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ABSTRACT

Part I of this report describes results of studies concerning "net change" of personality from analyses pooling students from all the 13 colleges participating in the Project on Student Development and from analyses pooling all students retested within each college. The findings indicated that: (1) changes occurred in most of the areas measured by the Omnibus Personality Inventory; (2) the directions and amount of net change were similar for both men and women, and for the diverse groups of entering freshmen; (3) the directions and amount of change were also similar at all the Project colleges despite the dramatic differences among them; and (4) changes in particular attitudes, beliefs and behaviors were common to many of the different types of students at the different colleges. Part II describes results from studies of change in selected subgroups of students and studies of relationships between changes among students and institutional characteristics. The findings indicated that similar students attending different colleges reflected different patterns of change; and changes among the sub-groups were systematically related to institutional differences in college climate or emphasis. (AF)

PERSONALITY DEVELOPMENT AND THE COLLEGE EXPERIENCE[1]

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Project on Student Development
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In September, 1965, entering freshmen at thirteen colleges participating in the Project on Student Development completed the Omnibus Personality Inventory (OPI) during the orientation period at the beginning of the year. During spring, in 1969, those students still enrolled in twelve of the colleges, who were ready to graduate, completed the same instrument again. Some of these students also had been re-tested at the end of their freshmen or sophomore years.

Two groups of studies have asked these data several questions concerning personality development during the college years and the affects colleges may, or may not, have on such development. Part One of this report describes the results from three sets of studies concerning "net change"--from analyses pooling students from all the colleges and from analyses pooling all students retested within each college:

> Studies comparing mean scores at entrance with mean scores at graduation asked, "Does change occur? If so, in what areas? At what colleges?" Similar comparisons of responses to individual items pursued these questions further, asking, "Do particular changes in attitudes, beliefs, and behaviors underlie the mean scores?"
>
> Studies comparing changes in the standard deviations asked, "Do students become more similar during the college years, or are they more different from one another as seniors than as freshmen?"

Part Two describes results from studies of change among selected sub-groups of students, and studies of relationships between changes among students and institutional characteristics:

> Studies examining change for sub-groups of students in different colleges who had similar scores at entrance asked, "Do similar students at different colleges change differently? Does the impact of college vary depending upon the characteristics a student brings to it?"
>
> Studies examining relationships between changes for sub-groups of student : and varied measures of institutional characteristics asked, "If changes occur, are they systematically related to differences in the characteristics of the colleges?"

This report describes the general results of these studies. Although Part Three summarizes the general findings and suggests major implications of the combined results, the report does not describe in detail the methods used nor discuss the implications for

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[1]The research reported here was supported by NIMH Grant #MH14780-05.

individual institutions or for higher education in general. The report aims to be a working document for the Project colleges with which each can examine the results for his own college in relation to the results for others. A more comprehensive report which deals thoroughly with methods and implications will be prepared during the coming year.

Part One

Results from the studies of change must be considered in the light of three major findings concerning institutional characteristics and the characteristics of students as entering freshmen:[1]

> There are dramatic differences among the institutions: in goals, in general climate, in rules and regulations, in curriculum, teaching, and evaluation, in sense of community and student faculty relationships, and in the concrete experiences and behaviors of student and faculty.
>
> There are wide differences in the characteristics of the students entering these diverse colleges; institutional means on the OPI span more than two standard deviations on several scales, and questionnaire data from other instruments reveal similarly striking diversity.
>
> There is a close fit between the characteristics of the students and the characteristics of the colleges. Self-selection and admissions practices have operated with sufficient power that certain kinds of students enter certain Project colleges and not others, and little overlap occurs among colleges substantially different from one another.

What developmental outcomes follow from these associations between particular kinds of students and particular kinds of colleges?

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

Change occurs, in all but one area measured by the OPI, at all colleges. Further, the direction of change is basically the same for all colleges--despite the great diversity in the mean scores of entering groups, and despite the major differences in the colleges.[2]

The evidence, consistent among varied levels of analysis, is unequivocal. Table 1 reports the results when individual students are pooled from all the colleges and when men and women are treated separately. Statistically significant change[3] occurs on 13 of the 14 scales; two were between the .05 and .01 levels, and eleven were beyond .01. Only the Social Extroversion scale showed no change. Significant change occurs for men on 12 scales and for women on 9. Men and women change in the same direction on every scale.

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[1] For more detailed information see Chickering, A. W. Institutional Differences and Student Characteristics, Journal of American College Health Association; or Chickering, A. W. Education and Identity, San Francisco: Jossey-Bass, 1969.

[2] For report of similar findings for change during the first 2 years see Chickering, A. W., McDowell, J., & Campagna, D. Institutional Differences and Student Development. J. of Educ. Psychology, 60 (4), 1969.

[3] Dependent t tests were used for all studies of mean change. See Walker, H. M., & Lev, J. Statistical inference. New York: Henry Holt, 1953. p. 152.

Insert Table 1 about here

The regularity of change persists in the results for single colleges. Men and women continue to change similarly regardless of the college and regardless of their mean scores at entrance. Three of the colleges provided data for only one sex, but separate analyses for men and women were possible at nine others, and there was no instance of statistically significant change in different directions; indeed, when non-significant changes are included, only 29 cases of a possible 126 (9 colleges times 14 scales) changed in atypical fashion. This similarity of changes among men and women simplifies reporting and interpretation because attention can be restricted to findings from analyses which combined both groups.

Insert Table 2 about here

Table 2 documents the consistent directions of change among the colleges. One hundred fifty four comparisons yielded 17 mean differences significant between the .05 and .01 levels, and 68 beyond .01; of these 85 cases, only 2--in each case a different college and different scale--deviated from the typical direction. Ignoring statistical significance, and setting aside the Social Extorversion scale on which no general change occurred, among 140 comparisons, only 16 were contrary to the usual direction. Seven of these contrary changes occurred at Kildew where mean scores at initial testing often were near the extremes, leaving little room for changes in the directions typical of most other students.

All the colleges changed in the same direction on three scales, Autonomy, Practical Outlook, and Impulse Expression--and those changes also occurred consistently when men and women were examined separately. Eleven of the 12 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, and the others appended, illustrate these findings for Autonomy and Estheticism and show the positions of the twelve colleges relative to each other and to the mean scores and average change when all colleges are combined. The results for Estheticism vividly reflect the consistency among the institutions. Even though they span a wide range of scores, and even though the amount of change is small, change at each college--except at Kildew where no change occurs--is close to the average.

Greatest changes occurred on these scales, ordered roughly in terms of the amount of change and the consistency of direction across the colleges:

Table 1

Mean Scores for Students Pooled from Twelve Colleges
1965 - 1969

Scale	All Students N=585		All Men N=254		All Women N=269	
	F/65	S/69	F/65	S/69	F/65	S/69
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:--Differences in underlined scores significant at the .05 level or beyond, and therefore likely to occur by chance less than 1 time in 20.

Table 2

Mean Scores for Individual Colleges
Same Students Tested in 1965 - 1969

College	N	Autonomy 65	Autonomy 69	Practical Outlook 65	Practical Outlook 69	Impulse Expression 65	Impulse Expression 69	Complexity 65	Complexity 69	Estheticism 65	Estheticism 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: Differences in underlined scores significant at the .05 level or beyond, and therefore likely to occur by chance less than 1 time in 20.

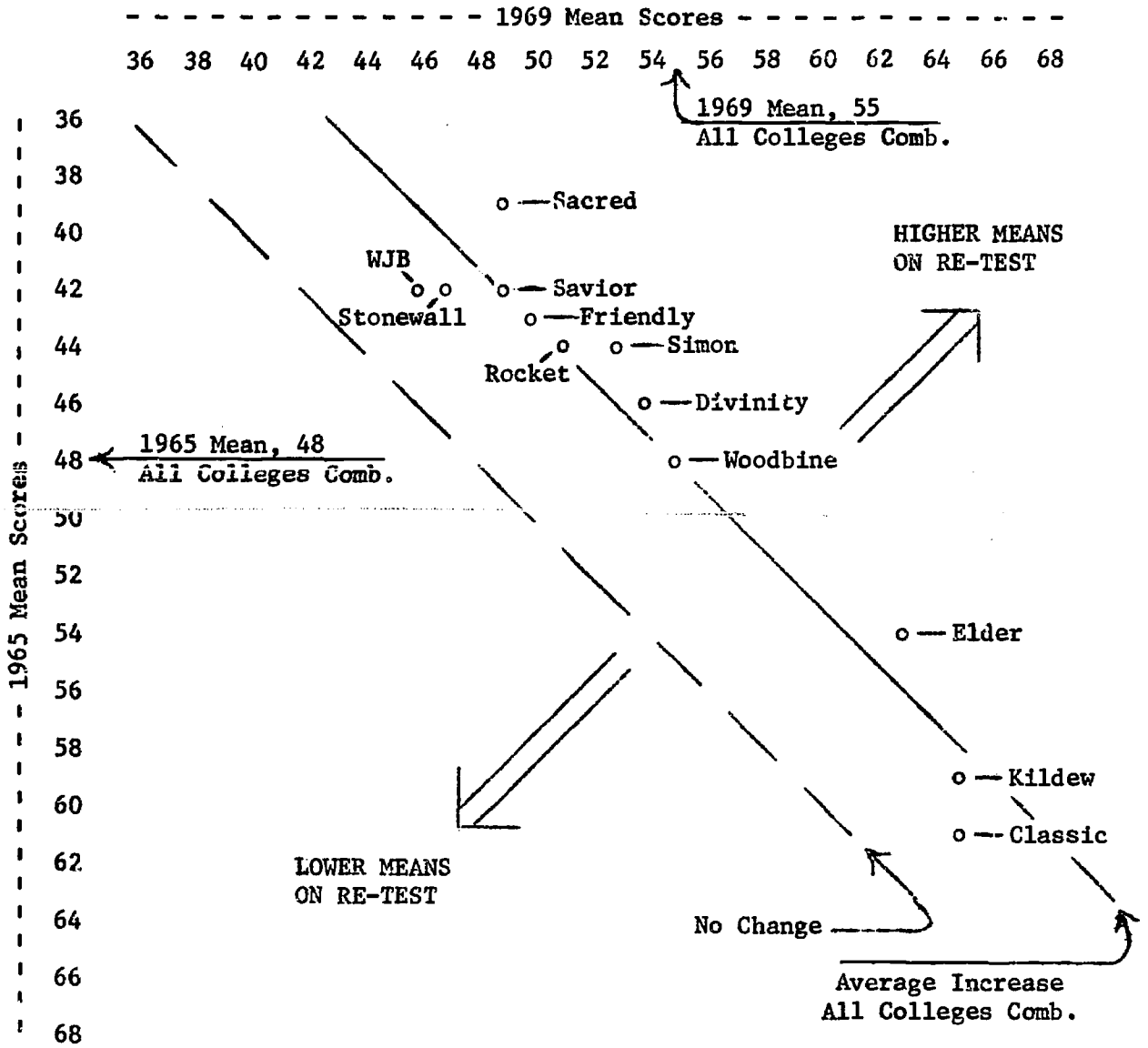

Figure 1. AUTONOMY
1965-1969 Mean Scores for Individual Colleges

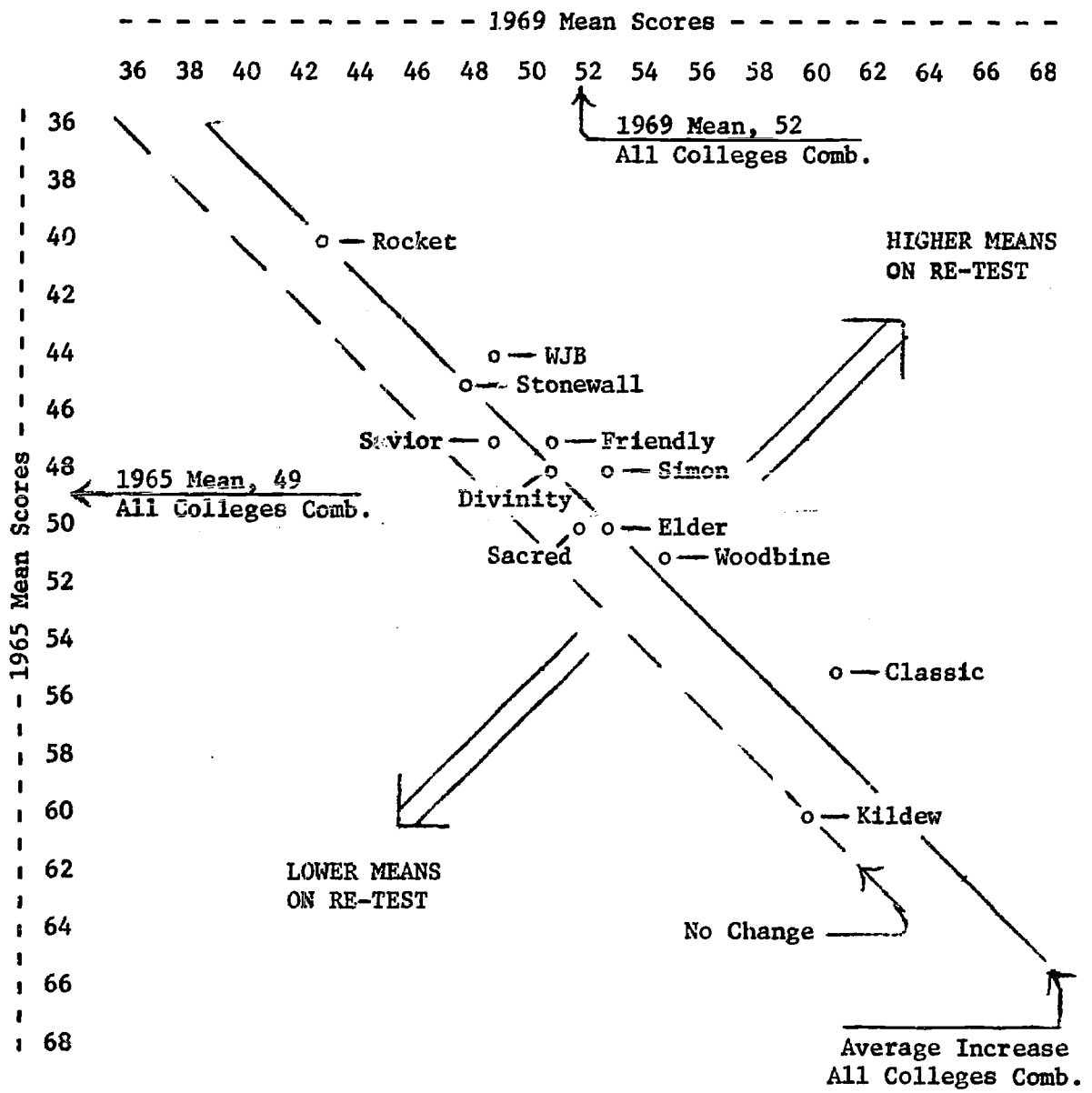

Figure 2. ESTHETICISM
1965-1969 Mean Scores for Individual Colleges

Autonomy--Scores rose

High scorers show a tendency to be independent of authority as traditionally imposed through social institutions. They oppose infringements on the rights of individuals and are tolerant of viewpoints other than their own; they tend to be realistic, intellectually and politically liberal, and much less judgmental than low scorers.

Practical Outlook--Scores dropped

High scorers are interested in practical, applied activities and tend to value material possessions and concrete accomplishments. The criterion most often used to evaluate ideas and things is one of immediate utility. Authoritarianism, conservatism, and non-intellectual interests are very frequent personality components of persons scoring above the average.

Impulse Expression--Scores rose

High scorers are ready to express impulses and to seek gratification either in conscious thought or in overt action; they have an active imagination, value sensual reactions and feelings. Very high scorers have frequent feelings of rebellion and aggression.

Personal Integration--Scores rose

High scorers admit to few attitudes and behaviors that characterize socially alienated or emotionally disturbed persons. Low scorers often intentionally avoid others and experience feelings of hostility and aggression along with feelings of isolation, loneliness, and rejection.

Estheticism--Scores rose

High scorers endorse statements indicating diverse interests in artistic matters and activities and a high level of sensitivity and response to esthetic stimulation. The statements in this scale extend beyond painting, sculpture, and music, and include interests in literature and dramatics.

Complexity--Scores rose

High scores reflect an experimental and flexible orientation rather than a fixed way of viewing and organizing phenomena. They are tolerant of ambiguities and uncertainties and are fond of novel situations and ideas. Most persons high on this dimension prefer to deal with complexity, as opposed to simplicity, and very high scorers are disposed to seek out and to enjoy diversity and ambiguity.

Religious Orientation (Religious Liberalism)--Scores rose

High scorers are skeptical of conventional religious beliefs and practices and tend to reject most of them, especially those that are orthodox or fundamentalistic in nature. Persons scoring around the mean are manifesting a moderate view of religious beliefs and practices; low scorers are manifesting a strong commitment to Judaic-Christian beliefs and tend to be conservative in general and frequently rejecting of other viewpoints.

Thinking Introversion--Scores rose

High scorers like reflective thought and academic activities. They express interests in a broad range of ideas found in a variety of areas, such as literature, art, and philosophy. Their thinking is less dominated by immediate conditions and situations, or by commonly accepted ideas, than that of thinking extroverts (low scorers). Most extroverts show a preference for overt action and tend to evaluate ideas on the basis of their practical, immediate application, or to entirely reject or avoid dealing with ideas and abstractions.

Smaller and less consistent changes occurred on five other scales:

Masculinity-Femininity--Scores dropped

This scale assesses some of the differences in attitudes and interests between college men and women. High scorers (masculine) deny interests in esthetic matters, and they admit to few adjustment problems, feelings of anxiety, or personal inadequacies. They also tend to be somewhat less socially inclined than low scorers and more interested in scientific matters. Low scorers (feminine), basides having stronger esthetic and social inclinations, also admit to greater sensitivity and emotionality.

Altruism--Scores rose

High scorers are affiliative persons, trusting and ethical in their relations with others. They have strong concern for the feelings and welfare of people they meet. Low scorers tend not to consider the feelings and welfare of others and often view people from an impersonal, distant perspective.

Theoretical Orientation--Scores rose

High scorers prefer dealing with theoretical concerns and problems and using the scientific method in thinking; many also exhibit an interest in science and in scientific activities. High scorers are generally logical, analytical, and critical in their approach to problems and situations.

Anxiety Level--Scores rose

High scorers deny that they have feelings or symptoms of anxiety, and do not admit to being nervous or worried. Low scorers describe themselves as tense and high-strung. They may experience some difficulty in adjusting to their social environment, and they tend to have a poor opinion of themselves. (Note the direction of scoring on this scale: a high score indicates a low anxiety level, and vice versa.)

Response Bias--Scores rose

High scorers respond in a manner similar to a group of students who were explicitly asked to make a good impression by their responses to these items. Low scorers, on the contrary, may be trying to make a bad impression or are indicating a low state of well-being or feelings of depression.

No consistent changes occurred on the Social Extroversion scale. At two colleges statistically significant increases occurred; at one there was significant decrease. Other changes were non-significant and the directions varied.

Social Extroversion

High scorers display a strong interest in being with people, and they seek social activities and gain satisfaction from them. The social introvert (low scorer) tends to withdraw from social contacts and responsibilities.

The consistencies across scales and colleges are somewhat exaggerated by the fact that some of the scales have items in common and some of them are inter-correlated. So these measures are not entirely discrete and independent. But the general picture seems clear enough to draw three major conclusions: (a) greater changes occur in some areas than in others, as described above, (b) changes occur for both men and women on all the OPI scales, and (c) these changes are highly consistent at all the colleges. Do responses to individual items reflect similar consistency?

Do particular changes in attitudes, beliefs, and behaviors underlie the mean scores?

Analyses of individual items indicated the proportions of students at each college whose responses as seniors had, or had not, changed. For each college, items on which 27% or more of the students had changed their responses were culled from the 390 which comprise the Inventory. For most colleges, this cut-off point produced between fifteen and twenty five "high change" items. This process identified particular attitudes, beliefs, or behaviors which changed for substantial numbers of students within each college.

Insert Tables 3, 4, & 5 about here

Tables 3, 4, and 5 give the items for a strongly conservative, church related college, a community college where most of the undergraduates are enrolled in engineering or business administration, and an elite liberal arts college with a liberal religious orientation. Can you identify the colleges? It is very difficult to tell simply by looking at the items and the percents of students who change. Many of the items are common for two of the colleges and some are common for three--and the directions of change are identical. A person who knows these colleges well might identify each by careful examination of the differences in frequencies at entrance in 1965, but even the most sophisticated student of higher education would find it difficult to rely simply on the figures reflecting change. (See the footnote at the bottom of page 8 for identification.)

Table 3
High Change Items for College X
N=76

Item	Percent responding "True" '65	'69	Percent Change
Perfect balance is the essence of all good composition.	72	29	47-
I believe it is a responsibility of intelligent leadership to maintain the established order of things.	80	38	42-
I like to talk about sex.	32	70	38+
Every person should have complete faith in a supernatural power whose decisions are obeyed without question.	83	46	37-
It is essential for learning or effective work that our teachers and leaders outline in detail what is to be done and how to do it.	66	30	36-
When I go to a strange city I visit art galleries.	12	46	34+
For most questions there is just one right answer, once a person is able to get all the facts.	50	17	33-
One needs to be wary of those persons who claim not to believe in God.	64	32	32-
One of my aims in life is to accomplish something that would make my mother proud of me.	67	36	31-
I prefer people who are never profane.	93	62	31-
Divorce is often justified.	16	47	31+
I disagree with statements and ideas expressed by my classmates or friends.	37	67	30+
Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.	87	58	29-
One of the most important things children should learn is when to disobey authorities.	7	36	29+
When it comes to differences of opinion in religion we should be careful not to compromise with those whose beliefs are different from ours.	79	50	29-
I prefer social functions to which only a small group of intimate friends are invited.	55	84	29+
I like modern art.	29	58	29+
I would like to collect prints of paintings which I personally enjoy.	46	74	28+
I like worldliness in people.	13	41	28+
At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it.	26	53	27+
No man of character would ask his fiancee to have sexual intercourse with him before marriage.	91	64	27-
We should respect the work of our forefathers and not think that we know better than they did.	84	57	27-

Table 4
High Change Items for College Y
N=20

Item	Percent responding "True" '65	'69	Percent Change
No man of character would ask his fiancee to have sexual intercourse with him before marriage.	80	30	50-
Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.	95	45	50-
Nothing about communism is any good.	70	20	50-
The surest way to a peaceful world is to improve people's morals.	60	15	45-
Nothing about fascism is any good.	60	15	45-
I am active on the committees of school organizations.	10	50	40+
I tend to make decisions on the spur of the moment.	60	20	40-
I have never indulged in any unusual sex practices.	85	50	35-
Divorce is often justified.	45	80	35+
My church, faith, or denomination has the only true approach to God.	55	20	35-
I have never done any heavy drinking.	75	40	35-
I work under a great deal of tension.	15	45	35+
Only a fool would try to change our way of life in this country.	45	10	35-
I generally attend the meetings of school or community organizations.	30	60	30+
I do not like to appear on programs or to give oral reports.	75	45	30-
It is all right to get around the law if you don't actually break it.	35	65	30+
When I work on a committee I like to take charge of things.	30	60	30+
It is better never to expect much; then you are rarely disappointed.	60	30	30-
One of my aims in life is to accomplish something that would make my mother proud of me.	90	60	30-
I would enjoy writing a paper on the possible long-term effects or outcomes of a significant research discovery.	25	55	30+
I dislike test questions in which the information being tested is in a form different from that in which it was learned.	65	35	30-
It puzzles me why some people will so avidly read and discuss science fiction.	40	10	30-
Communism is the most hateful thing in the world today.	55	25	30-
Religion should be primarily a social force or institution.	20	50	30+

Table 5
High Change Items for College Z
N=125

Item	Percent responding "True" '65	'69	Percent Change
I believe it is a responsibility of intelligent leadership to maintain the established order of things.	66	19	47-
No man of character would ask his fiancee to have sexual intercourse with him before marriage.	53	8	45-
I go to church or temple almost every week.	70	16	44-
I have never done any heavy drinking.	86	46	40-
I generally attend the meetings of school or community organizations.	70	30	40-
I dislike women who disregard the usual social or moral conventions.	47	10	37-
I am active on the committees of school organizations.	53	17	36-
I should like to belong to several clubs or lodges.	54	18	36-
I would disapprove of anyone's drinking to the point of intoxication at a party.	70	34	36-
In the final analysis, parents generally turn out to be right about things.	81	46	35-
People would be happier if sex experience before marriage were taken for granted in both men and women.	25	60	35+
I like short, factual questions in an examination better than questions which require the organization and interpretation of a large body of material.	60	26	34-
I believe in a life hereafter.	66	33	33-
Perfect balance is the essence of all good composition.	43	10	33-
It is not the duty of a citizen to support his country right or wrong.	54	87	33+
I prefer people who are never profane.	46	13	33-
I believe women ought to have as much sexual freedom as men.	57	90	33+
Husbands, rather than wives, should have the final voice in family matters.	67	38	29-
There is nothing wrong with the idea of inter-marriage between different races.	66	94	28+
When science contradicts religion it is because of scientific hypotheses that have not been and cannot be tested.	37	9	28-
I do not like to see people carelessly dressed.	53	25	28-
I dislike test questions in which the information being tested is in a form different from that in which it was learned.	47	20	27-
The surest way to a peaceful world is to improve people's morals.	47	20	27-
My conversations with friends usually deal with such subjects as mutual acquaintances and social activities.	62	35	27-

Insert Table 6 about here

When these high change items were examined for all twelve colleges, 69 were common to two or more institutions; thirty items, listed in Table 6, were common to three or more. As would be expected, most of the items come from the scales on which greatest changes occurred. The significant point, however, is this. Not only are the general changes consistent among the diverse students in the different colleges, as reflected by changes in scale score means, but also, changes in more particular attitudes, behaviors, and beliefs, are common to many of these diverse types of students and occur in many of the different types of colleges.

Do students become more similar?

The standard deviations associated with initial and final testing show whether the distributions of individual scores on the various scales becomes narrower or wider after four years. If students become more similar, re-testing will show that many persons fall within a smaller range--standard deviations will have become smaller. If students become increasingly different from one another, many of the individual scores will encompass a wider range and standard deviations will increase. Table 7 indicates that on every scale, standard deviations were larger after four years. Therefore, even though students at Project colleges spanned a wide range as freshmen they had become even more diverse as seniors.

Insert Tables 7 & 8 about here

Changes in the standard deviations within each college are generally consistent with the changes when students were pooled. Table 8 reports 168 pairs of standard deviations--12 colleges times fourteen scales. In one hundred and four pairs standard deviations are higher after four years, 39 show no change, and 24 are lower. The twenty four cases where lower standard deviations occur are scattered across all the scales, so increased similarity is not concentrated in a single area. Ten of the 24 cases occur at Kildew and Classic, the two colleges where students scored closest to the extremes as freshmen. "Ceiling effects" resulting from the nature of the instrument may account for the smaller standard deviations at these colleges. Individuals scoring close to the extremes at entrance could not move further out, but because change typically is in their direction, more moderate classmates could move toward them, decreasing the differences reflected by the Inventory. Under these conditions of measurement it cannot be determined whether "true" change toward similarity occurred or whether the smaller standard deviations result from the limitations of the instrument. Standard deviations did increase on seven scales

Table 6
High Change Items Common to Several Colleges

Common Items	Direction of Change *
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 out 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.	+

* + indicates more frequent agreement; - indicates less frequent agreement.

Table 7

Standard Deviations, 1965 - 1969
Students Pooled from Twelve Colleges

Scale	F/65	S/69	Difference
Autonomy	9.71	10.24	+.53
Practical Outlook	8.60	9.34	+.74
Impulse Expression	10.82	11.43	+.61
Complexity	10.01	11.00	+.99
Estheticism	9.55	10.13	+.58
Thinking Introversion	10.05	10.38	+.33
Masculinity-Femininity	9.70	9.90	+.20
Personal Integration	9.85	10.72	+.87
Anxiety Level	9.76	10.16	+.40
Religious Orientation	10.03	10.29	+.26
Theoretical Orientation	9.37	9.87	+.50
Altruism	9.51	9.87	+.36
Social Extroversion	10.14	10.53	+.39
Response Bias	9.13	9.64	+.51

Table 8

Standard Deviations for Individual Colleges
Same Students Tested in 1965 - 1969

College	N	Autonomy		Practical Outlook		Impulse Expression		Complexity		Esthetic Orientation		Thinking Introversion		Masculinity Femininity		Personal Integration		Anxiety Level		Religious Orientation		Theoretical Orientation		Altruism		Social Extroversion		Response Bias	
		65	69	65	69	65	69	65	69	65	69	65	69	65	69	65	69	65	69	65	69	65	69	65	69	65	69	65	69
WJB	33	8	8	7	9	8	8	8	9	9	10	9	10	9	11	9	8	9	9	3	5	7	8	9	7	11	10	8	8
Savior	38	6	8	7	9	9	11	9	9	9	9	10	11	10	10	11	12	10	12	6	7	9	10	9	10	11	11	9	10
Sacred	29	6	9	7	9	10	14	7	11	8	10	8	8	8	10	10	11	10	9	4	7	7	9	8	8	9	13	9	11
Stonewall	49	8	9	9	9	7	10	9	9	9	10	9	9	8	8	9	11	10	11	8	8	9	10	9	10	9	11	7	11
Simon	76	7	9	7	9	9	12	8	11	9	11	9	10	9	10	9	9	9	10	4	7	9	9	7	9	10	10	9	9
Divinity	51	7	7	7	7	10	11	8	11	9	10	9	10	10	9	8	9	9	8	5	7	9	10	10	12	9	10	8	9
Friendly	61	8	9	8	9	10	10	8	10	8	9	9	11	10	10	10	11	9	10	6	7	9	9	10	10	11	10	9	10
Kildew	36	11	9	6	7	11	9	11	8	8	8	8	9	7	8	8	12	9	10	6	6	10	9	9	11	10	9	6	7
Classic	13	7	5	8	7	8	9	10	12	8	9	10	7	11	11	9	11	10	13	10	7	11	9	10	10	9	11	8	8
Elder	123	8	7	8	7	10	10	9	10	9	9	9	10	10	10	10	10	11	11	9	7	9	9	9	9	10	10	10	10
Woodbine	56	8	10	7	8	11	12	9	12	8	10	10	11	8	10	8	11	9	10	8	8	8	11	9	11	9	10	9	10
Rocket	20	5	6	5	7	11	9	7	10	7	8	9	11	7	6	12	13	11	10	9	8	9	10	9	9	12	14	9	10

at Kildew and on six at Classic, so in any event there was no highly generalized trend toward increasing similarity at these two colleges.

In general, students did not become more similar during their four years of college. Diversity increased for the total group and more often than not, diversity increased within each college.

Most liberal arts colleges aim to help each individual realize his own potentials, clarify his own values and purposes, develop his own identity. That's what liberal education is about--as opposed to training which aims to make diverse persons more alike, to give them a set of common skills, a set of tools they all know how to use, a common language, and ultimately a set of common values. The general increases in standard deviations suggests that these colleges educate, not simply train, and that they are realizing at least some of the goals of liberal education.

Summary and Implications of Part One

Part One reports these major findings from studies of net change:

Changes occur in most of the areas measured by the OPI.

The directions and amounts of change are similar for both men and women, and similar for the diverse groups of entering freshmen.

The directions and amounts of change also were similar at all the Project colleges, despite the dramatic differences among them.

The scales showing largest and most consistent changes were Autonomy, Impulse Expression, Personal Integration, Estheticism, Complexity, Religious Orientation (Liberalism), and Thinking Introversion, where scores rose, and Practical Outlook, where scores dropped. Smaller and less consistent changes occurred on Altruism, Theoretical Orientation, Anxiety Level, and Response Bias, where scores rose, and on Masculinity-Femininity, where scores dropped. No consistent changes occurred on Social Extroversion.

Changes in particular attitudes, beliefs, and behaviors also were common to many of the different types of students at the different colleges.

These findings suggest that there are several major vectors of personality development along which change occurs during the college years. Young adults probably pursue such development in whatever colleges they enter. In the small, distinctive Project colleges, the fit between institutional characteristics and student characteristics at entrance permits development to proceed to about the same degree in each setting. For most of the students who attend, the differences among the colleges do not foster major differences in directions of development, nor in the areas where most development occurs. If distinctive influences occur, they must operate for only a minority of the students.

Note:--College X is Simon, a strongly conservative church-related college, College Y is Rocket, where most undergraduates are enrolled in engineering or business administration, and College Z is Elder, an elite liberal arts college with a liberal religious orientation.

Part Two

The Project on Student Development primarily has aimed to understand whether personality change in college is influenced by differences in goals, general climates, educational practices and the concrete experience and behaviors of students and faculty. The participating colleges hoped to obtain better information about the consequences of their varied approaches so that, ultimately, they could make sounder decisions and become more effective institutions. At first the task seemed relatively simple--identify the important differences among the colleges, study the students when they enter and when they leave, and then look to see where greatest changes occurred. But it turned out to be more complicated than that.

The first problem arose when we found that the different institutions attracted and enrolled very different kinds of students. At Savior and Simon there were no Kildew and Classic types, at Kildew and Classic no "Saviors" could be found, and between these extremes the mixtures varied at each college. Under these circumstances, if differences in the amount of change occurred, who could say whether it stemmed from the differences among the institutions or from the equally substantial differences among the students? Still, we eagerly awaited the results from retesting completed at the end of the first or second years. Perhaps by the time those data were available a way would have been found to make sense of whatever differences in change appeared.

But when the retest results became apparent our first problem was solved--after a fashion. Change apparently was the same at all the colleges. There were no striking differences, despite the differences among the colleges and the students. Everybody had won--or lost, depending upon their own conceits. There was no need to study college impact. All the diverse approaches were equally effective--or ineffective.

But it was hard to believe that such dramatic institutional differences would not affect at least some of the students. Perhaps it would help to look at individual changes within some of the groups. Perhaps the masks of mean scores disguised something more promising, or at least more provocative. Several OPI scales were selected for more detailed study; on some statistically significant change had occurred and on some mean scores at both testings were identical. Individual scores at first testing were subtracted from re-test scores, and the resulting distributions of individual change scores were examined.

The distributions of individual changes underlying these mean differences revealed four major patterns:

> On some scales where significant increases had occurred, scores for practically all the students rose, but usually only a small amount.
>
> On other scales where significant increases occurred, scores for a substantial number dropped, but relatively large increases among the majority outweighed the contrary minority.
>
> On some scales where mean scores were identical at both testings, very few individuals had identical scores; many scores increased substantially, and many others dropped. Though the net effect was

zero, many students had changed as much as half a standard deviation or more.

Finally, of course, on several scales where means were identical, individual scores showed little change.

In effect, we had discovered three different patterns of college impact: (a) all students change in the same direction, (b) most students change in the same direction but a substantial minority changes in contrary fashion, and (c) most students change, but increases and decreases cancel each other to yield similar mean scores.[1]

These exploratory studies suggested that despite the appearance of similar mean differences, changes at one college might be quite different from those at another. If that turned out to be the case, more effective study of college influences could be undertaken. At just about this time a report from Skager, Holland, and Braskamp[2] described an approach which had employed sub-groups of students for the study of college influences. This approach suited our conditions well so it was adopted.

Do similar students at different colleges change differently?

Two studies examined change for sub-groups of students at different colleges who had similar OPI scores at entrance. Attention focused on the five scales which reflected greatest change during the first two years. The first task was to find students from several different Project colleges whose entering scores were similar. With the small numbers of students entering the colleges to begin with, finding relatively narrow score intervals which included several respondents from diverse institutions was not easy. After scanning the distributions of individual scores at the different colleges, institutions and intervals were selected which optimized both institutional diversity and numbers of students. The process was further complicated because it seemed useful to examine both two year change and four year change, and to hold the score intervals constant while using different students and a slightly different group of colleges.

Insert Table 9 about here

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[1]For more detailed information see Chickering, A. W. FD's & SD's, Neglected Data in Institutional Research, given at the Eighth Annual Forum of the Association for Institutional Research.

[2]Skager, R., Holland, J. L., & Braskamp, L. A. Changes in self-ratings and life goals among students at colleges with different characteristics. Research Reports, American College Testing Program, Iowa City, August, 1966. No. 14.

Table 9
Change for Similar Students at Different Colleges

Two Year Change for Selected Sub-Groups:

College	Scales and Score Intervals: Esthéticism 52-57				Complexity 57-62				Autonomy 53-58				Impulse Expression 52-57				Practical Outlook 42-47			
	N	'65	'67	X_1-X_2	N	'65	'67	X_1-X_2	N	'65	'67	X_1-X_2	N	'65	'67	X_1-X_2	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 Sub-Groups: (Same Scales & Score 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:-- Study of two year change carried out by Kenneth Carter for doctoral dissertation. Though membership overlaps, student groups differed from scale to scale.

Table 9 gives the score intervals finally used, and lists the two groups of six colleges with the numbers of students studied in each of the score intervals selected. As the figures indicate, in many cases the numbers for a particular college and scale are very small. But the first objective was achieved. Students with similar scores at entrance had been identified, and when the individual scores were averaged, groups with similar mean scores at entrance had been established. In no case did college means differ by more than two points, even though, for example, institutional means for all entrants at these colleges ranged from 42 to 59 on Autonomy and Impulse Expression, and from 43 to 62 on Complexity.

Next, retest means were computed for each sub-group to see whether the amount and direction of change would once again be similar across the diverse colleges, when diversity among the students had been sharply limited. As the red figures in Table 9 indicate, the differences between initial and retest scores varied substantially from college to college, both in the directions of change and in the amount of change. Further, the colleges maintained roughly similar positions in relation to one another on the different scales and for both two and four year change. Greatest increases in Complexity, Autonomy, and Impulse Expression and greatest decreases in Practical Outlook occur at Kildew. Elder students and the two year change groups at Classic share this pattern but show somewhat smaller changes. Simon, in comparison, consistently shows smaller increases and sometimes changes in a different direction; Stonewall, Friendly, and Divinity are associated with this pattern. Four year change on Estheticism is the one exception to the general relationships. There, Kildew's relationship to Simon and Friendly is reversed, with the five Kildew students showing less change than those at the other colleges.

In general, however, these analyses of two and four year change for similar sub-groups of students at different colleges yielded two major findings:

> Both the amounts and directions of change varied from college to college.
>
> The relative positions of the colleges remained roughly consistent for both two and four year change on most scales.

Similar students who enter different kinds of colleges, do change differently. Institutional differences do make a difference to student development.

How a particular college views the particular changes which characterize its students is clearly a question of values, and presumably these values are consistent with the goals held as most important for students. At some colleges increasing Practical Outlook may be much more important and more highly valued than at others. Increased Impulse Expression may be greeted with dismay by some and with pleasure by others.

Members of the Project staff come from diverse backgrounds and have different value orientations. We believe the scientific methods and procedures used throughout the studies of Project data protect against distortion resulting from any particular set of values or beliefs, and we have tried to report findings in a way that leaves them free from those prejudices.

Are different patterns of student change systematically related to differences among the colleges?

Relationships between Two Year and Four Year change, and college characteristics, were examined by (a) ranking the two groups of six colleges on magnitude of change, from plus to minus, (b) ranking the colleges on varied data concerning institutional characteristics, and (c) computing rank order correlation coefficients. For example, using the data on Table 9, ranks for Two Year Change on Autonomy are: Kildew-1, Classic-2, Elder-3, Simon-4, Friendly-5, and Stonewall-6. When these same institutions are ranked on the Practicality scores of the College and University Environment Scales their ranks are: Kildew-6, Classic-5, Elder-4, Friendly-3, Simon-2, and Stonewall-1. When these two sets of ranks, which are in almost perfect inverse relationship, are correlated, the resulting coefficient is -.90, reported on Table 10 opposite the Practicality scale under Autonomy. This procedure was followed for each of the different scales for both Two Year and Four Year change, in relation to selected measures of institutional characteristics.

Findings are reported below for the four scales where patterns of change were most consistent--Autonomy, Impulse Expression, Complexity, and Practical Outlook, (Brief scale descriptions are given on pages 4, 5, and 6 of Part One.) and for clusters of institutional characteristics which showed greatest internal consistency. Most of the data concerning institutional characteristics come from the Experience of College Questionnaire completed by samples of 80 to 180 students at each college selected from all four grade levels to reflect distributions of men and women in each grade.[1]

It is important to note that the OPI scales are correlated with one another. Throughout these findings for example, variables correlating positively with Autonomy, Impulse Expression and Complexity almost always correlate negatively with Practical Outlook, because Practical Outlook correlates negatively with the other three OPI scales. Institutional characteristics also tend to be inter-correlated, so the sets of figures for different scales and different variables are not independent.

Insert Table 10 about here

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[1]Findings from the Experience of College Questionnaire have been shared (a) in two reports by A. W. Chickering, The Academic Experience, and Student-Faculty Relationships--Bedrock for College Governance, and (b) in two chapters from a forthcoming book by Arthur W. Chickering and Robert Blackburn, The Non-Course Curriculum, and Friends and Acquaintances.

Table 10

Two and Four Year Change Correlated with
College Emphasis and Student Characteristics

	Autonomy		Impulse Expression		Com-plexity		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
Non-conformist	.77	.83	.93	.78	.49	.99	-.78	-.38

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

The College and University Environment Scales assess general college emphases, "climate," or "press." Two of these--Practicality, "a practical instrumental emphasis," and Propriety, "group standards of decorum are important"--showed consistent negative relationships with Autonomy, Impulse Expression, and Complexity, and positive relationships with Practical Outlook. The other scales showed no strong or consistent pattern.

The average scores for the total entering class and the orientations to college at entrance, both reflect general student characteristics pertinent to the areas of change examined. Scale score levels were related to change in the directions expected. For example, when the mean scores of the entering class were high on Autonomy, more change toward Autonomy occurred for students in the sub-groups; when mean scores on Practical Outlook were high, there were smaller changes in Autonomy and greater changes in Practical Outlook. Among the four orientations to college, the proportion of students holding the Non-conformist Orientation bore the strongest relationships to change; Autonomy, Impulse Expression and Complexity increased more, and Practical Outlook decreased, where the proportions of Non-conformists were relatively high. The Vocational and Collegiate Orientations consistently bore a relation to change opposite from the Non-conformists though the coefficients were lower. Mixed results were found for the proportions of students holding the Academic Orientation.

These data suggest that when a college has a practical and instrumental emphasis combined with a mannerly, proper atmosphere, and enrolls relatively high proportions of students with a Vocational or Collegiate Orientation who score high on Practical Outlook, greater changes in Practical Outlook will occur and smaller changes in Autonomy, Impulse Expression and Complexity, than at other colleges where these characteristics are not so prominent. When a college enrolls high proportions of Non-conformist students who score high on Autonomy and Impulse Expression, and low on Practical Outlook, Autonomy, Impulse Expression and Complexity will increase more and Practical Outlook less.

Insert Table 11 about here

Teaching practices and the study activities they fostered bore strong and consistent relationships to changes among students in the varied sub-groups. Where heavy use of lectures occurred there was less change toward increased Autonomy, Impulse Expression and Complexity, and greater change toward Practical Outlook. Where open arguments among students and between students and instructors more frequently occurred, and where students more often participated in decisions about course content and procedures, Autonomy, Impulse Expression and Complexity increased more and Practical Outlook decreased.

At colleges where teachers usually lectured in class, students preparing for classes usually invested substantially more time Memorizing than in other

Table 11

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

	Autonomy		Impulse Expression		Complexity		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	.38	.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 each studied for two groups of six colleges. Four colleges were common to both groups; though membership overlaps, student groups within colleges differ from scale to scale.

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 more complex study activities--interpreting, reorganizing, putting things in different terms and drawing inferences, applying concepts to new problems or situations, analyzing material to detect relationships among its parts, 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--when study was pursued out of interest or enjoyment, to examine questions of concern, and 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 more often of primary importance--to get a good grade or to finish a requirement for graduation--opposite relationships occurred.

These findings suggest that when lectures, memorizing and extrinsic motivations for study predominate, Practical Outlook increases more and Autonomy, Impulse Expression and Complexity increase less. When greater proportions of class time are given to open exchange among students and between students and instructors, when class assignments more often foster the exercise of more complex mental activities, and study more often rests on intrinsic motives, Autonomy, Impulse Expression and Complexity tend to increase and Practical Outlook to decrease.

Insert Table 12 about here

The amount of time students invest in varied activities varies from college to college. Some uses of time are associated with change and others are not. Where more hours are spent reading for pleasure and talking informally with others, there are greater increases in Autonomy, Impulse Expression and Complexity and smaller increases in Practical Outlook. Time spent watching TV bears an opposite relation to change. Hours spent studying for class or playing games are not associated with change.

Insert Table 13 about here

Student-faculty relationships reflected strong and consistent correlations with change. At colleges where contacts with faculty members outside of class occurred more frequently, Autonomy, Impulse Expression and Complexity

Table 12

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 each studied for two groups of six colleges. Four colleges were common to both groups; though membership overlaps, student groups within colleges differ from scale to scale.

Table 13

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 each studied for two groups of six colleges. Four colleges were common to both groups; though membership overlaps, student groups within colleges differ from scale to scale.

increased and Practical Outlook decreased. It's worth noting that the amount of time spent in conversations with advisors or with members of the faculty and administration in general seems to be less important than simple frequency and diversity of contact. The most developmentally fruitful arrangements, therefore, provide students with ready access to diverse faculty members, even if only for brief contacts. Then problems can be considered when they arise, interests can be encouraged as they emerge, pleasures and excitements can be shared while they are fresh.

It seems clear that the different patterns of change which appear when sub-groups of similar students are examined in different institutions, are systematically related to a variety of college characteristics. Though it is not clear from these analyses which relationships identify characteristics influential in their own right, and which relationships simply identify characteristics which do not have direct influence but are simply associated with those that do. The internal consistency among clusters of findings, however, does suggest that personality development in college is influenced not only by the general emphasis or climate of the college and by the characteristics of the other students. But also personality development is influenced by the concrete experiences and behaviors generated by varied teaching practices and study activities and by the diversity and frequency of contact between students and faculty.

Part Three

Summary and General Implications

Studies of net change found that:

Changes occur in most of the areas measured by the OPI.

The directions and amounts of net change are similar for both men and women, and similar for the diverse groups of entering freshmen.

The directions and amounts of net change also were similar at all the Project colleges, despite the dramatic differences among them.

The scales showing largest and most consistent changes were Autonomy, Impulse Expression, Personal Integration, Estheticism, Complexity, Religious Orientation (Liberalism) and Thinking Introversion, where scores rose, and Practical Outlook, where scores dropped. Smaller and less consistent changes occurred on Altruism, Theoretical Orientation, Anxiety Level, and Response Bias, where scores rose, and on Masculinity-Femininity, where scores dropped. No consistent changes occurred on Social Extroversion.

Changes in particular attitudes, beliefs, and behaviors also were common to many of the different types of students at the different colleges.

Studies of change among sub-groups of similar students at different colleges found that:

Similar students attending different colleges reflected different patterns of change.

At some colleges Autonomy, Impulse Expression, and Complexity consistently showed substantial increases while Practical Outlook decreased; at other colleges smaller increases in Autonomy, Impulse Expression, and Complexity were accompanied by smaller decreases in Practical Outlook.

Changes among the sub-groups were systematically related to institutional differences in general college climate or emphasis, student characteristics, teaching practices and study activities, time spent reading for pleasure, talking informally with others, and watching TV, and student-faculty relationships.

The detailed findings for individual colleges which underlie these generalizations have implications for each of those institutions. Examination of those details and consideration of their particular implications is beyond the scope of this report and is left to the individual colleges. However, there are some general implications worth attention because they suggest fundamental shifts in how we think about college influences on personality development.

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. Usually the burners are fired up and he's maintaining orbits around several centers of gravity. When he moves into college as a freshman he brings with him--along with his Webster's Collegiate Dictionary and Tensor Lamp--his mother, father, and two older friends of the family, a girl friend and a set of high school buddies. He brings strengths and weaknesses, prides and prejudices, clarities and confusions, and a lot of unfinished business. The business to be finished typically includes not only the development of intellectual and interpersonal competence, but also developing autonomy and learning better ways to manage sexual and aggressive impulses, becoming freer with diverse kinds of persons, clarifying identity, and developing sharper purposes and greater integrity.[1]

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. This process of self-selection and institutional selection creates a comfortable fit between the college and the person for substantial numbers of students. Though the college may not act "in loco parentis," it does act "in loco uterus," providing a warm and supportive setting which insulates most students from unduly disruptive outside influences.

Under these conditions of comfortable fit, personality 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

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[1]For further information about these major areas in college see A. W. Chickering, Education and Identity, San Francisco: Jossey-Bass, 1969. Part One.

major areas of unfinished business mentioned above. Across the country there are a variety of student-college types, and in each type these common developmental tasks are pursued in somewhat different fashion. But because the institutional differences are accompanied by corresponding differences among the students, the patterns of general development are about the same among the different types.

One major model for "college influence," therefore, is the womb. The diverse colleges provide safe havens and appropriate nourishment for the diverse students which characterize a pluralistic American society. College attenders become more autonomous, more flexible, more complex, and less materialistic, more aware of their own emotions and able to express them in thought and action, more tolerant of ambiguity, less dogmatic, more intellectually curious. Students who do not attend college, change less in these areas or move in contrary direction. 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 in this case, where it was not before, the term "impact" is equally appropriate. At every institution there are two kinds of Misfits: those whose development has not yet proceeded to the general level at which the college operates, and those whose development has gone beyond the operating level of the college. Misfitting can occur along many dimensions. 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 information level may be so high that course demands, classes, and other students contribute little. Students may be more liberal than most others at the college, or more conservative, more culturally sophisticated or less, more autonomous or more dependent. The proportions of Misfits in any college, and their distinguishing characteristics, will vary depending upon how selective the college is, and upon its criteria for selection.

By examining sub-groups of similar students in different colleges, we were, in effect, studying persons who were Misfits in some colleges but not at others, and persons who deviated from the norm in different ways at different colleges. The special impact on such persons of institutional differences in educational practices, in student-faculty relationships, in general atmosphere, and in student characteristics was quite clear.

The members of these sub-groups were Misfits who persisted through the four years and changed as a consequence. Others like them however, did not persist. They left, to transfer to another college, to go to work, or simply to roam through varied settings. It is not pure coincidence that the characteristics which most sharply distinguish leavers from stayers are just those characteristics on which greatest change occurs. Comparing Project college leavers and stayers reveals the same differences found consistently in other studies. Compared with those who stay, leavers are more autonomous, more impulsive, more complex, more tolerant of ambiguity, more creative.

But the important thing is that "higher" or "lower" in such areas depends entirely upon the college and upon the student's position in relation to it. For example, at WJB the leavers scored significantly

higher than the stayers on such measures, but the leavers' scores were still lower than seventy percent of the 7000 freshmen in the norms group. So compared with other college students across the country these leavers are relatively cautious, conservative, conforming, and dependent. But compared with their peers who stayed they are outstanding in their impulsiveness, complexity, and autonomy. At the other end of the spectrum, the scores of Kildew girls who stayed were higher than eighty five percent of the norms group. These girls, by any standard are highly creative, impulsive, complex, and autonomous. Yet the girls who left scored significantly higher. The other Project colleges fall between these two extremes but the pattern remains the same. At each institution it is the fit between the student and his institution which makes a difference to his leaving or staying, not his general level in relation to the total population.

Because the characteristics which distinguish leavers from stayers are the areas in which greatest changes occur, we must recognize that under current institutional conditions, continued growth for these Misfits may require their premature departure to different settings. And we must recognize that such moves toward more challenging and fruitful environments often are healthy steps. Taking charge of one's own existence in this way is to be valued and fostered, not decried and curtailed.

The other major model of college influence or impact, therefore, is the Misfit. When a college helps Misfits survive, and through those experience develop in ways valued both by them and by the institution, it makes a substantial contribution. And perhaps it makes a more important contribution when it helps those Misfits who have to move elsewhere do so with clearer purposes and greater confidence. If however, the college confirms in such leavers feelings of insecurity, instability, or idiosyncracy, if it will not recognize their special situation and respond to it, then there is great potential for damage.

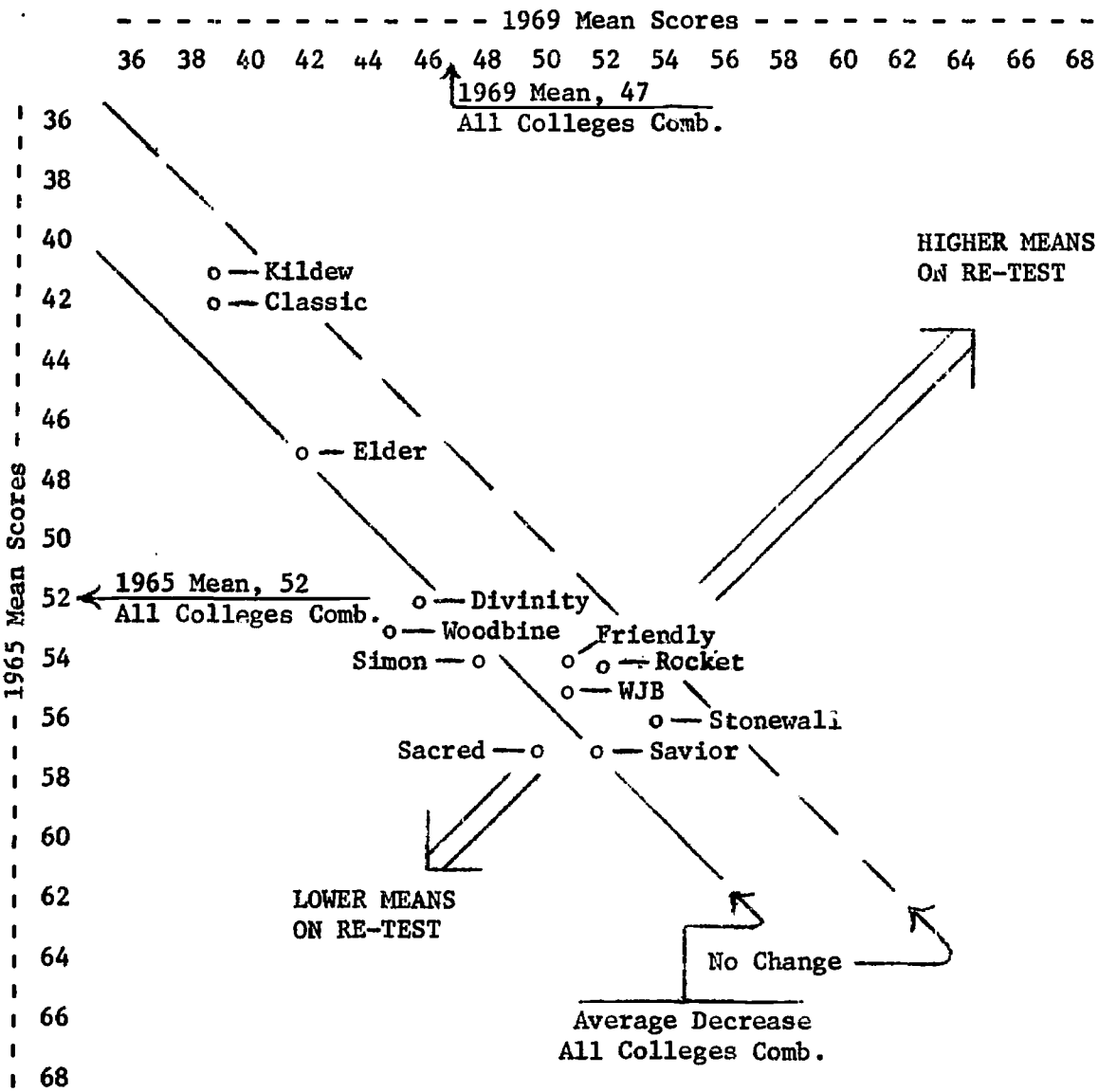

Figure 3. PRACTICAL OUTLOOK
1965-1969 Mean Scores for Individual Colleges

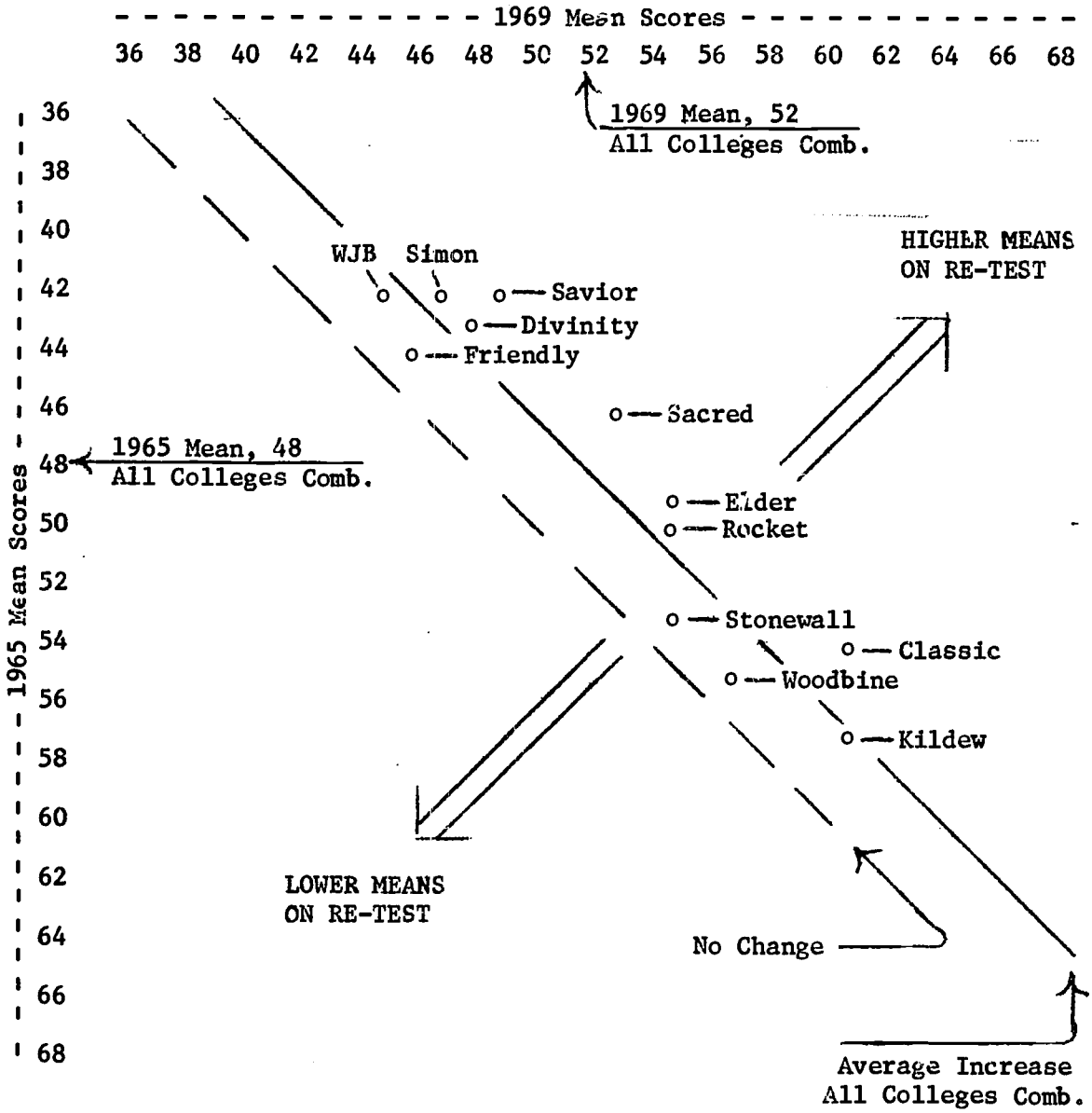

Figure 4. IMPULSE EXPRESSION
1965-1969 Mean Scores for Individual Colleges

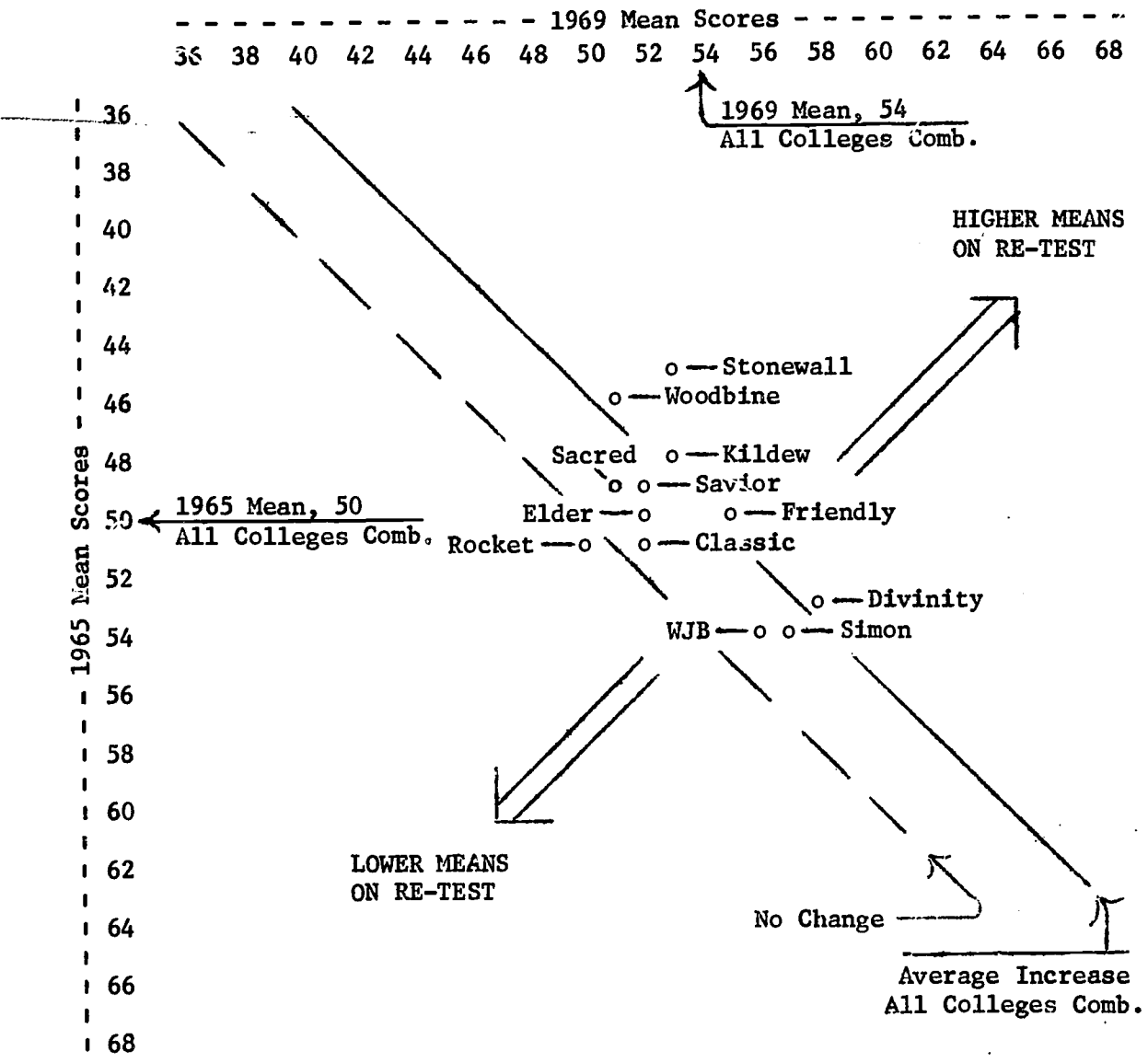

Figure 5. PERSONAL INTEGRATION
1965-1969 Mean Scores for Individual Colleges

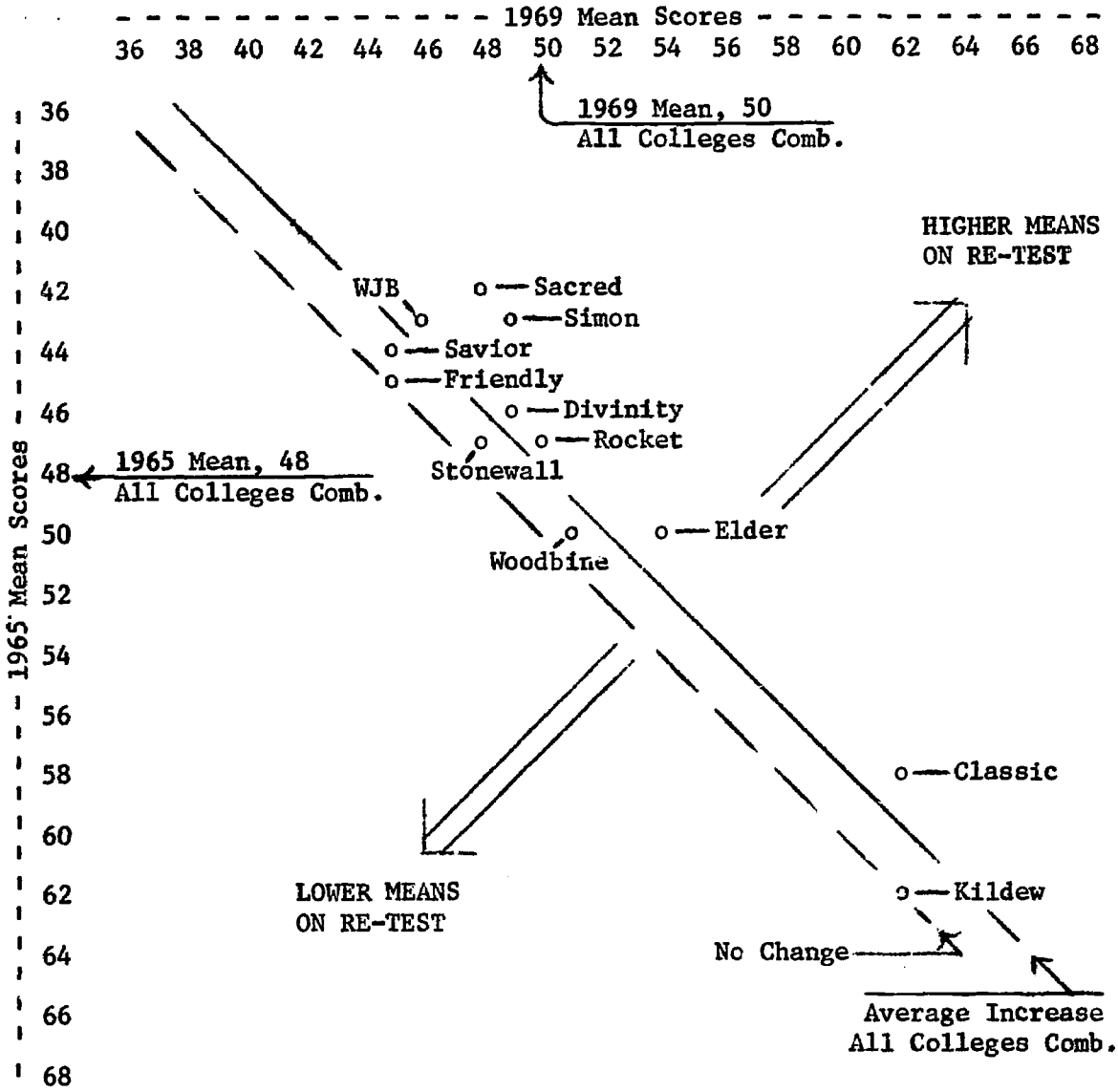

Figure 6. COMPLEXITY
1965-1969 Mean Scores for Individual Colleges

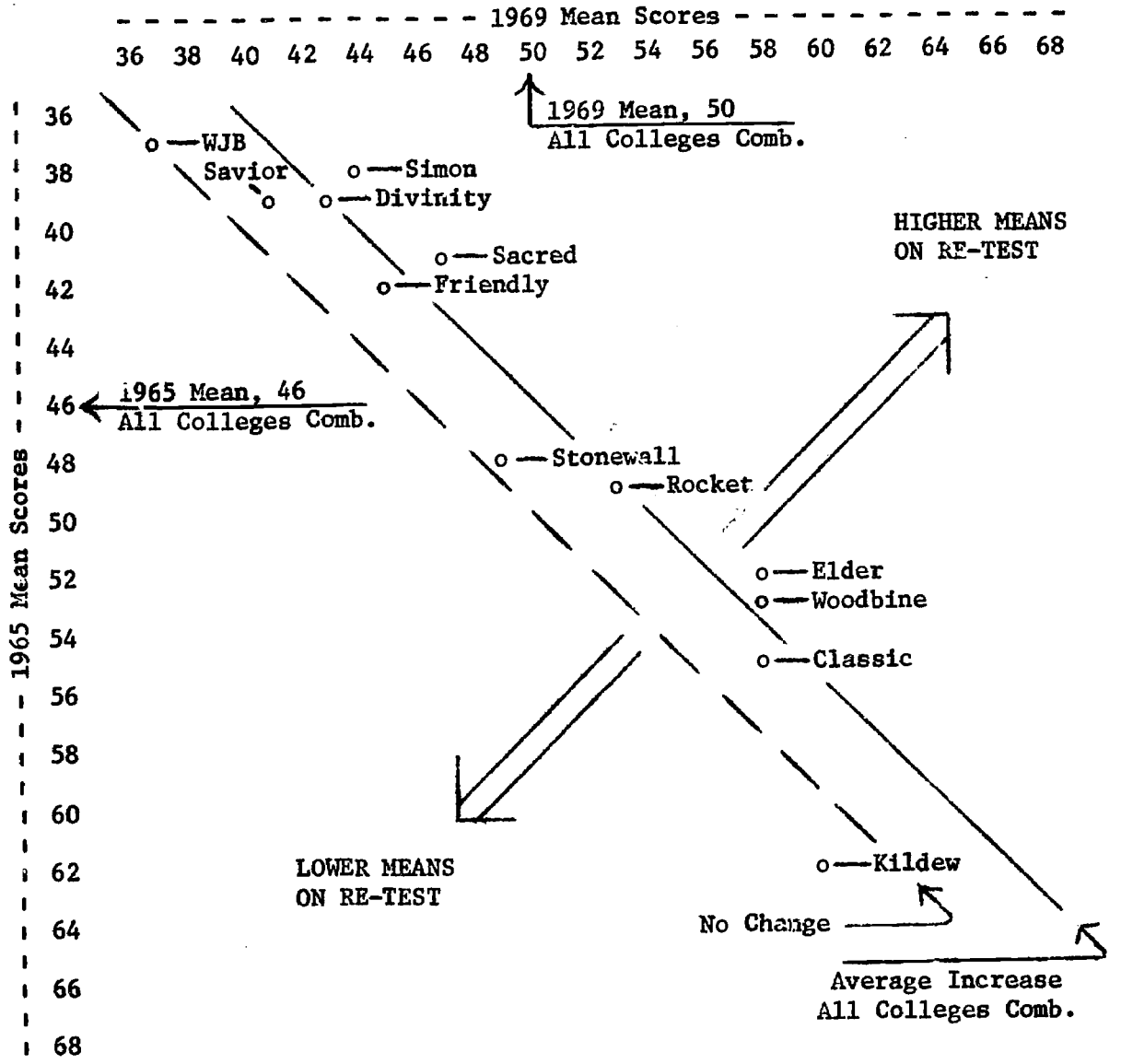

Figure 7. RELIGIOUS ORIENTATION
1965-1969 Mean Scores for Individual Colleges

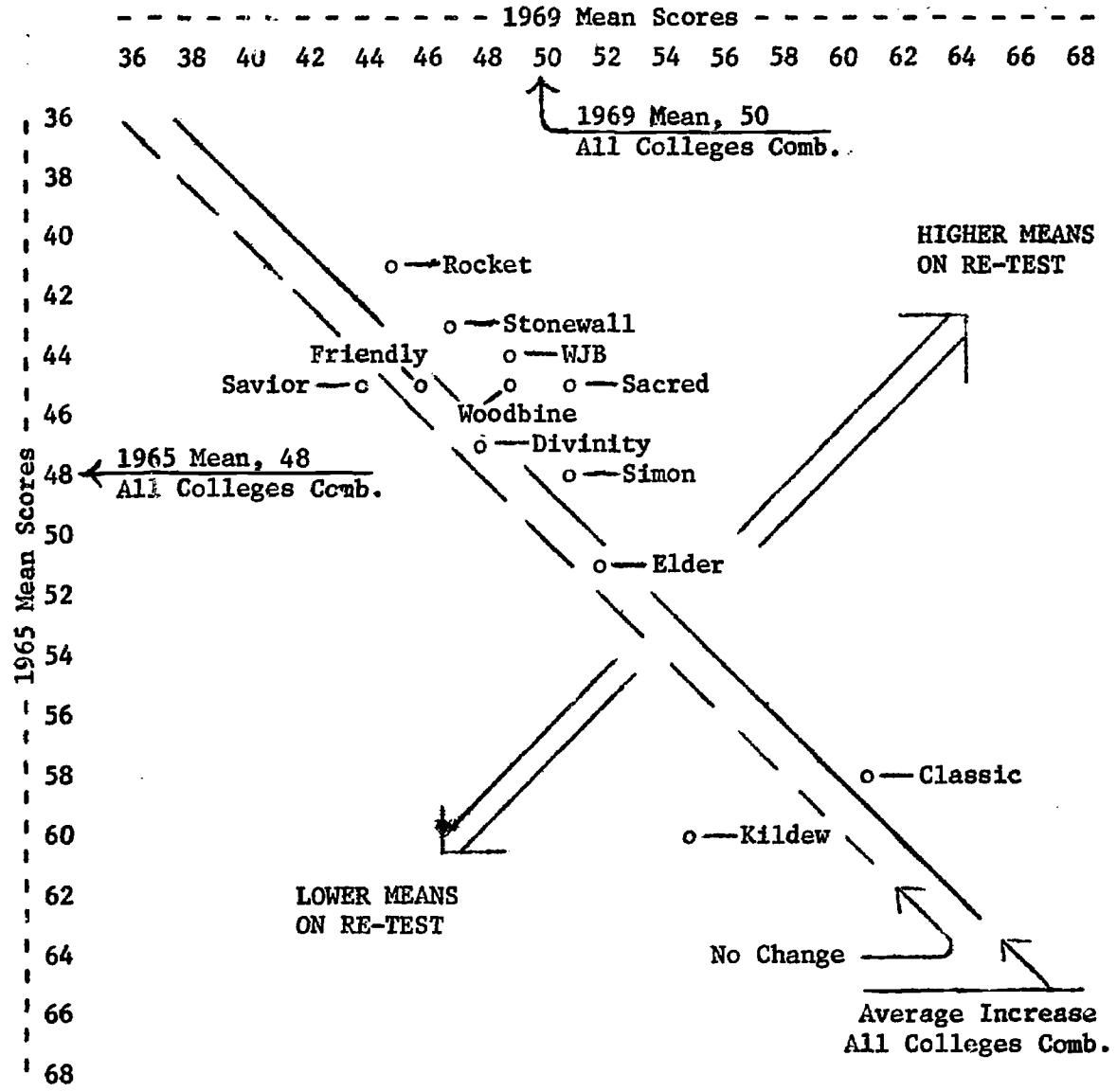

Figure 8. THINKING INTROVERSION
1965-1969 Mean Scores for Individual Colleges

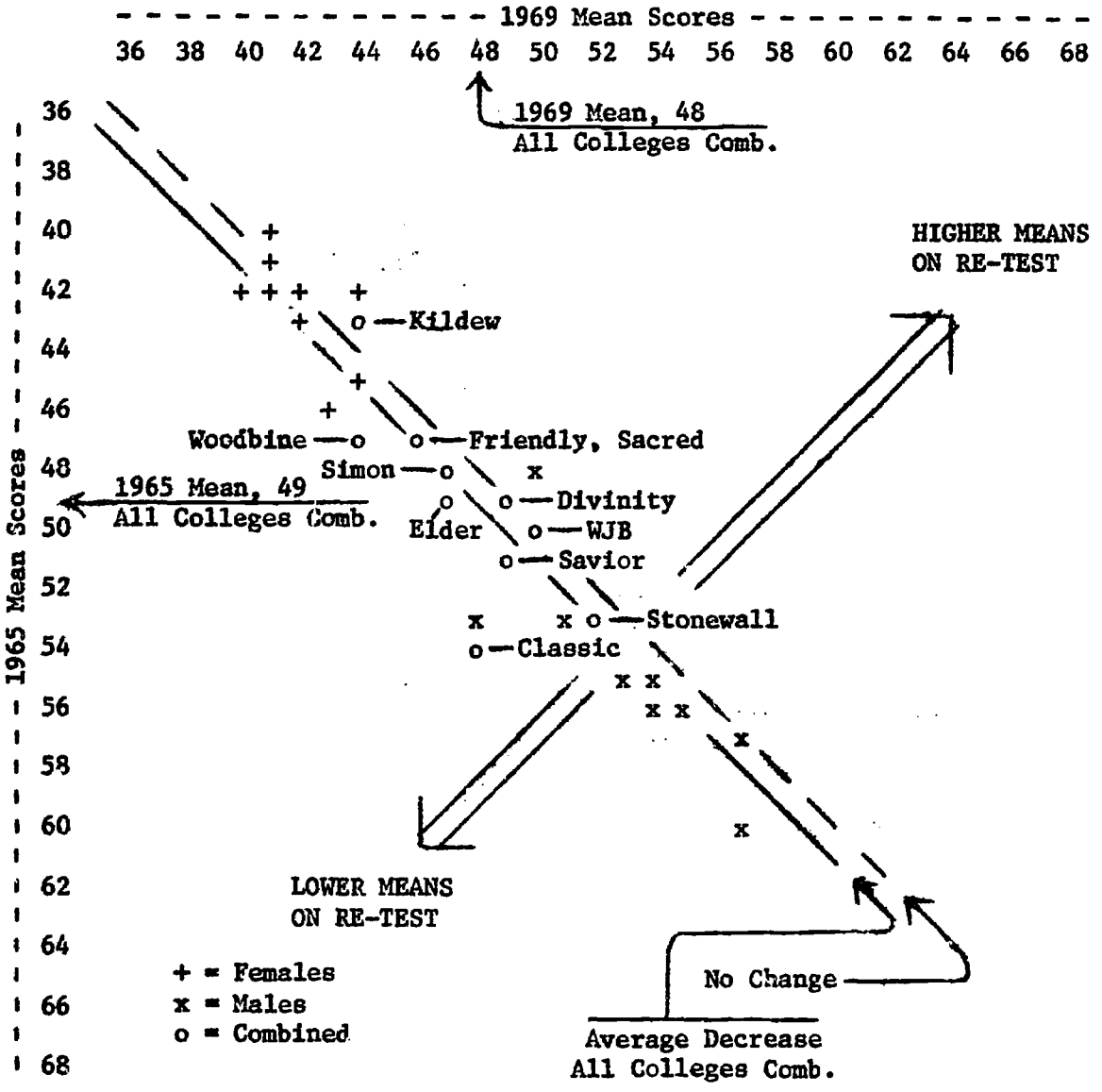

Figure 9. MASCULINITY-FEMININITY
1965-1969 Mean Scores for Individual Colleges and Sexes

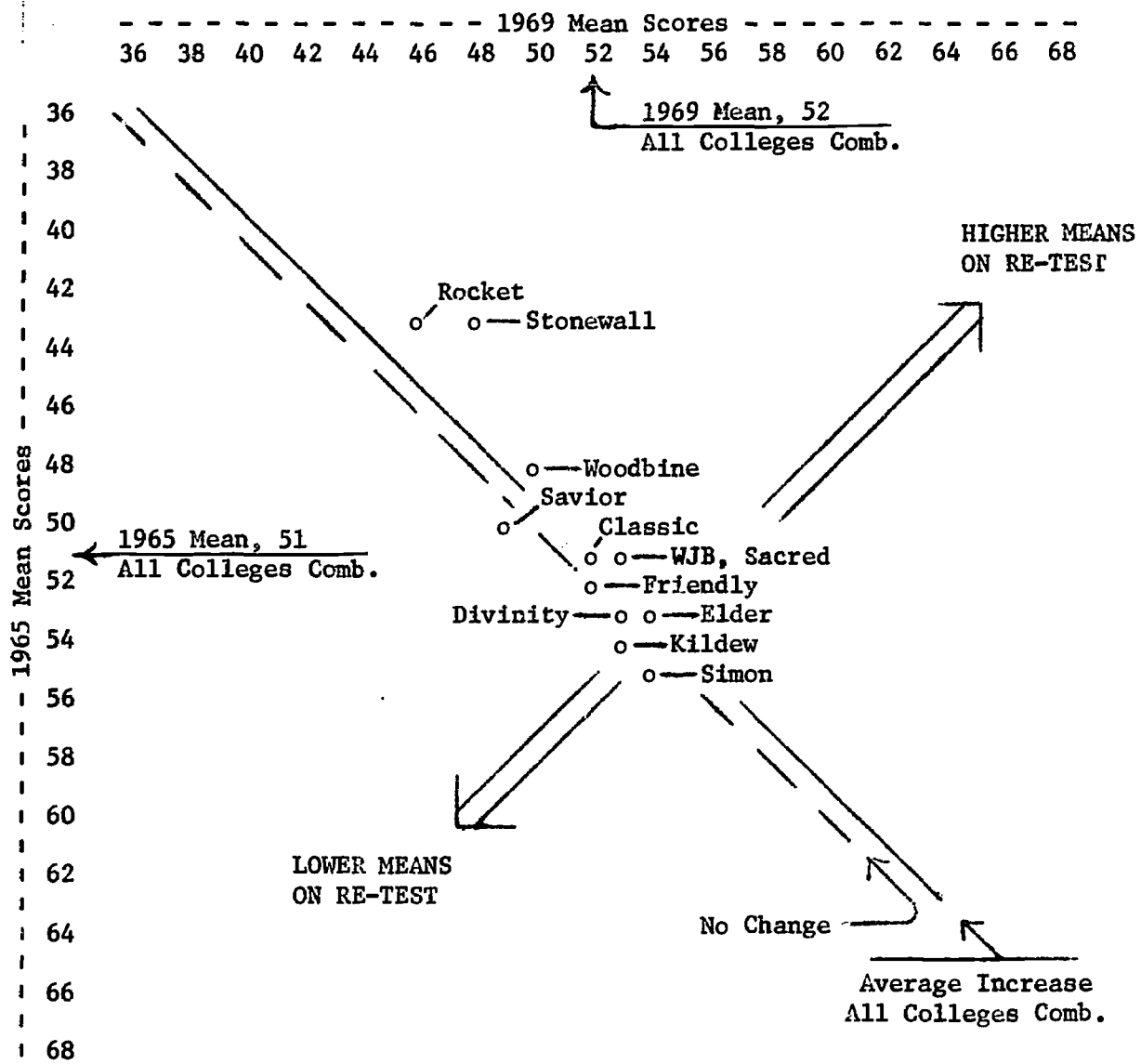

Figure 10. ALTRUISM
1965-1969 Mean Scores for Individual Colleges

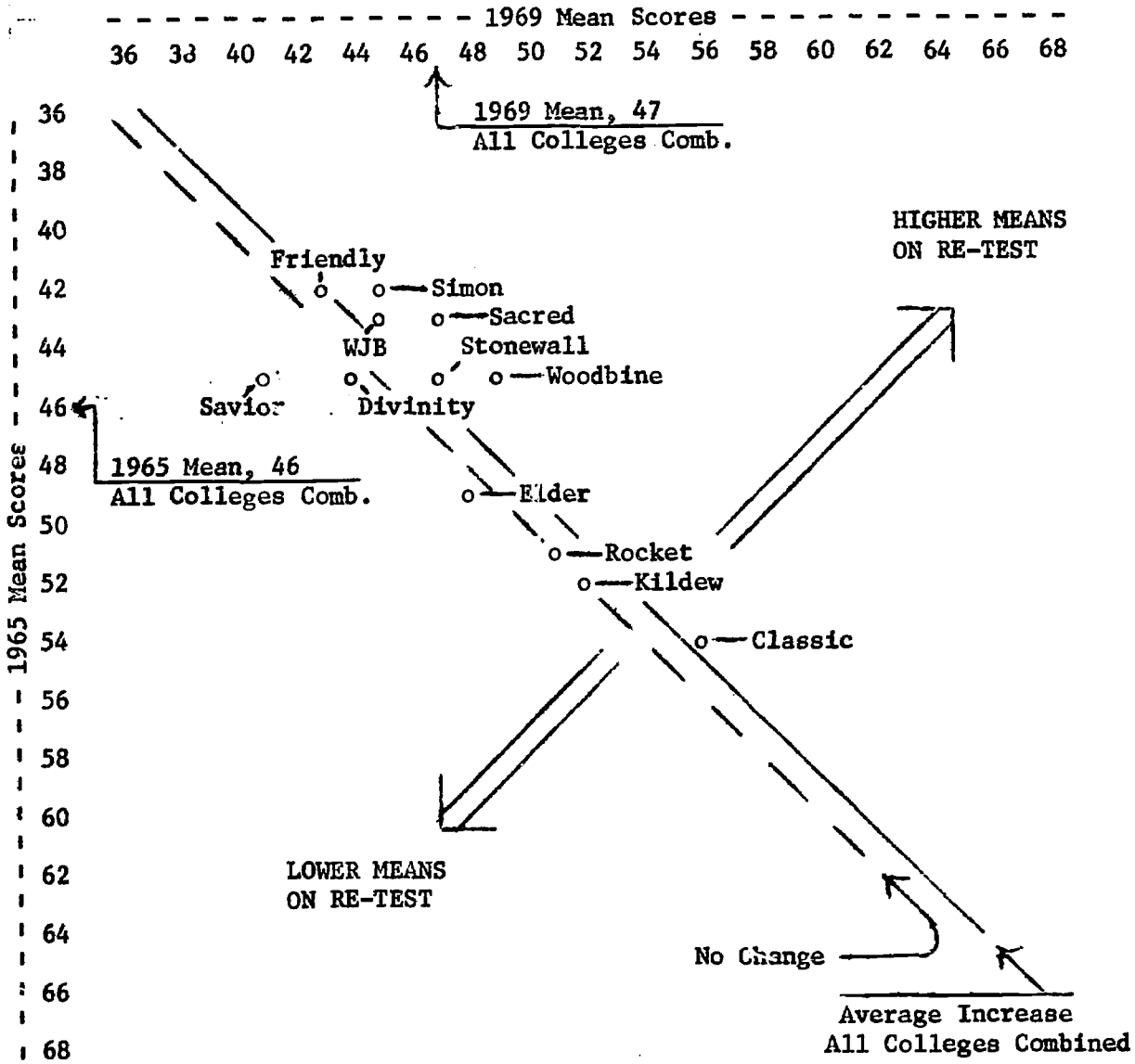

Figure 11. THEORETICAL ORIENTATION
1965-1969 Mean Scores for Individual Colleges

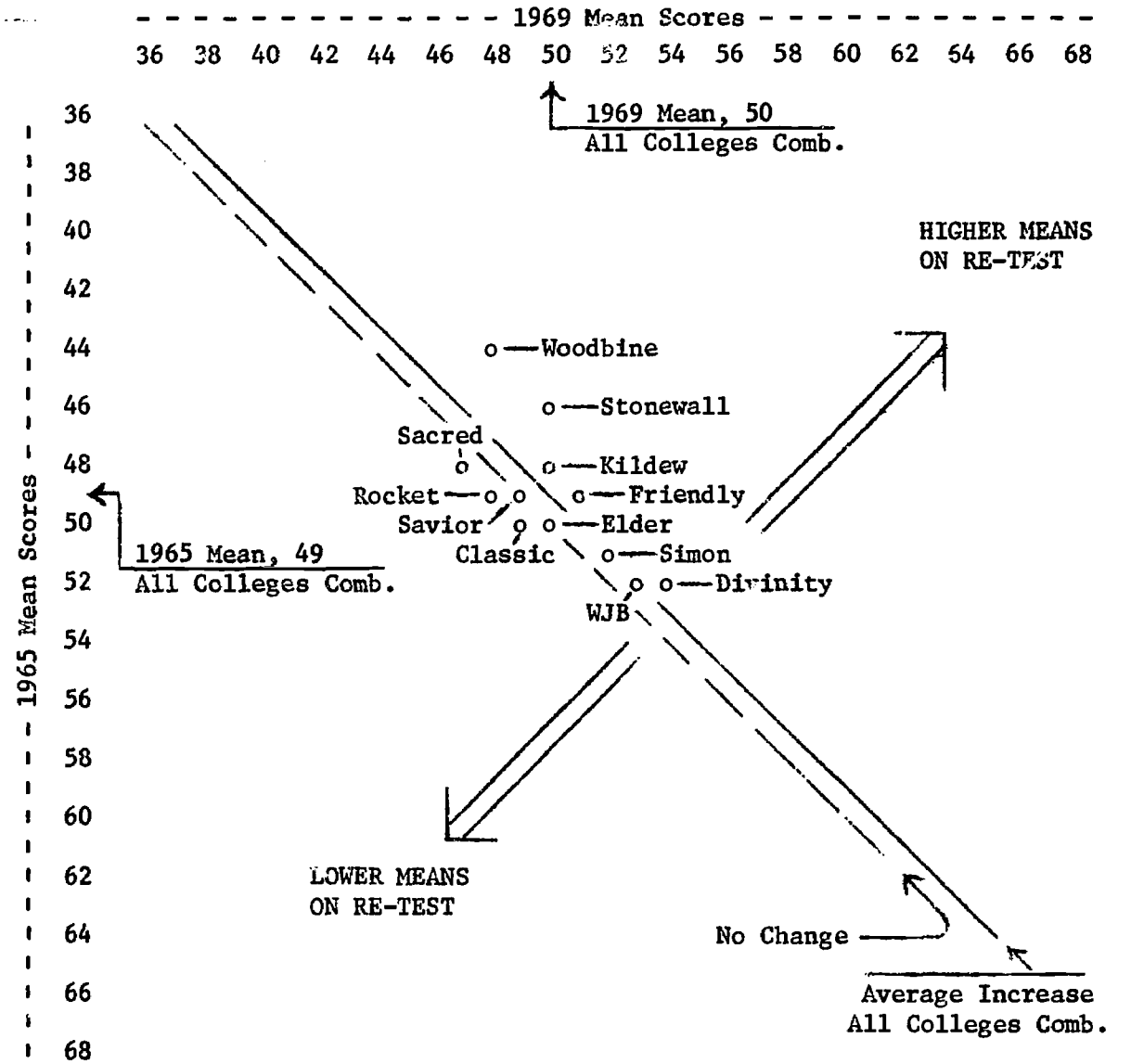

Figure 12. ANXIETY LEVEL
1965-1969 Mean Scores for Individual Colleges

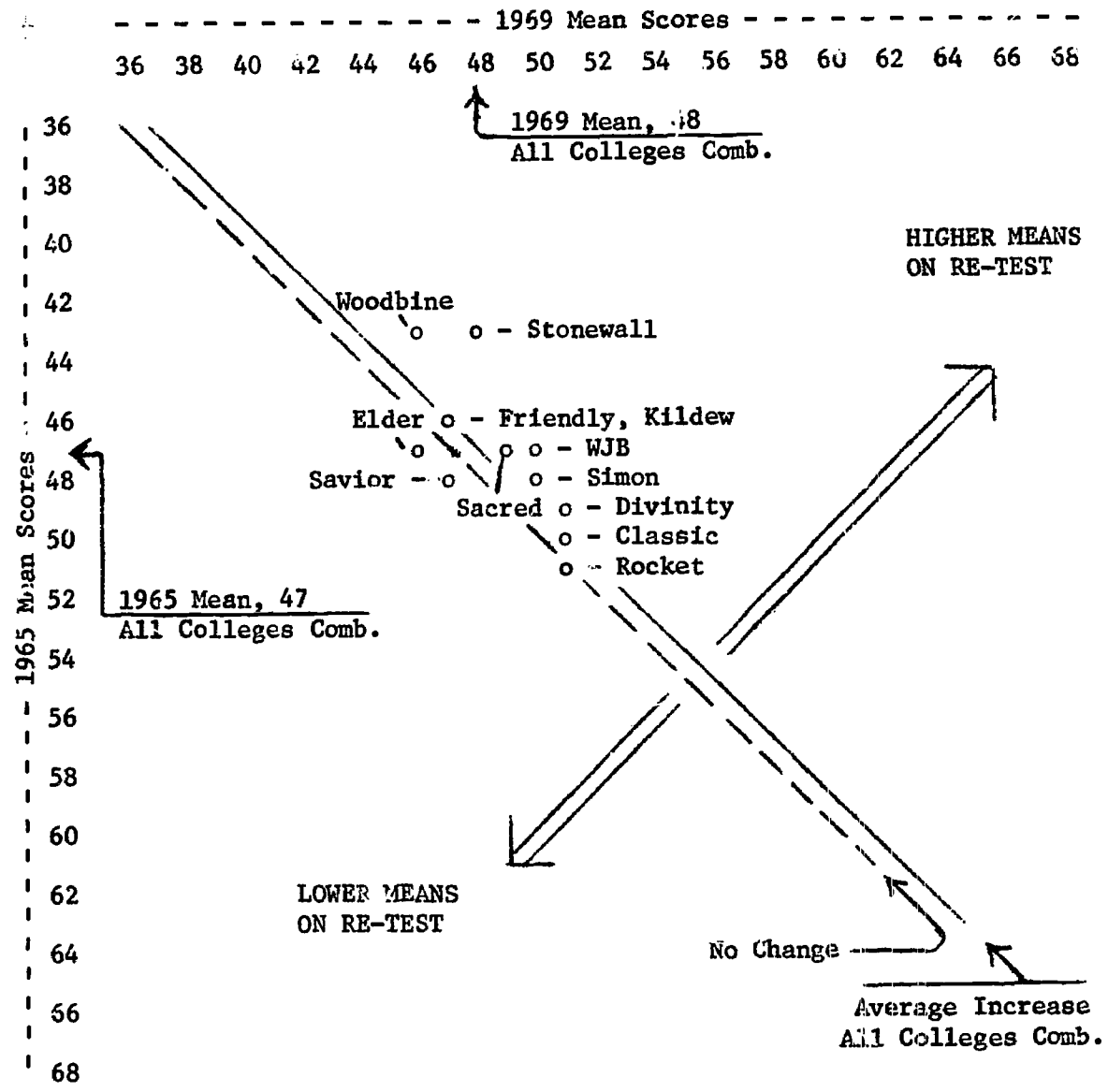

Figure 13. RESPONSE BIAS
1965-1969 Mean Scores for Individual Colleges

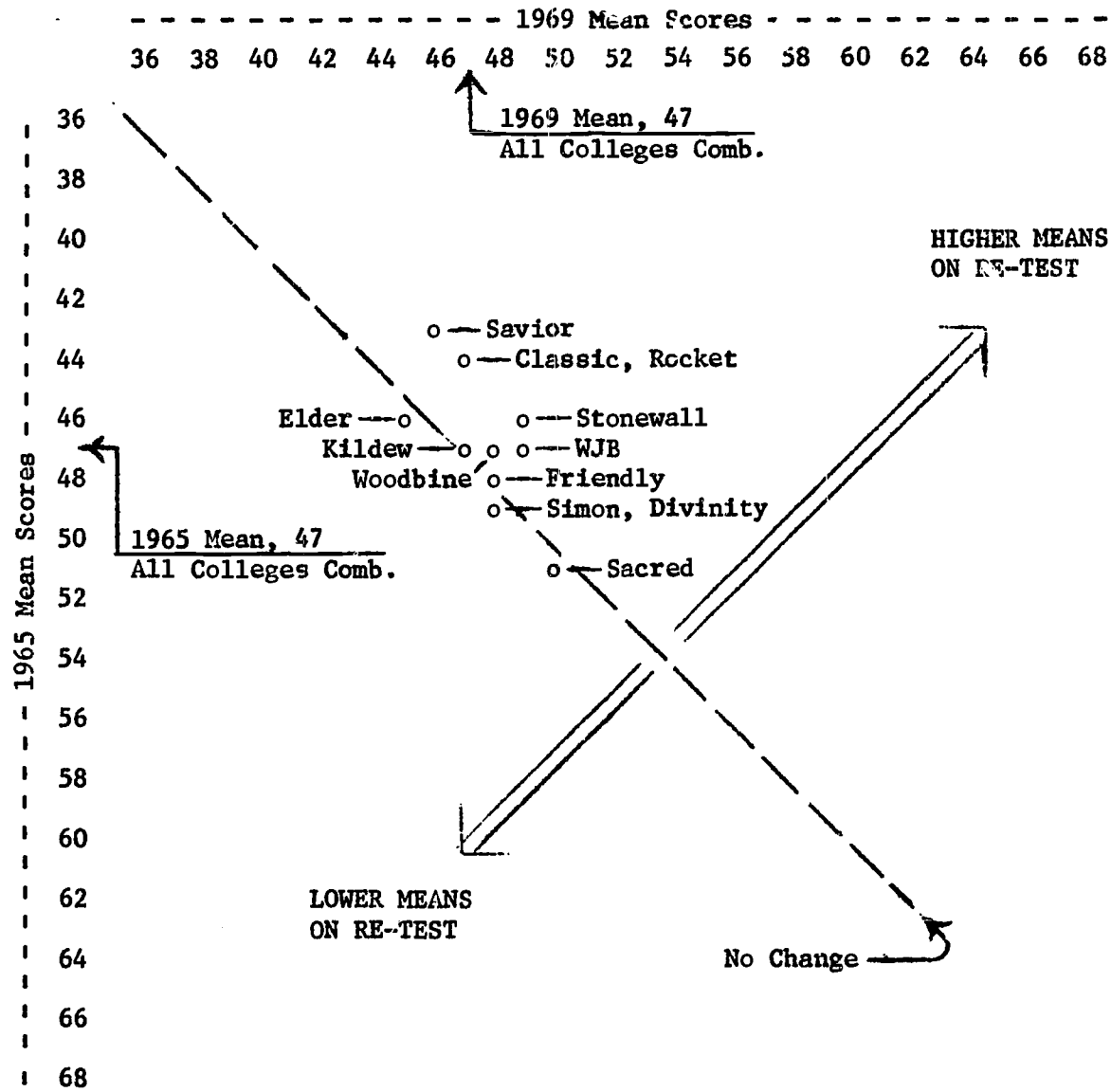

Figure 14. SOCIAL EXTROVERSION
1965-1969 Mean Scores for Individual Colleges