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AUTHOR Davis, James A.
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ABSTRACT

This paper presents a discussion and data concerning the career preferences of 2,842 graduate students enrolled in the arts and sciences in 1958. It was found that 38% of the students surveyed preferred research activities in their fields and 39% preferred to teach on an undergraduate or graduate level. Concerning the type of employer the students preferred, 60% indicated liberal arts colleges or large universities, 17% indicated business and industry, and less than 10% were oriented toward government, nonprofit agencies, solo practice, or public school systems. A review of the various academic and personal background characteristics of the graduate students revealed only 2 items associated with preference for academic jobs: those students in higher prestige graduate schools and those who were religious apostates were more likely to prefer academic positions. Data are also included concerning student attitudes and values. (HS)

"Career Preferences of Graduate Students"

James A. Davis

NATIONAL OPINION RESEARCH CENTER
University of Chicago
April, 1964

The tags used to describe occupations--"minister," "psychologist," "soldier," "college professor," etc.--do not form any sort of logical system but rather give differential emphasis to one or more of the many dimensions involved in an occupation. Thus, for example, "minister" ("one duly authorized to conduct Christian worship, preach the gospel, administer the sacraments, etc.") stresses the activities of the occupation, what the man does; "psychologist" stresses the content knowledge involved, what the man knows, not what he does; "soldier" ("one engaged in military service") refers neither to specific activities nor body of knowledge, but indicates the type of employer; "college professor" refers to both duties and type of employer, but not content knowledge, etc.

In the academic world, where multiple jobs thrive and honorifics are part of the title, complete job names often become formidable. Glancing through the University of Chicago telephone directory, one may find Stephen Lawroski identified as "Director of the Chemical Engineering Division and Program Coordinator for Engineering Research and Development, Argonne National Laboratories" and Robert S. Mulliken identified as "Ernest De Witt Burton Distinguished Service Professor Emeritus, Departments of Physics and Chemistry."

The elaboration of job titles in a university stems not merely from the quaint vanity of academicians, but also from the peculiar structure of occupations in the Arts and Sciences. Because such a high proportion of graduates of medical schools are engaged in the treatment of illness as solo practitioners, and practically nobody else is, the simple tag "physician" can serve to encompass content knowledge, activities, and employer. When, however, one considers chemists or historians or psychologists, so many diverse functions and employers are possible that the simple tag is quite ambiguous.

All of this means that when one comes to analyze the career preferences of Arts and Science graduate students, it is necessary to

go beyond field of study to consider the students' preferences in activities and employers. We shall begin by developing a simple classification for activities and employer preferences, examining field differences in these preferences; and then we shall look for personal characteristics associated with various preferences regardless of field.

A Career Typology

Let us begin by examining the activities preferred by the national probability sample 2,842 Arts and Science graduate students surveyed in 1958, as given by the following question:[1]

"A. Please RANK the following in terms of your personal preference as a future occupation.

a. Teaching undergraduates ____
b. Teaching graduate students ____
c. Doing research in your field ____
d. Academic administration ____

"B. If there is a job activity which you would prefer to doing any of the alternatives listed above, note it briefly here.

e. _____"

Counting write-in answers to the B. section as taking precedence over any other response, the following distribution of first choices appears.

TABLE 2.1

DISTRIBUTION OF FIRST-CHOICE PREFERENCES

Activity	Per cent	N
Teaching undergraduates .	25	675
Teaching graduate students.	14	391
Research in your field . .	38	1,038
Academic administration . .	2	63
Other	21	587
Total	100	2,754
No answer or Uncodable		88
Total N		2,842

[1] For a technical description of the sample, see James A. Davis, et al., Stipends and Spouses: The Finances of American Arts and Science Graduate Students (Chicago: University of Chicago Press, 1962), pp. 131-144.

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The largest single category (38 per cent) was that of research, but when the two types of teaching were combined, about the same percentage (39) favored collegiate level teaching. The "Other" group is quite heterogeneous, but Table 2.2 gives its flavor.

TABLE 2.2

DISTRIBUTION OF "OTHER" FIRST CHOICES

Type	N	Per cent of Others	Per cent of All students
Non-academic work in the field* . . .	200	34	7
Primary or secondary teaching or administration	73	12	3
Government administration	60	10	2
Business administration	54	9	2
Professional work, unrelated**	53	9	2
Creative writing	48	8	2
Consulting	35	6	1
Journalism, public relations, etc. . .	27	5	1
Social work, social action work . . .	12	2	-
All other	25	4	1
Total	587	99	21

*Applications of the field in activities other than research or teaching (e.g., practice of psychotherapy for a clinical psychologist, economic analysis in a bank for an economist, drug production control for a biological scientist).

**Practice of a profession such as law, ministry, military, etc., in which work in current field is essentially background or supplementary training.

As might be expected, the largest group among the "Others" consists of those students who wish to apply their knowledge in a fashion other than research or teaching. One-third of the "Others" fall here, and of the remaining categories only primary and secondary education and government administration encompass as many as 10 per cent.

In sum, roughly three-fourths of the students preferred research or college level teaching, and about one-fourth preferred academic administration or some other professional function. Among the majority oriented to the traditional Arts and Science functions, teaching and research were about equally popular.

Turning to another matter, students were asked about the type of future employer they felt they would prefer (Table 2.3).

TABLE 2.3

FIRST-CHOICE INSTITUTION

Type	Total	
	N	Per cent
Liberal arts college	866	31
Large university	791	29
Business and Industry	470	17
Government*	250	9
Non-profit agency**	194	7
Solo practice	123	4
Public school system	79	3
Total	2,773	100
No answer or uncodable	69	
Total N	2,842	

*Includes state and local government, UN, and career military.

**Includes museums, research foundations, hospitals, clinics, social work agencies, etc.

Sixty per cent of the students gave a liberal arts college or large university as their first choice, about equal proportions preferring each. Of the remainder, 17 per cent preferred business and industry, and less than 10 per cent in each case were oriented toward government, non-profit agencies, solo practice, or public school systems.

Cross-tabulation of activity preference by employer preference produced a wide array of occupational patterns. The largest

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groups were as follows: undergraduate teaching and liberal arts college (17 per cent), research and large university (14 per cent), graduate teaching and large university (seven per cent), research and liberal arts college (five per cent), graduate teaching and liberal arts college (five per cent),[2] and undergraduate teaching and large university (five per cent). These combinations, however, total to only 53 per cent of the 2,721 students who answered both questions. The remainder were spread widely; for example, 30 students preferred creative writing and a job in a college or university, three preferred administration and a non-profit agency, six preferred undergraduate teaching but desired solo practice, etc.

Because sixty per cent of the students preferred college or university jobs, and because this research report is particularly concerned with recruitment to the academy, we shall not consider the various types of non-academic employers as a single group; we shall simply compare academic and non-academic preferences by using a more direct measure--answers to a separate question asking the students to compare academic jobs (defined in the schedule as "...on the faculty of a college or university") with non-academic jobs, in terms of "my own personal career preference." The results are seen in Table 2.4.

Two-thirds of the students indicated that academic jobs were "much more" or "slightly more" desirable, the seven per cent difference on this measure in contrast to the previous one (Table 2.3) perhaps coming from students who preferred an academic position elsewhere than in a liberal arts college or a large university (e.g., a small university like the Johns Hopkins University or a technical school like MIT). It should be stressed that the data here deal with preference. A separate question in the schedule referring to "your realistic guess as to what you will be doing....five years after you

[2]This combination is a hard one to realize in practice. Each question was worded in such a way as to ask about activity regardless of employer and employer regardless of activity, so such responses are not necessarily due to error.

complete your graduate work," showed that fewer students expected academic jobs than preferred them, and the 1959 follow-up study showed that even fewer got academic jobs than expected them.[3]

TABLE 2.4

PREFERENCES FOR ACADEMIC JOBS

Rating	Total		
	N	Per cent	
Much more desirable	1,303	46	67
Slightly more desirable	582	21	
Not really different	256	9	
Slightly less desirable	383	14	22
Much less desirable	220	8	
Don't know	59	2	
Total	2,803	100	
No answer	39		
Total N	2,842		

Inevitably, the two preference dimensions are strongly associated.

The big effect, hardly unexpected, is that students who preferred college level teaching preferred academic jobs in 92 per cent of the cases. The finding is obvious, but it leads to some interesting quirks in the statistics and to some special problems of occupational choice among the graduate students. Because of the concentration of teachers in the academic preference group, when the data are percentaged in terms of the activities favored by academic and non-academic oriented students (Table 2.5 b); it appears that academics are less interested in research than are non-academics, and that non-academics are more interested in academic administration than are academics! Even though the latter trend has some psychological

[3] James A. Davis, et al., op. cit., p. 117.

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	Total Per cent	
	46	67
	21	
	9	
	14	22
	8	
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plausibility, a more realistic approach is to percentage the data the other way, as in Table 2.5 c), which shows that a majority (61 per cent) of the researchers preferred academic jobs and were more likely to do so than "Others."

TABLE 2.5

CAREER PREFERENCE TYPOLOGY

a) Case Distribution

Institution Preference	First Choice Activity: Graduate or Undergraduate Teaching	Research	Academic Administration	Other	Total
Academic*	947	616	30	222	1,815
Non-academic** . . .	80	390	30	345	845
Total	1,027	1,006	60	567	2,660
NA on one or both					182
Total N = ...					2,842

*Much more desirable, Slightly more desirable.

**Not really different, Slightly less desirable, Much less desirable.

b) Percentaged by Activity

Institution Preference	First Choice Activity: Teaching	Research	Adminis.	Other	Total: Per cent	N
Academic . .	52	34	2	12	100	1,815
Non-academic.	9	46	4	41	100	845

c) Percentaged by Institutional Preference

(Per cent Preferring Academic Jobs)

First Choice Activity: Teaching	Research	Administration	Other
92 (1,027)	61 (1,006)	50 (60)	39 (567)

Because the eighty teachers who preferred non-academic jobs and the sixty academic administrators provide too few cases for thorough analysis, they will be dropped from the classification, which will now be limited to the following groups (which total 95 per cent of the students answering both questions):

I. College Teachers: the 947 students (36 per cent of those answering both questions) who prefer teaching and academic jobs.

II. Academic Researchers: the 616 students (23 per cent) who prefer research and academic jobs.

III. Non-academic Researchers: the 390 students (15 per cent) who prefer research and non-academic jobs.

IV. Quasi-Academics: the 222 students (eight per cent) who prefer academic jobs but eschew the academic activities of teaching, research, or academic administration.

V. Practitioners: the 345 students (13 per cent) who prefer non-academic jobs and an activity other than teaching, research or academic administration.

Underlying this classification is the following set of assumptions: For Arts and Science graduate students, "career preferences" may be thought of as involving three separation dimensions: 1) preference for a particular content field (English, biochemistry, psychology, etc.); 2) preference for a particular type of occupational activity (teaching, doing research, applying knowledge); and 3) preference for a particular employer (academic, industry, government, etc.). Although the three dimensions are logically distinct, in the case of "college teaching" the activity (teaching) and the employer (a college or university) are so tied together that it would be deceptive to break them apart. The result is that certain logical problems arise when one attempts to analyze the separate dimensions of occupational preference. When activity preference is examined, we will treat three groups: 1) College teacher, 36 per cent of the sample; 2) Researcher, 38 per cent of the sample; and 3) Other, 21 per cent of the sample.

When, in turn, preference for future employer is considered, it would be redundant to consider the preferred type of employer for aspiring college teachers, and the analysis of employer preferences will be limited to those students whose activity preference gives them some area of choice--the Researchers and the Others.

Activity Preference: Teaching-Research-Other

Academic Factors

A considerable amount of emotion and an enormous number of words have been expended in the discussion of "conflicts" among teaching, research, and professional practice. It has been alleged, usually by spokesmen for the Humanities, that graduate students are forced into research training by the structure of graduate schools, while their real interests lie in teaching. Conversely, spokesmen for the opposite camp maintain that the majority of graduate school products (defined as Ph.D.'s) go on to do some research and that research training is the main function of graduate schools. A third camp, typically from outside the academy, stresses the increasing importance of professional applications of Arts and Science knowledge.

Departing from the usual approach to this problem which depends on epigrams and highly selected case illustrations, we shall turn to the sample of students in order to ascertain their stated preferences and, more important, to locate the characteristics associated with one or another choice in the eternal triangle of teaching-research-other.[4]

Although the structure of occupational choice is such that each of the activity preferences is a realistic possibility in each field of graduate study, there is a very strong association between

[4]The reader should remember, nevertheless, that our question format forced the students to choose among the possibilities. In actuality, a considerable fraction of the students would opt for "teaching and research," an activity preference which is almost never mentioned when academic statesmen hurl their genteel thunderbolts at symposia on the problem. This fact underlines the importance of remembering that it is the patterns of association which are important in these analyses, not the absolute magnitudes of the percentages.

field of study and activity preference, so strong that the majority preference in a given field may be a rather small minority in another.

TABLE 2.6

ACTIVITY PREFERENCE BY DEPARTMENT

Department	Per cent Preferring--			Total	
	College Teaching	Research	Other	Per cent	N
Physical Sciences					
Chemistry	26	64	10	100	296
Mathematics	35	46	19	100	169
Physics	24	66	10	100	260
Geology	19	48	33	100	96
All others	33	52	15	100	46
Biological Sciences					
Biochemistry	18	81	1	100	67
Microbiology	12	78	10	100	41
Botany	43	53	4	100	49
Zoology	32	56	12	100	57
Entomology	30	55	15	100	33
Physiology	35	48	17	100	29
All others	29	60	11	100	62
Social Sciences					
Anthropology	22	61	17	100	36
Economics	40	26	34	100	136
Political Science	30	26	44	100	112
Clinical Psychology	8	20	72	100	138
Other Psychology	17	58	25	100	57
Sociology	44	29	27	100	79
All others	29	46	25	100	24
Humanities					
Philosophy	58	19	23	100	62
History	61	17	22	100	254
English	65	11	24	100	242
Romance Languages	73	11	16	100	64
Other Languages, Linguistics	61	18	21	100	56
All others	60	13	27	100	52
N =					2,517
NA, Activity Preference					317
Excluded (Inter-divisional					8
Total N =					2,842

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	Total	
	Per cent	N
	100	296
	100	169
	100	260
	100	96
	100	46
	100	67
	100	41
	100	49
	100	57
	100	33
	100	29
	100	62
	100	36
	100	136
	100	112
	100	138
	100	57
	100	79
	100	24
	100	62
	100	254
	100	242
	100	64
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	100	52
. . . . .		2,517
. . . . .		317
. . . . .		8
. . . . .		2,842

Considering college teaching, there is a range from 73 per cent in Romance Languages to eight per cent in Clinical Psychology, with six fields over 50 per cent and five fields under 20 per cent. Considering research, the highest figure is 81 per cent for Biochemistry, the smallest is 11 per cent for English. In "Other," the variation is somewhat less, for although Clinical Psychology has 72 per cent Other and Biochemistry one per cent, the bulk of the fields cluster at about 20 per cent.

A better way of viewing the results is to plot the distributions on triangular coordinate graph paper (see Chart 2.1).

The fields are spread across the triangular space as if scattered from a salt shaker, which is to say that Chart 2.1 gives visual emphasis to the differences in percentages shown in Table 2.6. Even though the sheer heterogeneity of preferences with the Arts and Science fields is the most important point, we can gain further perspective by organizing the results in the following fashion. In Chart 2.1 the solid lines enclose all the cases where none of the three preferences has more than 50 per cent; that is, where student preferences are diverse within a department--and three dotted lines set off the most homogeneous fields--those where two-thirds or more of the students opt for one of the three functions. Using these guidelines, departments may be classified simultaneously by "Division" and preference pattern (Table 2.7).

CHART 2.1

TABLE 2.6 IN GRAPH FORM

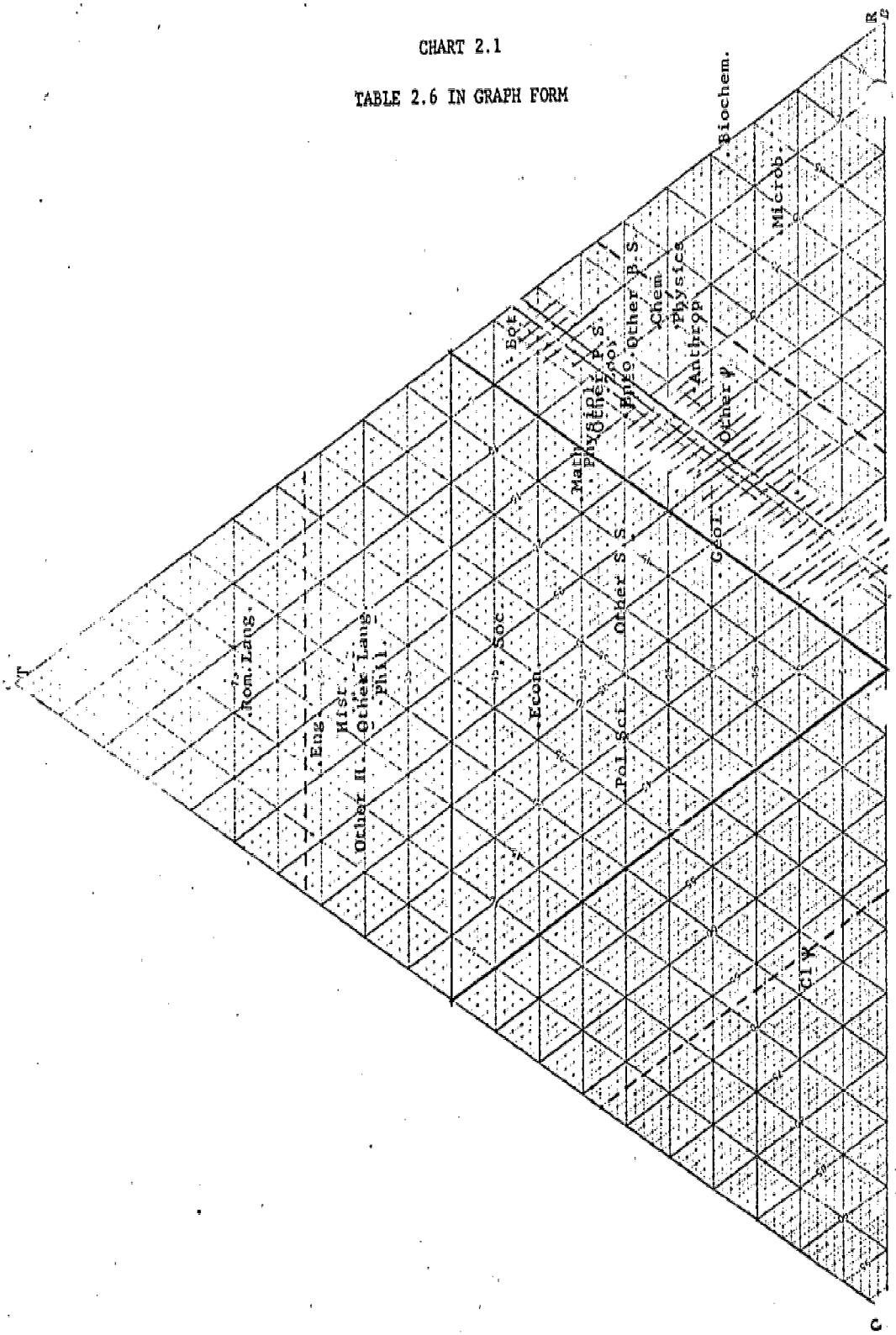

TABLE 2.7

CLASSIFICATION OF FIELDS BY ACTIVITY PREFERENCE

Type	Division			
	Humanities	Social Sciences	Physical Sciences	Biological Sciences

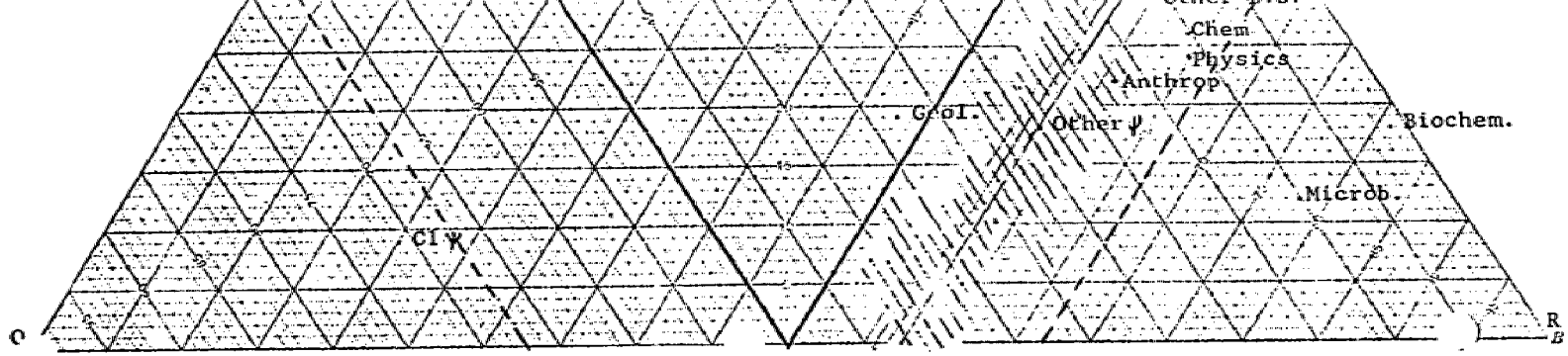

TABLE 2.7

CLASSIFICATION OF FIELDS BY ACTIVITY PREFERENCE

Type	Division			
	Humanities	Social Sciences	Physical Sciences	Biological Sciences
A) Research 67% or more Research				Biochemistry Microbiology
50% or more Research		Anthropology Psychology	Physics Chemistry Other Physical Sci.	Other Biological Sci Zoology Entomology Botany
B) Multiple (No preference greater than 50%)		Economics Political Sci. Sociology Other Social Sci.	Mathematics Geology	Physiology
C) College Teaching 50% - 67%	Philosophy Other Humanities History Other Languages English			
67% or more	Romance Languages			
D) Other (67% or more)		Clinical Psychology		

When the fields are classified by Activity Preference and Division, a clean-cut difference emerges, which is simply that all and only Humanities fields have a majority of their students preferring college teaching. While Natural Science fields are somewhat higher on research preference than Social Science fields, and the single field with a majority preferring Other (Clinical Psychology, where the "Other" is typically clinical practice) is in the Social Sciences, the continental divide here is the difference between Humanities students and those in all other Arts and Science disciplines. This is not to say that students in other disciplines totally eschew college teaching, for only in Geology, Biochemistry, Microbiology, and Clinical Psychology do we find less than 20 per cent so inclined. However, it remains that clear-cut majority preference for college teaching is characteristic of and limited to students in the Humanities.

The converse must necessarily be true regarding Research. There is no field in the Humanities where as many as one-fifth of the students prefer "Research" (it should be noted that the instructions for the questionnaire defined Research broadly as "the kind of 'research' or 'studies' that professional workers in your field usually conduct, whether it is laboratory work, documentary research, literary analysis, or anything else") and there is no field outside the Humanities where "Research" is chosen by less than one-fifth.

From a substantive point of view, these findings emphasize that it is extraordinarily misleading to say that "graduate students" do or do not prefer teaching or research, since the departmental differences are so strong. From the viewpoint of the present analysis, these findings mean that it is necessary to control for field of study when examining preferences to avoid findings which merely tell us in an indirect fashion about differences between Humanities students and those choosing other fields. The division in Table 2.7 between Research fields, Multiple Preference Fields, and Teaching Fields (Humanities) will be used as a control in subsequent analyses.

Clinical Psychology students will be excluded because theirs is the sole department with a majority in Other.

Although the degree of difference may be unexpected, the departmental differences essentially corroborate the impressions of academic observers. When, however, one turns to the question of the factors related to activity preference among students in a particular field, neither folklore nor existing research have much to tell us about the dynamics underlying these preferences. The academic world has been so engrossed in the question of whether research or teaching should be stressed in graduate training that little attention has been paid to understanding the student differentials which already exist. As is so often the case, investigators have been so engrossed in helping outsiders understand their problems that market research on the brand preferences of the customers in graduate schools has been neglected. Without much in the way of hypotheses, we shall proceed systematically to see whether the social characteristics, academic abilities, and personal values of the students enable us to predict which sorts of young people will be motivated to enter teaching, research, and professional practice.

Before turning to the personal characteristics of the students, it is necessary to pay some further attention to the relationship between field of study and activity preference. While the strong association is incontestable, the data in Table 2.6 do not tell about the direction of influence. Does study in the Humanities lead students to increase their motivation for college teaching, or is it simply the case that the recruits to Humanistic studies always wanted to become teachers? The question is an important one, for to the extent that these preferences are unaffected by exposure to graduate school, then debates about what the graduate school should stress are academic. On the other hand, if it can be shown that graduate students are highly malleable, then it is important to consider carefully the anticipated and unanticipated consequences of our current system of advanced training. The data available to us cannot provide

a satisfactory answer because they comprise a single cross-sectional survey rather than a longitudinal program of research, but the importance of the question justifies some attempts to seek an answer.

Because the design of the survey included graduate students whose exposure to advanced study ranged from a month or less to a decade or more, it is possible to compare the activity preferences of beginning and advanced students within the three departmental groups. If exposure to graduate school has a strong directional effect on student preferences, the advanced students should show different preferences, indicating the net influence of exposure to graduate school. Unfortunately, there are a number of uncontrolled differences between beginning and advanced students which could make such findings quite spurious. Perhaps the most important of these is attrition. If it were the case that students with a particular activity preference were likely to drop out of school, then differences between beginning and advanced students would appear, even if no individual changed his opinions. Fortunately, one year after the original survey the academic status of the bulk of the students was determined by field representatives at the sample institutions.[5] We are thus able to discover whether activity preference is associated with dropping out of graduate work ("dropping out" is here defined as absence from any Arts and Science campus one year later, regardless of whether the student received a degree or intended to continue--the issue at hand being the effect of removal of such students from the on-campus population, not whether they completed a degree).

The cases were divided into three groups: I. Advanced students who in 1958 had completed one or more years of study and who were working for the Ph.D. degree; II. Beginning students in 1958--first year students or master's candidates who had completed one or more years--who were on (some) campus a year later; and III. Beginning students in 1958 who were not in residence at any Arts and Science graduate school one year later.

[5] Cf. James A. Davis, et al., op. cit., pp. 106-120.

The three groups will be used to make two comparisons. By comparing groups I and II we can observe whether there are any differences between beginning and advanced graduate students. By comparing groups II and III we can see whether those who left the campus showed the "opposite" contrast. If so, the suggestion would be that the first contrast can be explained by attrition. For example, if advanced students were shown to have higher IQ's than beginners, while those who left school were shown to have lower IQ's than beginners who stayed, the suspicion would be that the original difference was due to attrition rather than the raising of IQ through graduate studies. It should be noted, however, that because a goodly number of the beginners who survived one year will drop out before reaching Ph.D. study, this strategy does not actually "control" for attrition by eliminating differences in attrition. Rather, it suggests what might be the results of a more efficient control. Table 2.8 summarizes the results.

TABLE 2.8

STAGE OF STUDY IN 1958 AND ACTIVITY PREFERENCE, CONTROLLING FOR 1959 CONTINUATION STATUS AND FIELD OF STUDY

Field	Status		1958 Activity Preference			Total	
	1958	1959	Teaching	Research	Other	Per cent	N
Humanities	Advanced	-	73	14	13	100	297
	Beginning	Continued	55	18	27	100	220
	Beginning	Left	54	13	33	100	188
Research	Advanced	-	24	67	9	100	528
	Beginning	Continued	30	58	12	100	296
	Beginning	Left	20	60	20	100	101
Multiple	Advanced	-	36	30	34	100	302
	Beginning	Continued	24	39	37	100	266
	Beginning	Left	22	28	50	100	145
N =							2,343
NA, Activity							296
Unclassified Fields							112
NA, 1958 Status							27
NA, 1959 Status							35
NA, two or more							29
Total N =							2,842

Using the rule of thumb that only differences of 10 per cent or more--where both percentages are between 10 and 90--are important and reliable enough to justify further attention,[6] it is seen that only two differences between advanced students and beginners who continued meet this criterion. In the Humanities and in the Multiple Preference disciplines the advanced students were more favorable toward college teaching, particularly in the Humanities where there is an 18 per cent difference. Furthermore, in these two cases there is no reliable difference between beginners who continued and those who left, which cautions us against explaining the difference in terms of attrition.

Although the arguments are complex and rather indirect, the generalization suggested is that, outside of the fields where research interest predominates, college teaching becomes somewhat more attractive over time.

At the same time, it must be noted that such effects, even if borne out by more carefully controlled research, are small in comparison with the differences between fields, and at best consist of a slight reinforcement of the "normal" tendency within the fields (advanced students in Research fields are nine per cent higher on Research). This can be illustrated by referring to data from the 1961 NORC survey of graduating seniors. In that study, students were asked, "The following activities cut across a number of specific jobs. Which ones do you anticipate will be an important part of your long-run career job--Teaching, Research, Administration, Service to patients or clients, None of these?" In the report on that study, the per cent checking "Research" is presented for students who as seniors anticipated graduate study in various fields.[7] The correspondence between these percentages and the percentages opting for research on the activities question is striking.

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[6] Cf. James A. Davis, et al., op. cit., pp. 139-144 for a detailed discussion of sampling error in the survey.

[7] James A. Davis, Great Aspirations: Volume I: Career Decisions and Educational Plans During College (NORC, Report No. 90, March, 1963), p. 517.

TABLE 2.9

RESEARCH PREFERENCE, GRADUATE STUDENTS AND SENIORS ANTICIPATING GRADUATE STUDY

Field	Per cent....	
	Activity Preference of Graduate Students	Checking Research Among Seniors
Biochemistry	81	92
Microbiology	78	90
Physics	66	87
Chemistry	64	84
Psychology	58	(66)*
Zoology	56	70
Botany	53	74
Physiology	48	(83)
Geology**	48	(48)
Mathematics	46	61
Sociology	29	40
Political Science	26	40
Economics	26	39
Clinical Psychology	20	(48)
Philosophy	19	37
History	17	30
Languages***	14	30
English	11	26
Spearman Rank Correlation (rho) = .953		

*( ) = discrepancy of two ranks or more.

**Among seniors, Geography is included.

***Romance and Other Languages combined to increase comparability. (Other Physical Sciences, Entomology, Other Biological Sciences, Anthropology, Other Social Sciences, and Other Humanities excluded because of non-comparability.)

The rank correlation of .953 indicates a high level of agreement between the two measures of research interest, even though the questions are not identical, the senior sample was taken three years later, and a number of the seniors will not actually enter Arts and Science graduate study. The fact that the correspondence is so high implies considerable structuring of activity preferences prior to entry into graduate training.

Putting the two sets of findings together, we may conclude that the indirect evidence is for considerable stability in activity preference, although there is some support for the idea that exposure to graduate study tends to reinforce the predominant tendency in a given field.

Let us now turn to other academic variables. Unfortunately, data on "course reactions" and on initial preferences as opposed to current preference are unavailable, so that the extensive analyses reported in Chapter I cannot be repeated here. (The cause is not forgetfulness, but the time order of the studies. The questions in the survey of college seniors were written on the basis of experience analyzing data from the survey of graduate students.) There is no reason to believe that graduate students are uninfluenced by their experiences in the classroom and relationships with faculty members, but we cannot present evidence on the matter.[8]

One might expect that activity preferences would vary considerably with the quality of the graduate institution, the top ranking graduate schools giving stress to different career facets than the smaller and less prestigeful schools. Despite some support for the idea, the differences by quality level are small. The 25 sample institutions were divided into three quality levels on the basis of their size and prestige, the two tending to go hand in hand in American graduate schools.[9]

For the total sample, it is seen that there is a tendency for interest in College Teaching to increase with quality and interest in Other to decrease.

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[8]The most systematic attempt to make such an analysis from the available materials appears in David S. Gottlieb, "Processes of Socialization in the American Graduate School" (unpublished Ph.D. Thesis, University of Chicago, 1960). I have drawn upon his findings several places in this chapter.

[9]Cf. James A. Davis, et al., op. cit., pp. 13-17 for a detailed description and justification of the quality index.

TABLE 2.10

QUALITY LEVEL AND ACTIVITY PREFERENCE

Quality	Per cent Preferring....			Total	
	College Teaching	Research	Other	Per cent	N
Higher I. . .	42	40	18	100	710
II. . .	39	38	23	100	1,064
Lower III. . .	33	40	27	100	631
$Q_{I \text{ v. } II \& III}$	.10	.02	-.18		
N = ...					2,405
NA, Activity					308
NA, Field					119
NA, Both					10
Total N = ...					2,842

The difference, however, does not produce a Q of .20,[10] although when field is controlled it is seen that, for Research and Multiple Fields, acceptable coefficients appear. That is, among students not in Humanities, interest in Professional Practice is less common in the higher ranking institutions.

[10] Our arbitrary acceptance criteria of 10 per cent for percentage differences and .20 for Q's are quite comparable. It can be shown that if either of two percentages is 50, then Q equals twice the percentage difference, and thus if either percentage is 50, the rules are identical. As the percentages diverge from 50 toward 100 or 0, smaller percentage differences will generate Q's of .20 or greater, which, however, can be justified by reference to the statistical property that as proportions diverge from .50 their sampling variance decreases and hence smaller differences are larger in their import for extreme proportions.

TABLE 2.11

SCHOOL PRESTIGE AND ACTIVITY PREFERENCE

Field	Quality Group	Per cent Preferring....			Total	
		College Teaching	Research	Other	Per cent	N
Humanities	I	63	16	21	100	260
	II	63	14	23	100	304
	III	63	13	24	100	166
	$Q_{I \text{ v. II \& III}}$	.00	.08	-.06		
Multiple .	I	31	39	30	100	180
	II	31	31	39	101	337
	III	26	30	44	100	214
	$Q_{I \text{ v. II \& III}}$	.05	(.20)	(-.24)		
Research .	I	28	63	9	100	270
	II	28	62	11	101	423
	III	20	66	14	100	251
	$Q_{I \text{ v. II \& III}}$	.08	.00	(-.20)		
N =						2,405
NA, Activity						308
NA, Field						119
NA, Both						10
Total N =						2,842

Similarly, although one might predict that public institutions have a stronger tradition of preparation for professional service and private schools a long tradition of preparation for college teaching, there are no consistent differences by control.

TABLE 2.12

SCHOOL CONTROL AND ACTIVITY PREFERENCE

Field	Control	Per cent Preferring....			Total	
		College Teaching	Research	Other	Per cent	N
Humanities	Private	57	17	25	99	425
	Public	70	10	19	99	305
	$Q_{Private}$	(-.28)	(.30)	.17		
Multiple .	Private	29	33	37	99	356
	Public	29	32	39	100	375
	$Q_{Private}$	.00	.02	-.03		
Research .	Private	27	62	11	100	434
	Public	25	64	11	100	510
	$Q_{Private}$	.05	-.04	.00		

N =	2,405
NA, Activity	308
NA, Field	119
NA, Both	10
Total N =	2,842

In Chapter I it was argued that the lack of correlation between school quality and choice of Letters and Science careers might stem from a social psychological process in which students base their self-judgments upon their rank within their own particular school. The similarity of the findings so far raises the question as to whether a similar phenomenon appears for the activity preferences of graduate students. The relevant data come from faculty ratings gathered one year after the initial survey[11] and are based on pooled answers to a rating question in terms of "native ability (ignoring for the moment motivation, previous background or personality characteristics) required to complete a Ph.D. in this department," and are thus meant

[11] Ibid., pp. 63-64.

to produce rankings within departments rather than absolute measures. The results are given in Table 2.13.

TABLE 2.13

RATED NATIVE ABILITY AND ACTIVITY PREFERENCE

Field	Ability Group	Per cent Preferring....			Total	
		College Teaching	Research	Other	Per cent	N
Humanities	High	69	11	20	100	228
	Medium	66	16	18	100	201
	Low	53	16	31	100	193
	$Q_{H \& M \text{ v. } L}$	(+.31)	-.10	(-.31)		
Multiple .	High	32	37	31	100	192
	Medium	26	29	46	100	204
	Low	29	28	43	100	200
	$Q_{H \& M \text{ v. } L}$	.00	+.12	-.18		
Research .	High	25	67	9	100	327
	Medium	29	59	12	100	268
	Low	24	63	13	100	227
	$Q_{H \& M \text{ v. } L}$	+.08	.00	-.15		
N =						2,040
NA, Activity						259
NA, Field						98
NA, Ability						365
NA, two or more						80
Total N =						2,842

Except in Humanities, where College Teaching is more attractive to the more able, and Other (possibly high school level teaching) is more attractive to those rated as less able, no consistent differences emerge, although the tendency is for those who prefer the traditional functions of College Teaching and Research to receive higher ratings. What is perhaps most important about the table is that there is no consistent difference between Researchers and College Teachers.

If the students gain their wishes (and this may be a big "if"), the evidence is against any drain of able students from teaching to research. Since the data are based on faculty impressions, they may not be too accurate (although the previous research showed that these ratings are associated with the students' self-ratings of ability and outcomes in the follow-up), but at the worst they show no faculty bias toward giving favorable ratings to researchers. Indeed, the small number of researchers in Humanities is rated lower than the College Teachers.

To summarize:

1) There are strong differences between students in different fields of study, in their preferences for College Teaching, Research, and Professional Practice (Other); these differences are such that students in different departments in the same Liberal Arts graduate school may be thought of as opting for essentially different careers.

2) Indirect evidence suggests the tentative inference that exposure to graduate school "pulls" students toward the predominant activity preference in their field of study. These effects, however, are much smaller than the relatively permanent field differences which can be traced back to the senior undergraduate year of college.

3) Differences by Academic Ability, School Quality, and School Control (Public v. Private) are not strong or consistent, although there is a slight tendency for preference for Other to be associated with lower academic ability and a less prestigeful graduate institution. There is no evidence that Research as an activity is attracting better students than is College Teaching.[12]

Personal and Social Characteristics

Turning from the graduate students' academic abilities and institutional contexts, let us consider the predictive power of their personal and social "background" characteristics.

[12]This qualification will be explained in the final section of this chapter.

We can begin by ruling out sex and marital status. In research involving career choice it is frequently found that differences between men and women are more important than any other variables, women showing a consistent tendency to prefer jobs which involve working with people and opportunities for altruism, while men lean toward "mechanical" work and jobs which give them opportunities for achievement and material rewards. Furthermore, many observers have been concerned with the salary differentials between teaching and research positions, which fact raises the possibility that the men who are married and responsible for families might shy away from college teaching. In terms of the students' preferences (not necessarily their actual job placements), however, neither speculation is borne out (Table 2.14).

It takes a large number of percentages to reveal very little information, but the upshot of all the Table 2.14 comparisons is this: Neither over-all nor within a field is there any consistent sex difference in Activity Preference nor any consistent relationship between family status and Activity Preference. While it can be inferred that sex plays a strong role in the decision to enter a given field, and it may be the case that men and women will differ in their chances of realizing their preferences, among the students in graduate school family matters make little difference in Activity Preference. And as might be expected from all of this, data not presented here tell an essentially similar story for age.

Let us shift our attention backward in time, to three parental background variables which were considered in Chapter I: Parental SES, Hometown, and Religion. In Chapter I, it was shown that despite considerable speculation on the impact of these characteristics on occupational choice they made little difference in choosing an Arts and Science career. We can now refine the question a little more by asking whether they are associated with Activity Preference among those students who do actually enter graduate school in Arts and Sciences.

TABLE 2.14

SEX, MARITAL STATUS, AND ACTIVITY PREFERENCE

Field	Marital Status	Per cent Preferring.... College Teaching Male	College Teaching Female	Research Male	Research Female	Other Male	Other Female
Humanities	Single	65 (259)	62 (154)	12	14	24	24
	Married, No Children	67 (105)	60 (25)	18	8	15	32
	Married, Children	62 (150)	46 (26)	15	31	23	23
Multiple	Single	27 (273)	24 (70)	37	36	36	40
	Married, No Children	27 (135)	14 (22)	35	36	38	50
	Married, Children	38 (208)	24 (21)	24	33	38	43
Research	Single	25 (384)	34 (79)	62	54	12	11
	Married, No Children	28 (209)	8 (12)	62	92	10	0
	Married, Children	22 (233)	29 (17)	68	53	10	18
Total	Single	37 (916)	46 (303)	40	30	28	24
	Married, No Children	36 (449)	32 (59)	44	36	20	32
	Married, Children	38 (591)	34 (64)	39	38	23	28

N =	2,382
NA, Activity	306
NA and Other on Field	116
NA or Ex-married on Marital Status	23
NA, two or more	15
Total N =	2,842

The measure of Socio-economic Status (SES) in this survey is a coder's rating of the prestige of that occupation which the student listed as his father's occupation when the student was in high school. Although one might speculate that upwardly mobile students would find college teaching especially attractive (because the income would appear relatively favorable and there is a high prestige return) or especially unattractive (because college teachgng requires certain middle class social skills), again we find no trends. We shall report only the over-all results, but the introduction of field controls makes no difference.

TABLE 2.15

FATHER'S OCCUPATION AND ACTIVITY PREFERENCE

Father's Occupation	Preferred Activity			Total	
	College Teaching	Research	Other	Per cent	N
I (Highest) . . .	39	37	23	99	391
II	37	39	23	100	570
III	36	41	23	100	653
IV	34	45	21	100	338
V (Lowest) . . .	38	40	22	100	138
N = ...					2,090
NA, Activity					293
NA, Field					117
NA, Father's Occupation					315
NA, Two					27
Total N = ...					2,842

Were it not for the lowest SES group, it would appear that College Teaching preference increases and Research interest decreases with SES. However, the lowest group is about as high on Teaching as the highest, and the partial tables controlling for field show no consistent "curvilinearity." Thus, among this sample of graduate students, activity preferences are independent of parental SES.

Similarly, size of hometown--whether the student grew up in a large city or a smaller one or on a farm--is essentially unrelated to activity preference, for the total sample and within fields of study.

Turning to Religion, as the final background variable, somewhat more definite trends emerge, although preference for a specific faith plays only a minor role in influencing Activity Preference. Table 2.16 gives the detailed information, cross-tabulating Original Religion ("In what religion were you reared?") and Current Religion ("What is your current religious preference?") against Activity Preference in the three field groupings.

TABLE 2.16

ACTIVITY PREFERENCE BY ORIGINAL AND CURRENT RELIGION

Field	Religion		Per cent Preferring.....			Total	
	Original	Current	Teaching	Research	Other	Per cent	N
Humanities	Prot.	Prot.	65	12	23	100	244
	Prot.	None	60	16	24	100	93
	R. Cath.	R. Cath.	64	14	22	100	175
	R. Cath.	None	61	32	7	100	28
	Jew	Jew	59	17	24	100	46
	Jew	None	64	19	17	100	36
	None	None	50	13	37	100	38
	None	Some	62	15	23	100	13
Multiple	Prot.	Prot.	35	26	39	100	237
	Prot.	None	20	50	30	100	102
	R. Cath.	R. Cath.	34	24	42	100	147
	R. Cath.	None	22	48	30	100	23
	Jew	Jew	23	35	42	100	72
	Jew	None	22	41	37	100	32
	None	None	24	50	26	100	46
	None	Some	28	43	29	100	21
Research	Prot.	Prot.	26	62	12	100	381
	Prot.	None	22	69	9	100	127
	R. Cath.	R. Cath.	33	55	12	100	150
	R. Cath.	None	18	68	14	100	28
	Jew	Jew	24	69	7	100	81
	Jew	None	22	72	6	100	36
	None	None	24	68	8	100	38
	None	Some	41	47	12	100	17

N =	2,211
NA, Activity	277
NA, Field	111
NA, Religion	194
NA, Two or more	49
Total N =	2,842

This complex pattern of relationships may be analyzed by breaking the data down into a set of simpler tabulations. To begin, let us compare Catholics and Protestants, considering only those reared in and remaining in these two faiths.

TABLE 2.17

PROTESTANTS, CATHOLICS, AND ACTIVITY PREFERENCE

Field	Religion		Per cent Preferring....			Total	
	Original	Current	College Teaching	Research	Other	Per cent	N
Humanities	Prot.	Prot.	65	12	23	100	244
	Catholic	Catholic	65	14	22	101	175
	Difference		0	-2	+1		
Multiple	Prot.	Prot.	35	26	39	100	237
	Catholic	Catholic	34	24	42	100	147
	Difference		+1	+2	-3		
Research	Prot.	Prot.	26	62	12	100	381
	Catholic	Catholic	33	55	13	101	150
	Difference		-7	+7	-1		

The differences are neither consistent nor of sufficient magnitude to suggest a Protestant-Catholic difference--Galileo, Max Weber, and the denominational founders of many American universities to the contrary notwithstanding. When, however, the two Christian groups are compared with Jews, there is a slightly more definite trend (Table 2.18).

The differences are not of such a magnitude that we need to give them major attention, but Jewish students appear to be a little more interested in Research and a little less interested in College Teaching, when compared with Christians.

TABLE 2.18

CHRISTIANS, JEWS, AND ACTIVITY PREFERENCE

Field	Religion*	Per cent Preferring....			Total	
	Original and Current	College Teaching	Research	Other	Per cent	N
Humanities	Jewish	59	17	24	100	46
	Christian	65	13	22	100	419
	Difference	-7	+4	+2		
Multiple	Jewish	24	35	42	101	72
	Christian	34	25	40	99	384
	Difference	-10	+10	+2		
Research	Jewish	24	69	7	100	81
	Christian	27	60	12	99	531
	Difference	-3	+9	-5		

*Jewish = Original Jewish-Current Jewish; Christian = Original Protestant-Current Protestant, and Original Catholic-Current Catholic.

The findings here are again reminiscent of those in Chapter I, where background variables showed little association with choice of Letters and Science careers. The reader will remember, however, that lesser religiosity was shown to be associated with choice of Letters and Science, although denomination made no difference. Table 2.19 shows an analogous trend for interest in Research among the graduate students.

TABLE 2.19

DATA FROM TABLE 2.16 REARRANGED TO SHOW EFFECTS OF APOSTASY

Per cent Choosing	Religion Current-Original	Field								
		Humanities			Multiple			Research		
		Same	None	Diff.	Same	None	Diff.	Same	None	Diff.
Research	R.C.	14	32	-18	24	48	-24	55	68	-13
	Prot.	12	16	- 4	26	50	-24	62	69	- 7
	Jewish	17	19	- 2	35	41	- 6	69	72	- 3
	None		13			50			68	
College Teaching	R.C.	64	61	+ 3	34	22	+12	33	18	+15
	Prot.	65	60	+ 5	35	20	+15	26	22	+ 4
	Jewish	59	64	- 5	23	22	+ 1	24	22	+ 2
	None		50			24			24	
Other	R.C.	22	7	+15	42	30	+12	13	14	- 1
	Prot.	23	24	- 1	39	30	+ 9	12	9	+ 3
	Jewish	24	17	+ 7	42	38	+ 4	7	6	+ 1

Examining the columns headed "Difference" (per cent preferring a given activity among those remaining in their original religion minus the per cent among those reporting their current religion changed to "None") in terms of the signs of the differences, it is seen that in each of the nine comparisons for Research, the sign is negative, while it is positive in eight out of nine comparisons for College Teaching, and seven out of nine comparisons for Other.

In other words, regardless of original religion and current field of study, the student who has become an apostate from his original religion is somewhat more likely to prefer Research as a professional activity.

Not all of these differences are strong enough to meet our criterion, but they tend to fall in an interesting pattern.

TABLE 2.20

DIFFERENCE IN RESEARCH FROM TABLE 2.19

Original Religion	Current Field		
	Humanities	Research	Multiple
Catholic . .	-18	-13	-24
Protestant .	- 4	- 7	-24
Jewish . . .	- 2	- 3	- 6

At first glance, it would appear that apostasy has a greater pull toward Research in different religions and fields, the differences being greater for Catholics and Protestants, and less for Jews, and greater in Multiple Preference fields than in Humanities or Research. Since the Multiple fields are pretty heavily Social Science, one might advance the hypothesis that apostasy leads to Social Science Research interests, particularly in the case of Christians, whose religious doctrines are more dogmatic. A more conservative inspection of the data, however, suggests that this interpretation is not entirely justified. Examination of the percentages for Research among apostates in comparison with those students reporting "None" for both time periods indicates no consistent differences by religious origin. If it were the case that religious origins provided a differential "velocity" to the research pull associated with apostasy, one would expect that apostates from different original religions would differ in Research interest. Since this is not the case (ex-Catholics are no more likely to choose Research than ex-Jews in the Research fields and than ex-Protestants in the Multiple Preference fields), it appears to us that the religious differentials in Table 2.19 stem from a slightly higher Research interest among steadfast Jews and from sampling variation in the various groups of Christian apostates (the case bases for apostate Catholics are all 30 or less).

In sum: There are no consistent, strong religious differences in preference for professional activities, but there is a trend toward greater research interest among Jews and among those who have become apostates from their original religion. These results may be summarized in terms of Q coefficients of association, as follows:

TABLE 2.21

Q COEFFICIENTS FOR RELIGIOUS DIFFERENCES

a) Association with Preference for College Training

Religious Difference	Field		
	Humanities	Multiple	Research
Jews (v. Christians)*	-.13	-.24	-.08
Apostates (v. Steadfast)			
Original Christians	-.11	(-.35)	-.16
Original Jews	+.10	-.06	-.06

b) Association with Preference for Research

Religious Difference	Field		
	Humanities	Multiple	Research
Jews (v. Christians)*	.16	(.24)	(.20)
Apostates (v. Steadfast)			
Original Christians	(.25)	(.50)	(.20)
Original Jews	.07	.13	.07

*Among Steadfast Jews and Steadfast Christians.

In terms of our criterion for Q values (.20), only the association between apostasy and Research among original Christians is of sufficient size in each field to pass inspection.

The results for sex, marital status and family background variables--SES, Hometown, and Religion, are much like those seen in Chapter I. Save for trends associated with lesser religiosity and Judaism, the early home environments of the survivors are no longer

predictive of career patterns, even though such variables may play a crucial role in the earlier stages of entrance to and graduation from college.

Attitudes and Values

Although the slight results on measures of ability should warn us that the findings in this chapter are not entirely parallel to those in Chapter I, in the case of attitudes and values, again we find a number of acceptable correlations. Just as the occupational value preferences discriminated between students preferring Science, Letters, and Other careers, so similar items distinguish between students preferring Teaching, Research, and Other.

It should be stressed that the findings should not be given undue emphasis. Because Activity Preferences are themselves occupational attitudes, it is hardly extraordinary that other occupational attitudes correlate with them. Furthermore, the available data do not enable us to determine the time order in the relationships, so it is impossible to deny that some of the patterns are the results rather than the preconditions of Activity Preference. Even granting the limited contributions these data can make to unraveling a causal sequence, the findings nevertheless have a contribution to make. The sheer number of items and their psychological meanings when added together give us a considerable insight into the divergences of perspective and goals involved in Activity Preferences, and thus enable us to see that the three Activity Preferences do not merely represent simple discrete taste preferences like selections from among Chocolate, Vanilla, and Butter Pecan. Rather, the three choices stand at the center of a web of interrelated attitudes so that it may be fairly concluded that Teachers, Researchers, and Professional Practitioners view the occupational world in essentially divergent ways.

The measures involved are these:

1) "Cultural" Interests. A Guttman scale based on answers to "If you did not have an opportunity to have ready access to the activities listed below, how dissatisfied would you be with your place of work?" for "Opportunities to hear live performances of serious music," "A theater which shows foreign and art films," and "Opportunities to see serious drama."

2) Neuropsychiatric Symptoms.[13] Total items checked in response to "How often are you bothered by... Headaches, Insomnia, Periods of feeling blue, Periods when you can't force yourself to work, Worries about your school work, Loss of appetite, Confusion about your goals in life?"

3) Cosmopolitanism (v. Localism). "In the long run, would you rather be known and respected....Throughout the institution where you work...or...Among specialists in your field in different institutions?"

4) Intellectualism. "Do you think of yourself as an 'intellectual'....Definitely, In many ways, In some ways, Definitely not?"

5) Occupational Involvement. "Assuming that everyone has to commit a certain proportion of his time to eating, sleeping, family, etc., what would be your preference for spending the remainder, after you finish graduate training....I would devote almost all of my uncommitted time to my work....I would devote the bulk of my uncommitted time to my work, but save a little for hobbies, non-professional reading, community activities, etc....I would try to set definite limits on my work, so that quite a bit of my non-committed time could go for hobbies, non-professional reading, community activities, etc."

6) Political Interest. "How interested are you in political issues and political affairs?...I am very interested, and I would like to be actively involved in political issues and affairs...I am very interested in political issues and affairs, but I don't plan to be active in politics myself...I am interested in keeping up with certain issues and events, but that's all... I am disinterested in political issues and affairs."

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[13] For a detailed analysis of the internal consistency and validity of this index, Cf. James A. Davis, Education for Positive Mental Health: A review of existing research and recommendations for future studies, (National Opinion Research Center Report No. 88, February, 1963), Chapter II.

7) Party Commitment. "How do you lean in national politics...Democratic or Republican or Third Party?" versus "I have no party leanings."[14]

8) Teaching Ideology. An Index based on agreement or disagreement with two items: "A major satisfaction of teaching is in discovering the few excellent students in the class," and "A major satisfaction in teaching is helping you people grow toward emotional and moral maturity." Those giving relative preference to the former are dubbed "Hunters," those giving relative preference to the latter are dubbed "Shepherds."

In addition a version of the Cornell Occupational Values items was included as responses to "Please rate each of the following job characteristics in terms of their importance to you, regardless of the specific job which you would like to have."....

9) A stable, secure future

10) Freedom from pressure to conform in my personal life

11) An opportunity to use my special aptitudes and abilities

12) An opportunity to be helpful to others

13) An opportunity to be useful to society in general

14) A chance to exercise leadership

15) Social standing and prestige in my community

16) Opportunity to be creative and original

17) A chance to earn enough money to live comfortably

18) Opportunities to work with people

19) A chance to achieve recognition from others in my profession

20) Freedom from supervision

Because the graduate students are much more homogeneous and considerably more literate than a cross-section of even college seniors, it was possible to write somewhat more abstract and complex items than

[14]This group was adopted after inspection of the data indicated no associations with preference for one or the other national party.

is usually the case in surveys, and taken together the twenty items cover a considerable number of facets of the occupational world of the intellectual professions.

Table 2.22 presents the 180 Q coefficients which are produced when each of the items is cross-tabulated against each of the three Activity Preferences in each of the three field control groups. Since seventy of the coefficients (those in parentheses in the table) are of .20 or greater in absolute magnitude, it may be concluded that as a group these items show a definite association with Activity Preference.

Taken as a group, the items serve best in distinguishing Researchers (31 coefficients of .20 or greater), while Teachers (18 coefficients) and Others (21 coefficients) are somewhat less often singled out by their attitudes and social values. Similarly, in terms of items showing a strong association within each of the three fields, we find only one for Teaching, one for Other, and six for Research. In a manner of speaking, then, Table 2.22 suggests that "Research" as a career activity preference is more likely to have attitudinal correlations which hold regardless of the field of study, while the characteristics of Teachers and Professional Practitioners are more often specific to a particular field of study. In this sense, we can say that the "Researchers" come closer to being a "Social Psychological Type" than do the College Teachers or Professional Practitioners.

Turning to the specific items:

Items 1 and 2, Cultural Interest and Neuropsychiatric Symptoms, are the only two which do not produce any acceptable coefficients, negative findings which refute certain stereotypes. There has been a tendency to assume that the research-minded student is unduly narrow and perhaps a little maladjusted. Neither idea is borne out by these figures. One potential source for the stereotype of the Researcher as uncultured may stem from the strong divisional differences here.

TABLE 2.22

ACTIVITY PREFERENCE AND ATTITUDES (Q COEFFICIENTS)

Measures and Occupational Values Items	Association with....								
	College Teaching			Research			Other		
	Field								
	Hum.	Multi.	Sci.	Hum.	Multi.	Sci.	Hum.	Multi.	Sci.
1) Cultural Interest	.06	.05	.10	.17	.07	-.04	-.17	-.10	-.15
2) Neuropsychiatric Symptoms	.00	.05	.08	.08	-.05	-.08	-.06	.00	.10
3) Cosmopolitanism	(-.37)	(-.28)	(-.38)	(.58)	(.41)	(.43)	.09	-.13	(-.28)
16) Creative and Original	(-.33)	-.18	(-.26)	(.43)	(.43)	(.37)	.14	(-.25)	(-.37)
18) Work with People	.03	.05	(.52)	(-.35)	(-.63)	(-.43)	.16	(.46)	.18
8) Teaching Ideology	-.13	.10	-.13	(.39)	(.24)	.19	-.12	(-.30)	-.16
11) Use my abilities	-.09	.14	-.10	(.35)	(.21)	.19	-.11	-.08	-.19
12) Helpful to others	.11	(.21)	(.51)	(-.28)	(-.47)	(-.47)	.08	(.27)	.05
5) Involvement	-.02	.18	-.06	(.31)	(.23)	.13	(-.21)	(-.38)	(-.20)
13) Useful to Society	(-.27)	.10	(.29)	.08	(-.23)	(-.25)	(.29)	.12	.05
14) Leadership	-.06	-.13	(.26)	-.04	(-.31)	(-.39)	.08	(.35)	(.31)
19) Achieve Recognition	(-.30)	-.10	(-.29)	-.10	(.20)	(.22)	(.25)	.11	-.05
4) Intellectualism	-.17	.10	-.03	(.34)	.18	.11	-.09	(-.25)	(-.20)
7) Party Commitment	(.24)	(.31)	.08	.04	(-.23)	-.09	.08	-.09	.05
15) Prestige in Community	-.08	.05	.19	-.13	-.17	(-.32)	(.20)	.10	(.31)
17) Money	(-.20)	.00	-.19	.08	-.12	-.02	(.21)	.12	(.38)
20) Freedom from Supervision	-.10	.16	-.03	(.25)	(.28)	.11	-.06	(-.39)	-.10
6) Political Interest	.02	(.20)	.08	-.16	(-.22)	-.11	.06	.06	.10
9) Stable, Secure	(.26)	.02	-.05	(-.28)	.04	-.04	-.15	-.02	.19
10) Freedom from conformity	-.11	.17	.00	.19	.09	.06	-.03	(-.21)	-.10
Total = |.20|	7	4	7	10	13	8	5	9	7

TABLE 2.23

PER CENT HIGH ON INDEX OF CULTURAL INTERESTS

Field	Activity Preference		
	College Teaching	Research	Other
Humanities .	56 (456)	62 (106)	48 (164)
Multiple . .	42 (209)	42 (239)	36 (277)
Research . .	37 (242)	33 (595)	30 (103)
Total	48 (907)	39 (940)	38 (544)

N = ...	2,391
NA, Field or Activity only . . .	422
NA, Cultural Interests	14
NA, Two or more	15
Total N = ...	2,842

When field of study is not controlled, it does not turn out that the College Teacher is more often interested in serious music, foreign films, etc., but this can be explained entirely by the higher rates of Cultural Interest among Humanities students. When field is controlled, the differences vanish. Thus, the Researcher and Professional are not necessarily Philistines, merely less likely to be in Humanities. No such divisional differences, however, occur for Neuropsychiatric Symptoms which are unrelated to Field or Activity Preferences.

The next group of seven items in Table 2.22 shows those which have a consistent relationship with one or more Activity Preference in all three fields--that is, the items which can be considered as general characteristics of the activity types:

a) Cosmopolitanism (preferring to be known and respected among specialists in the field rather than in the institution where you work) is positively associated with Research and negatively associated with Teaching in each comparison. It is thus the only item in the set which fits the model of a "dilemma" between Teaching and Research, which involves a choice between reputation on the local scene or in the national and world professional arena.

b) Creative and Original, an occupational value shown in Chapter I to be characteristic of young people choosing Arts and Science careers in general, is also positively associated with Research, and with one slight exception negatively related to Teaching.

c) Not Circling Working with People, an occupational value shown in Chapter I to be characteristic of young people choosing Science careers, is here shown to be consistently negatively associated with Research. Oddly, it is not positively related to Teaching, except among those in Science.

d) Using my Abilities is (if we allow one coefficient of .19) consistently associated with Research.

e) Opportunity to be Helpful to Others is consistently negatively associated with Research, and again, surprisingly, not consistently associated with College Teaching.

f) Teaching Ideology is (if we allow one coefficient of .19) consistently associated with Research, the researcher being more interested in the few bright students and less interested in helping the less able students. Thus, it is seen that Teachers and Researchers have somewhat disparate definitions of the teaching function.

g) Occupational Involvement is the only item in the set of seven which does not characterize Researchers. Rather, low involvement (i.e., wanting to place limits on the time given to one's job) is characteristic of the Others, those who eschew both Teaching and Research. Since it is also the only item in this set showing a divisional effect, it is worth looking at the raw data.

TABLE 2.24

PER CENT EXPECTING TO SPEND "ALMOST ALL" OR THE "BULK" OF THEIR UNCOMMITTED TIME ON WORK

Field	Activity Preference		
	College Teaching	Research	Other
Humanities	71 (457)	72 (106)	61 (165)
Multiple	60 (213)	65 (239)	50 (279)
Science	61 (243)	60 (595)	53 (104)

N = ...	= 2,401
NA, Activity or Field	420
NA, Involvement	4
NA, Two or more	17
Total N = ...	2,842

In each comparison those choosing Other are distinctly less likely to favor burning the midnight oil, and Humanities students are higher in Involvement than those in Multiple or Science.

With the exception of Involvement, the items serve essentially to provide a psychological portrait of the Research-minded graduate student, one who is not interested in working with people or being helpful to others--particularly the less able others who turn up in his classes; but who is interested in using his abilities, being Creative and Original; and whose occupational world lies in his profession rather than his local institution. Such motivations may not make for the most charming people in the world, but it may be argued that given the structure of the modern American intellectual world--an international market place of relentless competition of a sort that corporate managers might sometimes consider unseemly--their motives are entirely appropriate.

Taken together, these items sketch an interesting portrait of the students drawn toward research careers. The negative items--People and Helpful--might suggest that the Researcher is antisocial and uninterested in his interpersonal environment, being mostly concerned with "using my abilities." Nevertheless, the rather strong associations with Cosmopolitanism and Creative-Original cast doubt on this interpretation. The research-minded student appears quite concerned with the reactions of other people--but particularly those in his profession who can give him the rewards of esteem and professional status. If a single phrase were to serve, it appears to us that the ideal typical researcher is a "prima donna" who has tremendous concerns about people--as an audience. Thus, this study, like a number of others, underlines the idea that there are considerable similarities between the motivations of the research worker and those of the creative artist.

What is less clear, much less clear, is the answer to why the items do not enable us to draw a composite portrait of the College Teacher other than the negative one of the absence of research traits. In particular, it is puzzling that the "service" values such as working with people and being helpful to others do not consistently distinguish the Teachers. If speculation may be permitted, the following comes to mind. It may be possible that to the graduate students "College Teaching" stands for a more general occupational role than sheer performance on that challenging stage whose scenery consists of a blackboard. To the extent that the College Teacher is seen as a dignified, tweedy gentleman who reads books, lives the "good life" (preferably in an Ivy clad, small New England Liberal Arts College), and is vaguely involved in the "world of ideas," items bearing on teacher-student interpersonal relations might not discriminate. While it is the writer's personal impression that a large number of students who claim interest in "College Teaching" are less interested in grading blue books than in drinking sherry in the faculty club, the writer's personal impression hardly constitutes research evidence on the question.

The remaining eleven items show some relationships, but not consistent size or direction in all three fields. The inconsistency in some cases appears to stem from peculiar characteristics of the fields (Interest in Leadership shows positive relationships with Other in Science and Multiple, but not Humanities, perhaps because Scientific and Social Science training is a more realistic route to administrative or political positions than Humanities--the opposite, of course, of the British system) or from the fact that they are less powerful and hence spotty predictors. Rather than discussing each in turn, let us merely summarize the results as follows:

A) Correlates of College Teaching Preference:

1) Humanities:

Recognition	-.30
Useful to Society	-.27
Stable, Secure	.26
Party Commitment	.24
Money	-.20

2) Multiple:

Party Commitment	.31
Political Interest	.20

3) Science:

Useful to Society	.29
Recognition	-.29
Leadership	.26

B) Correlates of Research:

1) Humanities:

Intellectualism	.34
Stable, Secure	-.28
Freedom from Supervision	.25

2) Multiple:

Leadership	-.31
Freedom from Supervision	.28
Useful to Society	-.23
Party Commitment	-.23
Political Interest	-.22

3) Science:

Leadership	-.39
Prestige	-.32
Useful to Society	-.25

C) Correlates of Professional Practice (Other):

1) Humanities:

Useful to Society	.29
Recognition	.25
Money	.21
Prestige	.20

2) Multiple:

Freedom from Supervision	-.39
Leadership	.35
Intellectualism	-.25
Freedom from Conformity	-.21

3) Science:

Money	.38
Prestige	.31
Leadership	.31
Intellectualism	-.20

Whether these results should be considered as complex interactions between field of study and Activity Preference, or evidence of the unseen hand of sampling fluctuations, is left to the reader for his judgment.

Conclusions

The results of these analyses may be reviewed by dividing them into two groups, a set of negative findings which appear to challenge certain existing stereotypes regarding Activity Preference, and a set of positive findings which help to describe the students who opt for one or another of the three preferences.

Beginning with the negative results, in this 1958 national sampling within broad field groupings, students preferring Teaching, Research, and Other are not consistently different in family backgrounds, sex, faculty ratings of academic ability, graduate school quality and control, interest in humanistic culture, and personal adjustment, certain stereotypes to the contrary not being supported by these data.

As for the positive results, while we were unable to pinpoint many items associated with preferences for College Teaching

or Other, we did establish a complex of characteristics which are the hallmarks of the Researcher regardless of his field--Religious Apostasy among Christians, Cosmopolitanism, interest in Originality, lack of interest in Working with People, interest in "Using my Abilities," lack of interest in being Helpful to Others, and a "Hunting" attitude toward Teaching.

Perhaps even more important than any of these are the tabulations showing that fields of study in the Arts and Sciences vary considerably in their preference mix, the variation being so great that he who speaks for "graduate students" on the basis of experience with "his" graduate students, courts folly.

Employer Preference: Attitudes Toward Academia

The question of the future employer is hardly problematic for the one-third of the graduate students who prefer careers as "college teachers." However, for those students who placed college teaching as second or lower in rank, a degree of free choice is available. For the research minded graduate student, opportunities are available in government, industry, non-profit associations, and international organizations, as well as the traditional academic settings; and for those students who fall into "Other," there is an even wider variety of possibilities.

Examination of the factors related to preference in future employer not only completes our three-fold analysis of occupational dimensions (field, activity, employer), but it also casts some light on a major problem in modern America. In an era of rising college enrollments,[15] heightened industrial and governmental demands for

[15]We do not wish to appear to be taking sides in the debate on the realism and unrealism of concerns about a College Teacher shortage. Indeed, since this sample of graduate students, by excluding departments which grant only the master's, is biased toward the leading institutions, the students in this sample may not have experienced much improvement in academic placement over the tight 1950's. The expansion in higher education which is producing the

trained professionals, and the creation of such hybrid quasi-academic institutions as the National Institutes of Health, Argonne Laboratories, and The Survey Research Center, the eventual employer of America's Arts and Science graduate students is a matter of some concern.

Rather than examining a number of possible employers, we shall examine attitudes toward academic positions, as defined by the questionnaire item used in construction of the Career Typology. In addition, we shall limit our attention to those students falling into "Research" and "Other" in the Activity Preference categories, so that characteristics related to institutional preference are not confused with correlates of preference for the college teaching functions.

Again, there is little beyond conjecture to guide us. One might speculate that because academic positions are traditionally lower in salary (a "fact" which is quite debatable when one considers rising faculty salaries and outside sources of income for professors, but which is accepted by the sample),[16] seniority-ridden, and vacation-laden, it is possible that academic positions will attract the "security-minded," while the "ambitious" seek their goals elsewhere. On the other hand, the glamour of university positions and the high prestige of college professors (who rate above bankers, lawyers, state government department heads, etc., in studies of occupational prestige) may attract those seeking prestige. Still again, the fact that college faculties work independently without direct supervision (i.e., a college professor has no "boss," even

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"Teacher shortage" is essentially in the lower quality institutions which exert little appeal to graduate students in the major universities. This paradox--a statistical increase in demands for college faculties, along with a continued dearth of openings in schools considered to be on a par with the student's graduate institution--has not received much comment. One can argue that what is really going on in America today is a vast swelling of the "lower-middle" sections of the college peck order, along with no change in graduate training programs which continue to produce Ph.D.'s for non-existent vacancies in the nation's most glamorous institutions.

[16] Cf. James A. Davis, et al., Stipends and Spouses (Chicago: University of Chicago Press, 1962), pp. 99-104.

though other professors may "out-rank" him) may make such jobs attractive to those seeking independence, or it may be that the more altruistic are attracted to the "noble" calling of university and college positions. As a matter of fact, only one of these conjectures is supported by the data, but they serve to attune us to the possible issues raised for the student who is making a career decision.

Lacking a more definite guide, let us proceed to consider the items used in the preceding analysis of Activity Preference to see whether they are predictive of inclinations toward or away from Academia.

Academic Factors

Even after the College Teachers are excluded from the sample, graduate fields vary considerably in their attitudes toward academic positions (Table 2.25).

At one extreme, three-fourths or more of the Researchers and Others in Zoology, Anthropology, and Philosophy favor Academia; while at the other, 28 per cent of the Geologists take this position. Divisional differences, while not as sharp as in the case of Activity, are considerable. As might be expected, the Physical Sciences are relatively non-academic, their highest percentage being 56 for Mathematics, and Humanities students generally lean toward college and university positions even when College Teaching is not their first choice. Perhaps even more interesting is the wide range within the Biological Sciences and Social Sciences. In the former, the fields oriented toward man and the organisms which plague him (Physiology and Microbiology) show a distinctly less academic leaning. Among the Social Sciences, Economics and Political Science, the more policy-oriented fields, along with Clinical Psychology, a practice-oriented field, are much lower than Anthropology, Psychology and Sociology.

TABLE 2.25

PER CENT CIRCLING ACADEMIC JOBS AS "MUCH MORE" OR "SLIGHTLY MORE" DESIRABLE IN TERMS OF "MY OWN PERSONAL CAREER PREFERENCE," BY FIELD OF STUDY AMONG STUDENTS CLASSIFIED AS RESEARCHERS OR OTHERS IN ACTIVITY TYPE

Per cent	Physical Sciences	Biological Sciences	Social Sciences	Humanities
80				
78		Zoology (39)		Philosophy (26)
76			Anthropology (28)	
74				English (85)
72		Biochem(55)Botany(28)	Other (17)	
70		Entomology (23)		
68				
66				History(100)
64			Psych.(47)Socio(44)	Languages (39)
62				
60				
58		Other (44)		
56	Mathematics (110)			
54		Microbiology(36)		
52	Other (31)			Other (21)
50				
48	Physics (197)	Physiology (19)		
46			Economics (81)	
44	Chemistry (218)		Poli. Sci. (78)	
42				
40				
38				
36			Clinical Psych (126)	
34				
32				
30				
28	Geology (78)			
26				
24				
22				
20				

N =	1,570
Inter-Divisional	8
College Teachers	947
NA or Unclassifiable on Activity	317
Total N =	2,842

Numbers in parentheses are case bases.

On the basis of these findings, fields of study were divided into the more and less academically-oriented, and this dichotomy was introduced into all subsequent tabulations. Although a number of consistent correlates were found, very few of them were as strong as the departmental difference. As in the case of Activity Preference, the traditions and occupational structures of particular fields appear to be more important than personal characteristics as determinants of academic inclinations.

Turning to the academic factors of "socialization," quality of graduate institution, public versus private control, and faculty ratings of ability--only the first two produce consistent relationships within the field grouping.

Using the indirect measure of "socialization" discussed above, there is a suggestion that continued exposure to graduate study leads toward an academic orientation.

TABLE 2.26

STAGE OF STUDY IN 1958 AND PREFERENCE FOR ACADEMIC JOBS, CONTROLLING FOR 1959 CONTINUATION STATUS AND FIELD OF STUDY, AMONG RESEARCHERS AND OTHERS
(Per cent Preferring Academic Jobs)

Stage of Study		Field of Study	
1958	1959	More Academic	Less Academic
Advanced	-	76 (225)	55 (450)
Beginning	Continued	69 (183)	38 (321)
Beginning	Left	59 (113)	29 (167)

N =	1,459
College Teachers	949
Unclassified Fields	95
NA on Preference or Status	339
Total N =	2,842

Beginning students who continued in 1959 were somewhat less likely to prefer academic posts than advanced students, a difference suggesting that exposure to graduate school has an academic effect. However, because beginners who were "destined" to drop out were considerably less academic minded, it is entirely possible that the observed difference can be explained by selection (even though the Ph.D. is useful for any sort of career, it is only "obligatory" in academic jobs and it is plausible to assume that the academic minded would be more tenacious in its pursuit).

In the case of school quality, Q coefficients of .21 in the more academic fields and .28 in the less academic (for the contrast between level I and levels II and III) indicate that among students not oriented toward college teaching, those in the prestige institutions are more often interested in academic positions. While school quality was seen to be unrelated to activity preference, it is associated with academic preference. Possibly the leading schools have an impact on career plans, but more likely the causality runs the other way, for previous analyses revealed that a goodly proportion of the graduate students in the lower ranking schools are already holding down full-time non-academic jobs and pursuing graduate degrees through part-time studies.[17]

The lack of acceptable coefficients for faculty ratings of ability may come as a surprise. Actually the two Q values are .28 and .18, and thus very close to the criterion of consistent coefficients of .20 or greater. We might hedge a little and say that there is some trend in the direction of more able students preferring academic positions. Even so, one may ask why the relationship is not pronounced, particularly since the 1958 NORC survey of 34,000 graduating seniors showed a rather strong association between undergraduate

[17] James A. Davis, et al., op. cit., pp. 13-17, 75-78.

academic performance and preference of academic positions, within fields of anticipated graduate study.[18] The following hypothesis comes to mind. The 140 or so universities which offer the Ph.D. in an Arts and Science field--the universe sampled in this study--constitute an elite group among the much larger number of schools which offer some graduate training in these fields and it may be that the low relationship is due to selectivity.

The process might work as follows: If graduate schools tend to attract students of a particular ability level, and more able students prefer academic posts, then the elite institutions would tend to have a high proportion of academically-oriented students along with the top performers among the non-academic, while the remaining institutions would have a lower proportion of academically-minded graduate students. If so, within a group of institutions similar in quality (and within a particular institution, remembering that the faculty rating is in terms of the standards of the local department) there would be little relationship between ability and career preference, even though for the total group of graduate students the correlation is quite strong. Again we see the idea, first advanced in Chapter I, that the characteristics of graduate students and graduate schools must be viewed in the perspective of the extraordinary amount of selection by which the graduate students in Ph.D.-granting institutions have been winnowed from the general population of young people.

Personal and Social Characteristics

A similarly meagre result appears in the tabulations for personal and social background characteristics. As in the analysis of activity preference, sex, marital status, presence of children,

[18] Cf. James A. Davis, Great Aspirations (National Opinion Research Center Report No. 90, March, 1963).

father's occupation,[19] and size of hometown produce essentially nothing in the way of consistent coefficients.

As in the analysis of activity preference, a religious difference does appear. Coefficients (of .21 and .44) for apostasy among original Protestants, Catholics and Jews indicate that the student who has abandoned his original religion is somewhat more likely to opt for an academic job.

TABLE 2.27

ORIGINAL RELIGION, RELIGIOUS APOSTASY, AND PREFERENCE FOR ACADEMIC JOBS, CONTROLLING FOR FIELD, AMONG RESEARCHERS AND OTHERS

Original Religion	Field: More Academic — Current Religion: Same		More Academic — Current Religion: None		Less Academic — Current Religion: Same		Less Academic — Current Religion: None	
Jewish . . .	71	(44)	80	(25)	42	(92)	63	(41)
Catholic . .	67	(85)	77	(22)	39	(175)	70	(30)
Protestant .	64	(192)	72	(87)	33	(332)	56	(131)
Total.	66	(321)	75	(134)	36	(599)	59	(202)
Q .	+.21				+.44			

N = ...	1,256
NA or None on Original Religion	234
NA or Unclassified in Field or Preference . . .	355
NA on Religion and Field or Preference	48
College Teachers	949
Total N = ...	2,842

[19] The negative finding on parental SES is in contrast to Donald Treiman's analysis of the 1961 college senior data. (Cf. his paper, "Social Origins and Choice of Academic Careers," presented at the 58th annual meeting of the American Sociological Association, August, 1963.) Treiman reports a fairly healthy correlation between father's education and preference for academic jobs, among men who anticipated graduate study in physical or social science. Our suspicion is that the "inconsistency," as in the case of academic ability, stems from the selective character of the Ph.D.-granting graduate institutions, although detailed tabulations to resolve the problem are not available at this writing.

For each of the three original religions, the apostate is somewhat more likely to prefer an academic job. As for those who have remained in their original faith, both field groups show an order Jewish - Catholic - Protestant, but the strongest dichotomization (between Jews and Christians) produces Q's of only .14 and .15, so the denominational effect does not meet our criterion.

Because apostasy was shown to be related to activity preference (among Christians, apostates tended to favor research), it is interesting to see both effects at once. Table 2.28 gives the percentage who are apostates by the five groups in the career typology, original religion, and division.[20]

There are exceptions, but in eleven out of twelve comparisons Academics have a higher apostasy rate, and in 18 out of 22 comparisons Researchers have a higher rate than those preferring Teaching or Other. The combined effect is such that, except among the Jewish students, there is a definite association between apostasy and interest in Academic Research (Table 2.29).

The available data do not enable us to pursue the relationship much further; and one should hesitate before concluding that they provide firm evidence for an intellectual tension between religious belief and academic research, particularly since apostasy is not a consistent predictor among Jewish students. The data do suggest, however, that the findings cannot be explained by the Academic Researcher's general disinterest in the institutions outside the ivory tower. If this were the case, we would expect him to also eschew interest in political parties; but Table 2.30 reveals that "political apostasy" is unrelated to career preference.

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[20] Since the field control for Academic Preference is somewhat different from the field control for Activity Preference, when tabulations are presented for both dimensions of the career typology, division seems to be the best "all purpose" control.

TABLE 2.28

APOSTASY AND CAREER TYPE, CONTROLLING FOR ORIGINAL RELIGION AND DIVISION

(Per cent Reporting Current Religion as None)

Division	Preference →	Original Religion: Protestant			Catholic			Jewish		
	↓	Research	Other	Teaching	Research	Other	Teaching	Research	Other	Teaching
Physical and Biological Science	Academic	33 (212)	21 (21)	22 (180)	22 (59)	21 (14)	9 (70)	32 (56)	- (3)	29 (34)
	Not Academic	21 (186)	9 (64)	-	9 (54)	4 (25)	-	20 (40)	30 (10)	-
Social Science	Academic	58 (48)	36 (36)	20 (65)	34 (32)	18 (17)	9 (44)	48 (27)	42 (12)	33 (21)
	Not Academic	39 (28)	28 (69)	-	25 (12)	10 (39)	-	- (6)	21 (28)	-
Humanities	Academic	35 (37)	35 (43)	26 (215)	32 (28)	5 (20)	13 (130)	43 (14)	45 (11)	46 (50)
	Not Academic	- (7)	20 (35)	-	- (5)	5 (20)	-	- (1)	- (6)	-

N =	2,134
Original None, Other, or NA on Religion	383
Unclassified or NA on Career Type	271
NA or Other on Both	46
Inter-divisional	8
Total N =	2,842

TABLE 2.29

APOSTASY AND PREFERENCE FOR ACADEMIC RESEARCH, CONTROLLING FOR DIVISION AND ORIGINAL RELIGION
(Q: Academic Research v. All Other)

Division	Original Religion		
	Protestant	Catholic	Jewish
Physical and Biological Science	+.34	+.47	+.17
Social Science .	+.56	+.57	+.37
Humanities . . .	+.20	+.59	-.03

(Note: N is identical with Table 2.28.)

TABLE 2.30

CAREER TYPOLOGY AND PARTY COMMITMENT, CONTROLLING FOR DIVISION
(Per cent Reporting "None" as Political Party Preference)

Division	Preference →	Teaching	Research	Other
Physical and Biological Science	Academic	24 (321)	28 (387)	22 (46)
	Non-Academic	-	27 (314)	30 (110)
Social Science	Academic	12 (159)	22 (123)	11 (82)
	Non-Academic	-	25 (53)	20 (155)
Humanities	Academic	15 (455)	16 (89)	25 (91)
	Non-Academic	-	27 (15)	28 (69)

N = ...	2,469
NA or Unclassified Preference	304
NA, Party and Preference	13
NA, Party	48
Inter-divisional	8
Total N = ...	2,842

The differences are slight, but the academic-minded graduate student is, if anything, less likely to have no political party preference.

In summary, a review of the various academic and personal background characteristics of the graduate students has revealed only two items associated with preference for academic jobs! Those students in higher prestige graduate schools and those who were religious apostates were more likely to prefer academic positions. Because apostasy is also associated with preference for research, there appears to be a clear tendency for high rates of apostasy to be characteristic of students preferring Academic Research as a career.

Attitudes and Values

Although academic and personal background characteristics do not provide many predictors of preference for academic posts, the set of attitude and value items first presented in Table 2.22 includes a number of consistent associations. Table 2.31 summarizes the results.

Although few of the coefficients are of sufficient size to be called "strong predictors," the first nine items in the table do show coefficients of .20 or more in both field groupings. Furthermore, the pattern of the results is rather interesting.

To begin with, the items which make a consistent difference in Academic Preference tend not to be the ones which are related to Activity Preference, a pattern which confirms our notion that the career preferences of these graduate students should be construed as involving more than one dimension of choice. Table 2.32 contrasts the results in Table 2.31 with those in Table 2.22.

TABLE 2.31

ATTITUDE AND VALUE CORRELATES OF ACADEMIC PREFERENCE AMONG STUDENTS PREFERRING RESEARCH AND OTHER, CONTROLLING FOR FIELD OF STUDY (Q COEFFICIENTS)

Item*	Student's Field	
	More Academic	Less Academic
9) Stable, Secure	-.61	-.30
4) Intellectualism	+.32	.44
20) Freedom from Supervision	.22	.47
1) Cultural Interest	.34	.33
5) Involvement	.27	.39
10) Freedom from Conformity	.23	.40
14) Leadership	-.33	-.29
17) Money	-.20	-.36
7) Political Liberalism**	.25	.30
18) People	-.43	-.18
3) Cosmopolitanism	.33	.16
11) Use my Abilities	.30	.10
2) Symptoms	.27	.12
16) Creative and Original	.33	.00
8) Teaching Ideology	.23	.08
19) Achieve Recognition	.27	-.06
12) Helpful to Others	-.02	+.02
13) Useful to Society	-.07	+.12
15) Prestige in Community	-.05	-.10
6) Political Interest	.00	+.10

*Number of items refers to text preceding Table 2.22.

**Party preference was re-scored to contrast "Liberal Democrats" and "Liberal Republicans" with "Conservative Democrats" and "Conservative Republicans."

TABLE 2.32

ACTIVITY PREFERENCE

		Consistent Effect	
		Yes	No
Academic Preference	Yes	Involvement	Stable, Secure Intellectualism Freedom from Supervision Cultural Interest Freedom from Conformity Leadership Money Political Liberalism
	No	People Cosmopolitanism Use my Abilities Creative and Original Teaching Ideology Helpful to Others	Symptoms Achieve Recognition Useful to Society Prestige in Community Political Interest

Only one of the items, Occupational Involvement, meets the criterion in both analyses. Table 2.33 shows the high degree of anticipated involvement in their occupation for those students interested in College Teaching and Academic Research.

TABLE 2.33

OCCUPATIONAL COMMITMENT AND CAREER TYPOLOGY, CONTROLLING FOR DIVISION

(Per cent Highly Committed--i.e., Expecting to Spend "Amost All" or the "Bulk" of Their Uncommitted Time on Work)

Division	Activity Preference	Activity Preference		
		College Teaching	Research	Other
Physical and Biological Science	Academic	59 (327)	71 (398)	51 (47)
	Non-Academic	-	49 (321)	50 (111)
Social Science	Academic	61 (160)	70 (126)	52 (82)
	Non-Academic	-	47 (53)	50 (159)
Humanities	Academic	71 (457)	74 (91)	65 (93)
	Non-Academic	-	60 (15)	56 (72)

N =	2,512
NA, Commitment	5
NA or Unclassified on Career Type	312
NA, Commitment and Career Type	5
Inter-Divisional	8
Total N =	2,842

The difference is quite clear: College Teachers and the Academic Researchers more often expect to spend their "free time" on their careers, while those--Non-Academic or Academic--who lack a calling for teaching or research are less likely to do so (a phenomenon long known to the wives and children of college professors, but which has previously been limited to anecdotal evidence).

What then are we to make of the items which are associated with preference for academic posts but not with Activity Preference? Taken as a group they seem to have a common thread: Negatively, a rejection of the conventional success values of Security (an irony, for few jobs are more secure than academic ones), money, and leadership; and positively, the endorsement of "Culture," "Freedom," and "Liberalism"--a complex of values, perhaps best systematized as high probability of subscribing to The New Republic. It is no wonder that the late President Kennedy received such emotional support from American college professors.

Although not the strongest coefficients in the batch, the data on political preference make the point clearly. Table 2.34 shows Academic Preference for those students giving their party preference as Liberal Democrat, Conservative Democrat, Liberal Republican, or Conservative Republican.

TABLE 2.34

PARTY PREFERENCE AND ACADEMIC PREFERENCE AMONG THOSE NOT PREFERRING COLLEGE TEACHING
(Per cent of Academic Preference for students giving Party Preference)

Party Preference	Field			
	More Academic		Less Academic	
	Democratic	Republican	Democratic	Republican
Liberal	73 (220)	73 (91)	53 (312)	41 (207)
Conservative	62 (55)	61 (31)	38 (102)	25 (69)

N =	1,067
Third Party or No Party	392
NA or Unclassified Career	296
NA or Unclassified Field	80
NA, Political Preference	31
NA, two or more of the above	27
College Teachers	949
Total N =	2,842

Liberalism and Intellectualism appear to be the magic words, a pairing which gives us some further perspective on the previous findings regarding religious apostasy.

It is important, in interpreting these results, to note two items which do not discriminate: Helpful to Others, and Useful to Society. Offhand, one might expect that values of "Idealism" or "Service" would be related to preference for academic life, but these exceptions suggest that Liberalism and Intellectualism summarize the situation more precisely.

It appears that the academic-minded Arts and Science graduate student is not especially service-minded, but rather yearns for a particular cultural milieu characterized by the double-barrelled liberalism of political liberalism and the "Liberal" Arts.

Conclusions

From the large number of specific statistical findings which has been presented in analyzing the occupational preferences in the national sample of Arts and Science graduate students, the following broad generalizations seem to emerge:

1) The fact that different correlates emerge when one examines choice of field, choice of activity, and attitudes toward Academia, confirms our notion that the career preferences of Arts and Science graduate students should be considered as involving several dimensions, not just attitudes toward a specific occupational title.

2) The fact that background characteristics such as parental SES or the students' sex and marital status play such a small part in the findings seems to suggest that the long period of socialization and selection prior to admission to the graduate departments of the leading universities had produced a socially homogeneous group in which personal proclivities rather than social membership was the prime differentiating factor.

3) In analyzing the specific correlates, two rough clusters of attitudes and values can be delineated. The first, including such items as Cosmopolitanism and Creative-Original, seems to be an "artistic temperament" and "drive toward self-expression" which is characteristic of the research-minded student, regardless of his field of study. The second, including such items as Cultural Interests and Political Liberalism, seems to be an orientation toward the secular-liberal-intellectual culture, which is characteristic of the students attracted to posts in Academia.