." This seemed to be of slightly greater importance to older subjects. An objective which would have rated much higher had it not been for the seniors who regarded it no more than tenth in importance was the attainment of a "satisfactory emotional and social adjustment." Why the seniors rated this so low can only be conjectured.

Other high ranking responses were "to understand the ideas of others," "to master certain techniques applicable to one's vocation or field of special interest," and "to learn how to get along with people." Curiously, the item which might be thought to best epitomize the Scripps program, "to understand and enjoy literature, art, and music," ranked no better than eighth.

The least frequently aspired to goals were "the habitual application of scientific thought to the discovery of facts," and "the development of certain physical skills." Third lowest ranking overall was attached to recognizing "the fact of world interdependence," although this ideal enjoyed considerably higher esteem among seniors than the other classes.

In their perceptions of faculty values, the sample in general saw them also as prizing critical and constructive thinking above the other options, and the effective expression of thoughts as second as well. "Understanding the ideas of others" was perceived to be of third importance to faculty, a position higher than it held with students. The situation was similar with "the ability to do significant independent research." A substantial disparity characterized the latter, with it rated fourth for

TABLE 32
 IMPORTANCE OF CURRICULAR AND COCURRICULAR OBJECTIVES
 TO FACULTY AS PERCEIVED BY STUDENTS
 (Rank order)

Rate these objectives which might apply to the curricular and cocurricular experiences in college as you perceive them to be important to faculty	Class				
	Freshman	Sophomore	Junior	Senior	Total
a. To master a classification of knowledge in a field	9T	9	14T	4	8
b. To master certain techniques applicable to one's vocation or field of special interest	12	11	8	7	10T
c. To acquire specific information and techniques in preparation for further study in a particular field	8T	5T	5	10	7
d. To acquire and use the skills and habits involved in critical and constructive thinking	1T	1	2	1	1
e. To develop a code of behavior based on democratic and ethical principles	15	12	16	18T	16
f. To express one's thoughts effectively	1T	4	1	2	2
g. To recognize the fact of world interdependence	10	21T	23	15T	20
h. To learn to get along with people	23	24	21	21T	23T
i. To acquire a degree of expertness in a certain field	17	15	14T	13	14

	Class				
	Freshman	Sophomore	Junior	Senior	Total
j. To experience a realistic sampling of one's chosen vocation	20	23	19T	24	22
k. To attain a satisfactory emotional and social adjustment	22	16T	17T	18T	18
l. To know the major developments in a vocational field or field of special interest	16	18	19T	15T	17
m. To understand other cultures and people	7	5T	12T	12	9
n. To understand the ideas of others	4	5T	4T	6	3T
o. To habitually apply scientific thought to the discovery of facts	24T	25	26	25	25
p. To bring up to date one's knowledge in a special field of interest or a vocational field	14	19	11	15T	15
q. To become proficient in one's chosen field	8T	14	7	8T	10T
r. To understand and enjoy literature, art and music	13	10	12T	11	13
s. To understand one's physical and social environment	18	16T	17T	23	19
t. To develop certain physical skills	26	26	25	26	26
u. To move smoothly from high school to adult independence	21	21T	22	20	21

	Class				
	Freshman	Sophomore	Junior	Senior	Total
v. To develop a broad general outlook and familiarity with a variety of subjects	11	2	4T	5	5T
w. To develop knowledge and understanding making possible a more effective choice of life work	8T	13	9T	14	12
x. To acquire knowledge and attitudes basic to a satisfying family life	24T	20	24	21T	23T
y. To develop the ability to do significant independent research	5T	3	9T	3	3T
z. To provide principles by which the diversity of knowledge may be unified or integrated	3	8	3	8T	5T

TABLE 33
DISPARITY BETWEEN STUDENT OBJECTIVES AND
PERCEIVED FACULTY OBJECTIVES
(Rank order)

Rank order of distance between ranked student ratings of college objectives and perceived importance of these to faculty at Scripps	Class				
	Freshman	Sophomore	Junior	Senior	Total
a. To master a classification of knowledge in a field	5	10	22T	6	12
b. To master certain techniques applicable to one's vocation or field of special interest	13	19	16T	21	16
c. To acquire specific information and techniques in preparation for further study in a particular field	9T	4	22T	22	13T
d. To acquire and use the skills and habits involved in critical and constructive thinking	25	24	13	25	26
e. To develop a code of behavior based on democratic and ethical principles	15	15	8T	3	9T
f. To express one's thoughts effectively	17T	21	25T	20	25
g. To recognize the fact of world interdependence	21T	22	19T	18T	24
h. To learn to get along with people	3	1	4	1	1
i. To acquire a degree of expertness in a certain field	19T	25T	16T	14	18T

	Class				
	Freshman	Sophomore	Junior	Senior	Total
j. To experience a realistic sampling of one's chosen vocation	7	7T	6	7	4T
k. To attain a satisfactory emotional and social adjustment	1	2	3	5	2
l. To know the major developments in a vocational field or field of special interest	16	20	12	26	18T
m. To understand other cultures and people	26	11	14T	12T	15
n. To understand the ideas of others	19T	23	19T	18T	22T
o. To habitually apply scientific thought to the discovery of facts	4	12T	1	16T	6
p. To bring up to date one's knowledge in a special field of interest or a vocational field	21T	16T	25T	16T	22T
q. To become proficient in one's chosen field	23T	7T	21	23T	18T
r. To understand and enjoy literature, art and music	8	16T	8T	10	11
s. To understand one's physical and social environment	9T	16T	5	4	8
t. To develop certain physical skills	23T	14	22T	18T	18T
u. To move smoothly from high school to adult independence	11T	25T	10	12T	13T

	Class				
	Freshman	Sophomore	Junior	Senior	Total
v. To develop a broad general outlook and familiarity with a variety of subjects	17T	12T	18	23T	17
w. To develop knowledge and understanding making possible a more effective choice of life work	14	5T	7	2	4T
x. To acquire knowledge and attitudes basic to a satisfying family life	24T	20	24	21T	23T
y. To develop the ability to do significant independent research	6	5T	14T	9	7
z. To provide principles by which the diversity of knowledge may be unified or integrated	11T	7T	11	11	9T

faculty and seventeenth for students. The two lowest rated objectives by students were also imagined by them to be lowest among faculty.

Aside from the respective positions held by the objectives in the student and supposed faculty hierarchies, interesting disparities on many of the options are shown on Table 33. The greatest distance between rankings was on "learning to get along with people," followed by "attaining a satisfactory emotional and social adjustment," and "acquiring knowledge and attitudes basic to a satisfying family life"--items which pertained quite obviously to the student's own emotional and social development, but which were perceived as being relatively inconsequential to the faculty. Other objectives upon which there were pronounced divergences centered upon the preparation for vocational roles. These responses suggest that Scripps students, despite the distinctive intellectual orientations which purportedly brought them to Scripps, still have compelling and urgent personal needs which they recognized as going essentially unfulfilled in this setting.

College Ecology

The final stage of the questionnaire polled students on their involvement in numerous facets and activities of the Scripps campus and of the Claremont college community, as well as certain aspects of the academic program itself and with key persons. Subjects were asked how intensively they had been involved with the activities or persons, and whether these experiences or exposures had served to modify or to reinforce the opinions, attitudes and values which they had brought with them to college. No effort was made to identify specific attitudes or values or to determine in which direction they had been changed, if at all. The object was to assess only

TABLE 34
 DEGREE OF PARTICIPATION IN CURRICULAR
 AND EXTRACURRICULAR ACTIVITIES
 (Rank order)

Indicate the degree to which you have been involved with the following courses, per- sons, activities, and organ- izations.	Class			
	Freshman (N=83)	Sophomore (N=45)	Junior (N=46)	Senior (N=32)
a. Participation in sports	20	25	25	36
b. Watching athletic events	37T	42T	44	47T
c. Artist Series and other concerts	15	10	7	7T
d. Lecture series	22	18T	23T	17T
e. Discussions or "bull sessions"	4	2	2T	2
f. Counseling Center	49	57T	57	43T
g. Glee Club	51T	55T	51T	43T
h. Siddons	48	57T	45T	56T
i. Civil Rights group	51T	55T	51T	43T
j. Partisan political group	53	53T	60	39T
k. Religious group	46	38T	51T	50T
l. Focus	61	61	54T	61
m. Student body government	42T	34	36T	28T
n. Dormitory government	26	22T	22	22T
o. Political debates	47	46T	45T	52
p. Conforming to campus mores	21	30T	32	39T
q. Campus social events	8	18T	14	17T
r. Off campus social events	18T	17	18	20T

	Class			
	Freshman	Sophomore	Junior	Senior
s. The Hub	16T	30T	32	39T
t. H.M.C. Campus Center	23	20T	21	27
u. The Coop	36	44T	56	53T
v. The Smudgepot	42T	42T	54T	55
w. Art films on campus	32	28T	28	32T
x. Films at the Village Theater	24T	14T	11T	13T
y. Honorary societies	59T	55T	61	56T
z. Scripps Library	2	4	5	3
aa. Honnold Library	7	7T	6	13T
bb. Employment	50	26	27	9T
cc. Off campus church	37T	30T	50	50T
dd. College Church	40	38T	53	56T
ee. Family	10	7T	8T	15T
ff. Convocations	11	9	17	6
gg. Dormitory facilities	3	5T	8T	15T
hh. Extracurricular club	35	36T	41T	32T
ii. Health services	41	44T	38	39T
jj. Dates in general	9	12	8T	7T
kk. A specific boy you have dated	13	5T	2T	5
ll. Leisure music listening	5	3	4	9T
mm. Exhibitions at Lang Art Gallery	16T	22T	19	20T

	Class			
	Freshman	Sophomore	Junior	Senior
nn. Exhibitions at Montgomery Art Gallery	58	51T	41T	39T
oo. Unassigned painting, potting, or sculpting	45	40T	34T	46
pp. Unassigned practice on an instrument	34	50	40	26
qq. Unassigned creative writing	30	46T	47	43T
rr. Unassigned reading	14	16	15	12
ss. Close friend(s)	1	1	1	1
tt. Roommate/suitemate	12	20T	23T	31
uu. Housemother	28	28T	36T	37
vv. A girl in your wing	6	11	11T	22T
ww. A Scripps administrator	33	27	29	25
xx. An instructor in your major	37T	24	13	4
yy. A Humanities instructor	18T	13	16	17T
zz. A social science instructor	59T	48	33	38
a'. A science instructor	31	40T	48T	47T
b'. A language instructor	29	35	30	30
c'. An art or music instructor	44	36T	31	28
d'. An English instructor	55T	49	34T	32T
e'. A philosophy or religion instructor	27	33	43	49
f'. An academic advisor	24T	14T	20	9T
g'. Chaplain	54	53T	59	56T

	Class			
	Freshman	Sophomore	Junior	Senior
h'. Another instructor	62	62	62	62
i'. An instructor in another Claremont college	55T	51T	39	24
j'. Counselor	57	60	58	53T

the relative impact of these various elements of the collegiate environment.

The most intense involvement or relationship was reported by each class to be most frequently with close friends. Predominantly, these friendships were viewed as reinforcing factors, which might be interpreted as evidence that students simply sought out friends who were similar to themselves--or it may underscore the extent of homogeneity in the Scripps population. It is interesting that seniors cited these friendships as modifying as often as they did reinforcing, so perhaps the four years can culminate in friendships which have some perceived broadening impact.

Of second ranked intensity was informal discussions or bull sessions. If the responses to this item are taken at face value, interactions of this nature were perceived with substantially more impact than were the formal procedures of the classroom. With the sole exception of the junior class, however, the content of these bull sessions was most frequently reported as reinforcing in effect. During the rather limited collegiate career of freshmen, such discussions were overwhelmingly regarded as reinforcing, perhaps reflecting a limited circle of friends at this point.

The third strongest influence was reported to be the Ella Strong Dennison Library on the Scripps campus. In some minds, this facility seems to epitomize the Scripps atmosphere better than any other tangible aspect of the college. Students reacted to the library as a reinforcing experience, possibly because it symbolizes many of the qualities which initially attracted them to Scripps.

Next in involvement was leisure music listening, again a reinforcing behavior, though it is not known what type of music was typically auditioned. Another highly significant involvement was with specific males whom the

subjects had dated, although this was pronouncedly less among freshmen at this juncture in their social career. Lower division women were most inclined to report these relationships as reinforcing, while freshmen were reticent to characterize them one way or the other. However, sophomores did report these specific dating relationships to be modifying more frequently than did freshmen, while juniors and seniors regarded them predominantly as having modified their attitudes, beliefs, opinions, and values.

Attention should be called to reports of the impact held by instructors in one's major. Among lower division subjects such relationships did not as yet rank high, while among seniors such involvements rose to fourth in impact. These relationships again were largely considered reinforcing, but the proportion who perceived such teacher contacts as modifying influences did increase with each successive class. Faculty not in the student's major were rarely regarded as wielding great influence in this respect.

Looking at the overall modifying-reinforcing effects of these relationships and behaviors, the Artist Series and other concerts were reported most often as reinforcing, followed by leisure music listening and relationships with close friends.

Among the activities most regarded as modifying in impact were dating, both casual and serious, and informal discussions or "bull sessions." Another strongly modifying perception was "conforming to campus mores," though a large number of respondents failed to categorize it as either.

Considering the effects of faculty members, encounters with these persons appear to have produced a successively more modifying influence the farther one has advanced through Scripps. Instructors in the Humanities sequence were perceived as wielding both reinforcing and modifying influences,

TABLE 35

IMPACT OF COLLEGE ECOLOGY UPON VALUES AND ATTITUDES
(Per cents. Percentages of no responses not indicated.)

	Class							
	Freshman (N=83)	Sophomore (N=45)	Junior (N=46)	Senior (N=32)				
Indicate whether the following courses, persons, activities, or organizations have reinforced or strengthened your attitudes, values, opinions, beliefs, and interests, or have modified or altered these traits	Reinforced	Modified	Reinforced	Modified	Reinforced	Modified		
a. Participation in sports	24.10	14.46	33.33	40.00	45.65	17.39	18.75	9.38
b. Watching athletic events	13.26	16.88	17.78	20.00	17.39	26.09	12.50	6.25
c. Artist Series and other concerts	49.41	3.62	73.34	8.89	54.35	15.22	56.25	15.63
d. Lecture series	32.54	10.85	48.88	22.22	41.31	21.74	21.88	12.50
e. Discussions of "bull sessions"	63.87	10.85	46.66	44.44	39.13	41.31	43.75	37.50
f. Counseling Center	9.64	7.23	6.67	11.11	15.22	15.22	21.88	12.50
g. Glee Club	9.64	4.82	8.89	6.67	21.74	15.22	3.13	6.25
h. Siddons	16.88	2.41	15.55	8.89	19.57	17.39	6.25	6.25

Class

	Freshman				Sophomore				Junior				Senior			
	Reinforced	Modified	Reinforced	Modified	Reinforced	Modified	Reinforced	Modified	Reinforced	Modified	Reinforced	Modified	Reinforced	Modified		
i. Civil rights group	12.05	3.62	20.00	6.67	21.74	23.91	15.63	18.75	21.74	23.91	15.63	18.75	21.74	23.91		
j. Partisan political group	10.85	4.82	17.78	6.67	13.04	13.04	12.50	21.88	13.04	13.04	12.50	21.88	13.04	13.04		
k. Religious group	15.67	7.23	22.22	11.11	21.74	15.22	15.63	6.25	21.74	15.22	15.63	6.25	21.74	15.22		
l. Focus	8.44	2.41	6.67	8.89	19.57	17.39	6.25	21.88	19.57	17.39	6.25	21.88	19.57	17.39		
m. Student body government	20.49	12.05	37.78	13.33	36.96	17.39	21.88	18.75	36.96	17.39	21.88	18.75	36.96	17.39		
n. Dormitory government	31.33	9.64	51.11	8.89	41.31	23.91	31.25	21.88	41.31	23.91	31.25	21.88	41.31	23.91		
o. Political debates	16.88	4.82	20.00	15.55	15.22	21.74	12.50	12.50	15.22	21.74	12.50	12.50	15.22	21.74		
p. Conforming to campus mores	22.90	13.26	17.78	37.75	30.44	28.63	18.75	21.88	30.44	28.63	18.75	21.88	30.44	28.63		
q. Campus social events	34.95	19.28	48.89	22.22	28.62	30.44	37.50	15.63	28.62	30.44	37.50	15.63	28.62	30.44		
r. Off campus social events	28.92	15.67	37.75	33.33	39.13	23.91	40.63	15.63	39.13	23.91	40.63	15.63	39.13	23.91		
s. The Hub	27.72	6.03	20.00	13.33	26.09	17.39	18.75	---	26.09	17.39	18.75	---	26.09	17.39		
t. HMC Campus Center	28.92	4.82	42.22	13.33	30.44	17.39	18.75	9.38	30.44	17.39	18.75	9.38	30.44	17.39		
u. The Coop	19.28	6.03	11.11	15.55	15.22	26.09	12.50	---	15.22	26.09	12.50	---	15.22	26.09		
v. The Smudgepot	14.46	4.82	24.44	11.11	23.91	15.22	9.38	3.13	23.91	15.22	9.38	3.13	23.91	15.22		
w. Art films on campus	19.28	3.62	28.89	13.33	26.09	23.91	15.64	9.38	26.09	23.91	15.64	9.38	26.09	23.91		

Class

	Freshman	Sophomore	Junior	Senior
	Reinforced	Modified	Reinforced	Modified
	Reinforced	Modified	Reinforced	Modified
	Reinforced	Modified	Reinforced	Modified
x. Films at the Village theater	28.92	7.23	46.66	13.33
			34.78	28.62
			37.50	18.75
y. Honorary societies	6.03	6.03	13.33	6.67
			13.04	13.04
			9.38	---
z. Scripps Library	62.66	6.03	62.22	8.89
			39.13	17.39
			40.63	15.63
aa. Honnold Library	40.97	8.44	42.22	13.33
			41.31	13.04
			28.13	6.25
bb. Employment	10.85	3.62	24.44	22.22
			30.44	13.04
			25.00	12.50
cc. Off campus church	20.49	9.64	33.33	15.55
			32.61	13.04
			15.63	6.25
dd. College Church	14.46	8.44	15.55	24.44
			21.74	19.57
			9.38	6.25
ee. Family	38.56	7.23	48.89	15.55
			45.65	23.91
			40.63	15.64
ff. Convocations	31.33	10.85	35.55	22.22
			39.13	19.57
			21.88	21.88
gg. Dormitory facilities	30.96	14.46	48.89	11.11
			36.96	13.04
			21.88	21.88
hh. Extracurricular clubs	21.69	4.82	28.89	8.89
			34.78	6.52
			18.75	9.38
ii. Health services	12.05	6.03	8.89	17.78
			26.09	15.22
			12.50	6.25
jj. Dates in general	28.92	30.13	46.66	22.22
			28.62	39.13
			9.38	40.63
kk. A specific boy you have dated	31.33	20.49	42.22	31.11
			23.91	54.35
			28.13	46.88

Class

	Freshman	Sophomore	Junior	Senior				
	Reinforced	Modified	Reinforced	Modified				
	Reinforced	Modified	Reinforced	Modified				
11. Leisure music listening	45.79	4.82	64.44	11.11	54.35	13.04	40.63	9.38
mm. Exhibitions at Lang Art Gallery	28.92	4.82	37.78	28.89	34.78	21.74	37.50	9.38
nn. Exhibitions at Montgomery	7.23	3.62	11.11	13.33	21.74	19.57	21.88	9.38
oo. Unassigned painting, potting, sculpting	18.08	2.41	20.00	8.89	23.91	19.57	15.63	12.50
pp. Unassigned practice on a musical instrument	21.69	3.62	17.78	13.33	30.44	8.70	28.13	12.50
qq. Unassigned creative writing	27.72	2.41	22.22	6.67	19.57	17.39	6.25	12.50
rr. Unassigned reading	39.77	9.64	35.55	28.89	36.96	26.09	31.25	15.63
ss. Close friend(s)	62.66	12.05	71.11	20.00	52.18	32.61	40.63	40.63
tt. Rcommate/suitemate	32.54	14.46	42.22	20.00	32.61	30.44	15.63	18.75
uu. Housemother	21.69	10.85	28.89	20.00	23.91	26.09	25.00	6.25
vv. A girl in your wing	44.59	14.46	40.00	20.00	39.13	23.91	25.00	15.63
ww. A Scripps administrator	27.72	3.62	40.00	11.11	34.78	23.91	21.88	9.38

Class

	Class							
	Freshman	Sophomore	Junior	Senior				
	Reinforced	Modified	Reinforced	Modified				
	Reinforced	Modified	Reinforced	Modified				
xx. An instructor in your major	20.49	7.23	51.11	20.00	43.48	28.62	40.63	31.25
yy. A Humanities instructor	33.74	15.67	44.44	35.55	39.13	28.62	40.63	18.75
zz. A social sciences instructor	6.03	4.82	11.11	24.44	21.74	21.74	15.63	9.38
a'. A science instructor	22.90	7.23	15.55	31.11	15.22	30.44	15.63	3.13
b'. A language instructor	32.54	12.05	35.55	20.00	23.91	23.91	18.75	9.38
c'. An art or music instructor	16.88	8.44	26.67	24.44	30.44	23.91	21.88	15.63
d'. An English instructor	9.64	3.62	20.00	13.33	23.91	19.57	12.50	31.25
e'. A philosophy or religion instructor	25.31	16.88	28.89	26.67	15.22	32.61	3.13	15.63
f'. Academic advisor	33.74	2.41	42.22	15.55	32.61	17.39	34.38	9.38
g'. Chaplain	13.26	2.41	11.11	11.11	17.39	15.22	6.25	3.13
h'. Another instructor	8.44	1.21	15.55	4.44	13.04	13.04	6.25	6.25
i'. An instructor at another Claremont college	15.67	3.62	20.00	11.11	28.62	13.04	31.25	15.63
j'. Counselor	12.05	1.21	6.67	13.33	15.22	6.52	15.63	9.38

TABLE 36

COMPARATIVE IMPACT OF COLLEGE ECOLOGY
UPON VALUES AND ATTITUDES
(Rank order)

	Reinforced					Modified						
	Fresh- man (N=83)	Sopho- more (N=45)	Junior (N=46)	Senior (N=32)	Fresh- man (N=83)	Sopho- more (N=45)	Junior (N=46)	Senior (N=32)	Fresh- man (N=83)	Sopho- more (N=45)	Junior (N=46)	Senior (N=32)
a. Participation in sports	29	28T	4T	31T	8T	2	35T	34T				
b. Watching athletic events	49T	45T	51T	46T	4T	19T	13T	47T				
c. Artist Series and other concerts	4	1	1T	1	46T	57T	44T	17T				
d. Lecture series	13T	7T	7T	23T	16T	45T	26T	27T				
e. Discussions or "bull sessions"	1	11T	10T	2	16T	1	2	4				
f. Counseling Center	56T	60T	53T	23T	26T	42T	44T	27T				
g. Glee Club	56T	58T	42T	61T	37T	56T	44T	47T				
h. Siddons	41T	49T	48T	56T	55T	57T	35T	47T				
i. Civil rights group	51T	39T	42T	37T	46T	56T	17T	12T				
j. Partisan political group	54T	45T	59T	46T	37T	56T	51T	7T				
k. Religious group	44T	37T	42T	37T	26T	42T	44T	47T				

	Reinforced				Modified			
	Class							
	Fresh- man	Sopho- more	Junior	Senior	Fresh- man	Sopho- more	Junior	Senior
l. Focus	59T	60T	48T	56T	55T	57T	35T	7T
m. Student body government	35T	22T	16T	23T	13T	32T	35T	12T
n. Dormitory government	16T	5T	7T	14T	20T	50T	17T	7T
o. Political debates	41T	39T	53T	46T	37T	27T	26	27T
p. Conforming to campus mores	30T	45T	25T	31T	12	3	9T	7T
q. Campus social events	10	7T	30T	10T	3	14T	6T	17T
r. Off campus social events	20T	22	10T	3T	6T	5	17T	17T
s. The Hub	25T	39T	33T	31T	32T	32T	35T	---
t. H.M.C. Campus Center	20T	15T	25T	31T	37T	32T	35T	34T
u. The Coop	38T	54T	53T	46T	32T	27T	13T	---
v. The Smudgepot	47T	35T	36T	52T	37T	42T	44T	57T
w. Art films on campus	38T	30T	33T	37T	46T	32T	17T	34T
x. Films at the Village Theater	20T	11T	19T	10T	26T	32T	9T	12T
y. Honorary societies	63T	53	59T	52T	32T	56T	51T	---
z. Scripps Library	2T	4	10T	3T	32T	50T	35T	17T

	Reinforced				Modified			
	Fresh- man	Sopho- more	Junior	Senior	Fresh- man	Sopho- more	Junior	Senior
aa. Honnold Library	7	15T	17T	17T	23T	32T	51T	47T
bb. Employment	54T	35T	25T	20T	46T	14T	51T	47T
cc. Off campus church	35T	28T	22T	37T	20T	27T	51T	47T
dd. College Church	47T	49T	42T	52T	23T	11T	30T	47T
ee. Family	9	7T	4T	3T	26T	27T	17T	17T
ff. Convocations	16T	25T	10T	23T	16T	14T	30T	34T
gg. Dormitory facilities	19	7T	16T	23T	8T	42T	51T	7T
hh. Extracurricular clubs	32T	30T	19T	31T	37T	50T	61T	34T
ii. Health services	51T	58T	33T	46T	32T	36	44T	47T
jj. Dates in general	20T	11T	30T	52T	1	14T	3	2T
kk. A specific boy you have dated	16T	15T	36T	17T	2	6T	1	1
ll. Leisure music listening	5	3	1T	3T	37T	14T	51T	34T
mm. Exhibitions at Lang Gallery	20T	22T	19T	10T	37T	8T	36T	34T
nn. Exhibitions at Montgomery Gallery61		54T	42T	23T	46T	32T	30T	34T

	Reinforced				Modified			
	Fresh- man	Sopho- more	Junior	Senior	Fresh- man	Sopho- more	Junior	Senior
oo. Unassigned painting, potting, or sculpting	40	39T	36T	37T	55T	50T	30T	27T
pp. Unassigned practice on an instrument	32T	45T	25T	17T	46T	32T	60	27T
qq. Unassigned creative writing	25T	37T	48T	56T	55T	56T	35T	27T
rr. Unassigned reading	8	25T	16T	14T	20T	8T	13T	17T
ss. Close friend(s)	2T	2	3	3T	13T	19T	4T	2T
tt. Roommate/suitemate	13T	15T	22T	37T	8T	19T	6T	12T
uu. Housemother	32T	30T	36T	20T	16T	19T	13T	47T
vv. A girl in your wing	6	20T	10T	20T	8T	19T	17T	17T
ww. A Scripps administrator	25T	20T	19T	23T	46T	42T	17T	34T
xx. An instructor in your major	35T	5T	6	3T	26T	19T	9T	5T
yy. A Humanities instructor	11T	14	10T	3T	6T	4	9T	12T
zz. A social science instructor	62T	54T	42T	37T	37T	50T	26T	34T
a'. A science instructor	30T	49T	53T	37T	26T	6T	6T	57T
b'. A language instructor	13T	25T	36T	37T	13T	19T	17T	34T

	Reinforced				Modified			
	Class							
	Fresh- man	Sopho- more	Junior	Senior	Fresh- man	Sopho- more	Junior	Senior
c'. An art or music instructor	41T	34	25T	23T	23T	11T	17T	17T
d'. An English instructor	56T	39T	36T	46T	46T	32T	30T	5T
e'. A philosophy or religion instructor	28	30T	53T	61T	4T	8T	4T	17T
f'. Academic advisor	11T	15T	22T	13	55T	27T	35T	34T
g'. Chaplain	49T	54T	51T	56T	55T	42T	44T	57T
h'. Another instructor	59T	49T	59T	56T	61T	61	51T	47T
i'. An instructor in another Claremont college	44T	39T	30T	14T	46T	42T	51T	17T
j'. Counselor	51T	60T	53T	37T	61T	32T	61T	34T

with the former reported slightly more frequently. The impact of academic advisors was also seen as reinforcing previous inclinations.

The final item on the questionnaire dealt with the reinforcing or modifying effects of some specific courses or areas of study and some broader aspects of the college experience. Since involvement in these was "forced," measuring the degree of participation, as in the preceding item, was not appropriate.

Reactions to the respective levels of Humanities were not clear-cut. Subjects predominantly reported these as reinforcing experiences, though there was always a sizeable minority who felt themselves changed by the course. Freshman Humanities was reported by each successive class--all in retrospect except for present freshmen, naturally--to have been slightly more modifying. The same trend marked Sophomore Humanities, with the seniors--farthest removed from the course in time--regarding it more as a modifying experience than did sophomores or juniors. Perhaps the impact of such courses is not immediately apparent, and only a vantage point from some future time makes clear the profundity of the past experience.

Reactions to Junior Humanities contradicted these trends, however, with a majority of juniors regarding this as a modifying experience--somewhat greater a proportion than held the same view among seniors.

Since only three respondents reported being enrolled in Senior Humanities, no implications were drawn from their reactions.

The majority of each class agreed that conduct patterns of Scripps faculty were essentially reinforcing of the inclinations which students brought with them. Most of the overall sample were also inclined to view the conduct patterns of students in other Claremont colleges as modifying

TABLE 37

IMPACT OF ACADEMIC AND INSTITUTIONAL EXPERIENCES
UPON VALUES AND ATTITUDES

(Per cents. Percentages of no responses not indicated.)

Indicate whether the following have reinforced or altered the values, attitudes, beliefs, and interests which you brought with you to college.	Class							
	Freshman (N=83)	Sophomore (N=55)	Junior (N=46)	Senior (N=32)				
	Reinforced	Modified	Reinforced	Modified	Reinforced	Modified	Reinforced	Modified
a. Freshman Humanities	66.28	24.10	57.78	37.78	50.00	39.13	28.13	43.75
b. Sophomore Humanities			71.11	24.44	56.52	34.78	50.00	37.50
c. Junior Humanities			30.44	43.48			43.75	31.25
d. Senior Humanities							6.25	3.13
e. A social science course	6.03	7.23	31.11	24.44	36.96	17.39	18.75	18.75
f. A mathematics or a science course	36.76	19.28	33.33	37.78	36.96	30.44	28.13	12.50
g. A language course	43.38	24.10	46.66	40.00	39.13	30.44	31.25	21.88
h. An English course	13.26	6.03	22.22	13.33	26.09	17.39	28.13	18.75
i. An art or music course	25.31	14.46	31.11	24.44	45.65	26.09	20.63	15.63
j. Another course	8.44	3.62	15.55	13.33	15.22	13.04	12.50	18.75

	Class							
	Freshman	Sophomore	Junior	Senior				
	Reinforced	Modified	Reinforced	Modified	Reinforced	Modified		
k. A course in your major	16.88	6.03	53.33	8.89	60.89	23.91	43.75	21.88
l. A religion or philosophy course	18.08	19.28	24.44	20.00	32.61	17.39	31.25	12.50
m. Conduct patterns of the faculty at Scripps	50.62	19.28	55.56	26.67	54.35	15.22	25.00	21.88
n. Conduct patterns of the students at Scripps	48.21	33.74	46.66	48.89	47.82	39.13	25.00	56.25
o. Conduct patterns of students in other Claremont colleges	28.92	34.95	33.33	51.11	32.61	43.48	15.63	43.75
p. Campus regulations	44.59	19.28	51.11	24.44	52.18	32.61	37.50	28.13
q. Being away from home	45.79	34.95	45.66	44.44	41.31	43.48	37.50	46.88

influences. Scripps campus regulations were also typified by each class as exercising a reinforcing influence. Again, one is led to believe that students select Scripps with some sense of congruity with their own life styles. Divergent influences are more likely to come from encounters with peers, most specifically with those from outside the immediate Scripps campus.

Freshmen reported with the greatest frequency that being away from home was a reinforcing experience, suggesting that the transition to college life had as yet waged a minimum of trauma. Sophomores responded likewise, though by a much narrower margin. Juniors, however, by a fine margin, regarded leaving home as having been modifying, and seniors strongly reported this to be the case. One might conclude from this that the real impact of leaving the family is not immediately apparent, but takes two or more years to really take effect.

Subject areas which were viewed as reinforcing by a majority in each class were foreign languages, English, and the fine arts. Courses in one's major were also regarded primarily as reinforcing, implying again that students may seek out a major course of study which promises compatibility with their own styles and preferences.

Academic Majors

Students were asked to indicate the history of their academic commitments while at Scripps, indicating not only present majors but changes into and out of fields of concentration. Because numbers in departments were often small, and since the number of departments would be too large to be wieldy, majors were grouped into clusters of the fine arts, the humanities-

TABLE 38

ACADEMIC MAJORS

	Humanities-Related Disciplines				Natural Science				Undecided ^{1/}
	Fine Arts	Classics and Foreign Language	English and Literature	Religion and Philosophy	Biological Science	Physical Science	Social Science and Area Studies		
N	4	27	54	14	6	4	39	34	
Total	38		101			10	39	34	
%	17.1		45.5			4.5	17.6	15.3	
Change of major ^{2/}									
Out of	11 (32.4%)		16 (31.4%)			7 (50.0%)	9 (28.1%)		
Into	8 (25.8%)		28 (44.4%)			---	7 (23.3%)		
No change	23 (67.6%)		35 (68.6%)			7 (50.0%)	23 (71.9%)		

^{1/} Thirty-one of the undecided majors were freshmen responding during their first semester of college. They were not calculated in the change of major categories.

^{2/} Based on the retrospective reports of the upper three classes only.

related disciplines, the social sciences and the natural sciences. The term "Humanities," for purposes of this study, rightfully belongs to the course sequence; ergo, it is not used generically. Moreover, Scripps students cannot major in Humanities specifically. A substantial number of undecided students were tallied, nearly all of them freshmen. No follow-up of their major decisions was made.

Table 38 shows the distribution of subjects among the departments and major areas. The bottom half of the table compares stability and change in each major as based on the reports of the three upper classes only. For instance, 67.6% of students originally declared as fine arts majors were still in that area at the time of the survey; 32.4% of those originally so declared had changed to another major; 25.8% of those majoring in fine arts at the time of testing had come from another previous major. Overall, 67.2% of the three upper classes had remained in their original choice of major, and 32.8% reported making at least one change. The fine arts, social science, and natural science each netted a loss of majors over time, with the humanities-related disciplines absorbing a gain.

Academic Performance

The academic records of subjects were divided into five areas, as shown in Table 39. Humanities here refers to the course sequence, and related disciplines to those fields commonly considered components of the humanities. The grade point average in each area represents the mean grade given, not an average of individual averages in the field, and is derived from the total grade points awarded to subjects taking such courses, divided by the number of units attempted.

TABLE 39
ACADEMIC PERFORMANCE BY SUBJECT AREA

	Humanities (N=200)	Related Disciplines (N=156)	Social Science (N=164)	Natural Science (N=194)	Cumulative (N=200)
Grade Point Average	2.76	3.03	3.01	2.58	2.89
Standard Deviation	.53	.54	.66	.78	.46

The contrast between the means in Humanities and in the related disciplines is interesting, and suggests possible basic differences in style which might differentiate performance--or perhaps grading practices--between areas.

A methodological note regarding these calculations should be registered. Transcripts were tabulated at varying points in the careers of the respective classes. Those of students who were juniors or seniors at the time of testing were tabulated after all had graduated. Records of sophomores and of freshmen were examined after the completion of the junior year in each case. Though ways in which students might have apportioned their concentrating in various fields in earlier or later years might in some ways affect these profiles, this did not seem apparent to the investigator.

Myers-Briggs Type Indicator

Within the sample, by far the prevalent type was INFP, accounting for better than one out of every four subjects who completed the Indicator. The number of INFP's exceeded those in the two runner-up types, INFJ and ENFP, put together. Each of these latter types in turn contained double the number in the fourth place type, INTP. Least popular types were ESTJ, ESTP, ISTP, and ISTJ--all sensing and thinking types.

Although norms available for the MBTI bear only upon specific populations, and neither for the total nor the female populations at large, useful comparisons with female college samples are possible. Figure 1 shows distributions among two college samples of similar size, but not matched on any other known variables except sex. Long Island University is a large, heterogeneous, coeducational, nonresidential, moderately selective institution.

FIGURE 1
COMPARISON OF SCRIPPS WITH OTHER COLLEGIATE SAMPLES
(Percentages)

Long Island University Females (N=184) ^{1/}						Pembroke College Females (N=240) ^{2/}						Scripps College Females (N=200)					
ISTJ	ISFJ	INFJ	INTJ	ISTJ	ISFJ	INFJ	INTJ	ISTJ	ISFJ	INFJ	INTJ	ISTJ	ISFJ	INFJ	INTJ		
3.3	9.8	2.7	.5	4.6	5.0	5.4	4.2	1.5	5.5	13.5	5.5	1.0	5.5	13.5	5.5		
ISTP	ISFP	INFP	INTP	ISTP	ISFP	INFP	INTP	ISTP	ISFP	INFP	INTP	ESTP	ESFP	ENFP	ENTP		
2.7	2.7	3.8	1.1	1.7	2.5	11.3	7.6	1.0	3.0	27.5	6.5	1.0	4.5	13.0	4.0		
ESTP	ESFP	ENFP	ENTP	ESTP	ESFP	ENFP	ENTP	ESTP	ESFP	ENFP	ENTP	ESTJ	ESFJ	ENFJ	ENTJ		
3.2	6.0	7.0	4.3	2.5	4.2	19.6	5.8	1.0	4.5	13.0	4.0	1.0	4.0	5.5	3.0		
ESTJ	ESFJ	ENFJ	ENTJ	ESTJ	ESFJ	ENFJ	ENTJ	ESTJ	ESFJ	ENFJ	ENTJ	ESTJ	ESFJ	ENFJ	ENTJ		
13.0	26.1	9.7	3.8	2.5	7.6	10.4	5.4	1.0	7.6	10.4	5.4	1.0	4.0	5.5	3.0		

^{1/} Data adapted by Myers from L. J. Stricker and J. Ross, A Description and Evaluation of the Myers-Briggs Type Indicator, Research Bulletin 62-6 (Princeton, N. J.: Educational Testing Service, 1962). Myers, op. cit., p. D-6.

^{2/} Myers, op. cit., p. D-6.

Pembroke College is socio-economically more homogeneous, all female (though co-institutional), residential, and highly selective. Of the two, Pembroke is by far closer to Scripps on most dimensions, and the similarity is made even more vivid in comparing Myers-Briggs types. The incidence of sensing types, for instance, was more than double at LIU the percentage of Pembroke-- which was itself 50% higher than Scripps in that preference. Extraverted types were much more common at LIU than at either of the other two colleges. Scripps had more than double the percentage of INFP's at Pembroke, and Pembroke tripled the proportion of that type at LIU.

Scripps also featured an abundance of NF combinations over Pembroke, had a slight edge in perceiving types, and held a margin of introverted types of nearly 50%. Thus, not only did the INFP type predominate at Scripps, but so did all combinations of those four preferences as well. Even if all INFP's were left out of the calculations, the NF pair would still predominate in the remaining types. It might also be pointed out that, because of the dichotomous nature of measurement, the paucity of the opposite types, combinations, and preferences could be considered equally dramatic.

The influence of introversion (I), intuiting (N), feeling (F) and perceiving (P) as separate preferences is shown in Table 40. Myers has provided norms for female liberal arts students, although these are in fact restricted to the Pembroke College sample cited above.⁷² Again, Scripps' margins for I, N, F, and P are striking. The right hand column hypothetically subtracts the fifty-nine INFP's from the total to illustrate that even without this sizeable cluster of these preferences, I, N, and F still would

⁷²Myers, op. cit., pp. 15, C-1, C-2.

TABLE 40
 FREQUENCIES OF INDIVIDUAL PREFERENCES

	Norm for college women ^{1/} (Per cent)	All subjects (N=205)		Less INFP's (N=146)	
		N	Per cent	N	Per cent
Introversion	42	133	64.9	74	50.7
Extraversion	58	72	35.1	72	49.3
Intuiting	70	162	79.0	103	70.6
Sensing	30	43	21.0	43	29.5
Feeling	66	157	76.6	98	67.1
Thinking	34	48	23.4	48	32.9
Perceiving	55	125	61.0	66	45.2
Judging	45	80	39.0	80	54.8

^{1/} Isabel Briggs Myers, The Myers-Briggs Type Indicator (Princeton, N. J.: Educational Testing Service, 1962), pp. 14-15.

TABLE 41
 TWO-PREFERENCE COMBINATIONS
 (Percentages)

Preference	N	S	F	T	P	J
I	53.0	11.0	49.5	14.5	38.0	26.0
E	25.5	10.5	27.0	9.0	22.5	13.5
N			59.5	19.0	51.0	27.5
S			17.0	4.5	9.5	12.0
F					48.0	28.5
T					12.5	11.0

prevail over their opposites in the remainder of the sample. Each of these would be at or above Myers' norm as well. Only perceiving would fall behind its opposite if INFP's were excluded.

Table 41 compares the percentages in each of the two-preference pairs. The most frequent pairing was intuiting and feeling, followed by introversion and intuiting. In short, all combinations of I, N, F, and P prevail.

CHAPTER V

MYERS-BRIGGS TYPES AND HUMANITIES STUDY

In chapter two, reference was made to psychological factors found by Bereiter and Freedman to relate to affinities toward various academic areas.⁷³ By and large these were categories of abnormal emotional disturbance, unconventionality, and awareness of psychological problems. By such constructs and the instruments used to assess them, operational definitions of the disciplines could be derived which would be based solely upon pathology. However, even those authors would disclaim that the psychological framework need be so narrowly conceived, stating more broadly that a student's selection of a major relates generally to his inner life--"his thoughts, emotions, and impulses, and how he deals with them."⁷⁴ One's intellectual pursuits, then, as evidenced by his choice of a field of study, tend to be consistent with and integrated with his affective life.

Thus there is no need to dwell exclusively on pathology. Bereiter and Freedman go on to cite sociability, confidence in social situations, and interaction with people as examples of other stages for the acting out of affect, and suggest that such behaviors as intellectual pursuits are based more broadly upon the modes the student employs in relating to all things outside himself, whether they be persons, objects, or ideas.⁷⁵

⁷³Bereiter and Freedman, op. cit. Supra, p. 10.

⁷⁴Ibid., p. 579.

⁷⁵Ibid.

This is precisely the theory underlying the Myers-Briggs Type Indicator. The preferences, neither good nor bad, desirable or undesirable, describe the styles one habitually employs in apprehending reality. As has been demonstrated, INFP types in this sample are extraordinarily frequent, as are the I, N, F, and P preferences individually.

Before attempting to analyze the academic implications of INFP, as well as the fifteen other types, it may be well to question what qualities characterize persons of these preferences besides being frequently represented in this sample. Myers' own analyses of the preferences and the cross-validation studies with several other instruments⁷⁶ credit INFP not only with considerable scholarly potential and interest, but with inclinations that should suit them well for the humanistic curriculum.

Citing characteristics of INFP's while high school students, Myers describes them as:

Particularly enthusiastic about books, reads or tells the parts he likes best to his friends. Interested and responsive in class, always attentive and quick to see what the teacher is leading up to. Has a warm, friendly personality but is not sociable just for the sake of sociability and seldom puts his mind on his possessions or physical surroundings.

INFP and ISFP share the following ways of operating, continues Myers:

This sort of person has as much wealth of feeling as the feeling extravert, but uses it differently. He cares more deeply about fewer things. He has his warm side inside. . . . He has, too, a strong faithfulness to duty and obligations, but he chooses his final values without reference to the judgment of outsiders, and he sticks to them with passionate conviction. Though he finds them hard to talk about, these inner loyalties and ideals govern his life.⁷⁸

⁷⁶Supra, pp. 22-24.

⁷⁷Myers, op. cit., p. 71.

⁷⁸Ibid., p. A-4.

His outer personality is mostly due to his second function (either S or N) and so is perceptive, not judging. He is tolerant, open-minded, understanding, flexible and adaptable (though when one of his inner loyalties is threatened he will not give an inch). Except for his work's sake, he has little wish to impress or dominate. The contacts he prizes are with people who understand his values and the goals toward which he wants to work.⁷⁹

. . . He wants his work to contribute to something that matters, perhaps to human understanding or health or happiness or maybe to the perfecting of some product or undertaking. He wants a purpose beyond his paycheck, no matter what the check. He is a perfectionist wherever feeling enters in, and usually happiest at individual work involving personal values. With high ability, he may be good in literature, art, science or psychology.⁸⁰

Myers then interjects the role which intuiting plays in shaping the behaviors which are attributed to I_FP as above. The INFP, then:

Takes in the possibilities.

Mildly resembles an extraverted intuitive, particularly in liking to concentrate on a project and disliking all details not relevant to any deep interest. Marked by insight and long range vision, curious about new ideas, interested in books and language. Likely to have a gift of expression, especially in writing, and to be ingenious and persuasive on the subject of his enthusiasms, which are quiet but deep-rooted.⁸¹

The specific contributions of each of the four preferences to the INFP combination Myers states briefly as:

I Depth and concentration
 N Insight, ingenuity, grasp of the complicated
 F Capacity for devotion and sympathy
 P Adaptability⁸²

Validated against other instruments, INFP is associated with Aesthetic and Religious values on the Allport-Vernon-Lindzey Study of Values,⁸³ and

⁷⁹Ibid.

⁸⁰Ibid.

⁸¹Ibid.

⁸²Ibid., p. 67.

⁸³Allport, Vernon, and Lindzey, op. cit. Supra, p. 22. Myers, op. cit., p. 24.

with professional, musical, verbal and linguistic interests on the Strong Vocational Interest Blank.⁸⁴ In addition, MacKinnon rates this type as highly creative.⁸⁵ Myers credits the IN preferences with the greatest natural inclination toward scholarly activity,⁸⁶ and INF with an affinity toward the liberal arts.⁸⁷ INFP's strong inclination for verbal and linguistic activities is supported by that type's high SAT Verbal mean in the Scripps sample⁸⁸ and as reported by Myers.⁸⁹

Questions to be asked certainly bear upon all the types and preferences, but from the foregoing might justifiably focus on INFP in particular. Specifically, one should ask whether these characteristics (1) were instrumental in Scripps' selection of students, (2) were instrumental in these students' selection of Scripps, (3) were more typical of students who persisted in this college and did not drop out along the way, (4) accurately portray students who are strongly inclined toward the study of the humanities.

An answer to the first would require information which is not available, primarily that which would facilitate comparisons with students who were not accepted at Scripps. To the support that INFP's appear to have higher than average verbal aptitude, some bias in selecting this type seems

⁸⁴E. K. Strong, Jr., Manual for Strong Vocational Interest Blanks for Men and Women (Palo Alto: Consulting Psychologists Press, 1959). Myers, op. cit., p. 23.

⁸⁵MacKinnon, op. cit.

⁸⁶Myers, op. cit., p. 44.

⁸⁷Ibid., p. 46.

⁸⁸Infra, p. 66.

⁸⁹Myers, op. cit., pp. 46-47.

reasonable. On the other hand, a tendency toward underachievement might have eliminated a number of INFP's on the basis of high school grades.

An affirmative answer to the second possibility seems feasible by virtue of the theory that students selected a setting which promised to maximize satisfactions through exercising their respective preferences. Assuming these subjects were accurately apprised of the Scripps environment and program before matriculating, it seems apparent that Scripps has something which is unusually attractive for the use of introversion, intuiting, feeling and perception. Much of the following analysis will concentrate on this possibility, relating the types and preferences to such factors as interest in the humanities curriculum, to measures of scholastic aptitude, and to academic performance.

The third question lies somewhat outside the scope of this study, lacking comprehensive data on withdrawals. Distributions of INFP among the four classes ranged from 31.7% of freshmen to 23.9% of sophomores. Again, juniors were closest to freshmen at 29.8%, while seniors, at 26.7%, resembled sophomores. These data alone do not imply any exceptional persistence or attrition among INFP's over the years.

The fourth possibility--that the over-representation of this type is actually in the humanities as a field of study and not in this college as such--is the crux of the investigation. By combining variables of interest, aptitude, and performance with what is known about the types and preferences, there may be hope of pointing toward an operational understanding of humanization, humanists, and the humanities.

Interest

To be sure, the extraordinary presence of I, N, F, and P, together

and separately, must be taken as a measure of interest--although precisely in what is not clear. While the proportions reported in Figure 1 are substantially beyond the norms provided, it must be conceded that the Pembroke and LIU samples are limited. It might be added that, in addition to far surpassing these college female norms, the proportion of INFP's at Scripps was also more than double the highest reported frequency in a male sample, this being composed of National Merit Finalists (N=671).⁹⁰

Another approach to the question of interest involves the specific majors on the Scripps campus: What types are most attracted to the most humanistic of these? However, one may ask whether whatever degree of humanism supposedly inherent in these may not already have been controlled for by these students all having elected the de facto overall "humanities major" at Scripps.

Figures 2 and 3 relate the types to the choice of major. It is immediately apparent that INFP dominates each major area--as it does the total sample--accounting for between 23.1% and 30.0% of each area. Likewise, INFJ and ENFP, the second and third most common types, were equitably distributed among majors, with the exception of natural science where the N is particularly small. N and F, however, predominated even in this major grouping.

Figure 4 illustrates the apportioning of majors among the types--the opposite of Figure 3. This is done via a ratio between the percentage of each major group who are of each respective type and the percentage of the total sample which that major represents. Thus, unity in each cell would be

⁹⁰Ibid., p. D-5.

ISTJ	ISFJ	INFJ	INTJ
	xxxx	xxxxxxxx	xxxx
ISTP	ISFP	INFP	INTP
	x	xxxxxx xxxx	x
ESTP	ESFP	ENFP	ENTP
	xx	xxxxxxxx	xxxx
ESTJ	ESFJ	ENFJ	ENTJ
	xx	x	x

Social Science Majors (N=38)

ISTJ	ISFJ	INFJ	INTJ
xxx	xxxxxx xxxxxxxx	xxxxxxxx xxxxxxxx	xxxxxx xxx
ISTP	ISFP	INFP	INTP
xx	xxxxxx	xxxxxxxx xxxxxxxx	xxxxxx xxxxxx
ESTP	ESFP	ENFP	ENTP
xx	xxxxxx xxxx	xxxxxxxx xxxxxxxx	xxxxxx xxxxxx
ESTJ	ESFJ	ENFJ	ENTJ
xx	xxxx xxxx	xxxxxxxx xxxxxx	xxxxxx xxxxxx

All Subjects (N=205)

ISTJ	ISFJ	INFJ	INTJ
x	xxxxxx	xxxxxx xxxxxx	xxxxx
ISTP	ISFP	INFP	INTP
	xxxx	xxxxxx xxxxxx xxxxxx	xxxxxx
ESTP	ESFP	ENFP	ENTP
	xx	xxxxxx xxxxxx	xx
ESTJ	ESFJ	ENFJ	ENTJ
x	xxxxxx	xx	xxxxxx

Humanities-Related Majors (N=90)

ISTJ	ISFJ	INFJ	INTJ
x	xx	xxxx	xx
ISTP	ISFP	INFP	INTP
	x	xxxx xxxxxx	xxx
ESTP	ESFP	ENFP	ENTP
	x	xxxx	x
ESTJ	ESFJ	ENFJ	ENTJ
x		xxx	

Majors Undecided (N=33)

ISTJ	ISFJ	INFJ	INTJ
	xx	xxx	x
ISTP	ISFP	INFP	INTP
xx		xxxxx xxxxx	xxxx
ESTP	ESFP	ENFP	ENTP
xx	xxx	xxx	xxx
ESTJ	ESFJ	ENFJ	ENTJ
		xxx	

Fine Arts Majors (N=35)

ISTJ	ISFJ	INFJ	INTJ
x			xxx
ISTP	ISFP	INFP	INTP
		xxx	
ESTP	ESFP	ENFP	ENTP
	x		
ESTJ	ESFJ	ENFJ	ENTJ
		xx	

Natural Science Majors (N=9)

FIGURE 2

FREQUENCY OF TYPES BY MAJOR

ISTJ	ISFJ	INFJ	INTJ
1.0	5.0	13.9	4.0
ISTP	ISFP	INFP	INTP
	4.0	26.7	5.0
ESTP	ESFP	ENFP	ENTP
	2.0	11.9	2.0
ESTJ	ESFJ	ENFJ	ENTJ
1.0	5.9	2.0	5.0

Humanities^{1/} (N=101)

ISTJ	ISFJ	INFJ	INTJ
	5.3	7.9	2.6
ISTP	ISFP	INFP	INTP
5.3		23.7	10.5
ESTP	ESFP	ENFP	ENTP
5.3	7.9	7.9	7.9
ESTJ	ESFJ	ENFJ	ENTJ
		7.9	

Fine Arts^{2/} (N=38)

ISTJ	ISFJ	INFJ	INTJ
	7.7	15.4	7.7
ISTP	ISFP	INFP	INTP
	2.6	23.1	2.6
ESTP	ESFP	ENFP	ENTP
	5.1	15.4	7.7
ESTJ	ESFJ	ENFJ	ENTJ
	5.1	2.6	2.6

Social Science^{3/} (N=39)

ISTJ	ISFJ	INFJ	INTJ
10.0			20.0
ISTP	ISFP	INFP	INTP
		30.0	
ESTP	ESFP	ENFP	ENTP
	10.0		
ESTJ	ESFJ	ENFJ	ENTJ
		20.0	

Natural Science^{4/} (N=10)

ISTJ	ISFJ	INFJ	INTJ
2.9	5.9	11.8	5.9
ISTP	ISFP	INFP	INTP
	2.9	29.4	8.8
ESTP	ESFP	ENFP	ENTP
	2.9	11.8	2.9
ESTJ	ESFJ	ENFJ	ENTJ
2.9		8.8	

Undecided^{5/} (N=34)

ISTJ	ISFJ	INFJ	INTJ
1.4	5.4	12.1	5.4
ISTP	ISFP	INFP	INTP
.9	2.7	26.1	5.9
ESTP	ESFP	ENFP	ENTP
.9	4.1	11.3	4.1
ESTJ	ESFJ	ENFJ	ENTJ
.9	3.6	5.0	2.7

All Majors^{6/} (N=205)

1/ Not typed: 10.9%
 2/ Not typed: 7.9%
 3/ Not typed: 2.6%

FIGURE 3
 PERCENTAGE OF MAJORS COMPRISED
 OF EACH TYPE

4/ Not typed: 10.0%
 5/ Not typed: 2.9%
 6/ Not typed: 7.5%

ISTJ	ISFJ	INFJ	INTJ
.73	.92	1.14	.73
ISTP	ISFP	INFP	INTP
	1.47	1.02	.85
ESTP	ESFP	ENFP	ENTP
	.49	1.06	.49
ESTJ	ESFJ	ENFJ	ENTJ
1.10	1.65	.40	1.83

Humanities (Unity=45.5%)

ISTJ	ISFJ	INFJ	INTJ
	.98	.65	.43
ISTP	ISFP	INFP	INTP
5.85		.91	1.80
ESTP	ESFP	ENFP	ENTP
5.85	1.95		1.95
ESTJ	ESFJ	ENFJ	ENTJ
		1.60	

Fine Arts (Unity=17.1%)

ISTJ	ISFJ	INFJ	INTJ
	1.42	1.26	1.42
ISTP	ISFP	INFP	INTP
	.95	.88	.44
ESTP	ESFP	ENFP	ENTP
	1.26	1.37	1.89
ESTJ	ESFJ	ENFJ	ENTJ
	1.42	.52	.95

Social Science (Unity=17.6%)

ISTJ	ISFJ	INFJ	INTJ
7.40			3.71
ISTP	ISFP	INFP	INTP
		1.16	
ESTP	ESFP	ENFP	ENTP
	2.47		
ESTJ	ESFJ	ENFJ	ENTJ
		4.04	

Natural Science (Unity=4.5%)

ISTJ	ISFJ	INFJ	INTJ
2.18	1.09	.97	1.09
ISTP	ISFP	INFP	INTP
	1.09	1.12	1.51
ESTP	ESFP	ENFP	ENTP
	.73		.73
ESTJ	ESFJ	ENFJ	ENTJ
3.27		1.78	

Undecided (Unity=15.3%)

FIGURE 4
RATIO OF PERCENTAGE OF TYPES IN EACH MAJOR TO
PERCENTAGE OF TOTAL SAMPLE IN EACH MAJOR

the percentage of the sample who are majors in that group. A ratio of more than unity would indicate that the major occurs at a level above expectations in that type.

Though few in numbers (N=6), ENTJ was most disproportionately concentrated in the humanities-related majors. Other than for intuiting, this type seems to be almost antithetical to what has thus far appeared germane to humanistic interests. However, types with such small N's make conclusions precarious, particularly among the ten natural science majors where the presence of but one of the three ISTJ's accounts for a ratio of 7.40. Similarly, the fact that ISTP and ESTP, each with only two subjects, were entirely in fine arts majors may or may not be significant. The implications are interesting, at any rate.

Other types which were underrepresented in the humanities-related majors included ENFJ, ESFP, and ENTP. These, together with ISTP and ESTP--the fine arts majors cited above--suggest that low attraction to humanities might be related to extraversion. In addition, four out of these five low-humanities types had perceiving, and three of those types were TP's.

From perusing majors, it seems most justifiable to say that, aside from types with small numbers of subjects, the more common types were relatively evenly distributed among the major areas. As far as individual preferences are concerned, feeling and judging were the only ones to hold a substantial edge. I and N prevailed only narrowly over their opposites.

A further attempt to assess interest in humanities study involved the student's selection of courses within his overall curriculum, major commitments notwithstanding. While constraints on one's course of study are imposed by major and general requirements, a substantial amount of choice

may be exercised nonetheless.

Figure 5 and Table 42 demonstrate how the types opted among courses in the humanities-related disciplines, social science, and natural science. Table 42 features the percentages of each type's total work which fell in the respective disciplinary areas. Because the Humanities sequence supposedly represents a constant thirty-six units for everyone, it was not included in the table. Figure 5 presents ratios for each type between the mean number of units in an area and the mean number of units in that area for the entire sample.

On the average, subjects had attempted 44.8% of their work in the humanities-related areas, 12.3% in the social sciences, and 9.1% in the natural sciences. The types most heavily biased toward humanities courses were those with the smallest N's: ESTJ and ESTP. These types, of course, run heavily contrary to the characteristics of I, N, F, and P. Other types with large mean unit totals in the related disciplines were ENTJ and ISTP, which again include a small number of subjects. Obviously, where means for small numbers of subjects are concerned, the effects of extreme cases can be exaggerated.

No further conclusions about complete four-preference types seem warranted. However, certain combinations do appear relevant to the selection of course work in the humanities. The most potent pair of preferences seems to be extraversion with judging, with sensing and thinking second in importance. But to further muddy the picture, the two types lowest in humanities units were also thinking and judging types, but this time with introversion. These were ISTJ (N=3) and INTJ (N=11). There seems to be a clear affinity for science study over humanism among these I_TJ combinations.

FIGURE 5

RATIO OF UNIT TOTALS IN ACADEMIC AREAS
TO SAMPLE MEANS BY TYPE
(Unity=the sample mean)

ISTJ	ISFJ	INFJ	INTJ
.44	.98	1.02	.88
ISTP	ISFP	INFP	INTP
1.17	.91	1.07	1.02
ESTP	ESFP	ENFP	ENTP
1.34	.90	1.02	.91
ESTJ	ESFJ	ENFJ	ENTJ
1.33	.91	.99	1.21

Humanities-Related Disciplines
(M=44.8 units)

ISTJ	ISFJ	INFJ	INTJ
1.19	1.29	.94	.86
ISTP	ISFP	INFP	INTP
.24	1.21	.88	1.00
ESTP	ESFP	ENFP	ENTP
.13	1.60	1.40	1.07
ESTJ	ESFJ	ENFJ	ENTJ
.47	1.24	.56	.56

Social Sciences
(M=12.3 units)

ISTJ	ISFJ	INFJ	INTJ
3.11	.80	.84	2.00
ISTP	ISFP	INFP	INTP
1.15	.82	1.08	.67
ESTP	ESFP	ENFP	ENTP
.35	.92	.84	.91
ESTJ	ESFJ	ENFJ	ENTJ
.54	.87	1.43	.70

Natural Sciences
(M=9.1 units)

TABLE 42

PERCENTAGE OF UNITS IN ACADEMIC AREAS BY TYPE
(Rank order of percentages in parentheses)

Type	N	Related Disciplines	Social Science	Natural Science
INFP	55	48.1 (5)	10.8 (10)	9.8 (9)
INFJ	27	45.8 (7)	11.6 (9)	7.6 (9)
ENFP	26	45.5 (8)	17.2 (2)	7.6 (9)
INTP	13	45.9 (6)	12.3 (8)	6.1 (14)
ENFJ	11	44.5 (9)	6.9 (12)	13.0 (3)
ISFJ	11	43.8 (10)	15.9 (3)	7.3 (12)
INTJ	11	39.6 (15)	10.6 (11)	18.2 (2)
ESFP	9	40.1 (14)	19.7 (1)	8.4 (6)
ESFJ	8	40.9 (11)	15.2 (4)	7.9 (8)
ENTP	88	40.8 (12)	13.1 (7)	8.3 (7)
ISFP	6	40.6 (13)	14.9 (5)	7.5 (11)
ENTJ	6	54.0 (3)	6.9 (12)	6.4 (13)
ISTJ	3	19.9 (16)	14.6 (6)	28.3 (1)
ESTJ	2	59.7 (2)	5.8 (14)	4.9 (15)
ISTP	2	52.2 (4)	2.9 (15)	10.5 (4)
ESTP	2	59.9 (1)	1.6 (16)	3.2 (16)
	200	M=44.8	M=12.3	M=9.1

The influence of types with small N's, in which most of these extreme cases occur, render difficult the analysis of data of this nature. Such characterizations are obviously tenuous. In defense of I, N, F, and P, it may be added that when the six types with N's of six or fewer are eliminated, the types composed of these preferences do show the expected affinity to humanities course work.

Figure 6 approaches attraction to course work in terms of the individual preferences instead of types. Here the figures represent mean numbers of units attempted, not percentages of the whole. The Humanities sequence was included in this figure to complete the spatial analogy. While differences between contrasting preferences do exist, their significance must also take into consideration the overall work attempted. It is clear that I, N, T, and J hold margins in humanities-related study over their opposites, but it is also true that I, T, and J predominated in the total of work attempted. Only N as a type outstripped its opposite in humanities despite S having a higher average of overall units. It is also important to acknowledge the very small range of differences, with mean humanities units ranging only from 41.8 to 44.4, with a sample mean of 43.5. The pair showing the greatest contrast was I over E, though in reflecting upon comparisons of types with units extraverted types generally were most prevalent. Thinking shared the same high unit mean with I, but its margin over F was less decisive.

Summarizing the analysis of interest in the humanities, it appears that the Myers-Briggs types present no clear-cut pattern of relationship either to majors in humanistic areas or to the undertaking of course work in those disciplines. Comparisons between opposite preferences show more obvious differences, but as individual preferences they are difficult to

Preference	Area			
	Humanities	Related Disciplines	Social Science	Natural Science
I	32.9	44.4	11.5	9.4
	32.7	41.8	12.9	7.9
E				
S	34.0	42.8	14.5	8.6
	32.6	43.7	11.3	9.0
N				
T	33.6	44.4	10.0	10.7
	32.6	43.2	12.6	8.4
F				
J	33.8	43.9	11.2	10.4
	32.3	43.2	12.5	7.9
P				

FIGURE 6

MEAN UNITS IN ACADEMIC AREAS BY PREFERENCE

account for in theory, and the effects which various combinations of preferences have on each other are far from parsimonious. The effect of extraverted judging types on interest is curious. In general, these rank high on measures of interest: attraction to humanities-related majors and to course work attempted in such areas. As an individual preference, however, I surpasses E in these same measures. It could be that the EJ combination relates more precisely to a pervasive trait of industriousness than to specific affinity for humanistic study.

Extraversion and judging might well be described as a combination for "playing the system." Typically inferior to the introvert in academic interests and aptitude,⁹¹ the extravert's forte is utilizing his objective environment. Academically, programs and institutions are to him impersonal entities, with more pragmatic than subjective value.⁹² That such a student might tend to "devour" a curriculum is not unexpected. Extraversion is associated with a need for dominance,⁹³ and faculty ratings reported by Myers include competitiveness, strength, and activity.⁹⁴ They thrive upon variety and distraction,⁹⁵ and thus could be expected to act this out in the election of courses.

The preference for judgment, it may be seen, could indeed serve to enhance the typical behavior of E in this way. The judging type's penchant

⁹¹Ibid., p. 4.

⁹²Ibid., p. 5.

⁹³Ibid., p. 25.

⁹⁴Ibid., p. 27.

⁹⁵Ibid., p. 80.

for organization of the environment⁹⁶ suggests that the curriculum would be attacked in a methodical, systematic manner. Or it may be more accurate to say that to the extent there is organization and structure to the curriculum, he feels compelled to react positively.⁹⁷ Thus the aspects of the curriculum to which they have a basic affinity may be overly "consumed" in a quantitative sense, rather than the qualitative approach characteristic of the INFP, for instance. The former combination aspires to achievement in terms of sheer bulk of work, rather than the excellence which might characterize some of the opposite preferences. Having an interest in the humanities to begin with, they may believe that, this being the coin of the realm in the Scripps setting, the appropriate method of achievement is mastery of a great amount of formal course work.

Of all the preferences examined in light of interest in the humanities, perhaps the one which is most genuinely involved--as opposed to the need for mastery of any educational tasks, humanistic or otherwise--is intuiting. This is on the basis that it was the only preference to surpass its opposite in humanities units while the opposite (S) averaged heavier overall academic loads. N may be related to a number of highly liberal, or liberating, traits. Not only is it a highly academically inclined preference,⁹⁸ but it is highly associated with creativity.⁹⁹ Rather than being preoccupied

⁹⁶Ibid., pp. 2, 25.

⁹⁷Ibid., pp. 78-79.

⁹⁸Ibid., p. 8.

⁹⁹Ibid., pp. 16, 32.

with the imminent and the practical, the intuitive's faith is in the possible.¹⁰⁰ His technique is indirect, unconscious, possibly aesthetic.¹⁰¹ Solutions which are original, imaginative, and abstract--even though impractical--are entirely worthy of his consideration.¹⁰² He is not threatened by a lack of certainty or structure, but is highly independent, autonomous and confident of his productions.¹⁰³ He finds it entirely feasible to leave the door open for growth and development occasioned by new data, to which he is always receptive.¹⁰⁴ If mistakes are to be made, he wants them to be of his own making.¹⁰⁵

Aptitude

Any analysis of academic performance and interest should necessarily be mediated by variables of aptitude. While it may be logical to assume that a student is interested in what he does well in, it may not necessarily follow that he does well in what he is interested in.

The mean verbal and mathematical aptitude scores for each type, along with the rank ordering of each, are illustrated on Figure 7. Again, small N's in some types make hazardous the drawing of inferences. An intriguing example is ESTJ (N=2), which averaged the highest SAT-M and the lowest SAT-V of the entire sample. However, despite the high SAT-M, this type ranked but

¹⁰⁰Ibid., pp. 2, 76.

¹⁰¹Ibid., pp. 2, 25.

¹⁰²Ibid., pp. 27, 76, 79.

¹⁰³Ibid., pp. 25, 27. Also, Heist and Yonge, op. cit., p. 30.

¹⁰⁴Myers, op. cit., p. 76

¹⁰⁵Ibid., p. 80.

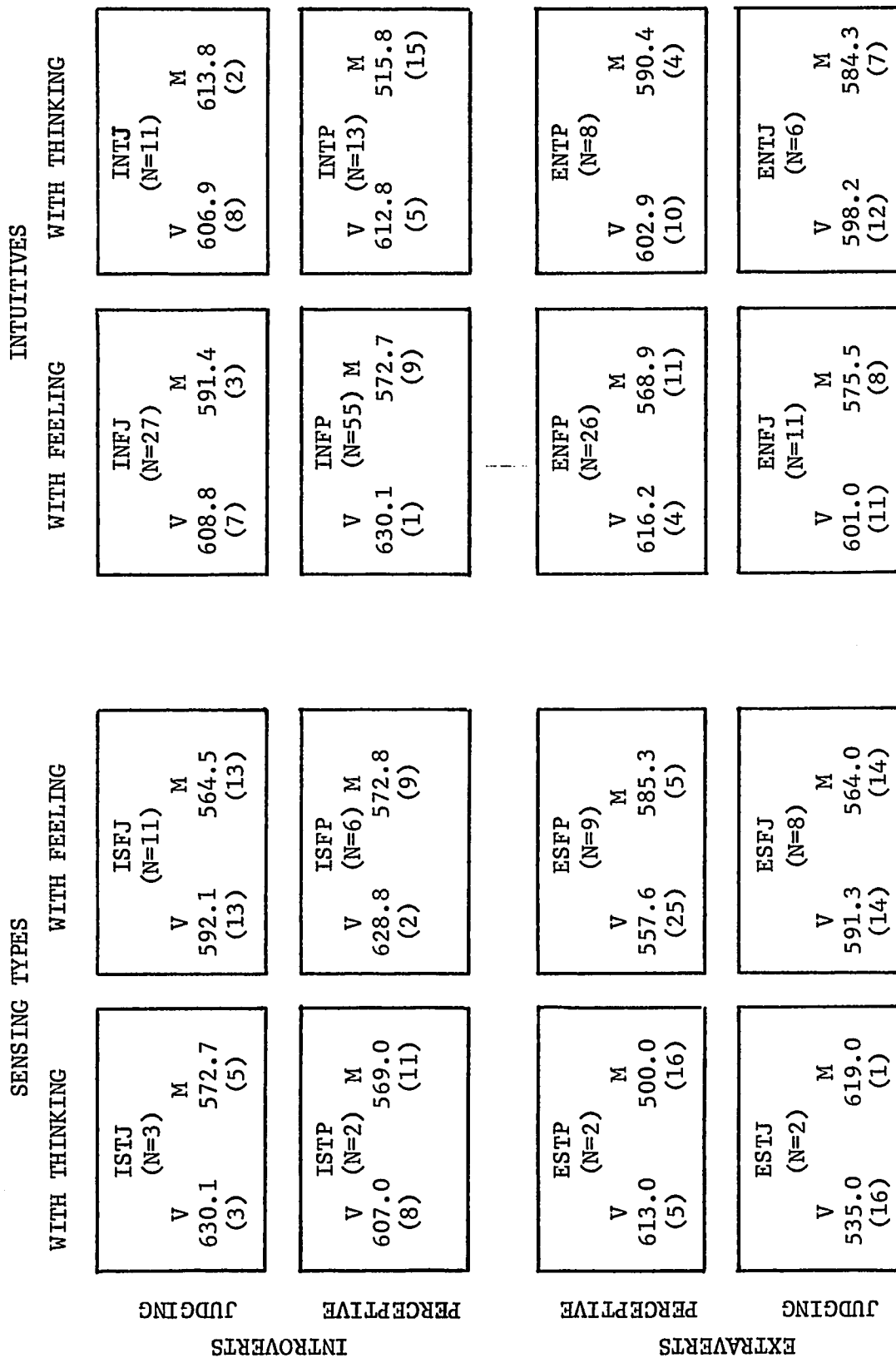


FIGURE 7

SAT-V AND SAT-M MEANS BY TYPE
(Rank order in parentheses)

fourteenth in natural science units attempted, although its performance in that area was creditable, while having both the highest unit total and the highest grade point average in the humanities-related disciplines.

This is particularly stimulating to thought in that it has been implied that, at least in some ways, ESTJ is antithetical to the allegedly humanistic qualities of INFP. The contrasts of the individual preferences and the combinations thereof are obvious, but it may be of value to cite the relevant characteristics which have been associated with multiples of the E, S, T, and J scales.

The Allport-Vernon-Lindzey scales which are most strongly related with ESTJ combinations are Economic and Political values.¹⁰⁶ Correlations with the Edwards Personal Preference Schedule suggest that needs for Dominance and for Endurance influence the style of ESTJ's.¹⁰⁷ Faculty ratings reported by Myers are even more informative, characterizing such students as competitive, cooperative, entertaining a positive attitude to work, gregarious, exhibiting desirable study habits, and willing to take directions.¹⁰⁸ ES is attributed with the lowest natural inclination toward scholarship of any pair,¹⁰⁹ and when combined with T the attraction toward liberal arts is held to be particularly low.¹¹⁰ TJ combinations are

¹⁰⁶Ibid., p. 24.

¹⁰⁷Ibid., p. 25.

¹⁰⁸Ibid., pp. 27-28.

¹⁰⁹Ibid., p. 44

¹¹⁰Ibid., p. 46.

preoccupied with qualities of truth and falsity,¹¹¹ and consequently are inclined to be impatient with situations which appear ambiguous or disorganized.¹¹²

Myers describes sensing-thinking persons as those who

. . . rely primarily on sensing for purposes of perception and on thinking for purposes of judgment. Thus their main interest focuses upon facts, because facts are what can be collected and verified directly by the senses, by seeing, hearing, touching, counting, weighing, measuring. And they approach their decisions regarding these facts by impersonal analysis, because what they trust is thinking, with its step-by-step logical process of reasoning from cause to effect, from premise to conclusion.¹¹³

In consequence, their personalities tend to be practical and matter-of-fact, and their best chance of success and satisfaction lies in fields which demand impersonal analysis of concrete facts, such as business, accounting, production,¹¹⁴ manipulation of machines and materials, economics, law, surgery, etc.

In combination, the four component preferences, extraversion, sensing, thinking, and judging, are described as exerting the following influences upon each other:

E Ease with environment
 S Practicality, observation, reliance on experience
 T Logical, executive, decisive, critical, demands efficiency
 J Organization¹¹⁵

Myers goes on to describe the E_TJ cluster:

The extraverted thinker uses his thinking to run as much of the world as may be his to run. He has a high respect for impersonal truth, thought-out plans and orderly efficiency. He is analytic, impersonal, objectively critical, and unlikely to be convinced by anything but

¹¹¹Ibid., p. 52.

¹¹²Ibid., p. 46.

¹¹³Ibid., p. 54.

¹¹⁴Ibid.

¹¹⁵Ibid., p. 66.

reasoning. He organizes facts, situations, and operations well in advance, and makes a systematic effort to reach carefully planned objectives on schedule. He thinks everybody's conduct should be governed by logic, and governs his own thought that way so far as he can. . . . He abhors confusion, inefficiency, half-way measures, and anything aimless and ineffective. . . . Being a judging type, he may neglect perception. He needs to stop, look and listen to other people's points of view. . . . Feeling (the direct rival of thinking) is his fourth and least manageable function. If too much suppressed, it will build up pressure and explode with negative force. . . . It needs some positive outlet, the most serviceable one being appreciation of other people's qualities. Appreciation is harder for a thinker than for any other type, because he is naturally critical. But it can be developed.
 . . .¹¹⁶

When sensing is added to this cluster to produce the ESTJ type, such a person, it is reported,

Takes in the realities.

Matter-of-fact, practical, realistic, factually-minded, concerned with here and now. More curious as to new things than new ideas. Prefers to have ideas, plans, etc. based on solid fact.¹¹⁷ (May need an intuitive around, to sell him on the value of new ideas.)

How "antithetical" the foregoing traits of ESTJ actually are to humanism or to humanization still cannot be made empirically explicit. However, it may be worthwhile to add that certain qualities which might be deemed as germane to a humanistic style, such as aesthetic awareness, appreciation of the inconsistencies in human experience, transcendence of immediate data in the interest of deeper meaning and insight, and sensitivity to feeling-level productions, are conspicuously absent from the ESTJ combinations. ESTJ's possible nonhumanism might be defined more by omission than by commission in this regard.

These anomalies notwithstanding, the two ESTJ's in the Scripps sample

¹¹⁶ Ibid., p. A-1.

¹¹⁷ Ibid.

evidently were able to parlay their work habits into satisfactory performance, even with very low scores of verbal aptitude. That these two subjects may have been extraordinary individuals as ESTJ's is moot, in light of their attraction to this program. However, their small number in the Scripps sample perhaps bears this out: ESTJ constituted 1.0% of this sample, compared with 2.5% at Pembroke and 13.0% at Long Island University.¹¹⁸ Yet another variable to be contended with in the case of a small N is, of course, the reliability of the test instrument.

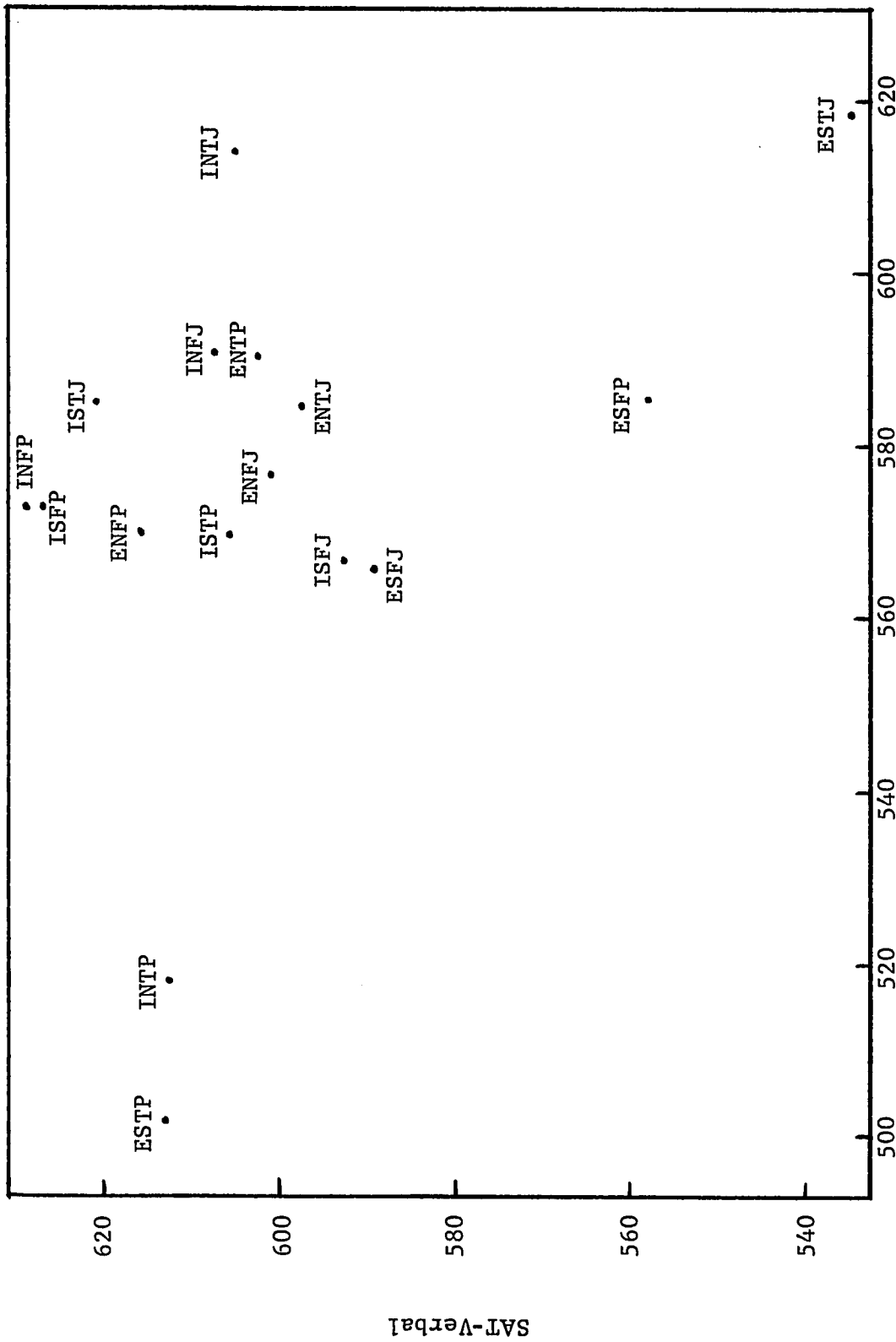
Measures of aptitude show interesting contrasts between ESTJ and INFP, the latter averaging the highest SAT-V and the ninth ranked SAT-M mean. Despite the lowness of the latter, however, INFP still featured the second highest combined aptitude means of the entire sample.

Individual preferences which were related to high SAT-V were perceiving and introversion. While differences between N-S and F-T were not conclusive, the FP combination appeared to be favorable. Neither I-E nor N-S preferences seemed related to mathematical aptitude. T and J, however, each were high among SAT-M leaders, and as a combination showed themselves as highly related.

Figure 8 compares on dimensions of verbal aptitude and mathematical aptitude the mean scores for each type. It is apparent that the verbal means are somewhat more closely grouped than are means for SAT-M. The contrasts between TJ types and FP types (and to a lesser degree NF) on these aptitude dimensions are particularly clear.

The substantial variation in SAT-M means for the types again is demonstrated in Figure 9. The haphazard relationship between mathematical

¹¹⁸Supra, Figure 1.



SAT-Mathematical

FIGURE 8

Mean Verbal and Mathematical Aptitude by Type

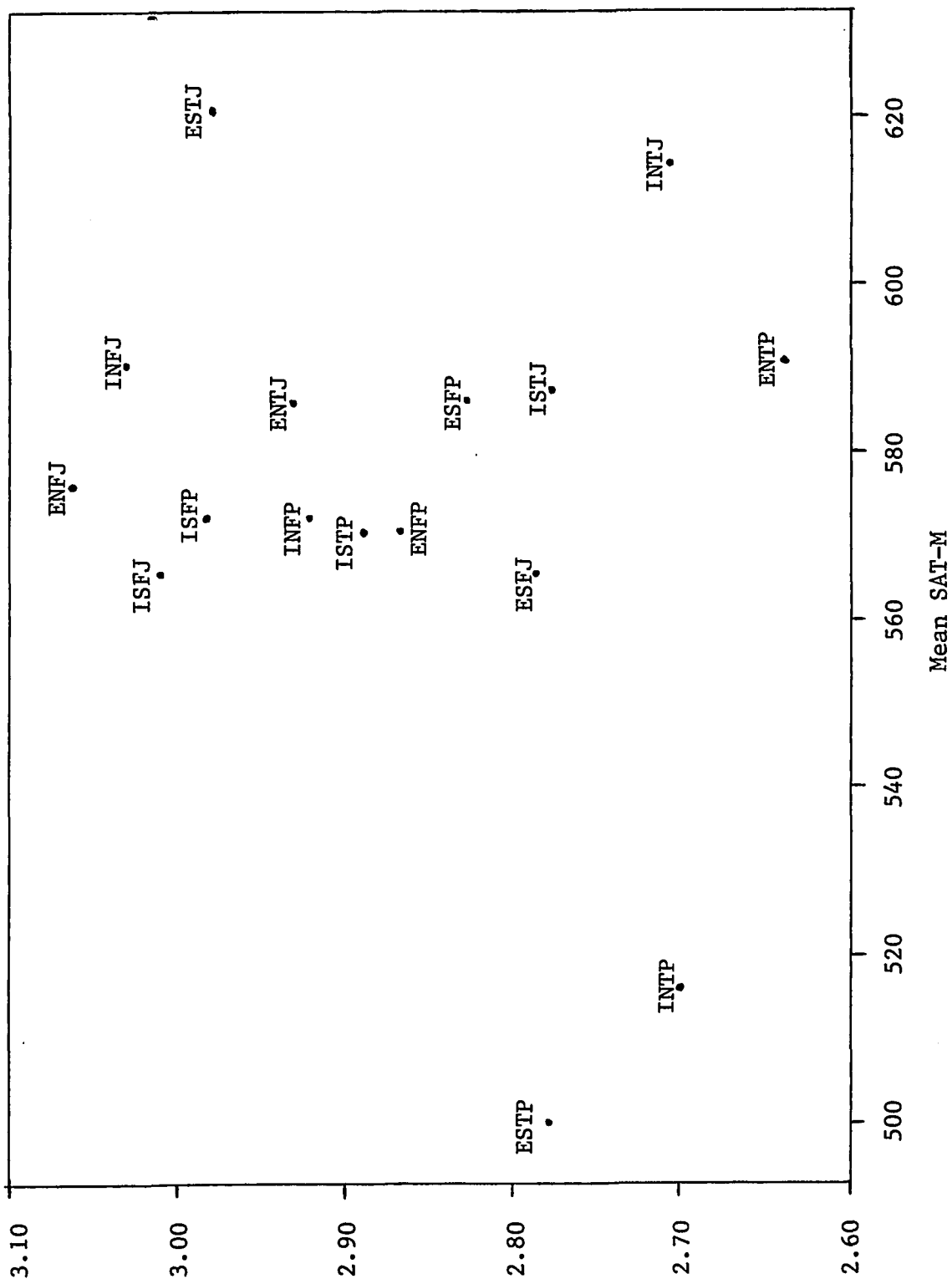


FIGURE 9
ACADEMIC PERFORMANCE AND MATHEMATICAL APTITUDE BY TYPE

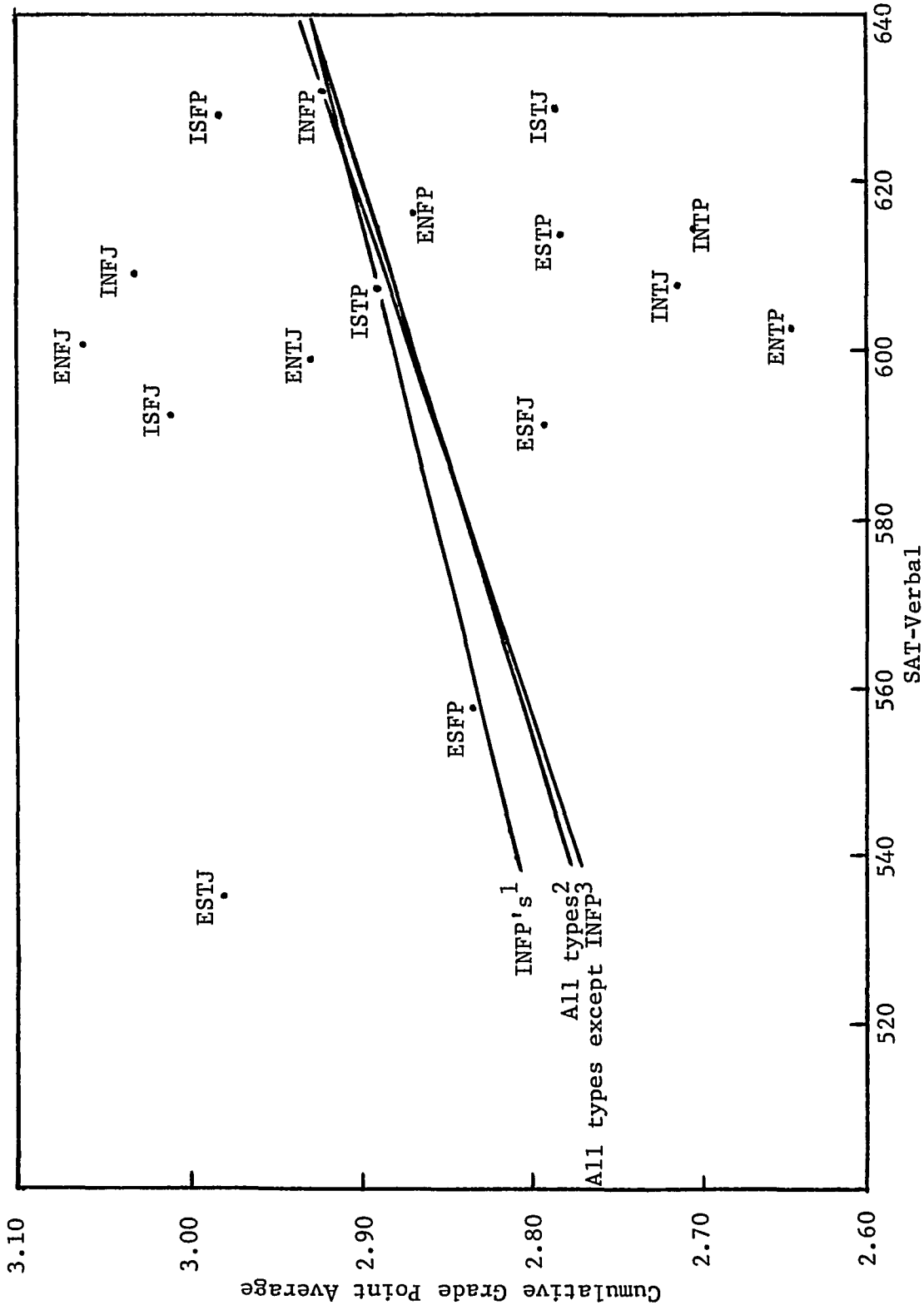


FIGURE 10

Academic Performance and Verbal Aptitude by Type

¹M adjusted from 2.86 to 2.92
²M adjusted from 2.82 to 2.89
³M adjusted from 2.80 to 2.88
 (See text.)

aptitude means and cumulative grade averages for the types is apparent, and is not unexpected considering the constructs involved. Figure 10, however, compares the regression of verbal aptitude on cumulative performance for the overall sample, for INFP separately, and for the balance of the sample without INFP.

This correlation plot is supplemented on Table 43 with means and standard deviations, as well as the correlation coefficients, for the verbal aptitude and the performance axes. The simple prediction of cumulative grades from SAT-V alone is quite poor for each of the subgroups, as would be expected in a truncated, skewed distribution of test scores. Despite the high aptitude of INFP, it is interesting that the correlation within this group is the lowest of the three--perhaps evidence of an even more pronounced skew or truncation. It is also true, as Table 43 shows, that INFP's were better than average performers on the basis of cumulative grades. However, the relationship between variables of aptitude and performance bears out the frequent characterization of this type as essentially underachieving.¹¹⁹

Figure 11, using the regression line for the total sample, illustrates the relative means for each of the eight individual preferences. The contrasts are particularly vivid, particularly I, N, F, and P individually against their collective opposites in aptitude. If INFP is in general underachieving, it is not clear from the individual preferences which, if any, is primarily responsible for this phenomenon. Of the four, P is the only one which is below the regression line, while N is virtually on it. Although J has been established as a high performing preference, the very

¹¹⁹Ibid., p. 43.

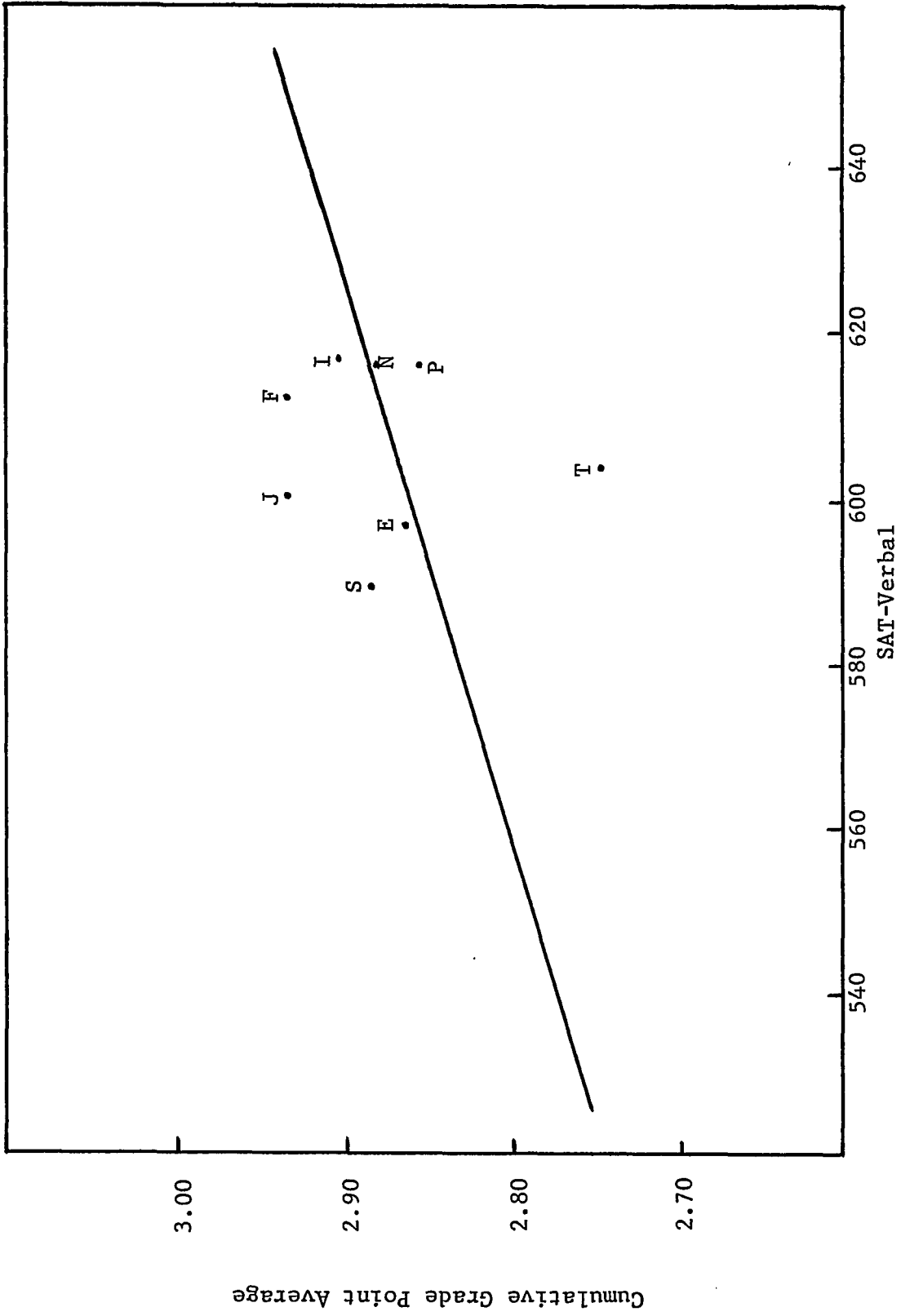


FIGURE 11
Academic Performance and Verbal Aptitude by Preference

TABLE 43
 CORRELATION OF VERBAL APTITUDE
 AND ACADEMIC PERFORMANCE

Variable		INFP (N=55)	Other Types (N=145)	All Subjects (N=200)
SAT Verbal	Mean	629.6	604.1	611.1
	SD	56.2	53.3	55.3
Cumulative GPA	Mean	2.86	2.80	2.82
	SD	.44	.44	.44
r		.141	.201	.192

low achievement of thinking and the correspondingly high status of feeling come very much as a surprise on the bases of the respective constructs. Myers, however, has already noted this tendency for feeling types to be not only more often attracted to the liberal arts than thinkers but more successful, despite lower verbal aptitude.¹²⁰ In this sample, though, F did feature a slightly higher SAT-V mean than did T.

Two other preferences which merit comment are introversion and extraversion. Although I averages a higher level of aptitude and superior performance, the relationship of these opposites to the regression line shows neither to be associated with over- or under-achievement. Given the same level of verbal aptitude, I or E should perform equally well.

A note on methodology is appropriate at this point as an accounting for the differences in cumulative grade means among Tables 39, 43, and 44. The measures of central tendency reported in Tables 39 and 44 were calculated by dividing the sum of grade points attained by all subjects in a type by the sum of units attempted. These group means, which are rather independent of individual student means, were also the values plotted for the types on Figure 11 and on Table 43. However, correlation necessitated the use of individual grade averages which were again averaged to obtain group means. For the three groups for whom regressions were calculated, the latter method yielded means which were .06 to .08 below those obtained by the former method.

Achievement

The regressions just examined have already touched on the topics of academic performance and achievement above or below expectations. The poor

¹²⁰Ibid., pp. 46-47.

predictiveness of SAT-V alone, while coming as no surprise, does underscore the impact which personality variables of the type being considered have over and above aptitude alone.

To pursue the discussion of mean performance, based on Figures 10 and 11, the overachieving effects of feeling and of judging must be reemphasized. This is true of these not only as individual preferences (Figure 11), but is borne out by the fact that the three highest performing types are FJ's (Figure 10). Certainly the ordering, structuring, aggressive tendencies of J¹²¹ are far removed from the attitudes which the feeling type uses when judging. The basic technique of the feeling type is a personal, subjective appreciation of the environment; things to him are not black or white, true or false, as they are with his counterpart, the thinker, but are placed on a continuum of valued-not valued.¹²² His sensitivity to human relationships, harmony, good will, and tact are also portrayed in his own needs for nurturance, sympathy, and agreeableness.¹²³ The humanities as a stage for acting out these values and attitudes may be theorized as highly potent. This student is genuinely appreciative of human experience, sees beauty and harmony in it despite contradictions and enigmas, and probably feels his life enriched by such study. When combined with judging, high performance and a degree of industriousness seem inevitable.

Table 44 breaks academic performance into categories of the Humanities sequence, the related disciplines, social science, and natural science. FJ

¹²¹Supra, p. 65.

¹²²Myers, op. cit., p. 2.

¹²³Ibid., pp. 25, 53, 57, 75, 76, 78, 79, 80.

TABLE 44

PERFORMANCE IN SUBJECT AREAS BY TYPE
(Rank order of averages in parentheses)

Type	N	Humanities	Related Disciplines	Social Science	Natural Science	Cumulative
INFP	55	2.79 (7)	3.03 (6)	3.15 (5)	2.58 (7)	2.92 (6)
INFJ	27	2.85 (3)	3.19 (4)	3.19 (4)	2.59 (6)	3.03 (2)
ENFP	26	2.77 (6)	2.95 (10)	3.09 (7)	2.41 (10)	2.87 (9)
INTP	13	2.61 (13)	2.91 (13)	2.37 (14)	2.33 (13)	2.70 (15)
ENFJ	11	2.72 (8)	3.27 (2)	3.12 (6)	3.25 (1)	3.06 (1)
ISFJ	11	2.90 (2)	3.14 (5)	2.83 (10)	3.07 (2)	3.01 (3)
INTJ	11	2.67 (11)	2.82 (15)	2.92 (9)	2.38 (11)	2.71 (14)
ESFP	9	2.72 (10)	2.95 (10)	2.96 (8)	2.34 (12)	2.83 (10)
ESFJ	8	2.61 (13)	2.97 (8)	2.82 (11)	2.54 (8)	2.79 (11)
ENTP	8	2.44 (16)	2.92 (12)	2.78 (12)	1.82 (15)	2.64 (16)
ISFP	6	2.83 (4)	3.02 (7)	3.30 (1)	2.89 (3)	2.98 (4)
ENTJ	6	2.92 (1)	2.96 (9)	3.20 (3)	2.52 (9)	2.93 (7)
ISTJ	3	2.71 (9)	2.49 (16)	3.27 (2)	2.83 (4)	2.78 (12)
ESTJ	2	2.50 (15)	3.30 (1)	2.29 (15)	2.75 (5)	2.98 (4)
ISTP	2	2.67 (11)	3.20 (3)	2.50 (13)	2.14 (14)	2.89 (8)
ESTP	2	2.82 (5)	2.89 (14)	1.00 (16)	1.00 (16)	2.78 (12)
Mean	200	2.76	3.03	3.01	2.58	2.89
SD		.53	.54	.66	.78	.46

types rank second and third on Humanities grade average--both of these with introversion. The two remaining FJ types are not at all spectacular in this area. Three FJ types ranked second, fourth and fifth on the related disciplines. Another interesting aspect of Table 44 is the often dramatic difference in rank order between Humanities and the related disciplines, for which no consistent explanation is evident.

Table 45 examines mean scores for the academic areas, as well as for aptitude measures, for each preference. While the F mean surpasses that of T in performance in each area, the superiority of judging over perceiving in average grades is rather narrow in Humanities. A new datum is that perceiving holds an impressive edge over judging in social science grades. Social science is also the one area where the N mean holds a substantial margin over that for S. This is an academic area where I, N, F, and P can actually show a qualitative advantage. As mentioned above, differences between I and E are barely perceptible on most accounts, and I shows only the slightest edge in performance on this table. It is, however, consistent, and does show most readily in the difference between Humanities averages.

Dispersion of grade averages on overall work is shown on Figure 12. Again, any advantage of I over E is difficult to establish, except for a larger number of subjects in the top quintile. Introverts are more equitably distributed among the quintiles than are extraverts who, by virtue of an unusually small proportion in the middle quintile, are rather bimodal. Mean grade averages for N versus S have obscured much of the story, for intuitives do have a noticeable advantage in the upper range of cumulative grades. It is also clear that F has a much more favorable distribution than does T, but as is also the case with N, this is more by virtue of peculiarities in the

TABLE 45

ACADEMIC PERFORMANCE AND APTITUDE BY PREFERENCE
(Grade averages and SAT means)

Preference	N	Area					SAT		
		Humanities	Related Disciplines	Social Science	Natural Science	Cumulative	Verbal	Math	
I	128	2.78	3.04	3.02	2.58	2.91	617.9	574.2	
E	72	2.71	3.02	2.99	2.57	2.87	598.3	574.6	
S	43	2.75	3.05	2.93	2.67	2.89	590.5	571.1	
N	157	2.76	3.03	3.04	2.55	2.89	616.9	575.2	
T	47	2.65	2.93	2.73	2.37	2.75	604.8	570.6	
F	153	2.79	3.06	3.08	2.66	2.94	612.8	581.4	
J	79	2.79	3.09	2.51	2.72	2.94	601.0	585.7	
P	121	2.74	2.99	3.01	2.46	2.86	617.4	566.9	

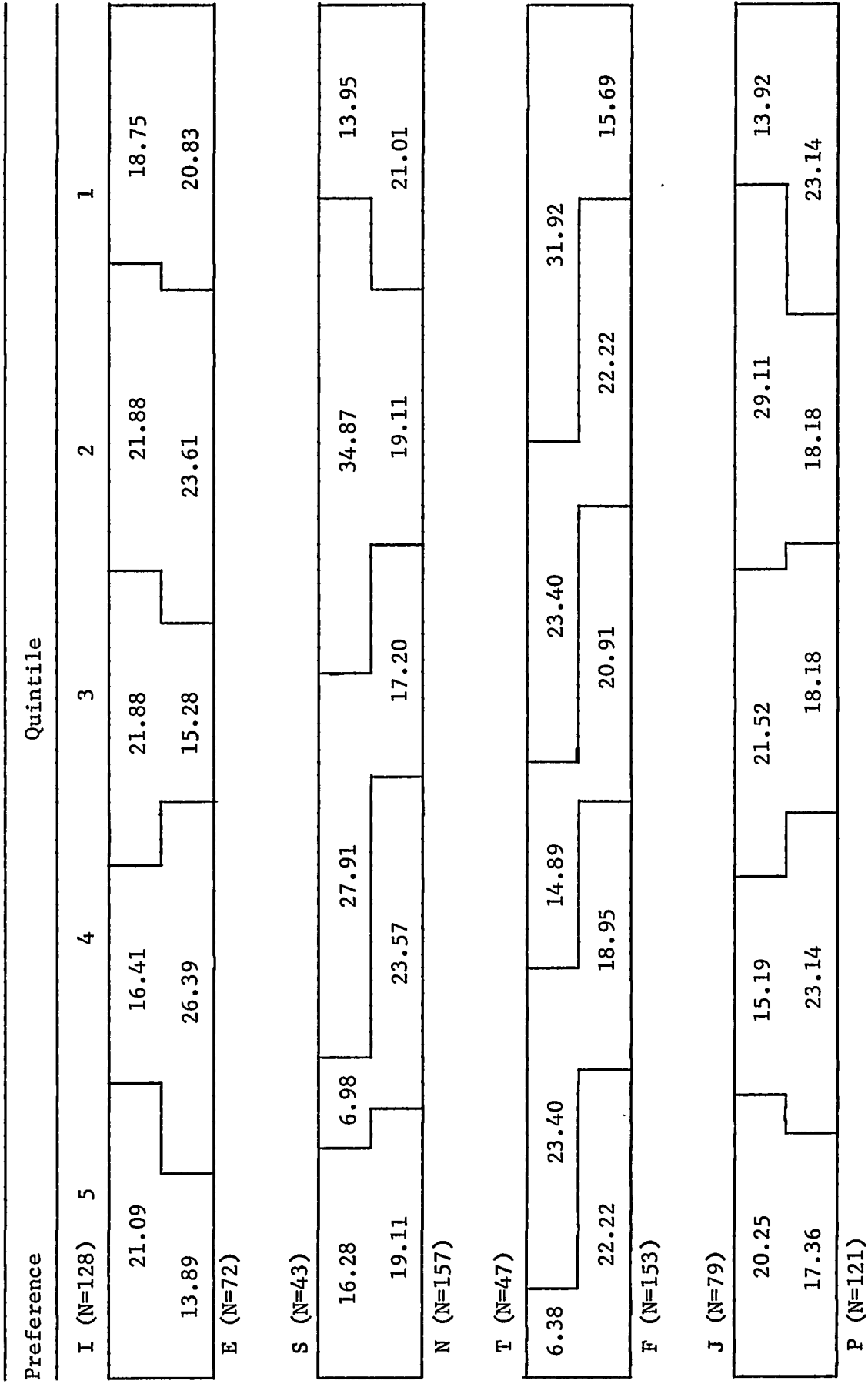


FIGURE 12
 CUMULATIVE GRADE AVERAGE DISTRIBUTION BY PREFERENCE
 (Percentage in each quintile)

distributions of the opposite preferences; N and F are each very near to the 20% in each quintile which is the theoretical ideal.

Differences between J and P are not as clear cut as the means would suggest, particularly in the three top quintiles. The seeming advantage of judging types is really based on a lower proportion of subjects in the bottom quintile than is the case with P.

This figure sheds substantial light on questions of preference and performance. Whereas I, N, F, and P types have thus far been characterized by their extraordinary frequency and not their academic prowess, it is evident in Figure 12 that these preferences predominate in the top three quintiles. N, F, and P are also strongly represented in the two upper quintiles. Thus, the advantage apparent for J over P in this sample might be a result of the paucity of J in the bottom quintile; in the top two quintiles the proportions of J and P are relatively close. The same trend is evident for S and for N, and it may be said that the apparent advantages of S and J types in cumulative performance may actually reflect the large numbers of intuitives and perceptives who perform poorly, not a lack of numbers who do well.

Tables 46-49 deal with key pairs of preferences, primarily to isolate the effects which one member of the pair has on the other. The first of these focuses upon feeling and intuiting, these being preferences which are not only prevalent in numbers, but should hold promise for academic excellence.¹²⁴ As Table 46 indicates, F seems to be a minimally dominant partner in the combination, since in every academic area the combining of F with N

¹²⁴Ibid., p. 46.

TABLE 46
 EFFECT OF INTUITING-FEELING COMBINATIONS ON
 SEPARATE N AND F PREFERENCES
 (Grade point averages. Mean number of units in
 parentheses.)

	N + F (N=119)	N (N=157)	F (N=153)
Humanities	2.79 (32.2)	2.76 (32.6)	2.79 (32.6)
Related Disciplines	3.07 (43.5)	3.03 (43.7)	3.06 (43.2)
Social Science	3.14 (11.4)	3.04 (11.3)	3.08 (12.6)
Natural Science	2.64 (8.5)	2.55 (9.0)	2.66 (8.4)
Cumulative	2.95 (95.6)	2.89 (96.5)	2.94 (96.7)
SAT-Verbal	619.6	616.9	612.8
SAT-Mathematical	576.7	575.2	581.4

results in grade averages slightly higher than for N alone--this despite the slightly higher SAT-V which is characteristic of N. It is also noteworthy that the NF combination has a higher SAT-V mean than either preference individually. Analysis of units attempted does not show the pairing to have any notable effect, other than the pair showing less cumulative work than either N or F singly.

Table 47 attempts to verify the influence--or lack of it--of N when combined with T, a preference which is thus far distinguished by its lack-luster performance. The NT combination suffers generally compared to NF in terms of performance in the respective disciplines. Moreover, N, which as a separate preference is shown to be academically superior to T in each area, does not appear to affect positively the combination of the two. Thus, it would seem that despite the higher verbal aptitude mean of N and the cluster of traits apparently favorable to humanistic study, combining with thinking by this evidence does not enhance academic performance.

Thinking holds much in common with E and with J, each reviewed above. The strong points of this preference are impersonal, logical criticism and a liking for theory.¹²⁵ Thinkers articulate best in an organized environment, even if it is one composed largely of ideas.¹²⁶ Ideas which are not systematic and effects which do not logically ensue from causes are not satisfying to thinking types.¹²⁷ Such persons are inclined to find difficulty in coping with the illogical motives and reactions of human beings, and tend to meet

¹²⁵Ibid., pp. 2, 25, 52, 75.

¹²⁶Ibid., pp. 53, 78.

¹²⁷Ibid., pp. 75-76.

TABLE 47
 EFFECT OF INTUITING - THINKING COMBINATIONS ON
 SEPARATE N AND T PREFERENCES
 (Grade point averages. Mean number of units in
 parentheses.)

	N + T (N=38)	(N=157)	(N=47)
Humanities	2.65 (33.9)	2.76 (32.6)	2.65 (33.6)
Related Disciplines	2.93 (43.6)	3.03 (43.7)	2.93 (44.4)
Social Science	2.71 (10.9)	3.04 (11.3)	2.73 (10.0)
Natural Science	2.32 (10.4)	2.55 (9.0)	2.37 (10.7)
Cumulative	2.73 (99.3)	2.89 (96.5)	2.75 (98.7)
SAT-Verbal	606.7	616.9	604.8
SAT-Mathematical	570.7	575.2	570.6

human frailties and inconsistencies with impatience.¹²⁸ From this might be held to stem suggested incompatibilities with the humanistic method. The thinking preference might find the speculative nature of humanistic analysis to be too disorganized for comfort, and to rely too heavily on an emotional level of understanding. Indeed, the very productions, literary, artistic, or metaphysical, which form much of the substance of the humanities are based largely upon the feelings of their creators. When Myers notes that thinking types prefer organization, not talk, the possible discomfort of these types with the methodology of the arts, literature, philosophy, or religion seems most plausible.¹²⁹

Feeling and judging, singly and in combination, are compared in Table 48. There is no clear-cut superiority of one over the other, F prevailing in social science grade averages and J in natural science. Combined averages, however, for FJ types exceed, in each area but one, those for feeling or judging alone. With one exception, the FJ means also surpass those of NF types, despite the fact that the FJ verbal aptitude mean is eighteen points below that for NF types.

The final analysis of pairs of preferences compared T and J, as shown in Table 49. Because it was not clear from Table 48 whether F or J had the most salutary effect upon the other, T was employed as a check against J. In combination, J added little to the performance of T alone, raising only modestly the averages in Humanities, natural science, and cumulatively to a point between that of each type separately. It might thus be surmised that,

¹²⁸Ibid., p. 75.

¹²⁹Ibid., pp. 75, 78.

TABLE 48

EFFECT OF FEELING - JUDGING COMBINATIONS
ON SEPARATE F AND J PREFERENCES
(Grade point averages. Mean number
of units in parentheses.)

	F + J (N=57)	F (N=153)	J (N=79)
Humanities	2.81 (33.5)	2.79 (32.6)	2.79 (33.8)
Related Disciplines	3.17 (42.7)	3.06 (43.2)	3.09 (43.9)
Social Science	3.02 (11.5)	3.08 (12.6)	2.51 (11.2)
Natural Science	2.87 (8.3)	2.66 (8.4)	2.71 (10.4)
Cumulative	2.99 (96.0)	2.94 (96.7)	2.94 (99.2)
SAT - Verbal	601.5	612.8	601.0
SAT - Mathematical	579.3	581.4	585.7

TABLE 49

EFFECT OF THINKING - JUDGING COMBINATIONS
ON SEPARATE T AND J PREFERENCES
(Grade point averages. Mean number
of units in parentheses.)

	T + J (N=22)	T (N=47)	J (N=79)
Humanities	2.73 (34.5)	2.65 (33.6)	2.79 (33.8)
Related Disciplines	2.91 (46.8)	2.93 (44.4)	3.09 (43.9)
Social Science	2.99 (10.2)	2.73 (10.0)	2.51 (11.2)
Natural Science	2.50 (15.6)	2.37 (10.7)	2.71 (10.4)
Cumulative	2.81 (107.3)	2.75 (98.7)	2.94 (99.2)
SAT - Verbal	599.9	604.8	601.0
SAT - Mathematical	602.4	570.6	585.7

while the organizing, aggressive character of judging may team productively with the sensitivity of feeling types, the relative inflexibility of the preference for thinking is enhanced only minimally when judging is added, and might even be suggested to handicap the performance which might ordinarily be typical of judging types.

One additional point may assist in clarifying the style typical of the TJ combination, and that is the substantially greater number of units attempted by this combination of preferences than by either T or J alone. The sole exception to this is social science. Thinking-judging types appear definitely to be industrious if not scholarly. The judging type's frequent compulsion to perform--perhaps to conform is more accurate--combined with the thinker's apparent ability to compartmentalize his activities and to approach those at hand--in this case his academic commitments--with endurance seems to provide a combination which is destined to view performance in a quantitative sense.

A final item in investigating academic achievement returns to areas of major concentration compared with performance, rather than the Myers-Briggs types. Figure 13 shows the distribution of cumulative grade averages among the quintiles by major groups. Horizontal distances represent the proportions of majors falling within the respective quintiles. Humanities-related majors as a group are characterized on this figure by the most symmetrical distribution of all. Fine arts and natural science majors, and particularly majors who were undecided at the time of the survey (even though they subsequently became declared during the interim before averages were tabulated), were infrequent in the top quintile. The exceptionally good cumulative performance of social science majors, and its unusual bimodal

Quintile

5 4 3 2 1

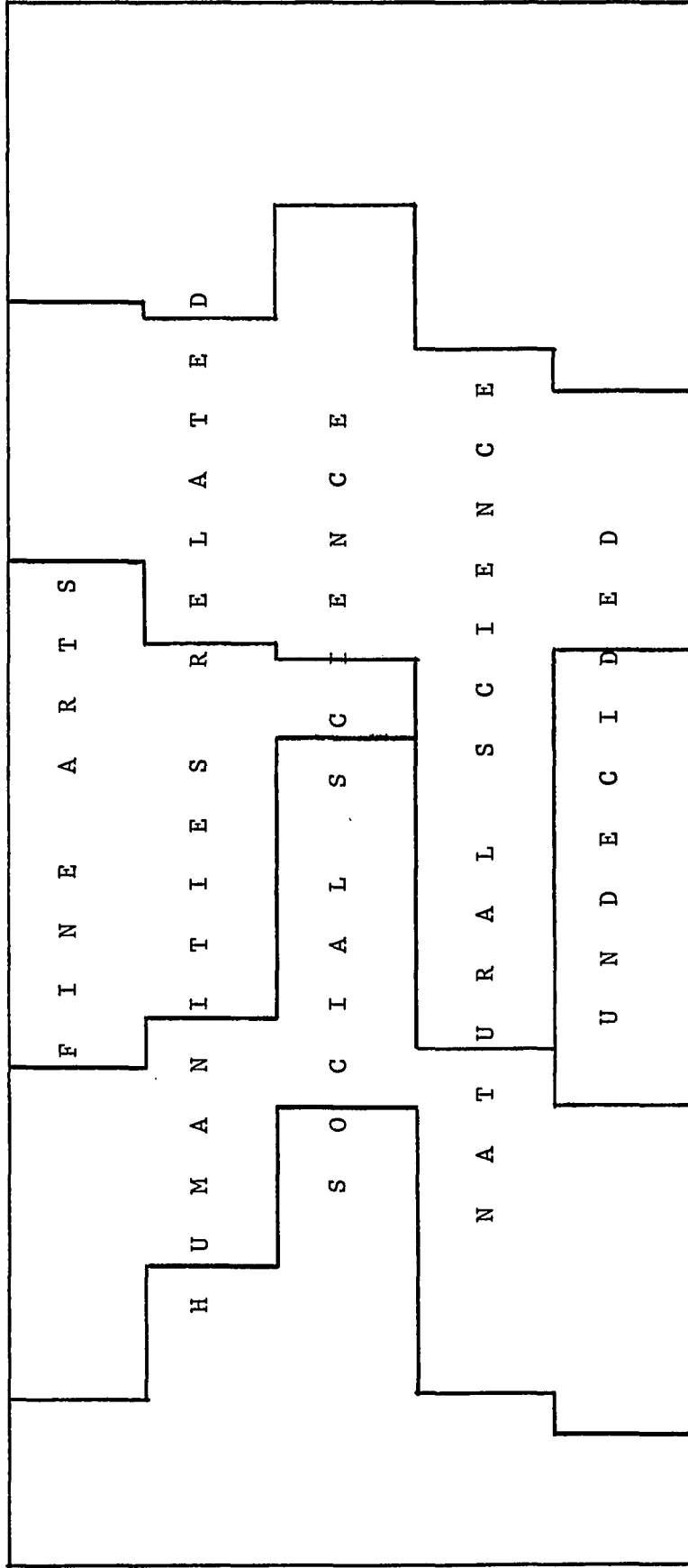


FIGURE 13

ACADEMIC PERFORMANCE BY MAJOR
(Cumulative grade point average)

representation, is difficult to explain. Natural science majors were even more bimodal, the middle quintile being eliminated altogether, and with approximately two-thirds of their number averaging in the bottom two quintiles. The more obvious conclusion regarding this group, and perhaps for social science majors to a lesser degree, is that if there is not a substantial affinity for the Scripps program in its broad sense, the academic prognosis is not good.

CHAPTER VI

FUNCTIONAL IMPLICATIONS FOR SCRIPPS

The ways in which these findings may be applied to an understanding, and possibly the enhancement, of the Scripps program are three: implications for the selection of students, implications for the educational program--including teaching and the academic and psychological environment--and implications for the evaluation of student performance.

Selection

Given its stated educational objectives, a college has but two basic strategies by which to bring these about. First, it may select students whose attitudes and values are already sympathetic with those that are normative, or secondly, it may admit students whose traits are divergent with those of the institution and set about to conform them. The degree of individuation or socialization toward which the college aims--or which it will tolerate--should be part of these objectives.

Whether Scripps intends to or not, at least during the period spanned by this study, it has attracted a large proportion of students who share propensities toward Myers-Briggs preferences for introversion, intuiting, feeling, and perceiving, individually and in combination. Indeed, better than one out of four students tested combined all four of these preferences. Thus, evidence that students select Scripps to at least as meaningful an extent as Scripps selects them is borne out not only by these biases in type,

but by their self-reports of affinity to this campus.¹³⁰ The power of such homogeneity within an institution can be considerable. As T. R. McConnell and Paul Heist have documented, the output of a college is more a function of its student inputs than of its own specific environmental traits or its institutional processes.¹³¹ To the degree that Scripps regards its program as a humanizing process on the basis of the students it produces, it may be primarily reflecting how much it nurtures the introverted, intuiting, feeling and/or perceiving inclinations of the students it admits.

If the college intends to admit diverse students, however, the processes by which they are to be conformed or socialized--again, if this is the desire--would have to be many. While the Myers-Briggs scheme is but one of many possibilities, it appears that avoiding the undesirable effects of the thinking preference and promoting what appears to be the liberating and impulse arousing potential of feeling might be a useful strategy, for example.

Program

Depending on the college's posture, the pursuant question is selection to what: a conforming, constraining, homogenizing program, or a diverse, pluralistic, liberating one? Scripps's position in the Claremont complex may be a distinct advantage by allowing a student a number of diversions and variations in her studies, activities, and peer contacts. It would be enlightening to examine the ways in which students of various types feel impelled to use the resources of their own and the sister colleges.

¹³⁰ Supra, pp. 34-36.

¹³¹ T. R. McConnell and Paul Heist, "The Diverse College Student Population," The American College, op. cit.

A further question, equally broad and philosophical, has to do with dichotomizations of educational objectives along practical-impractical, vocational-liberal continua. Paul Dressell asserts that such a cleavage is unrealistic, and that education today must be both liberal and vocational.¹³² Two questions concerning the Scripps program are thus presented: to what extent is such a dichotomy present, and if only the liberal position is normatively assumed how are the needs of students who are vocationally oriented met? The distribution of Myers-Briggs types is a good indicator that motives for being in higher education are bountiful and diverse, yet those preferences which are more practical may go essentially unacknowledged. While this might certainly be theorized to be the case, it is not obvious from the findings. Types which are more pragmatic, ESTJ as the epitome, appear to flourish academically. Thus it may be that there is a quasi-vocationalism present at Scripps, a nonvocational vocationalism, it might be said, which prizes the humanistic way of life as that appropriate for middle class motherhood.

Self-concept, notes Sanford, often relies upon heavily externalized values which tend to be easily assimilated and more stable.¹³³ While many women typically derive these from identification with the husband's occupation, it may be that in an educational program as exceptionally potent, pervasive, and effectively marshaled about its humanistic theme provides such values for those students who need them. Others may find to a suitable degree the values inherent in individualism and the shedding of parochial-

¹³² Paul L. Dressell, "Liberal and Vocational Education," College and University Bulletin, XI (May 1, 1959), 12.

¹³³ Nevitt Sanford, "Developmental Status of the Entering Freshman," The American College, op. cit.

isms.¹³⁴

Evidently Scripps is successful in providing the varieties and strengths of attitudes sufficient to attract and hold its diverse students. However, should the institution aim to optimize its holding power, several aspects of the Myers-Briggs types might be taken into consideration.

From the analysis of academic performance, it is apparent that the institutional demands of Scripps are hospitable to the FJ combination.¹³⁵ The student's affinity for the humanities program because it is an emotionally gratifying experience is assumed to be the contribution of F. J adds the rigor and the organization necessary to perform well. It might be said that the feeling student responds positively to the substance of the curriculum and the judging type to its demands. However, judging types are a distinct minority on the Scripps campus.¹³⁶ What then of the majority perceiving types whose mean performance--with the exception of social science--is inferior to that of J, and who are particularly inclined to be among the low achievers?¹³⁷

Myers summarizes the work of Ann Hughes in scrutinizing the preferences in the context of a work situation. Worthwhile analogies can be drawn between their reactions to a work environment and ways they might behave in the academic setting. Of P she says:

Perceptives

Like to adapt to changing situations

¹³⁴ Ibid.

¹³⁵ Supra, pp. 69-70.

¹³⁶ Supra, Table 40.

¹³⁷ Supra, Figure 12.

Like to leave things free for alterations
 May have trouble making decisions
 May start too many projects and finish too few
 May postpone unpleasant jobs¹³⁸

While the perceiver's work habits could be brusquely dismissed as poor, the potential of this type is too great to waste by permitting them to let conventional ways of structuring and evaluating their work stand in the way of their education. Short term assignments, rather than massive works which they are not likely to pursue with the same relish that got them going, may be of assistance. It might prove interesting to verify this against the record of perceptives on senior theses which are required at Scripps.

The same concern must be voiced for thinking types, who appear to have the hardest time of all in taking hold of the Scripps program scholastically, even though their quantitative involvement in humanistic study surpasses that typical of F.¹³⁹ Hughes characterizes the thinking preference as follows:

Thinking Types

Are not very interested in people's feelings. Relatively unemotional
 May hurt people's feelings without knowing it
 Like analysis. Enjoy putting things into logical order
 Make decisions impersonally, sometimes ignoring people's wishes
 Need to be treated fairly
 Are able to reprimand people or fire them when necessary¹⁴⁰

While the pedagogical implications of these are rather abstruse, it might be that course work involving more rigorous criticism and analyses of humane topics might be availed to such students. It is expected that thinking types would turn out high quality research projects.

¹³⁸ Myers, op. cit., p. 80.

¹³⁹ Ibid.

¹⁴⁰ Ibid.

It may also be of value to examine the work characteristics of the feeling preference for clues to its significance in terms of interest and performance in the humanities.

Feeling Types

Are very aware of other people and their feelings
 Like to please people or help them
 Like harmony. Efficiency may be badly disturbed by office feuds
 Have decisions influenced by personal likes and wishes
 Need occasional praise
 Dislike telling people unpleasant things¹⁴¹

Unfortunately, little is offered here other than to impugn the stability of feelers in the office. This could suggest a whole new question, however. Are academic variables really germane when talking about F? Might not the general affective climate of the campus, and not the curriculum, account for the feeling type's affinity for the program? This might be a logical conclusion, except for the nature of the opposite construct, thinking, which points out rather explicitly the syntactical tools used by T in scholarship.¹⁴²

The suggestion rendered previously, that the forte of the feeler is an empathetic response to those humanistic objects, or stimuli, which are themselves feeling-level products of their creators, seems most apt.¹⁴³ This very observation may well warrant the elevation of the preference for feeling as the single most seminal element this investigation has uncovered; F may be the most humanizing element of all. With due caution, however, this hypothesis must by the very nature of the study be restricted to Scripps College. Hopefully, future investigations may pursue this in more varied environments.

¹⁴¹ Ibid.

¹⁴² Supra, pp. 72-73.

¹⁴³ Supra, p. 73.

Having discussed the possibilities of optimizing and ameliorating the effects of certain preferences, a larger philosophical question is thereby opened, namely, the problem of individuation versus homogenization as educational goals. Might Scripps, as a result of these findings, set out to change thinking-type students into feeling types? Or should the college adhere to the encouragement of excellence within the context of one's given preferences, be they thinking or otherwise? Such a determination is not the charge of this paper. At best it could aspire to illuminate such a discussion.

Yet another question concerns the feasibility of bringing about such change in students, even if it were institutional policy. And if change were feasible, would the outcomes necessarily be what they are hoped to be--as for example the enhancement of performance which preferences for F or for J are supposed to elicit?

Whatever the case, suffice it to say that Scripps College, at the time of the study, evidently was highly favorable to the exercise of feeling preferences. Should the institution view this as commendable, the obvious advice is not to change any elements of the environment which might jeopardize the feeling climate. Perhaps the capacity for feeling could be cultivated to some degree among types who are without it through contrived feeling level interactions, such as sensitivity training. But nonetheless, even if the feeling climate on the Scripps campus cannot or should not be escalated, reasonable care might be taken to preserve it.

A pair of preferences which also merits concern is N_P, a large number of whom have performed poorly, despite what appears to be a good conative match for the program.¹⁴⁴ According to Hughes' vocational analysis,

¹⁴⁴Supra, Figure 12.

intuitives largely amplify the difficulties faced by perceivers insofar as decisiveness, order, and singleness of purpose are concerned.

Intuitives

Like solving new problems
 Dislike doing the same thing over and over again
 Enjoy learning a new skill more than using it
 Work in bursts of energy powered by enthusiasm
 Are patient with complicated situations
 Are impatient with routine details
 Follow their inspirations, good or bad¹⁴⁵

The combination of N with P seems particularly susceptible to the pursuit of personal grails to the detriment of broader academic demands. Direction for this combination, too, might best be channeled through a diversity of short term assignments and patient supervision. This combination might flourish in programs of independent study.

Evaluation

The preceding observations about N, F, and P also raise the issue of the evaluation of performance. It has been contended that collegiate learning is a purposeful and goal-oriented process, and that students learn in terms of what they are trying to do with their knowledge.¹⁴⁶ One would therefore anticipate that students well oriented conatively toward humanistic study would be superior performers in such a program. This, as has been shown, is not necessarily the case. Preferences with apparently less liberal characteristics, notably S and J, are often better performers for reasons discussed amply above.

The flaw in relating interest to learning is the tendency to equate

¹⁴⁵ Myers, op. cit., p. 80.

¹⁴⁶ W. A. Pemberton, Ability, Values, and College Achievement (Newark, Delaware: University of Delaware Press, 1963), p. 2.

grade-getting with learning. N and P types are not good grade-getters, even with I and F added. That INFP's are not good learners, however, would be difficult to substantiate, given, for instance, their high SAT-V mean which is in itself a measure of acculturation and sophistication. A handicap in the classroom which INFP's often face, however, is a tendency to express their learning in ways which are often not sufficiently conventional to gain traditional academic rewards.

Introverted types express a wealth of feeling, but tend to turn it toward a few objects of intense concern.¹⁴⁷ The broader demands of the curriculum, therefore, do not necessarily inspire intellectual devotion. While particularly nonconformist introverts might be overly disdainful of the formal academic system, more conforming ones might on occasion sense it to be irrelevant to their more compelling needs. Moreover, the teacher who may be evaluating an introverted type might note that such a student's values are often known only to him, and the teacher's inability to scrutinize just where his attitudes to the classroom lie may mistake this inscrutability for negativism or disinterest. The introvert's preferences for open-mindedness, tolerance, understanding, flexibility and adaptability, though often lauded as outcomes of psychotherapy, may not come across as positive elements in scholarly assignments. Other than for projects of strong personal interest, I has little desire to dominate a class or impress a teacher.¹⁴⁸ The instances wherein the introvert's intellectual gifts are most likely to come through are in projects which are salient for them, not in peripheral or

¹⁴⁷ Myers, op. cit., p. A-4.

¹⁴⁸ Ibid.

required areas of study.

INFP is notably prone to become immersed in projects which divert his energies from academic demands. An inherent dislike for details, furthermore, may discriminate against these students in a variety of conventional assignments. He would possibly present an even less attractive self for evaluation were it not for a frequent gift of self-expression, particularly in writing.¹⁴⁹ It is ironic that, with IN types purported by Myers to have the greatest natural inclination for scholarship, they are not superlative performers.¹⁵⁰ The problem may simply be that stages other than those formally set by the college are often more attractive to them for the acting out of their scholarly preferences.

Such tendencies which tend to make underachievers--by traditional standards--of highly capable students should be of interest to teachers. It should be noted, however, that no evidence points toward a problem of evaluating at Scripps with biasing against the less industrious types. It might be questioned, still, whether, considering the high aspirations toward graduate study among the subjects, INFP has been proportionally represented among the postgraduate fellowships and honors won by Scripps alumnae.

What appear to be supportive grading practices, coupled with reports of involvement with faculty, suggest that at Scripps there exists a positive affective atmosphere which for humanities students is often lacking. To wit, Riesman and Jencks deplore the inadequate supportive resources commonly availed humanities majors in typically heterogeneous institutions. Whereas

¹⁴⁹Ibid.

¹⁵⁰Ibid., p. 44.

students in the "hard" disciplines often are offered a master-apprentice relationship with their teachers, particularly in the laboratory, such is not usually accounted for in the humanistic disciplines, it is contended.¹⁵¹ However, the Scripps respondents reported their greatest involvements to have been with humanities faculty, compared to teachers in other fields: This was true at least until the senior year when affinities for major professors became primary.¹⁵² Still, the nature of these latter majors puts them largely in the humanities-related category. On the bases of these and other evidence from Tables 36 and 37, it appears that the psychological gap which often proves debilitating for humanities students in other settings is at least minimized in the Scripps program.

¹⁵¹David Riesman and Christopher Jencks, "The Viability of the American College," The American College, op. cit.

¹⁵²Supra, Tables 36 and 37.

CHAPTER VII

CRITIQUE AND DIRECTIONS FOR FURTHER STUDY

It is not unusual for an investigation such as this to raise at least as many questions as it answers, and the findings of this study appear reasonably provocative regarding both philosophical issues and functional implications in their implementation. It would also appear that the operational definition of the humanities thus explored may be regarded as successful in several respects.

First, INFP types were highly attracted to the Scripps program in general, but as a type could be related neither to involvement in specific academic areas nor to unusually strong academic performance in specific disciplines, despite a very high average verbal aptitude.¹⁵³

Second, while INFP as a type can be shown conceptually to be an apt match for the humanities curriculum, as can its component preferences singly and in combinations, clear superiority in humanities study--particularly for the introversion and perceiving preferences--was not established over certain other types, preferences and combinations which could be assumed conceptually to be less humanistically inclined. Primary among the latter was judging, a preference which can be associated more broadly with assiduity and industriousness--presumably independently of specific curricula. Another theory which might explain this is that an attempt to discriminate among fine

¹⁵³ Supra, Figure 7.

increments of interest and performance among curricular subdivisions may be relatively futile, considering both the broad affinity expressed for the Scripps program and the extraordinary presence of I, N, F, and P preferences and combinations.¹⁵⁴ Possibly contradicting this, however, is the evidence of low correlations between verbal aptitude scores and cumulative performance, perhaps implying that other variables were present which accounted for variations in performance. It was also discovered that types who were strong achievers in the humanistic areas were not necessarily those with high measures of interest.

Third, the preference for feeling was found to be preeminent in attraction to humanities-related majors (but not necessarily to unit totals in those areas) and in performance in the humanities areas, especially when paired with J.

Fourth, other salient findings include the seemingly deleterious academic effect typical of T, the possible salutary effect of N (at least when not combined with T), and a similar possibility with P in the Humanities sequence. Of equal interest is the apparent indeterminacy of I or E on the various dimensions examined. Thus, while on conceptual grounds I, N, and P could be expected to be strongly related to performance, this is in no event as conclusive as for F.

Two major philosophical issues emanate from these findings, or rather two dimensions of a larger question: whether higher education has as a goal the homogenization or the individuation of students. This question is called into focus by the apparent desirability of a trait, feeling, and the apparent

¹⁵⁴Supra, pp. 34-36, 54-55.

undesirability of its opposite, thinking--these as well as other preferences which may be less demonstrably beneficial but which conventionally are regarded with face validity.

Before opening the question of the philosophical desirability of urging a uniform orientation to a value such as feeling, the problem of the feasibility of such change should be dealt with. Operational constraints in this respect are inherent in the Myers-Briggs theory, which assumes stability within a type. Reliability is alleged to be particularly pronounced among college-aged subjects.¹⁵⁵ Furthermore, Myers stresses that the employment of the preferences is to maximize the excellence implied by each. That is, the type scheme is not intended to be used to ameliorate preferences which are undesirable, but to enhance what forms of effectiveness are peculiar to each.

Assuming that changes from T to F are not feasible as an educational objective, it may still be fruitful to know what variables may be expected to modify within a preference. It may be possible that certain variables which develop quite freely and positively for a feeling person might also eventuate with fortuitous results for a thinking type if greater effort could be exerted. An instrument particularly sensitive to ideological growth, and which could be contrasted with the MBTI as a measure of stable categories, is the Omnibus Personality Inventory.¹⁵⁶ Cross validation between the two instruments has yielded twenty correlations significant at the .01 level,¹⁵⁷

¹⁵⁵Myers, op. cit., p. 20.

¹⁵⁶Heist and Yonge, op. cit.

¹⁵⁷Ibid., p. 39.

but it might be hypothesized that changes in OPI scores over time could tell more about the Myers-Briggs preferences.

Nevitt Sanford has illuminated the discussion of the philosophical desirability of change by pointing out that individuation and socialization should not be regarded as mutually exclusive objectives. The norms and values of a culture, he says, should best be perpetuated via the individual genius of each educated person. Education, then, should promulgate the psychological capacity to use subject matter in an efficient way.¹⁵⁸ To whatever degree subject matter and personal styles are at odds, the former is largely wasted. The academy's responsibility, then, may be to understand the diversity of its students and to optimize the respective aspects of its program. By assisting one to become well adapted to, and at terms with, one's environment, Sanford continues, education increases the possibility that he can then use culture for his own purposes. As the individual attains not only greater knowledge but psychological freedom and command over that which he understands, criticizes, and utilizes, he is in a better position both to intuit new relations (individuation) and to transmit the content of his education to his cultural heirs (socialization).¹⁵⁹ The measure of liberal education is therefore its ability to promote the integration of the externals of learning with a maturing ideology.

The apparent direction is pluralism within a program, a variety of means toward commonly appreciated ends. Using the Myers-Briggs model, elements of the environment which may maximize the employment of useful

¹⁵⁸Sanford, op. cit., p. 35.

¹⁵⁹Ibid.

traits within a preference or a type might be identified and developed. Elements of the environment which would give the anti-developmental traits within a preference or a type a harmful amount of play would be minimized. As an example, course work stressing critical analysis in the humanities might prove more beneficial to sensing and thinking types than would be appreciation or participation type offerings. Whereas the S, T, and to a degree J dimensions tend to regard experience as pretty much a closed issue--that attitudes and values are givens which need not be confused by ongoing self-assessment--the Lehmann and Dressel study revealed that courses in critical thinking and analysis actually were associated with emergent value orientation.¹⁶⁰

Future research should therefore be directed to campus ecology in the perspectives of varying behavioral objectives and differing modes of dealing with the environment. What kinds of activities are associated with attitudinal growth, or even with scholastic success, for the different types or preferences? That the respective elements of a humanities program can be regarded as quite different entities, just as the varying needs of the Myers-Briggs types would indicate, was verified by the ACE study done under Dressell and Mayhew. A battery of instruments devised especially to analyze humanistic study in its behavioral, attitudinal, and cognitive dimensions¹⁶¹ produced rather diverse and inconclusive intercorrelations, although the authors admitted that this was in part due to internal properties of the

¹⁶⁰Lehmann and Dressel, op. cit.

¹⁶¹The instruments designed for this purpose were the Humanities Participation Inventory, the Attitudes Inventory, the Humanities Vocabulary Test, and Guides to Critical Analysis and Judgment in the Humanities. Dressel and Mayhew, op. cit., ch. 6.

instruments themselves.¹⁶²

It is interesting that, despite the seemingly disparate nature of these constructs, Dressel and Mayhew did not regard critical thinking and participation as dichotomies. Critical thinking was defined rather as a middle ground between purely objectivist and subjectivist views of the curriculum. Whereas both critical thinking and participation are concerned not only with the quality of the object being studied but with the value of the variables surrounding the object, the purely critical approach of the "hard" disciplines tends to eliminate all spurious variables which might obscure the object. The real dichotomies in approach, claim Dressel and Mayhew, are sheer criticism on the one hand and sheer emotive response on the other. Critical thinking and participation neither one represent an extreme, with the former more toward the center of the dimension.¹⁶³

Another implication for the program based upon both these concepts and the ACE findings is that courses in varied humanities disciplines were more conducive to high scores on critical thinking than were general education humanities courses.¹⁶⁴ This opens the question of differences between performance in the Humanities sequence and that in related courses at Scripps.

Only three types, INFP, INFJ, and ISFJ, averaged above the sample mean in both categories, suggesting that very real differences in style may characterize success in each approach to what is allegedly the same subject.¹⁶⁵

¹⁶²Ibid.

¹⁶³Ibid., p. 152.

¹⁶⁴Ibid.

¹⁶⁵Supra, Table 44.

Feeling again characterized five out of the seven types above the sample mean in Humanities, but it was equally prominent in high performing types in related disciplines. Possibly the most intriguing point is that four of the top seven types in Humanities included perception. Similar narrow margins were held by N over S and I over E. Thus, Humanities may be one area of the Scripps curriculum where I, N, F, and P preferences all hold a premium in performance. Again, however, judging typified the three highest performing types in Humanities, thus contending that judging enhances grade-getting no matter what the specific area of study. Nonetheless, the evidence that the P mean comes closer to superiority in Humanities than it does in the related disciplines suggests a need for further study. Similar concern for I over E might be voiced insofar as introverted types ranked second, third, fourth, and seventh in Humanities performance. Further investigation might involve the regression of Humanities versus related disciplines averages against continuous scores for the preferences.¹⁶⁶ The unclear role of N versus S in these connections might be elucidated by using the OPI as well, since this is the only Myers-Briggs scale which correlates with as many as five of the six OPI scales which are combined to yield the Intellectual Disposition Categories (IDC): Thinking Introversion, Theoretical Orientation, Estheticism, Complexity, and Autonomy.¹⁶⁷ All these correlations were significant beyond the .01 level and all were positively related with intuiting. The greatest number of significant IDC correlations with any other Myers-Briggs scale was two: perceiving and judging.

¹⁶⁶Myers, op. cit., pp. 9-10, 89-103.

¹⁶⁷Heist and Yonge, op. cit.

An area of particular interest in the present study is the seeming indeterminacy of I and E. Examining them as preferences and as components of types has brought to light no clear relationships to the dimensions of the Scripps program herein concerned. It might have been hypothesized that I or E would relate strongly to Humanities or to related disciplines. No clear relationships were found, either in performance or in interest; introverts in general attempted more courses in the related disciplines, but then they were more industrious overall.¹⁶⁸ While regression on IE continuous scores might prove enlightening, it is also entirely plausible that the Scripps program proffers the right amount of variety to allow both introverted and extraverted preferences to be exercised fruitfully. Factoring these preferences with elements of the campus environment, such as those in Tables 36 and 37, could prove helpful.

A final point of criticism which should also point to continued study involves the several types with small numbers of subjects. Some of these presented enigmatic contrasts with the face-valid humanistic stereotypes of other types, yet they ranked high on measures of interest and performance. Among these were ENTJ (N=6) with the highest grade average in Humanities, ESTJ (N=2) which was highest in the related disciplines, ESTP and ESTJ (each N=2) which were first and second in units undertaken in the humanities related disciplines. Clearly, larger numbers in the various cells would permit sounder statistical procedures. These should be gained by continuous assessment of Scripps students. However, another problem which this points up is the paucity of normative data on the Myers-Briggs Type Indicator. The

¹⁶⁸Supra, Table 44.

figures available are too sparse and limited in their sampling procedure. Failing adequate numbers of subjects in certain types, however, the utility of the individual preferences has proved productive in this investigation.

A final statement might also be offered in defense of Scripps as a setting for an investigation of this nature. While it is true that many controls of socio-economic status, cognitive measures of readiness for the collegiate program, and particularly an affinity for this particular curriculum appear to have been exercised upon this population, the opportunity to focus on a small number of variables of interest and performance commends Scripps as a worthy setting for continued examination of humanities study for women.

BIBLIOGRAPHY

Books

- Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., and Sanford, R. N. The Authoritarian Personality. New York: Harper, 1950.
- Allport, Gordon W., Vernon, Philip E., and Lindzey, Gardner. Study of Values: A Scale for Measuring the Dominant Interests in Personality. Boston: Houghton Mifflin, 1960.
- Barton, Allen H. Studying the Effects of College Education. New Haven, Conn.: Edward W. Hazen Foundation, 1959.
- Carpenter, Marjorie. Impact of the Curriculum on Values. Conference. Educational Records Bureau and American Council on Education (October 29, 1959).
- College Entrance Examination Board. CEEB Scholastic Aptitude Test. Princeton, N. J.: Educational Testing Service, 1959.
- Cronbach, Lee J. Educational Psychology. New York: Harcourt, Brace, and World, 1963.
- Dressel, Paul, and Mayhew, Lewis B. General Education: Explorations in Evaluation. Washington, D. C.: American Council on Education, 1954.
- Eddy, Edward. The College Influence on Student Character. Washington, D. C.: American Council on Education, 1959.
- Edwards, A. L. Edwards Personal Preference Schedule. New York: Psychological Corporation, 1953.
- General Education in a Free Society. Report of the Harvard Committee. Cambridge, Mass.: Harvard University Press, 1945.
- Goldsen, Rose, Rosenberg, Morris, Williams, Robin M., Jr., and Suchman, Edward. What College Students Think. Princeton, N. J.: D. Van Nostrand, 1960.
- Heath, Roy. The Reasonable Adventurer: A Study of the Development of Thirty-six Undergraduates at Princeton. Pittsburgh, Pa.: University of Pittsburgh Press, 1964.

- Heist, Paul, and Yonge, George. Omnibus Personality Inventory, Form F, Manual. New York: Psychological Corporation, 1968.
- Hofstadter, Richard, and Hardy, C. De Witt. The Development and Scope of Higher Education in the United States. New York: Columbia University Press, 1952.
- Jacob, Philip. Changing Values in College. New York: Harper Brothers, 1957.
- Jung, Carl G. Psychological Types. London: Rutledge and Kegan Paul, 1923.
- Kerlinger, Fred N. Foundations of Behavioral Research. New York: Holt, Rinehart, and Winston, 1964.
- Kuder, G. F. Kuder Preference Record--Vocational. Chicago: Science Research Associates, 1953.
- Lehmann, I. J., and Dressel, Paul L. Critical Thinking, Attitudes, and Values in Higher Education. East Lansing, Mich.: Michigan State University, 1962.
- Liberal Education. Summary of a discussion by the trustees of the Carnegie Foundation for the Advancement of Teaching.
- MacKinnon, Donald W. The Personality Correlates of Creativity: A Study of American Architects. Berkeley, Calif.: Institute of Personality Assessment and Research, 1961.
- Munroe, Ruth L. Teaching the Individual. New York: Columbia University Press, 1942.
- Myers, Isabel Briggs. Type as the Index to Personality. Swarthmore, Pa.: Author, 1945.
- Myers, Isabel Briggs. Some Findings with Regard to Type and Manual for Myers-Briggs Type Indicator, Form E. Swarthmore, Pa.: Author, 1958.
- Myers, Isabel Briggs. The Myers-Briggs Type Indicator. Princeton, N. J.: Educational Testing Service, 1962.
- Newcomb, Theodore. Personality and Social Change: Attitude Formation in a Student Community. New York: Dryden Press, 1943.
- Pace, C. Robert, and Stern, George G. A Criterion Study of College Environment. Syracuse, N. Y.: Syracuse University Research Institute, Psychological Research Center, 1958.
- Peck, R. F., et al. The Psychology of Character Development. New York: Wiley, 1960.

- Pemberton, W. A. Ability, Values, and College Achievement. Newark, Del.: University of Delaware Press, 1963.
- Plant, Walter. Personality Changes Associated with a College Education. San Jose, Calif.: San Jose State College Press, 1962.
- Rogers, Carl. Client-Centered Therapy. Boston: Houghton Mifflin, 1951.
- Rogers, Carl. Counseling and Psychotherapy. Boston: Houghton Mifflin, 1942.
- Rokeach, Milton. Beliefs, Attitudes, and Values. San Francisco: Jossey-Bass, 1968.
- Rokeach, Milton. The Open and Closed Mind. New York: Basic Books, 1960.
- Ross, J. Progress Report on the College Student Characteristics Study: June, 1961. Research Memorandum 61-11. Princeton, N. J.: Educational Testing Service, 1961.
- Rudolph, Frederick. The American College and University. New York: Alfred A. Knopf, 1962.
- Rudy, Willis. The Evolving Liberal Arts Curriculum: A Historical Review of Basic Themes. New York: Teachers College, Columbia University, 1960.
- Saunders, D. R. Evidence Bearing on the Existence of a Rational Correspondence Between the Personality Typologies of Spranger and Jung. Research Bulletin 60-6. Princeton, N. J.: Educational Testing Service, 1962.
- Saunders, D. R. Evidence Bearing on Use of the Myers-Briggs Type Indicator to Select Persons for Advanced Religious Training: A Preliminary Report. Research Bulletin 57-8. Princeton, N. J.: Educational Testing Service, 1957.
- Saunders, D. R. Some Preliminary Interpretive Material for the PRI. Research Memorandum 55-15. Princeton, N. J.: Educational Testing Service, 1955.
- Scott, William A. Values and Organizations: A Study of Fraternities and Sororities. Chicago: Rand McNally, 1965.
- Spranger, Edward. Types of Men. Translated from fifth German edition of Lebensformen by Paul J. W. Pigors. Halle: Max Aiemeyer Verlag, 1928.

Stern, G. G., Stein, M. I., and Bloom, B. S. Methods in Personality Assessment. Glencoe, Ill.: Free Press, 1956.

Stricker, L. J., and Ross, J. A Description and Evaluation of the Myers-Briggs Type Indicator. Research Bulletin 62-6. Princeton, N. J.: Educational Testing Service, 1962.

Strong, E. K., Jr. Manual for Strong Vocational Interest Blanks for Men and Women, Revised Blanks, Form M and W. Palo Alto, Calif.: Consulting Psychologists Press, 1959.

Wise, W. M. They Come for the Best of Reasons: College Students Today. Washington, D. C.: American Council on Education, 1958.

Articles and Periodicals

Axelrod, J. "Group Dynamics, Nondirective Therapy, and College Teaching," Journal of Higher Education, XXVI (1955).

Bay, Christian. "A Social Theory of Higher Education." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.

Bayer, Alan E. "Birth Order and College Attendance," Journal of Marriage and the Family, XXVIII (November, 1966), 480-484.

Bereiter, Carl, and Freedman, Mervin. "Fields of Study and the People in Them." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.

Dewey, John. "The Problem of the Liberal Arts College," American Scholar, XIII (Autumn, 1944).

Dressel, Paul L. "Liberal and Vocational Education," College and University Bulletin, XI (May 1, 1959).

Fishman, Joshua. "Some Social-Psychological Theory for Selecting and Guiding College Students." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.

Freedman, Mervin B. "Studies of College Alumni." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.

Heist, Paul, and Webster, Harold. "A Research Orientation to Selection, Admission and Differential Education." In H. T. Sprague (Ed.), Research on College Students. Boulder, Colorado: Western Interstate Commission for Higher Education, 1960.

Katz, Joseph. "Personality and Interpersonal Relations in the College Classroom." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.

- Katz, Joseph, and Sanford, Nevitt. "The Curriculum in the Perspective of the Theory of Personality Development." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.
- Kluckhohn, Clyde, et al. "Values and Value-Orientations." In T. Parsons and E. A. Shils (Eds.), Toward a General Theory of Action. Cambridge, Mass.: Harvard University Press, 1951.
- MacKinnon, D. W. "Architectus Creator Varietas Americanus," Journal of the American Institute of Architects. XXIX (September, 1960).
- MacKinnon, D. W. "Fostering Creativity in Students of Engineering," Journal of Engineering Education, LII (December, 1961).
- MacKinnon, D. W. "On Becoming an Architect," Architectural Record, CXXV (1959).
- MacKinnon, D. W. "The Highly Effective Individual," Teachers College Record, LXI (April, 1960).
- McConnell, T. R., and Heist, Paul. "The Diverse College Student Population." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.
- Riesman, David, and Jencks, Christopher. "The Viability of the American College." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.
- Sanford, Nevitt. "Developmental Status of the Entering Freshman." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.
- Sanford, Nevitt. "Higher Education as a Social Problem." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.
- Sanford, Nevitt. "Personality Development During the College Years," Journal of Social Issues, XII (1956).
- Schacter, S. "Birth Order, Eminence, and Higher Education," American Sociological Review, XXVIII (October, 1963).
- Skinner, B. F. "The Operational Analysis of Psychological Terms." In H. Feigl and M. Brodbeck (Eds.), Readings in the Philosophy of Science. New York: Appleton, 1953.
- Teevan, L. C. "Personality Correlates of Undergraduate Field of Specialization," Journal of Consulting Psychology, XVIII (1954).
- Vreeland, R. S., and Bidwell, C. E. "Organizational Effects on Student Attitudes: A Study of the Harvard Houses," Sociology of Education, XXXVIII (1965).

Webster, Harold, Freedman, Mervin, and Heist, Paul. "Personality Changes in College Students." In Nevitt Sanford (Ed.), The American College. New York: Wiley, 1962.

Wise, L. M. "Abnormal Psychology as a Selective Factor: A Confirmation and Extension," Journal of Educational Psychology, L (1959).