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AUTHOR	Chickering, Arthur W.
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ABSTRACT

The Project on Student Development in Small Colleges is a 5-year research and action program which has studied institutional characteristics, student characteristics, attrition, and student development in 13 small colleges across the country. The results of this study on personality development indicated that personality development during college is characterized by several major areas of change. At 12 strikingly different small colleges that attract widely varying students, the direction and magnitude of net change on 13 Omnibus Personality Inventory scales was very similar. When subgroups of students with similar entering characteristics were studies at different colleges, direction and magnitude of change varied. The variations in change were systematically related to college emphasis, student characteristics, student-faculty relationships, teaching, study activities, and reasons for study. Where a comfortable fit occurred between student and college, personality development proceeded along several widely shared vectors of change. For deviant students within different colleges, vectors of change differed, depending upon the particular relationship between the student and his college. (Author/AF)

1971 AERA Symposium

Abstract

Personality Development During the College Years

Arthur W. Chickering

American Council on Education

Several major areas of change characterize personality development during college. At twelve strikingly different small colleges which attract widely varying students, the direction and magnitude of net change on thirteen Omnibus Personality Inventory scales was highly similar. When sub-groups of students with similar entering characteristics were studied at different colleges, direction and magnitude of change varied. The variations in change were systematically related to college emphasis, students characteristics, student-faculty relationships, teaching, study activities, and reasons for study. Where a comfortable fit occurs between student and college personality development proceeds along several widely shared vectors of change. For deviant students within different colleges, vectors of change differ depending upon particular relationships between the student and his college.

These findings have implications both for educational practice and for theories concerning college impacts on student development.

Personality Development During the College Years[1]

Arthur W. Chickering
Office of Research
American Council on Education

The Project on Student Development in Small Colleges (NIMH #MH14780-05) is a five year research and action program which has studied institutional characteristics, student characteristics, attrition, and student development with the cooperation of thirteen small colleges across the country.

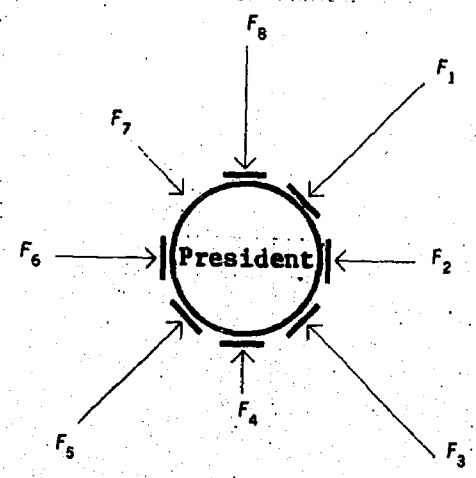
The differences among the participating colleges are dramatic. Institutional objectives most valued by some are least valued by others.

Patterns of Institutional Objectives
Expressed as Most and Least Desired Characteristics of Graduates

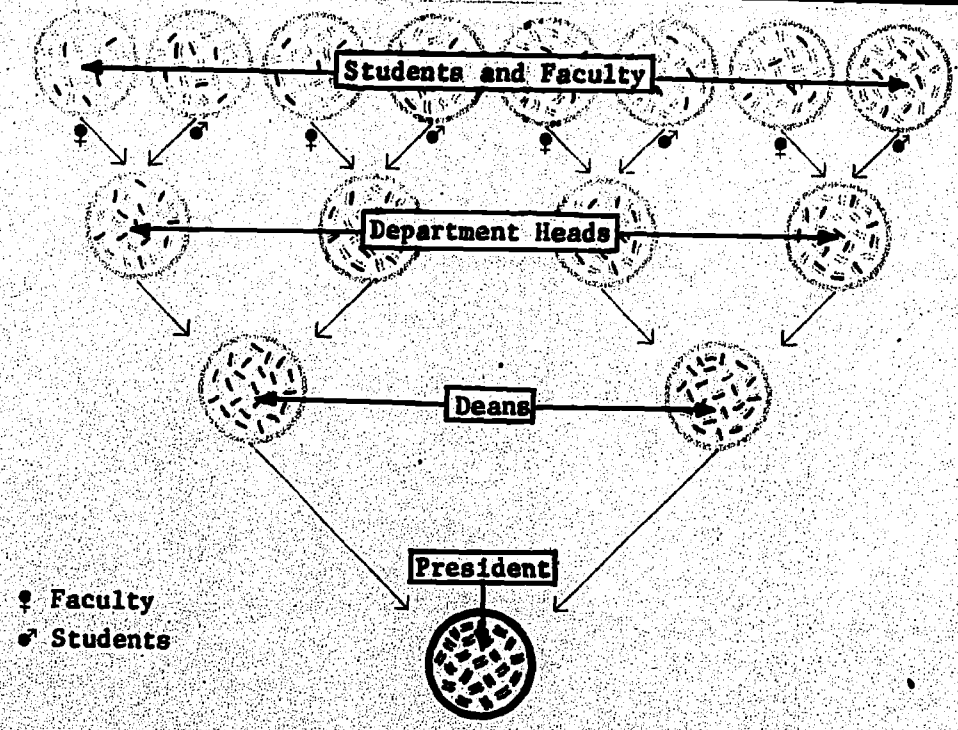
Pattern and Colleges	Two Most Desired	Two Least Desired
Christ-Centered WJB Savior Divinity Sacred	Educated in the liberal arts within the context of a Christian World View Committed to Christ	Independent member of society Recognizes and accepts feelings as relevant to decisions
Intellectual-Social Elder Classic Stonewall	Capable of effective judgement based on sound analysis of relevant information. Activated by intellectual, cultural, moral and spiritual values of our civilization	Chooses friends carefully Committed to Christ
Personal-Social Kildew	Has understanding of self as individual and as member of society. Constructive and creative member of interdependent society	Committed to Christ Guided by God's Will
Professional-Vocational Rocket Bootstrap	Prepared for future professional activities Possesses skills and abilities for future vocation.	Committed to Christ Guided by God's Will

This research was undertaken in the context of the Project on Student Development in Small Colleges, supported by PHS Research Grant #MH14780-05, National Institute of Mental Health. Credit is also due the American Council on Education, Office of Research, for critical comments and secretarial assistance. Education and Identity (San Francisco: Jossey-Bass, 1969), describes the theoretical framework behind these studies and summarizes prior pertinent research.

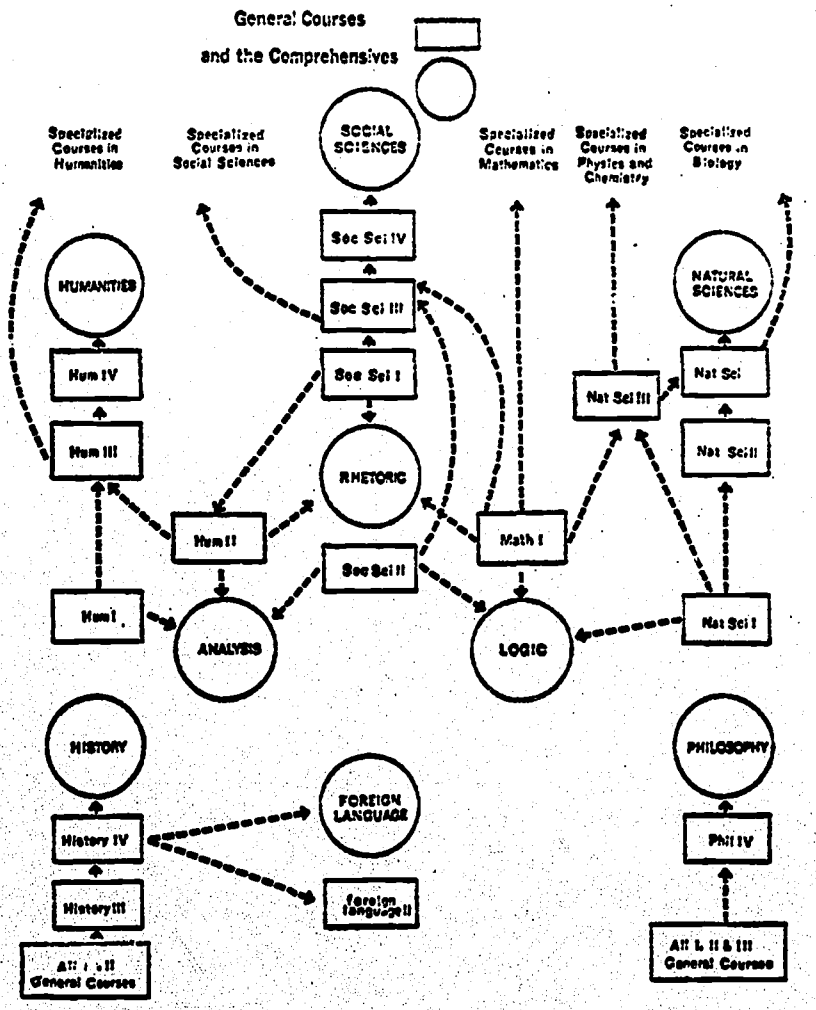
Differences in objectives are accompanied by differences in administrative structures and styles.



Let each of the F's represent institutional elements that may influence the president. They are of different lengths (representing different amounts of force) and they operate from various directions. If we let the line in front of the arrow serve as a means of blocking off or controlling the particular F, why is one F (F_7) not blocked off?



On the average, how many pressures does a president receive from each element?



Curricula vary from highly STRUCTURED...

...to student-centered, with no required courses, no grades, no exams.

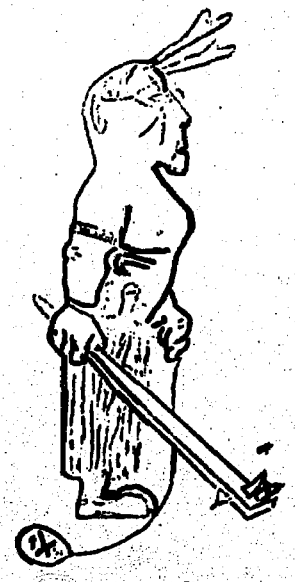
W. STEIG

Student responses to our Faculty Apperception Test (FAT) would show very different frequencies across colleges for the four basic types.

Faculty Apperception Test
(To be completed by students)

Instructions: The figures below present four models for faculty and administration. Beneath each figure write the percent of each type to be found at your college.

___ %



___ %

___ %

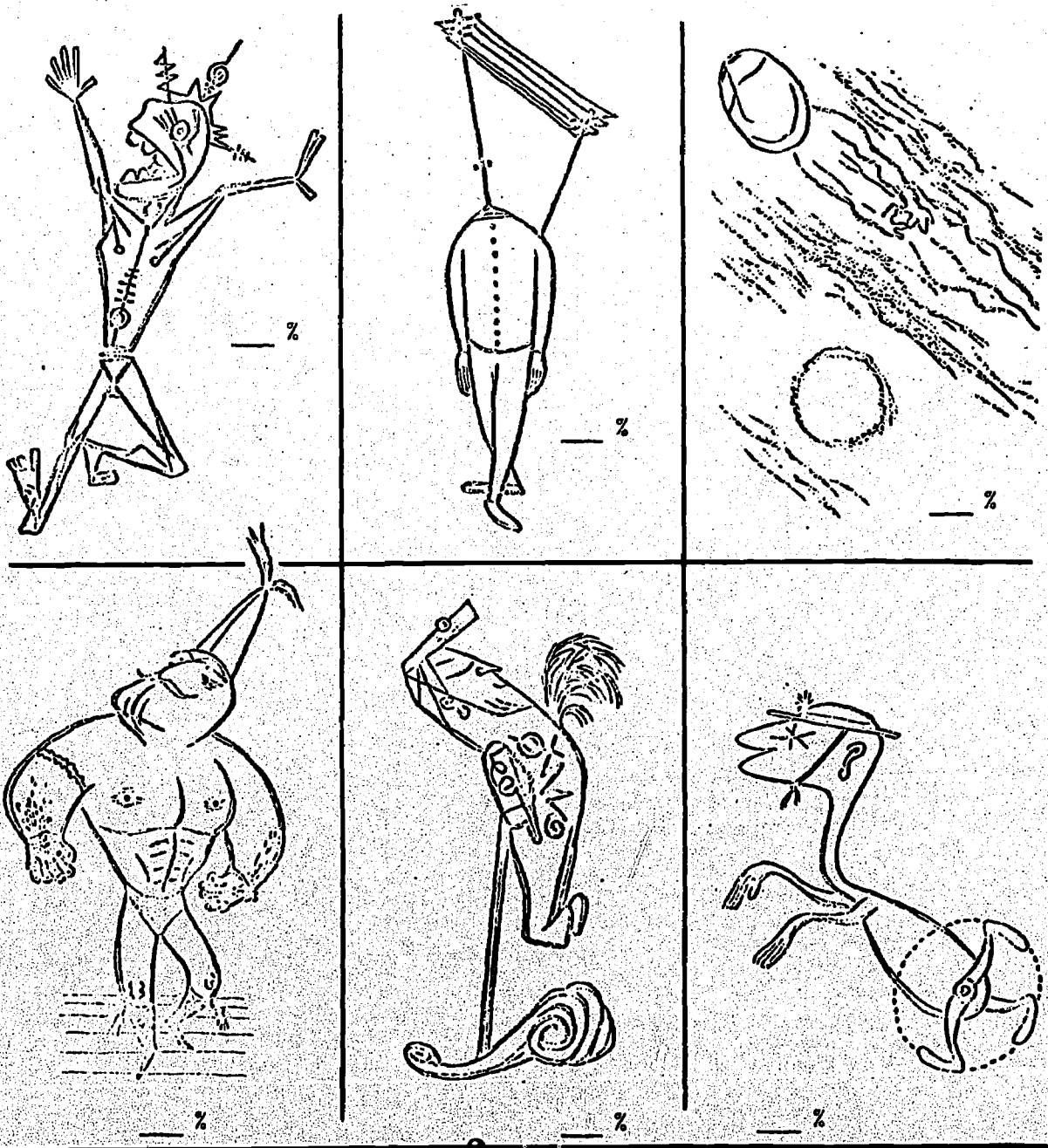
___ %

From W. Steig, "The Lonely Ones"

Data from questionnaires and inventories administered at entrance suggest that responses to our Student Orientation Test (SOT) from faculty members and administrators, would show very different frequencies across the colleges for our model students.

Student Orientation Test
(To be completed by faculty and administration)

Instructions: The figures below present six model students. Beneath each figure write the percent of each type to be found at your college.



From W. Steig, "The Lonely Ones"

These combinations of administrative structures, curricular patterns, faculty characteristics, and student orientation, create variability in the motivational forces which predominate.....

Wide World Photos;
Foldes/Monkmeyer

...and in the openness of faculty members, administrators, and students.

"This won't change my thinking, will it?"
[Drawing by Helen E. Hokinson; © 1947 The New Yorker magazine.]

There are also striking differences in the dominant student cultures...

Wide World Photos;
Foldes/Monkmeyer

[Drawing by Helen E. Hokinson; The New Yorker magazine.]

....and in the gap between self-perception and the views of others.

The Project on Student Development aimed to understand these colleges and these students, and further, to discover the relationships between college-student characteristics and (a) attrition -- the distinguishing characteristics of leavers and the process of withdrawal, and (b) student change -- in socio-political attitudes and values, future plans and aspirations, relationships with parents and peers, intellectual interests, and religious orientations -- all in five years. To these ends some data were collected and analyzed:

Instrument	Dates	Persons
Concerning institutional characteristics and student experience--		
College Goals Rating Sheet	Fall '65	500
Guide to College Visits and Reporting	Winter-Spring '66	39
College and University Environment Scales	Spring '66	1300
Experience of College Questionnaire	Spring '67	1869
Concerning student characteristics and student change--		
Omnibus Personality Inventory	9/65	2904
	4/66	597
	4/67	567
	4/69	800
Strong Vocational Interest Blanks for Men and Women	9/65	2904
	4/66	597
	4/67	567
	4/69	800
Questionnaire on Religious Orientation	9/65	2904
	4/66	597
	4/67	567
	4/69	800
Student Questionnaire B	9/65	2904
	4/66	597
	4/67	567
	4/69	800
Test of Religious Knowledge	9/65	2904
	4/69	800
Student Questionnaire A	9/65	2904
SAT and ACT (Scores supplied by colleges)	9/65	2904
Concerning 1965 entrants who left--		
Institutional Classification Sheet	Fall '66	737
	Fall '67	494
	Fall '68	148
Attrition Study Questionnaire	Winter '67	497
	Winter '68	294
	Winter '69	52
On campus interviews with intended leavers	Spring '67	153
Omnibus Personality Inventory (retest)	Spring '67	100
Student Questionnaire B (retest)	Spring '67	100
Questionnaire on Religious Orientation (retest)	Spring '67	60
Strong Vocational Interest Blanks (retest	Spring '67	60
Withdrawal Follow-up Questionnaire	Spring '69	518

For more detailed information concerning instruments, methods, institutional characteristics, student characteristics, attrition, and preliminary studies of student change, see the attached list of Project publications and papers.

The rest of this report focuses on studies of student change using data from the Omnibus Personality Inventory, which was administered to all students who entered Project Colleges in September, 1965, readministered to samples of of those entrants at the end for their first and second years, and to all students ready to graduate in spring, 1969.[2]

Does Change Occur? In What Areas? At What Colleges?

The students changed on all but one of the fourteen scales of the Omnibus Personality Inventory. Furthermore, despite the major differences among institutions and among the entering students, the direction of change was basically the same in all colleges.

The evidence, available for twelve of the thirteen colleges (one did not complete the retesting) is consistent at varied levels of analysis. When students from all colleges are pooled, statistically significant change occurs on thirteen of the fourteen scales. Only the Social Extroversion scale showed no change. The men's scores changed significantly on twelve scales and the women's scores on nine. The direction of change was the same on every scale.

Insert Table 1 about here

Pooling the individual colleges yields 168 pairs of mean scores -- 12 colleges times 14 scales. The differences between sixty-eight of these pairs was statistically significant beyond the .01 level, and seventeen more fell between the .05

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[2] Although the findings reported here come only from the Omnibus Personality Inventory, the general areas of change and the general principles suggested by these results are supported by test-retest data from other Project instruments. Some of these other results are reported in College Impacts on Political Liberalism and College Impacts on Cultural Sophistication, listed among the Project publications at the end of this paper.

Table 1

Mean Scores for Students Pooled from Twelve Colleges
Omnibus Personality Inventory
1965 - 1969

Scale	All Students N=585		Men N=254		Women N=269	
	Fall 1965	Spring 1969	Fall 1965	Spring 1969	Fall 1965	Spring 1969
Autonomy	48	55	48	55	47	55
Practical Outlook	52	47	52	47	51	47
Impulse Expression	48	52	49	54	45	50
Complexity	48	50	48	51	47	49
Estheticism	49	52	46	50	52	55
Thinking Introversion	48	50	47	50	49	50
Masculinity-Femininity	49	48	55	53	43	42
Personal Integration	50	54	51	54	50	54
Anxiety Level	49	50	50	52	48	49
Religious Orientation	46	50	47	51	45	49
Theoretical Orientation	46	47	48	49	43	44
Altruism	51	52	49	50	54	54
Social Extroversion	47	47	46	46	48	48
Response Bias	47	48	48	49	46	47

Note:--Underlining indicates that the differences in scores were significant at the .05 level or beyond and therefore likely to occur by chance less than one time in twenty.

and .01 levels. Of these eighty-five cases, only two were contrary to the typical direction, and different scales were involved in each case. Ignoring for the moment statistical significance, and setting aside the Social Extroversion scale (on which no general change occurred), among 154 comparisons, only 16 were contrary to the usual direction. Seven of these atypical changes occurred at Kildew, where the mean scores of entering students were often near the extremes, leaving little room for change in the directions typical of most other students.

Insert Table 2 about here

All the colleges changed in the same direction on three scales -- Autonomy, Practical Outlook, and Impulse Expression -- and those changes were consistent when men and women were analyzed separately. Eleven of the twelve colleges changed in the same direction on Personal Integration and Estheticism, and ten reflected similar change on Complexity, Thinking Introversion, and Religious Orientation (Liberalism).

Figures 1 and 2 present the findings for Autonomy and Estheticism respectively and show the positions of the twelve colleges relative to one another and to the mean scores and average change when all colleges are combined. The results for Estheticism vividly illustrate the consistency among the institutions. Even though institutional means spanned a wide range, and even though the extent of change was small, change at each college -- except at Kildew where no change occurred -- was close to the average.

Insert Figures 1 and 2 about here

The consistencies across the scales and the colleges are somewhat exaggerated in that some of the scales have items in common and many of them are intercorrelated. So these measures are not entirely discrete and independent. Nevertheless, the data appear sufficiently clear to justify the general conclusions.

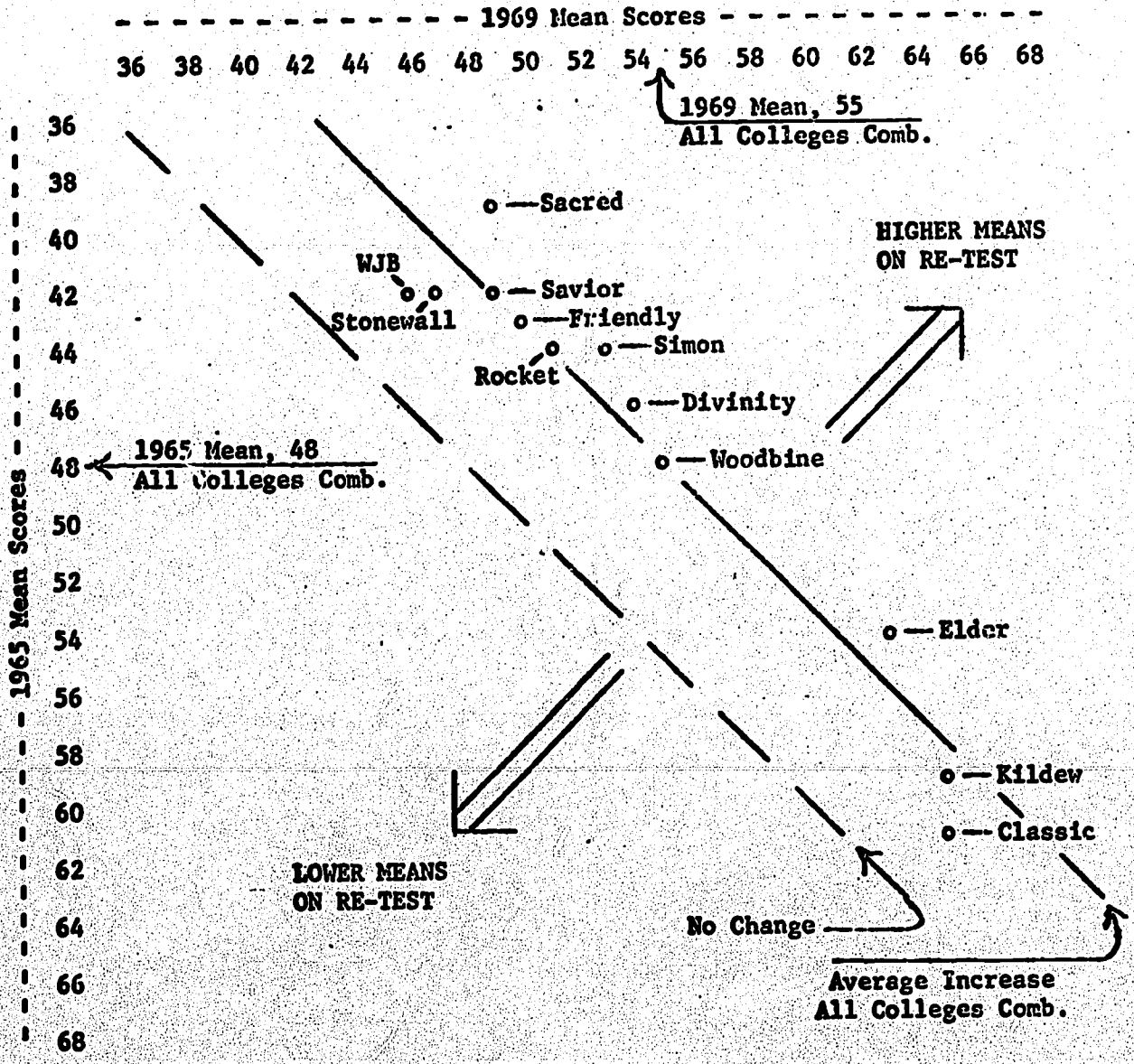
Several major areas of change were shared by virtually all the colleges.

Table 2

Mean Scores for Individual Colleges
(Same Students Tested in 1965 and 1969)
Omnibus Personality Inventory

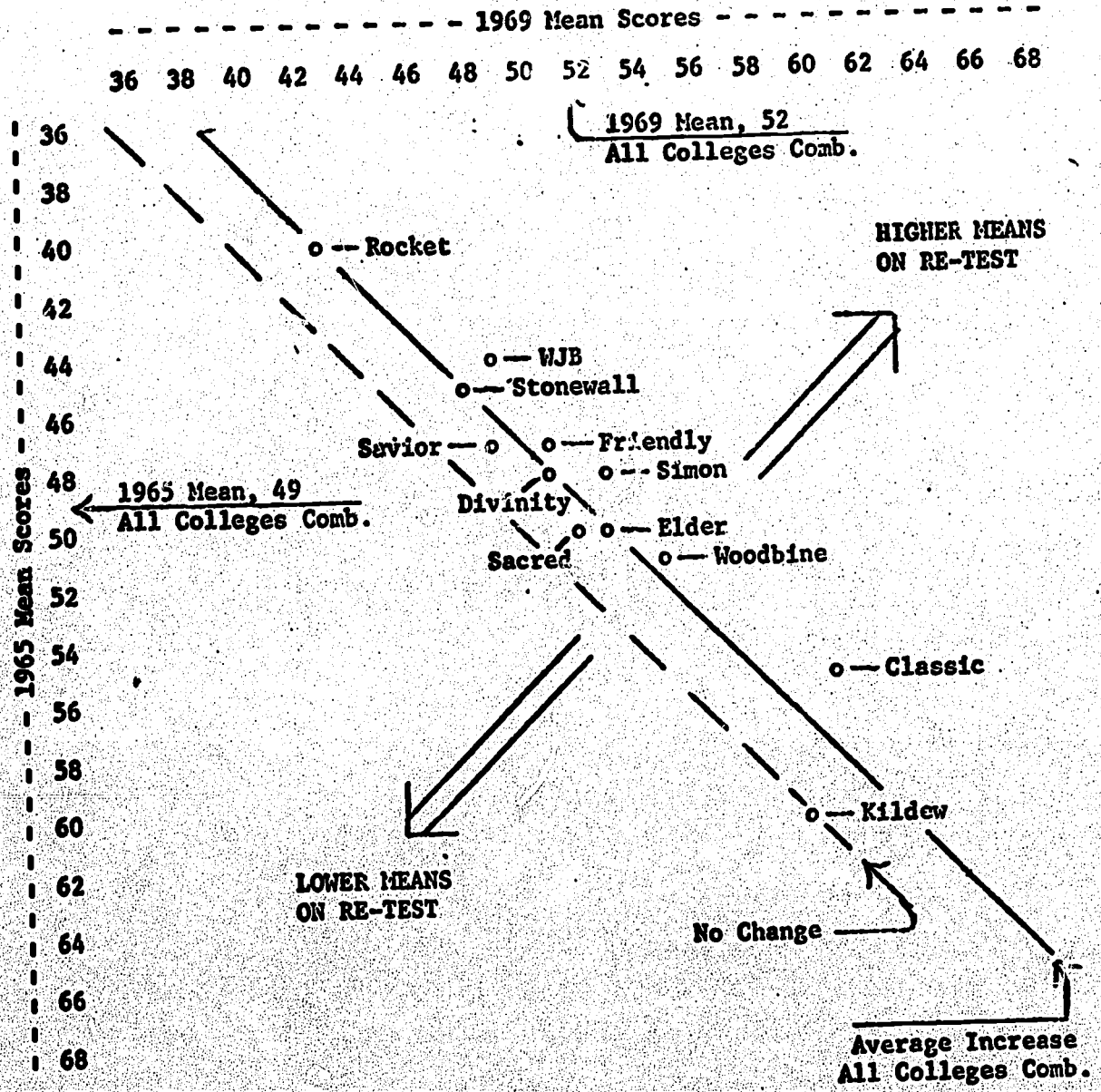
College	N	Autonomy 65	Autonomy 69	Practical Outlook 65	Practical Outlook 69	Impulse Expression 65	Impulse Expression 69	Complexity 65	Complexity 69	Esthetic Sensitivity 65	Esthetic Sensitivity 69	Thinking Introversion 65	Thinking Introversion 69	Masculinity Femininity 65	Masculinity Femininity 69	Personal Integration 65	Personal Integration 69	Anxiety Level 65	Anxiety Level 69	Religious Orientation 65	Religious Orientation 69	Theoretical Orientation 65	Theoretical Orientation 69	Altruism 65	Altruism 69	Social Extroversion 65	Social Extroversion 69	Response Bias 65	Response Bias 69
WJB	33	42	46	55	51	42	45	43	46	44	49	44	49	50	50	54	56	52	53	37	37	43	45	51	53	47	49	47	50
Savior	38	42	49	57	52	42	49	44	45	47	49	45	44	51	49	49	52	49	49	39	41	45	41	50	49	43	46	48	47
Sacred	29	39	49	57	50	46	53	42	48	50	52	45	51	47	46	49	51	48	47	41	47	43	47	51	53	51	50	47	49
Stonewall	49	42	47	56	54	53	55	47	48	45	48	43	47	53	52	45	53	46	50	48	49	45	47	43	48	46	49	43	48
Simon	76	44	53	54	48	42	47	43	49	48	53	48	51	48	47	54	57	51	52	38	44	42	45	55	54	49	48	48	50
Divinity	51	46	54	52	46	43	48	46	49	48	51	47	48	49	49	53	58	52	54	39	43	45	44	53	53	49	48	49	51
Friendly	61	43	50	54	51	44	46	45	45	47	51	45	46	47	46	50	55	49	51	42	45	42	43	52	52	48	48	46	47
Kildew	36	59	65	41	39	57	61	62	62	60	60	60	55	43	44	48	53	48	50	62	60	52	52	54	53	47	47	46	47
Classic	13	61	65	42	39	54	61	58	62	55	61	58	61	54	48	51	52	50	49	55	58	54	56	51	52	44	47	50	51
Elder	123	54	63	47	42	49	55	50	54	50	53	51	52	49	47	50	52	50	50	52	58	49	48	53	54	46	45	47	46
Woodbine	56	48	55	53	45	55	57	50	51	51	55	45	49	47	44	46	51	44	48	53	58	45	49	48	50	47	48	43	46
Rocket	20	44	51	54	52	50	55	47	50	40	43	41	45	60	57	51	50	49	48	49	53	51	51	43	46	44	47	51	51

Note: Underlining indicates that the differences in scores were significant at the .05 level or beyond and therefore likely to occur by chance less than one time in twenty.



Note.--Numbers indicate standard score intervals. Mean scores for norms group of 7,283 freshmen = 50.

Figure 1. AUTONOMY (OPI)
1965-1969 Mean Scores for Individual Colleges



Note.--Numbers indicate standard score intervals. Mean scores for norms group of 7,283 freshmen = 50.

Figure 2. ESTHETICISM (OPI)
1965-1969 Mean Scores for Individual Colleges

Students became more autonomous, more aware of their emotions and impulses and willing to express them, more integrated personally, more esthetically sensitive and interested in the arts and humanities, more tolerant of ambiguity and of complexity, more liberal in their religious views, and less concerned about material possessions and practical achievements.

These changes occurred among authoritarian students attending highly structured institutions where there were many rules and regulations and where adults kept a close eye on the students. They occurred among antiauthoritarian students attending loosely structured institutions where the rules and regulations were few and where students were left fairly much on their own. Two traditional colleges -- one of them relatively unknown, financially poor, lacking facilities, and the other prestigious, affluent, having ample facilities and resources -- changed in the same ways; so did two nontraditional colleges, one which gave the student considerable freedom in selecting his courses and carrying out independent study, the other which had a formal curriculum, many required courses, and a complex system of comprehensive examinations.

Do specific changes in attitudes, beliefs, and behaviors underlie the mean scores? Through analysis of individual items it was possible to determine the proportions of students at each college whose responses as seniors had, or had not, changed. For each college, items on which 27 percent or more of the students had changed their responses were culled from the 390 items of the Inventory. For most colleges, this cut-off point produced between fifteen and twenty-five "high-change" items. Thus particular attitudes, beliefs, and behaviors which had changed for substantial numbers of students at each college were identified.

A number of these high-change items were common to several colleges. For example, at eight colleges 27 percent or more of the freshmen who agreed that "no man of character would ask his fiancee to have sexual intercourse with him

before marriage" no longer agreed with that statement as seniors. At six colleges a similar shift occurred in response to the item "I believe it is the responsibility of intelligent leadership to maintain the established order of things." At five colleges there was an increase of 27 percent or more in the number of students who agreed that "there is nothing wrong with the idea of intermarriage between different races" and that "women ought to have as much sexual freedom as men."

Insert Table 3 about here

These shifts on particular items are thought-provoking and worth further scrutiny and reflection. The significant point for our present purposes, however, is this: Not only are the general changes among the colleges consistent at the level of scale score means, but also changes in particular attitudes, behaviors, and beliefs are common to many diverse types of students attending diverse types of institutions.

These general findings suggest that students move along several major vectors of personal development during the college years. Young adults probably develop along these lines in whatever colleges they enter. In the small and distinctive Project colleges, the fit between institutional characteristics and student characteristics at entrance permits development to proceed to about the same extent in each setting. For most students, the differences among the colleges do not foster major differences in the direction of development or in the areas where most development occurs.

These general findings become less puzzling when the close fit between students and institutions is recognized. Despite the fact that institutional means on the OPI ranged across two standard deviations on several factors and scales, self-selection and institutional selection worked powerfully to sort students into relatively homogeneous groups, consistent with college characteristics. (See Tables 4 and 5)

Insert Tables 4 and 5 about here

Table 3

High-Change Items Common to Several Colleges

Common Items	Direction of Change[1]
Common to Eight Colleges	
No man of character would ask his fiancee to have sexual intercourse with him before marriage.	-
Common to Six Colleges	
I have never done any heavy drinking.	-
I believe it is a responsibility of intelligent leadership to maintain the established order of things.	-
Common to Five Colleges	
There is nothing wrong with the idea of intermarriage between different races.	+
I believe women ought to have as much sexual freedom as men.	+
Common to Four Colleges	
I prefer people who are never profane.	-
The surest way to a peaceful world is to improve people's morals.	-
Perfect balance is the essence of all good composition.	-
When science contradicts religion it is because of scientific hypotheses that have not been and cannot be tested.	-
In the final analysis, parents generally turn out to be right about things.	-
I like modern art.	+
I go to church or temple almost every week.	-
Common to Three Colleges	
Our way of doing things in this nation would be best for the world.	-
I like short, factual questions in an examination better than questions which require the organization and interpretation of a large body of material.	-
At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it.	+
I often feel that the people I meet are not interested in me.	-
Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.	-
Every person should have complete faith in a supernatural power whose decisions are obeyed without question.	-
It is a pretty callous person who does not feel love and gratitude for his parents.	-
Every person ought to be a booster for his own home town.	-
Nothing about communism is any good.	-
I dislike test questions in which the information being tested is in a form different from that in which it was learned.	-
I dislike women who disregard the usual social or moral conventions.	-
Trends toward abstractionism and the distortion of reality have corrupted much art in recent years.	-
I like worldliness in people.	+
I never attend a sexy show if I can avoid it.	-
We should respect the work of our forefathers and not think that we know better than they did.	-
I like to talk about sex.	+
When I go to a strange city I visit art galleries.	+
I like to work late at night.	+

[1] + indicates more frequent agreement over time; - indicates less frequent agreement

Table 4

College and University Environment Scales (CUES) and Omnibus Personality Inventory (OPI) Rank-Order Intercorrelations Mean Scores of 13 Colleges

CUES scales	OPI scales			
	Practical Outlook	Intellectual Esthetic	Impulsive-Innovative	Religious Orientation
Practicality				
Masculine	.70	−.76	−.54	−.70
Feminine	.78	−.47	−.48	−.62
Community				
Masculine	.04	.03	−.52	−.61
Feminine	−.05	−.33	−.61	−.65
Awareness				
Masculine	−.58	.72	.19	.21
Feminine	−.73	.53	.20	.22
Propriety				
Masculine	.57	−.23	−.84	−.83
Feminine	.48	−.57	−.78	−.75
Scholarship				
Masculine	−.30	.36	−.08	−.11
Feminine	−.40	.36	−.06	−.12

Table 5

Correlations of Average College and University Environment Scale Scores with Percentage of Each Typology, Entering Freshmen

Typology (% 1st choice)	Practicality	Community	Awareness	Propriety	Scholarship
Vocational					
Masculine	.71	.04	−.81	.60	−.21
Feminine	.73	.23	−.59	.61	−.34
Academic					
Masculine	−.56	−.21	.50	−.61	.21
Feminine	−.71	−.25	.49	−.48	.36
Collegiate					
Masculine	.23	.42	.13	.36	.32
Feminine	.32	.56	−.06	.41	.03
Nonconformist					
Masculine	−.73	−.23	.41	−.62	.01
Feminine	−.62	−.32	.39	−.53	.06

Note.—Twelve institutions for men, 13 for women; a conversion values of r for samples of 12 cases take the following levels of significance (Guilford, 1950, p. 212): r = .49, p = .10; r = .58, p = .05, r = .71, p = .01.

Do Similar Students at Different Colleges Change Differently?

But it was hard to believe that such dramatic institutional differences did not affect at least some of the students. It seemed desirable to examine individual changes within some of the groups, inasmuch as mean scores might mask underlying changes for certain kinds of persons. Skager, Holland, and Braskamp's approach, which used sub-groups of students to study college influences, was employed.[3]

Two studies examined change in subgroups of students who had similar OPI scores at entrance but who attended different colleges. Attention focused on the five scales which reflected the most substantial change during the first two college years: Autonomy, Impulse Expression, Practical Outlook, Complexity, and Estheticism. For each scale, groups of students with similar scores at entrance were selected. Because entering students differed so widely from one college to another and because scores were relatively homogeneous within each college, the analyses were necessarily restricted to six of the twelve colleges, and even then the number of students from each college was small. Examining change at both two-year and four-year intervals further complicated matters. At both intervals students having similar scores at entrance were chosen, but different students and a slightly different group of colleges were involved.

Once the subgroups had been selected, retest means were computed for each group to see whether the extent and direction of change would once again be similar in diverse colleges. In effect, we were asking, if a Kildew type spends four years at Savior, does he change in the same way as other Kildew types who actually attend Kildew? Are the general patterns of change the same, regardless

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[3] R. Skager, J.L. Holland, and L.A. Braskamp, "Changes in Self-Ratings and Life Goals among Students at Colleges with Different Characteristics," Research Reports, No. 14 (Iowa City: American College Testing Program, 1966).

of the fit between student and college? Or does the student who is atypical at a given college change in a different way than does the typical student at that college? Table gives the score intervals, the colleges, the mean scores, and the differences, for two- and four-year intervals.

Insert Table 6 about here

These analyses revealed substantial differences among the colleges, both in the directions and the extent of change. Furthermore, the colleges maintained roughly similar relationships to one another on each of the scales and over the two-year and the four-year periods. Students at Kildew showed the greatest increases in autonomy, awareness of impulses and ability to express them, and tolerance of ambiguity and complexity; they also manifested the greatest decrease in drive for material success. Elder students, and -- for the two-year interval -- Classic students,changed in similar ways but to a lesser degree. Simon students, in contrast, consistently changed only slightly and sometimes in the opposite direction. At Stonewall, Friendly, and Divinity, the pattern of change was closer to the Simon pattern than to the Kildew, Elder, or Classic pattern. No clear patterns of change emerged for the Estheticism scale.

In brief, these results suggest (a) that the extent and directions of change for selected subgroups of students vary from college to college, and (b) that these intercollegiate differences are consistent for both two-year and four-year change and for several different dimensions of development. Apparently a college's characteristics do make a difference to student development. Similar students who enter different kinds of colleges change differently. Even though mean changes are similar for diverse students and diverse institutions, the choice of a college and the subsequent experiences may have significant consequences for an individual

student.[4]

The next question, then, is whether any systematic relationships can be discovered between these different patterns of subgroup change and college differences? Are differences in general student characteristics, in the dominant general climate, or in more concrete indices of direct experiences and behavior, systematically related to changes in the subgroups?

Are Different Patterns of Change Systematically Related to College Characteristics?

Relationships between college characteristics and change -- over both the two-year and the four-year period -- were examined by (a) ranking the two groups (one for two-year change and one for four-year change) of six colleges on magnitude of change from plus to minus, (b) ranking them on various institutional characteristics, and (c) computing rank-order correlation coefficients. For example, using the data on two-year change (see Table 6), the colleges are ranked on Autonomy (OPI) as follows: Kildew-1, Classic-2, Elder-3, Simon-4, Friendly-5, and Stonewall-6. When the same institutions are ranked on Practicality (CUES), they come out as follows: Stonewall-1, Simon-2, Friendly-3, Elder-4, Classic-5, and Kildew-6. When these two sets or ranks -- which are in almost perfect inverse relation -- are correlated, the resulting coefficient is -.90, as reported in Table 7. This procedure was followed with each scale, for both two-year and

[4] Perhaps these changes simply reflect regression effects for the subgroups of students within the different score intervals. Several considerations suggest, however, that such effects could not operate with much force. Regression effects represent changes from initial responses attributable to "chance." The assumption is that extreme initial scores are most likely to have been influenced by chance errors and that later scores for the same persons are less likely to include these chance errors. But the fact is that the score intervals were not initially extreme; in only eight of the thirty scale-college comparisons do the subgroups differ from their college means by as much as one standard deviation. Furthermore, the three colleges in which differences between subgroup means and college means are greatest show least change in the regressive direction. These considerations do not mean that regression effects were entirely absent, but they do suggest that such effects did not seriously distort the results.

Table 6

Change for Similar Students at Different Colleges

(Selected OBI Scores)

Two-Year Change for Selected Subgroups:

College	Esthetic. 52-57 N	'65	'67	X_1-X_2	Complexity 57-62 N	'65	'67	X_1-X_2	Autonomy 53-58 N	'65	'67	X_1-X_2	Impulse Expression 52-57 N	'65	'67	X_1-X_2	Practical Outlook 42-47 N	'65	'67	X_1-X_2
Kildew	5	55	59	4	5	60	68	8	5	56	66	10	8	55	58	3	5	44	38	-6
Classic	5	54	59	5	5	59	57	-2	6	55	63	8	6	54	57	3	5	46	45	-1
Elder	14	55	58	3	10	59	57	-2	14	56	60	4	15	55	56	1	17	45	44	-1
Stonewall	11	55	54	-1	11	59	52	-7	10	54	50	-4	26	55	57	2	6	46	48	2
Friendly	12	55	57	2	7	60	62	2	5	55	55	0	12	54	54	0	11	45	46	1
Simon	25	55	56	1	7	59	55	-4	7	54	55	1	9	54	50	-4	17	46	47	1

Four-Year Change for Selected Subgroups: (Same scales & scores intervals, different students)

	N	'65	'69	X_1-X_2	N	'65	'69	X_1-X_2	N	'65	'69	X_1-X_2	N	'65	'69	X_1-X_2	N	'65	'69	X_1-X_2
Kildew	5	56	56	0	8	60	64	4	11	56	65	9	9	55	62	7	11	44	38	-6
Elder	35	54	60	6	25	58	58	0	32	55	62	7	21	54	58	4	29	44	42	-2
Woodbine	25	55	57	2	8	59	59	0	13	54	58	4	7	55	58	3	8	46	40	-6
Friendly	17	54	57	3	5	60	50	-10	6	55	56	1	8	54	56	2	10	45	40	-1
Divinity	12	54	56	2	7	58	58	0	7	54	56	2	4	56	54	-2	9	45	43	-2
Simon	20	55	60	5	4	60	56	-4	9	55	57	2	6	55	56	1	10	46	43	-3

Note.--The study of two-year change was carried out by Kenneth Carter for his doctoral dissertation. Though membership overlaps, the student groups differed from scale to scale.

four-year change, in relation to selected measures of institutional characteristics.

Insert Table 7 about here

Findings are reported for the four OPI scales where patterns of change were most consistent -- Autonomy, Impulse Expression, Complexity, and Practical Outlook -- and for the clusters of interrelated institutional characteristics. Most of the data concerning institutional characteristics were derived from the Experience of College Questionnaire which was completed by samples of 80 to 180 students at each college; the samples were selected from all four class levels to reflect distributions of men and women at each level.[5]

The CUES assess general college emphases, "climate," or "press." Two of these -- Practicality, "a practical instrumental emphasis," and Propriety, "group standards of decorum are important" -- had consistently negative relationships with Autonomy, Impulse Expression, and Complexity, and positive relationships with Practical Outlook. The other CUES scales reflected no strong or consistent pattern. Both the average OPI scores for the total group of entering students and their orientations to college at entrance (using the Clark-Trow typology) reflect general student characteristics pertinent to the areas of change examined. Scale score levels were related to change in the expected directions. For example, when the entering class at a college had a high mean score on Autonomy,

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[5] In considering the results, it is important to recall that the Omnibus Personality Inventory scales are intercorrelated and that many of the institutional characteristics also are related to one another. Therefore, neither the different scales nor the different indices of institutional characteristics, are fully independent.

Table 7

Two- and Four-Year Changes Correlated with
College Emphasis and Student Characteristics

	Autonomy		Impulse Expression		Complexity		Practical Outlook	
	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.
College and University Environment Scales:								
Practicality	-.90	-.82	-.57	-.82	-.67	-.78	.99	.66
Community	.14	-.34	-.60	-.44	.32	-.14	-.14	.89
Awareness	.83	.55	.30	.43	.54	.42	-.83	.16
Propriety	-.54	-.51	-.96	-.57	-.14	-.78	.54	.60
Scholarship	.77	.25	-.10	.08	.09	.12	-.78	.52
Average OPI Scores for Entering Class:								
Autonomy	.99	.83	.66	.79	.77	.99	-.96	-.38
Impulse Expression	.60	.79	.99	.89	.32	.72	-.60	-.78
Practical Outlook	-.94	-.61	-.40	-.61	-.66	-.82	.94	.25
Proportion of Students Holding Primary Orientation at Entrance:								
Vocational	-.88	-.37	-.51	-.28	-.43	-.64	.89	-.04
Academic	.24	-.81	.30	-.87	-.38	-.58	-.21	.55
Collegiate	-.43	-.57	-.88	-.74	-.20	-.42	.43	.95
Nonconformist	.77	.83	.93	.78	.49	.99	-.78	-.38

Note.-- rho .77 = $p < .10$, .83 = $p < .04$, .94 = $p < .02$. Two- and four-year change were studied for two groups of six colleges. Four colleges were common to both groups; though membership overlaps, the student groups within colleges differed from scale to scale.

students in the subgroups increased more in Autonomy; when mean scores on Practical Outlook were high, changes in Autonomy were smaller and changes in Practical Outlook were greater. Of the four orientations to college, the proportion of students holding the Nonconformist Orientation bore the strongest relationships to change: Autonomy, Impulse Expression, and Complexity increased more, and Practical Outlook decreased, at colleges where the proportion of nonconformists was relatively high. The Vocational and Collegiate Orientations were consistently related to a change pattern which was opposite to that found for the Nonconformists' orientation, though the coefficients were lower. Mixed results were found with respect to the proportions of students having an Academic Orientation.

These data suggest that when a college has a practical and instrumental emphasis combined with a mannerly, proper atmosphere, and when it enrolls relatively high proportions of students with a Vocational or Collegiate Orientation who score high on Practical Outlook, the changes in Practical Outlook will be greater and the changes in Autonomy, Impulse Expression, and Complexity will be smaller than at colleges where these characteristics are not so prominent. When a college enrolls large proportions of nonconformist students who score high on Autonomy and Impulse Expression and low on Practical Outlook, there will be greater increases in Autonomy, Impulse Expression, and Complexity and smaller increases in Practical Outlook.

Teaching practices and the study activities they fostered bore strong and consistent relationships to changes among students in the various subgroups. Where lectures predominated Autonomy, Impulse Expression, and Complexity increased less and Practical Outlook more. Where students argued openly with one another and with the instructor, and where students more often participated in making decisions about course content and procedures, Autonomy, Impulse Expression, and Complexity

increased more, and Practical Outlook decreased.

Insert Table 8 about here

At colleges where teachers usually lectured in class, students usually invested substantially more of their class preparation time in memorizing than in other more complex mental activities, so memorizing also is negatively associated with Autonomy, Impulse Expression, and Complexity, and positively associated with Practical Outlook. The amount of time invested in higher-level study activities -- interpreting and drawing inferences; applying concepts to new problems or situations; analyzing material to detect relationships; synthesizing ideas or information from diverse sources; evaluating evidence, theories, arguments, methods -- was positively associated with increasing Autonomy, Impulse Expression, and Complexity, and negatively associated with Practical Outlook.

Where intrinsic reasons for study predominated -- interest or enjoyment, concern over the questions involved, a desire to broaden the pool of general knowledge -- there were greater increases in Autonomy, Impulse Expression, and Complexity, and smaller increases in Practical Outlook. Where extrinsic reasons were primary -- getting a good grade, fulfilling a requirement for graduation -- the pattern of change was the reverse.

To summarize: When most class time is devoted to lectures, when preparation consists chiefly of memorizing, and when studying is done for extrinsic reasons, then students tend to grow more practical-minded, and make less progress in becoming autonomous individuals able to express their impulses and to tolerate complexity. Conversely, when more class time is devoted to open exchange, when class assignments require the exercise of the higher mental activities, and when studying is done for intrinsic reasons, then the development of autonomy, readiness to express impulses, and complexity of outlook increases, while concern for practical achievement drops.

Table 8

Two- and Four-Year Change Correlated with Teaching, Study, and Reasons for Study

	Autonomy		Impulse Expression		Com-plexity		Practical Outlook	
	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.
Teaching Practices:								
Listening and taking notes	-.60	-.82	-.77	-.71	-.03	-.64	.60	.82
Making statements to the class	.49	.60	.92	.66	.37	.42	.48	-.95
Thinking about ideas presented	.49	.38	.92	.55	.37	.53	-.48	-.75
Lectures follow text	-.94	-.78	-.61	-.87	-.77	-.82	.94	.60
Instructor outlines lecture	-.83	-.31	-.78	-.37	-.71	-.72	.83	.33
Students argue openly with instructor	.60	.62	.99	.68	.32	.90	-.60	-.55
Students argue openly with students	.72	.73	.93	.78	.32	.93	-.71	-.61
Students participate in decisions about course content and procedures	.83	.95	.87	.89	.32	.82	-.83	-.76
Mental Activities Studying for class:								
Memorizing	-1.00	-1.00	-.54	-.94	-.60	-.78	.00	.68
Interpreting	.49	.60	.92	.78	.37	.62	-.48	-.85
Applying	.49	.49	.92	.72	.37	.42	-.48	-.81
Analyzing	.43	.72	.93	.83	.20	.58	-.43	-.95
Synthesizing	.60	.83	.99	.95	.32	.82	-.60	-.64
Evaluating	.26	.33	.84	.55	.26	.55	-.26	-.77
Reasons for Studying:								
Interest and enjoyment	.00	.48	.59	.42	.60	.88	-1.00	-.31
Questions of concern	.94	.66	.70	.60	.37	.96	-.94	-.24
Broaden general knowledge	.53	.89	.53	.78	.24	.93	-.47	-.61
Vocationally useful	.73	-.60	.66	-.54	.07	-.92	-.70	.30
Get a good grade	-1.00	-.95	-.54	-.87	-.60	-.82	.00	.60
Finish a requirement	-.83	-.90	-.16	-.75	-.16	-.81	.83	.45

Note.--rho .77 = $p < .10$, .83 = $p < .04$, .94 = $p < .02$. Two- and four-year change were studied for two groups of six colleges. Four colleges were common to both groups; though membership overlaps, the student groups within colleges differed from scale to scale.

The amount of time that students invested in out-of-class activities varied from college to college. Some of these activities were associated with change, and others were not. Where more hours were spent in reading for pleasure and talking informally with others, there were greater increases in Autonomy, Impulse Expression, and Complexity and smaller increases in Practical Outlook. Where more time was spent watching TV, the opposite pattern of change prevailed. ; Hours spent in studying for class or in playing games were not associated with change in these areas.

Insert Table 9 about here

Student-faculty relationships reflected strong and consistent correlations with change. At colleges where out-of-class contacts with faculty members were frequent Autonomy, Impulse Expression, and Complexity increased, and Practical Outlook decreased. It is worth noting that the amount of time spent in conversations with advisors or with members of the faculty and administration seems to be less important than the frequency and diversity of contact. It would seem that the most fruitful situation for the student's development is one in which he has outside contact with several faculty members, even if only briefly.

Insert Table 10 about here

Despite the limitations of these data, they make it clear that different patterns of change are systematically related to a variety of college characteristics. It is difficult to tell from these analyses just which characteristics are influential in their own right, and which have no direct influence but are simply associated with those that do. The internal consistency among clusters of findings, however, does suggest that personal development is influenced not

Table 9

Two- and Four-Year Change Correlated with
Number of Hours Per Week Spent in Varied Activities

	Autonomy		Impulse Expression		Com-plexity		Practical Outlook	
	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.
Studying for class	.37	.43	-.40	.55	.37	.56	-.37	.02
Reading for pleasure	.69	.89	.99	.95	.32	.77	-.60	-.87
Talking informally with others	.66	.73	.93	.79	.14	.93	-.66	-.61
Watching TV	-.92	-.37	-.15	-.24	-.60	-.64	.83	-.04
Playing chess, cards, checkers, etc.	-.43	.02	.42	.13	-.37	-.20	.43	-.21

Note.--rho .77 = $p < .10$, .83 = $p < .04$, .94 = $p < .02$. Two- and four-year change were studied for two groups of six colleges. Four colleges were common to both groups; though membership overlaps, the student groups within colleges differed from scale to scale.

Table 10

Two- and Four-Year Change Correlated with Student-Faculty Relationships

	Autonomy		Impulse Expression		Com-plexity		Practical Outlook	
	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.	2-Yr.	4-Yr.
Student-Faculty Contact:								
Number of faculty seen outside of class	.83	.83	.87	.78	.32	.99	-.83	-.38
Number of conversations outside of class	.77	.72	.93	.78	.49	.93	-.77	-.56
Amount of Time in Conversations with Faculty and administration in general about:								
Formal academic arrangements	-.37	.03	.33	.15	-.37	.30	.37	.05
Future educational and vocational plans	.04	.43	.58	.38	-.20	.82	-.01	-.07
Personal problems	-.03	.55	.44	.49	.03	.90	-.26	-.44
Topics in academic field of faculty member	.60	.72	.99	.78	.32	.93	-.60	-.61
Campus events	.54	.78	.81	.60	-.14	.79	-.54	-.61
General conversations	.47	.49	.89	.55	.33	.85	-.44	-.51
Amount of Time in Conversations with Advisor:								
Formal academic arrangements	.14	.60	.56	.66	.37	.85	-.14	-.24
Future educational and vocational plans	.37	.32	.10	.38	.20	.76	-.37	-.30
Personal problems	.37	.49	.10	.55	.20	.85	-.37	-.51
Topics in academic field of advisor	.60	.49	.99	.55	.32	.85	-.60	-.51
Campus events	.49	.38	.76	.26	.09	.50	-.48	-.61
General conversations	.60	.43	.81	.32	.03	.76	-.60	-.40

Note.--rho .77 = $p < .10$, .83 = $p < .04$, .94 = $p < .02$. Two- and four-year change were studied for two groups of six colleges. Four colleges were common to both groups; though membership overlaps, the student groups within colleges differed from scale to scale.

only by the college's general emphasis or climate and by the characteristics of the other students but also by the concrete experiences and behaviors generated by various teaching practices and study activities and by the diversity and frequency of contact between students and faculty.

Discussion

The varied findings indicate that most students develop along the same general lines during the college years. They also demonstrate that for particular groups of persons at particular colleges, such development may be accelerated or retarded. Further, they give notice that research concerning student development and institutional impacts must go beyond simple measures of central tendency and simple examination of net change. Averages obliterate individuals and fail to reveal the complex interactions which influence events and their developmental consequences. Both standard deviations and underlying frequency distributions are required for accurate understanding and sound judgements.

What do these findings suggest about personality development in college? It is clear that the college student is no tabula rasa; he is no clay for the potter, no vessel to be filled, no lamp to be lighted. He's already lit. When he moves into college as a freshman he brings with him -- along with his Webster's Collegiate Dictionary and his Tensor lamp -- his mother, father, two older friends of the family, a girl friend, and a set of high school buddies. He also brings strengths and weaknesses, prides and prejudices, clarities and confusions, and a lot of unfinished business. The unfinished business typically includes not only improving intellectual and interpersonal competence, but also achieving autonomy, learning better ways to manage sexual and aggressive impulses, becoming freer with diverse kinds of persons, clarifying identity, sharpening purposes and developing integrity.[6]

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[6] For further information about these major areas of development in college, see A.W. Chickering, Education and Identity (San Francisco: Jossey-Bass, 1969).

Most students move toward institutions whose purposes and programs fit their own interests and inclinations and whose students and faculty hold values and attitudes similar to their own. In many cases, the processes of self-selection and institutional admissions practices creates a comfortable fit between the college and the person. Though the college may no longer act in loco parentis, it does act in loco uterus, providing a warm and supportive setting which insulates students from unduly disruptive outside influences.

Under these comfortable conditions, personal development proceeds along the vectors of change set by the general cultural and genetic forces operating in our society; most students in most colleges work on the seven major areas of unfinished business mentioned above. Across the country there are a variety of student-college types; in each type these common developmental tasks are pursued in somewhat different fashion. But because the institutional differences correspond with differences among the students, the patterns of general development are about the same for the different types.

One major model for college influence, therefore, is the womb. The diverse colleges provide safe havens and proper nourishment for the diverse students in our pluralistic society. Persons who attend college become more autonomous, more flexible, more complex, less materialistic, more aware of their own emotions, and better able to express them in thought and action; more tolerant of ambiguity, less dogmatic, more intellectually curious. Persons who do not attend college change less, and sometimes even move in contrary directions. So wombs are good things. Without them, most of us would not be here. And without the protection and nourishment many colleges offer, most seniors would not have become what they are at graduation.

But there is another kind of college influence, and for it the term

impact is appropriate. Every institution has two different kinds of deviants, two kinds of uncommon or atypical students. The first kind is the student whose development has not yet reached the general level of his peers and of the college; the second kind is the student whose development has gone beyond the level of the college and of the other students. Deviation can occur in many areas. A student's intellectual competence and breadth of information may be so limited that he finds it difficult to cope with the academic program. Or his competence and store of information may be so high that he gets little stimulation from classes, study requirements, and his fellow students. Some students may be more liberal than most students at his college, others may be more conservative; some may be more culturally sophisticated or less, more autonomous or more dependent.

By examining subgroups of similar students at different colleges, we were, in effect, studying persons who were deviants at some colleges but not at others. Students who belong to these sub-groups, who deviate from the norms within the different colleges, change according to the relationships between their characteristics and those of the college. These students are apparently influenced by institutional differences in general atmosphere and student characteristics, in educational practices, in student-faculty relationships, and in the nature of relationships among friends and acquaintances. For these persons, the choice of a college and the subsequent experiences may have significant consequences.

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