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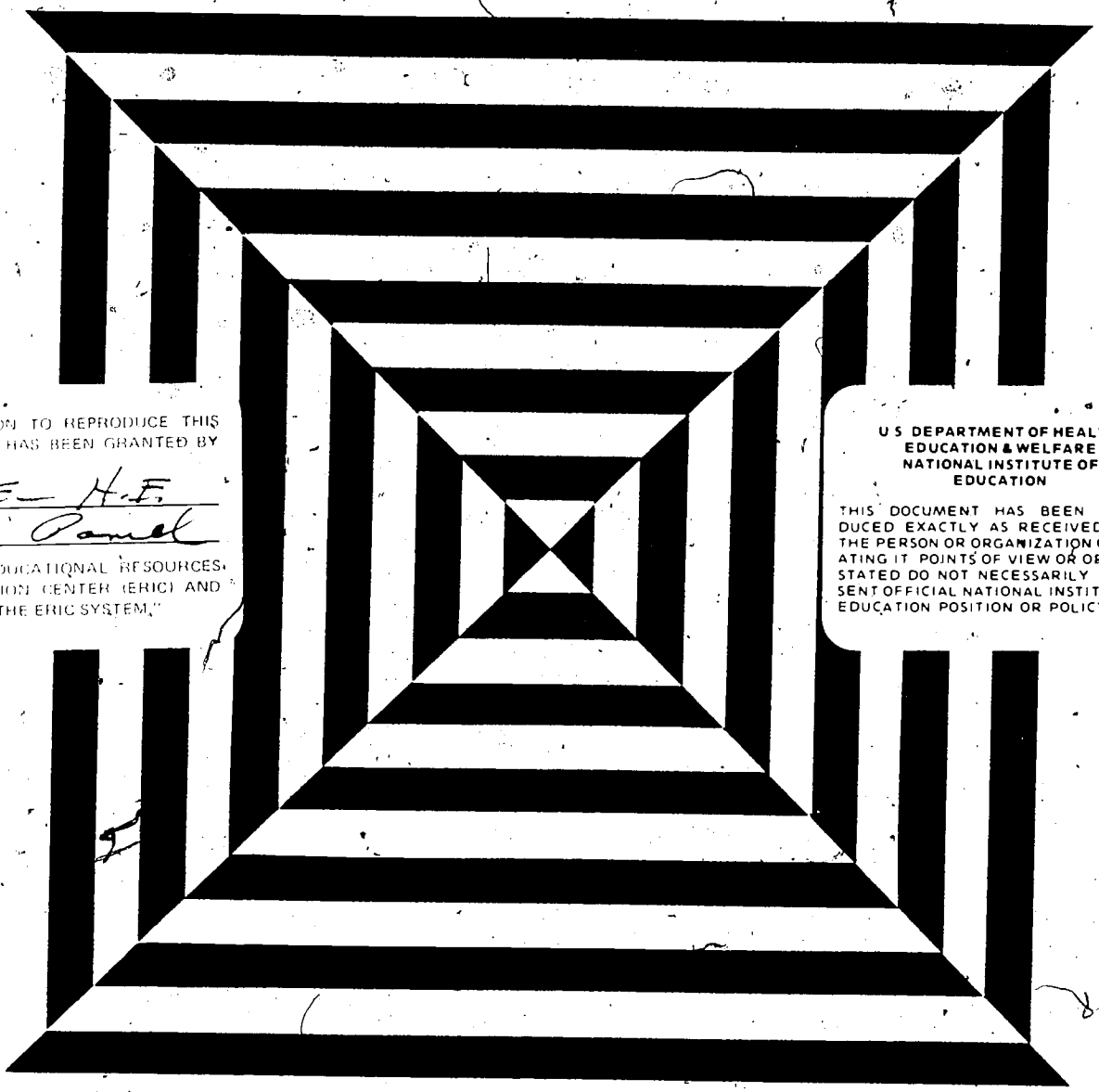
ABSTRACT

The Higher Education Panel of the American Council on Education conducted a survey to determine the size and characteristics of nontenure-track personnel at doctoral-level institutions and the extent to which these personnel are principal investigators in research projects. The survey involved 247 selected Panel institutions that award the Ph.D. or M.D. degree in biochemistry, biology, chemistry, genetics, medicine, microbiology, and pharmacology. During 1976-77, approximately 5,300 nontenure-track faculty and staff were employed full-time and 45 percent were eligible to apply for federal research support as principal investigators. Medical school departments employed 61 percent of nontenure-track employees, and graduate science departments employed 39 percent. Public institutions employed almost two-thirds of those surveyed. Findings on departmental policies and practices pertaining to research involvement on nontenure-track staff are reported. Statistical data, the survey instrument, and research methodology are included. (SW)

Nontenure-Track Science Personnel: Opportunities for Independent Research

Irene L. Gomberg and Frank J. Atelsek



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AMERICAN COUNCIL ON EDUCATION

J. W. Peltason, *President*

The American Council on Education, founded in 1918, is a council of educational organizations and institutions. Its purpose is to advance education and educational methods through comprehensive voluntary and cooperative action on the part of American educational associations, organizations, and institutions.

The Higher Education Panel is a survey research program established by the Council for the purpose of securing policy-related information quickly from representative samples of colleges and universities. *Higher Education Panel Reports* are designed to expedite communication of the Panel's survey findings to policy-makers in government, in the associations, and in educational institutions across the nation.

The Higher Education Panel's surveys on behalf of the Federal Government are conducted under contract support provided jointly by the National Science Foundation, the National Institutes of Health, and the U. S. Office of Education (NSF Contract SRS-77-17251).

Additional copies of this report are available from the Higher Education Panel, American Council on Education, One Dupont Circle, Washington, D. C. 20036.

Highlights

Nontenure-Track Personnel

- During 1976-77, approximately 5,300 nontenure-track faculty and staff were employed full time at doctorate-granting institutions in the seven biomedical and science fields covered in the survey.

- The department of medicine accounted for 40 percent of the nontenure-track personnel; chemistry, 19 percent; biochemistry, 13 percent; biology, 12 percent; pharmacology, 8 percent; microbiology, 7 percent; and genetics, 2 percent.

- Forty-five percent of the 5,300 nontenure-track personnel were eligible to apply for federal research support as principal investigators. During the past three years 18 percent had applied for, and 11 percent had received such support; 9 percent had received support during 1976-77.

- Eight percent of the nontenure-track personnel were ineligible but interested in applying for federal research support.

- Public institutions accounted for almost two-thirds of the nontenure-track personnel, and private institutions for more than one-third; medical school departments employed 61 percent, and graduate science departments, 39 percent.

- Significantly more nontenure-track personnel in medical science departments, 39 percent) than in graduate science departments (34 percent) were eligible to seek federal research support.

- About one-fifth of the nontenure-track faculty and staff were women.

Policies and Practices

- More than one-fifth of responding departments had a formal policy regulating the eligibility of nontenure-track staff to serve as principal investigators.

- Sixty percent of responding departments encouraged or allowed nontenure-track personnel to seek support.

- Nearly one-fourth of respondents discouraged such independent research efforts. The reason most frequently given was that involvement as a principal investigator would interfere with the specific services that nontenure-track personnel were hired to perform.

- Nontenure-track personnel who were faculty members were more frequently encouraged to seek support than were nonfaculty.

- Private institutions were more restrictive in allowing nontenure-track personnel to seek support than public institutions. The top 20 institutions were more restrictive than were all other institutions; and graduate science departments were more restrictive than medical school departments.

Acknowledgments

As with all federally-sponsored Panel surveys, valuable guidance and advice were provided by members of the Federal Advisory Board and its Technical Advisory Committee. Further direction was provided by the HEP Advisory Committee, and suggestions regarding the weighting methodology were given by Joseph Steinberg of Survey Design, Inc.

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Again, we particularly wish to acknowledge the contribution of the members of the Higher Education Panel and our representatives at each survey institution, without whose continued cooperation and assistance none of these surveys would be possible.

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Background

Little information now exists on the employment of nontenure-track personnel at doctoral-level colleges and universities. Of particular concern to policy-makers in government and the academic community is the extent to which members of this group are involved in the research process as principal investigators. Therefore, the National Institutes of Health asked the American Council on Education, through its Higher Education Panel, to conduct a survey for the purpose of determining the size and characteristics of this population, with particular reference to health-related fields. It is hoped that the findings reported here will provide useful insights for NIH and the research institutions themselves into the utilization of this manpower resource in biomedical research.

Methods Summary

The Higher Education Panel is a continuing research program established at the American Council on Education in 1971 to conduct limited-scale surveys on questions of policy interest to the higher education community and to government agencies. The Panel is a disproportionate stratified sample based on a network of campus representatives at 760 colleges and universities drawn from the more than 3,000 institutions of higher education in the United States.

The institutions eligible for this survey were the 311 colleges and universities in the population that award the Ph.D. or the M.D. In mid-July 1977, the survey instrument (Appendix A) was mailed to the 258 Panel institutions within this eligible population. The inquiry was specifically directed to heads of the following doctorate-level departments: biochemistry, biology, chemistry, genetics, medicine, microbiology, and pharmacology.

Respondents from these departments were asked to report the total number of nontenure-track personnel, by sex, who were employed full-time in their departments during the 1976-77 academic year.[1] They were also asked to indicate whether these persons were eligible for, had applied for, or had received federal support for independent research. A separate section of the questionnaire sought information about institutional and departmental policies and practices.

Usable responses were received from 247 institutions, or 96 percent of those sampled. National estimates were computed from the survey responses on the assumption that, within each stratification cell, the departmental structures of the Panel institutions are representative of the departmental structures of the eligible institutions in the population. The final weights were obtained in two stages: The first stage adjusted for departmental nonresponses for the responding institutions in each cell, and the second stage adjusted for institutional nonresponse for each item. Appendix B describes the stratification design for weighting to national estimates.

The weighted data are presented in Tables 1-12 by institutional control (public or private), by level of NIH research support (top 20, bottom 20, all other), and by departmental classification (graduate science or medical school). Tables 13-20 show the unweighted responses to questions about policies and practices.

Findings

During 1976-77, approximately 5,300 nontenure-track personnel were employed full time at doctorate-granting institutions in the seven science fields under study (Table 1). Almost two-thirds of these people (63 percent) held positions at public institutions, and a majority (61 percent) were employed in medical school departments. A sizable proportion of nontenure-track personnel was concentrated at the larger, well-established research institutions: The top 20 schools accounted for a full third (33 percent) of the total.

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[1] For the purposes of this survey, the term *nontenure-track* referred to faculty and nonfaculty positions in which the people employed are not normally considered eligible for tenure. The classification was limited to people with a doctorate or a professional degree who were employed full time in the seven selected fields.

The fields with the largest proportions of nontenure-track employees were medicine (40 percent), chemistry (19 percent), biochemistry (13 percent), and biology (12 percent); the fields with the lowest proportions were pharmacology, microbiology, and genetics, which together accounted for fewer than 20 percent of the total (see Table 2).

Rank orderings by field were consistent among the institutional categories examined except that, in medical schools, about two-thirds (64 percent) of nontenure-track personnel were in departments of medicine, 14 percent in biochemistry, and 12 percent in pharmacology. In graduate science schools without departments of medicine, nearly half (48 percent) of the nontenured staff were in chemistry departments, and more than one-fourth (29 percent) were in biology departments.

Research Involvement of Nontenure-Track Personnel

Almost half (45 percent) of the nontenure-track personnel covered in this survey were considered eligible by their departments or institutions to apply for federal research support as principal investigators (Table 3). Eighteen percent had applied for such support over the past three years, and 11 percent had actually received federal funds (in the single year 1976-77, 9 percent received support). Thus, the data suggest that doctoral-level staff in nontenure-track positions at doctoral-level colleges and universities constitute a substantially under-utilized resource in the nation's biomedical research effort.

The status of nontenure-track personnel varied slightly by field. Only one-third of the nontenure-track staff in chemistry and biology were regarded by their departments as eligible to apply for support as principal investigators, compared with more than one-half of the staff in medicine and microbiology (55 percent and 54 percent, respectively).

Nontenure-track personnel in medicine had the greatest success in obtaining federal support as principal investigators, both since 1974-75 and during 1976-77 (14 percent and 12 percent, respectively). In contrast, during the past three years, nontenure-track staff members in biology and chemistry were least likely to get their research applications funded (8 percent for each field).

The proportions of nontenure-track personnel who were ineligible but were thought to be interested in acting as principal investigators differed substantially by field. As many as 20 percent of the genetics departments staff, but as few as 4 percent of the medicine department staff, were ineligible but nonetheless interested in seeking support for independent research.

Additional insight comes from examining the research status of nontenure-track personnel in relation to institutional control (public or private), research volume as measured in terms of NIH support (top 20, bottom 20, all other), and type of department (graduate science or medical). These variables are briefly considered below.

Public vs. Private Institutions

The level of research involvement by nontenure-track personnel was roughly the same in public and private institutions. In both cases, more than two-fifths of faculty and staff members were eligible to apply for funding, and nearly one-fifth had applied (Tables 4 and 5).

Private institutions had larger proportions of eligible personnel in the fields of medicine, chemistry, and biochemistry, whereas public institutions had larger proportions in biology, microbiology, and pharmacology. Yet those institutions with the largest proportions of eligible nontenure-track personnel did not necessarily have the largest proportions of such people applying for research support. For instance, although public institutions had proportionately more eligible personnel in microbiology and biology, private institutions had more people in these fields who had applied for federal support. Similarly, there were more eligible personnel in the field of biochemistry at private institutions, but a larger proportion of eligible personnel at public institutions sought research funding. These data suggest that institutional and departmental practices are important determinants of whether a researcher will seek support.

Nontenure-track applicants at private institutions had higher success rates than those at public institutions in obtaining federal research support.[2] Sixty-four percent

[2] The success rate is the proportion of personnel who received support out of the total number who had applied.

of the applicants at private institutions, compared with 58 percent at public institutions, were successful. This difference held for all comparable fields except chemistry and pharmacology, where more applicants at public than at private institutions received funding (74 percent at public and 60 percent at private institutions in chemistry; 54 percent at public and 50 percent at private institutions in pharmacology).

Further differences were found between the two sectors with respect to faculty and staff members who were not eligible but who were thought to be interested in independent research. Thus, public institutions reported a larger proportion of such people in the fields of biochemistry, chemistry, and microbiology; whereas private institutions had a larger proportion overall and in the fields of pharmacology and medicine.

Differences by Level of Research Support

The NIH-ranked bottom 20 responding institutions differed from the top 20 and from other institutions in several respects (Tables 6-8).[3] Although the number of nontenure-track personnel employed at the bottom 20 institutions was relatively small, a larger proportion was eligible and applied for research support than at the the top 20. Sixty-nine percent at the bottom 20 were eligible, and 26 percent applied; the comparable figures for the top 20 institutions were 46 percent and 20 percent, respectively. Slightly more than twice as many applicants at the top 20 institutions (13 percent) than at the bottom 20 (6 percent) received federal funding.

Eligible nontenure-track personnel at the top 20 had higher application rates than their counterparts at other institutions in all but one field: In chemistry, 44 percent of the eligibles at all other institutions had applied for federal support, compared with only 9 percent at the top 20. Similarly, success rates were generally higher at the top 20. Overall, 64 percent of the applicants at the top 20 institutions, compared with 59 percent of those at all other institutions, received funding support.

[3] The top 20 comprised 12 public and 8 private institutions; 16 were universities, and 4 were four-year colleges. The bottom 20 comprised 13 public and 7 private institutions; 17 were universities, and 3 were four-year colleges.

This difference held in all fields except biochemistry (where 57 percent of the applicants at all other institutions, compared with 48 percent of those at the top 20 were successful in their grant applications) and in chemistry (72 percent of "all other institutions" applicants versus 48 percent of "top 20" applicants).

The overall proportions of ineligible personnel thought to be interested in independent research did not differ much by NIH rank although the top 20 had relatively high proportions of such people in four fields: In genetics, nearly 40 percent of nontenure-track staff members were ineligible but interested; in pharmacology, nearly 30 percent; in biochemistry, 14 percent; and in microbiology, 13 percent.

Graduate Science vs. Medical School Departments

Each respondent was asked to indicate whether a given department was part of the graduate school or of the medical school. Where only one affiliation could not be decided by the institution, the Panel staff made the designation.

Significantly more nontenure-track personnel in medical school departments (52 percent) than in graduate science departments (34 percent) were eligible to seek federal support as principal investigators, and more applied for and received such support (Tables 9 and 10). In considering only the eligible group, however, one finds that the overall proportions who applied for federal support were similar at medical school and graduate sciences departments (about two-fifths). The success rates of applicants were also similar for medical and graduate school departments: about three-fifths.

Finally, fewer ineligible staff members in medical school departments (7 percent) than in graduate school departments (10 percent) were interested in applying for federal research support.

Differences by Sex

About 20 percent of the 5,300 nontenure-track personnel covered by this survey were women (Table 1). It is perhaps significant that women tended to be better represented in smaller institutions and in graduate science (rather than medical school) departments.

Although the overall proportions of men and women eligible to seek federal research support were similar (45 percent and 46 percent, respectively), some differences by field were evident (Tables 11 and 12). In microbiology, as many as 60 percent of nontenure-track women and 51 percent of nontenure-track men were eligible. In biology, only 29 percent of nontenure-track men were eligible to apply for support, compared with 46 percent of the women.

Somewhat larger proportions of eligible women than men applied for research support, both overall and in all comparable fields except chemistry. The success rates of the sexes were, however, the same: About three-fifths of those who applied received funding.

Policies and Practices

One important objective of the present survey was to determine the existence of policies and practices which either encourage or discourage applications for federal research support by nontenure-track personnel. The data obtained from Panel representatives and summarized in Tables 13-20 indicate, first, that more than one-fifth of the responding departments had some formal policy governing the eligibility of nontenure-track faculty and staff members to serve as principal investigators on federal research projects.[4] Twenty percent had such a policy at the institutional level, 5 percent at the departmental level. Almost three in four of the respondents reported that no formal policies existed at either level.[5]

Departments of medicine were least likely and departments of genetics most likely to have formal policies. Only 14 percent of all responding departments of medicine

[4] Because of the nature of the information sought, the section of the questionnaire dealing with institutional and departmental policies and practices was not weighted to national estimates. Thus, the results are representative only of the responding departments, not of the entire population.

[5] The sum of departments with and without a formal policy may not equal 100 percent because of nonresponse. Further, related subtotals may not add because at some institutions' formal policies exist at both the departmental and institutional levels.

reported the existence of a formal policy (in all cases at the institutional level), as compared with 32 percent of genetics departments. Except for genetics, at least 70 percent of the departments in each field surveyed had no formal policy on either the institutional or departmental level.

In general, more responding departments in public than in private institutions (24 percent and 20 percent, respectively) had formal policies governing eligibility to head a research project. Formal policies were particularly evident among the top 20 institutions, most notably in the fields of chemistry, biology, and pharmacology.

Departmental respondents were specifically asked whether nontenure-track personnel were discouraged or encouraged (or at least allowed) to seek support as principal investigators. Sixty percent of the departments encouraged, or at a minimum allowed, such efforts, but nearly 25 percent discouraged independent research activities. The reason most frequently given for the latter policy was that the high degree of involvement required of a principal investigator would interfere with the specific services that nontenure-track personnel were hired to perform (mentioned by two-thirds of all "discouraging" departments). Three-fifths of these departments indicated limited laboratory space and equipment was a reason for this policy.

Respondents also cited other reasons for their restrictive practices: Several mentioned financial concerns, such as cost sharing and providing space and support facilities when research is funded and the commitment for continued support when funding is terminated. Others said that serving as a principal investigator could be interpreted as a step toward tenure-track status and that an institution's research directions should be set by qualified and credentialed faculty members. Still others believed that these employees lack the necessary training and experience. Finally, many felt that the temporary nature of nontenure-track appointments might prohibit such personnel from completing their research projects.

The nontenure-track person who was a faculty member was more likely to be encouraged to apply for federal research funding than his/her nonfaculty counterpart. Of all responding departments that allowed or encouraged nontenure-track staff to seek such research support, about 90 percent encouraged faculty members, but only 50 percent encouraged nonfaculty personnel.

The data indicate, further, that

- Public institutions were more likely than private institutions to encourage nontenure-track personnel to seek research support (63 percent of departments at public institutions, as opposed to 53 percent of departments at private institutions, encouraged such efforts).
- The practices of larger research institutions tended to be more restrictive than those of smaller institutions. Thirty-two percent of the departments at the top 20 responding institutions discouraged nontenure-track personnel from seeking support, compared with 3 percent of the departments at the bottom 20 institutions and 25 percent at all other institutions.
- In general, graduate science departments were more likely than medical school departments to discourage independent research among nontenure-track members.

Conclusions

The data confirm the existence of a substantial population of doctoral-level scientists who occupy nontenure-track positions at advanced degree-granting institutions. While necessarily tentative, the data suggest that, for reasons of policy, tradition, or low expectations, these scientists are only marginally engaged as principal investigators. Thus, while almost half of nontenure-track personnel were considered eligible to conduct independent research, fewer than 10 percent were so engaged. It is important to note, however, that the success rate of eligible nontenure-track applicants in getting federal research support has been typically high. These findings should be of particular interest to manpower planners and others concerned with optimal utilization of the nation's research manpower resources in health-related fields.

Table 1

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Institutional Characteristics, 1976-77

Institutional Characteristic	Number of Nontenure-track Personnel	Percent	Percent Women
All institutions	5,300	100.0	19.6
Public institutions	3,400	62.7	18.3
Private institutions	2,000	37.3	21.9
Top 20 responding institutions[a]	1,781	33.3	17.8
Bottom 20 responding institutions[a]	35	.7	25.7
All other institutions	3,531	66.0	20.4
Medical school departments	3,300	61.4	17.3
Graduate science departments	2,100	38.6	23.2

[a]These data are unweighted.

Note: On this and subsequent tables, subtotals may not add exactly to their corresponding totals because of weighting and rounding.

Table 2

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Field, 1976-77

Field	Number	Percent
Total	5,300	100.0
Medicine	2,100	39.5
Chemistry	1,000	18.9
Biochemistry	700	13.4
Biology	600	11.6
Pharmacology	400	7.7
Microbiology	400	7.2
Genetics	100	1.6

Table 3

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77:

TOTAL (N=311)
(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(N=5,300)	(N=700)	(N=600)	(N=1,000)	(N=100)	(N=2,100)	(N=400)	(N=400)
Eligible to apply for federal support as principal investigator	45.3	42.6	34.4	33.4	41.9	54.8	54.0	39.4
Applied for federal support since 1974-75 as principal investigator	18.3	16.8	12.4	12.4	19.8	21.6	24.7	20.5
Received federal support since 1974-75 as principal investigator	11.0	9.2	8.4	8.5	11.6	13.9	9.6	10.9
Received federal support in 1976-77 as principal investigator	9.3	8.7	7.7	6.0	11.6	11.9	7.8	8.7
Not eligible but interested in applying for federal support as principal investigator	8.0	12.3	8.7	10.0	19.8	3.5	7.8	15.7

Table 4

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77:
PUBLIC INSTITUTIONS (N=174)

(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(N=3,400)	(N=400)	(N=300)	(N=700)	*	(N=1,500)	(N=300)	(N=200)
Eligible to apply for federal support as principal investigator	45.7	39.1	37.5	27.9	-	53.5	56.8	51.1
Applied for federal support since 1974-75 as principal investigator	17.7	17.9	11.4	11.9	-	18.7	24.1	26.4
Received federal support since 1974-75 as principal investigator	10.3	9.2	6.4	8.8	-	11.5	9.0	14.3
Received federal support in 1976-77 as principal investigator	8.4	8.7	6.0	5.0	-	10.1	6.8	10.8
Not eligible but interested in applying for federal support as principal investigator	6.6	15.1	9.0	11.6	-	.7	9.0	10.0

* Less than 50 cases

Table 5

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77:
PRIVATE INSTITUTIONS (N=137)

(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0 (N=2,000)	100.0 (N=300)	100.0 (N=300)	100.0 (N=400)	100.0 (N=100)	100.0 (N=600)	100.0 (N=100)	100.0 (N=200)
Eligible to apply for federal support as principal investigator	44.6	46.7	31.6	43.5	20.8	57.8	47.9	24.6
Applied for federal support since 1974-75 as principal investigator	19.2	15.5	13.3	13.2	11.3	28.4	26.1	13.1
Received federal support since 1974-75 as principal investigator	12.3	9.3	10.2	7.9	11.3	19.5	10.9	6.6
Received federal support in 1976-77 as principal investigator	10.9	8.7	9.3	7.9	11.3	16.2	10.1	6.0
Not eligible but interested in applying for federal support as principal investigator	10.4	9.0	8.4	7.0	30.2	9.9	5.0	23.0

Table 6

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77:
TOP 20 INSTITUTIONS*
(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0 (N=1,781)	100.0 (N=182)	100.0 (N=141)	100.0 (N=244)	100.0 (N=23)	100.0 (N=971)	100.0 (N=108)	100.0 (N=112)
Eligible to apply for federal support as principal investigator	45.8	34.1	15.6	27.9	43.5	56.3	48.1	48.2
Applied for federal support since 1974-75 as principal investigator	20.5	13.7	8.5	2.5	21.7	26.0	28.7	30.4
Received federal support since 1974-75 as principal investigator	13.2	6.6	6.4	1.2	17.4	18.1	12.0	17.0
Received federal support in 1976-77 as principal investigator	11.2	6.6	6.4	1.2	17.4	15.4	7.4	11.6
Not eligible but interested in applying for federal support as principal investigator	7.7	14.3	4.3	5.7	39.1	3.7	13.0	28.6

* Ranked by level of NIH research and development support. These are unweighted data obtained from the top twenty institutions responding to the survey.

Table 7

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77: BOTTOM 20 INSTITUTIONS*

(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0	0	100.0	100.0	0	0	0	100.0
	(N=35)		(N=12)	(N=18)				(N=5)
Eligible to apply for federal support as principal investigator	68.6	-	91.7	44.4	-	-	-	100.0
Applied for federal support since 1974-75 as principal investigator	25.7	-	8.3	27.8	-	-	-	60.0
Received federal support since 1974-75 as principal investigator	5.7	-	0	5.6	-	-	-	20.0
Received federal support in 1976-77 as principal investigator	2.9	-	0	0	-	-	-	20.0
Not eligible but interested in applying for federal support as principal investigator	0	0	0	0	-	-	-	0

* Ranked by level of NIH research and development support. These are unweighted data obtained from the bottom twenty institutions responding to the survey.

Table 8

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77:
ALL OTHER INSTITUTIONS*
(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(N=3,531)	(N=532)	(N=469)	(N=750)	(N=63)	(N=1,143)	(N=277)	(N=297)
Eligible to apply for federal support as principal investigator	44.8	45.5	38.6	34.9	41.3	53.5	56.3	35.0
Applied for federal support since 1974-75 as principal investigator	17.0	17.9	13.6	15.2	19.0	17.9	23.1	16.2
Received federal support since 1974-75 as principal investigator	10.0	10.2	9.2	10.9	9.5	10.3	8.7	8.4
Received federal support in 1976-77 as principal investigator	8.5	9.4	8.3	7.7	9.5	8.9	7.9	7.4
Not eligible but interested in applying for federal support as principal investigator	8.3	11.7	10.2	11.6	12.7	3.3	5.8	11.1

* Ranked by level of NIH research and development support. The data for this category were artifically derived by summing the results of the unweighted top twenty and bottom twenty and subtracting them from the weighted total.

Table 9

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77:
MEDICAL SCHOOL DEPARTMENTS

(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0	100.0	*	0	100.0	100.0	100.0	100.0
	(N=3,300)	(N=500)			(N=100)	(N=2,100)	(N=200)	(N=400)
Eligible to apply for federal support as principal investigator	52.3	50.9	-	-	37.5	54.8	63.9	36.4
Applied for federal support since 1974-75 as principal investigator	21.2	19.2	-	-	19.4	21.6	27.7	19.1
Received federal support since 1974-75 as principal investigator	13.0	11.3	-	-	11.1	13.9	11.9	10.2
Received federal support in 1976-77 as principal investigator	11.2	10.6	-	-	11.1	11.9	10.4	7.9
Not eligible but interested in applying for federal support as principal investigator	6.6	9.3	-	-	22.2	3.5	5.9	16.5

* Less than 50 people

Table 10

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77:
GRADUATE SCIENCE DEPARTMENTS

(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0 (N=2,100)	100.0 (N=300)	100.0 (N=600)	100.0 (N=1,000)	*	0	100.0 (N=200)	*
Eligible to apply for federal support as principal investigator	34.1	28.2	32.2	33.4	-	-	43.2	-
Applied for federal support since 1974-75 as principal investigator	13.5	12.6	12.0	12.4	-	-	21.3	-
Received federal support since 1974-75 as principal investigator	8.0	5.7	7.7	8.5	-	-	7.1	-
Received federal support in 1976-77 as principal investigator	6.4	5.3	7.1	6.0	-	-	4.9	-
Not eligible but interested in applying for federal support as principal investigator	10.3	17.6	8.0	10.0	-	-	9.8	-

* Less than 50 people

Table 11

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77:

MEN

(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(N=4,300)	(N=500)	(N=400)	(N=900)	(N=100)	(N=1,900)	(N=300)	(N=300)
Eligible to apply for federal support as principal investigator	45.0	43.4	28.7	32.8	35.6	55.2	51.0	40.2
Applied for federal support since 1974-75 as principal investigator	17.5	15.7	9.3	12.5	13.6	21.1	23.1	20.6
Received federal support since 1974-75 as principal investigator	10.6	8.3	5.5	8.7	10.2	13.7	7.2	11.9
Received federal support in 1976-77 as principal investigator	9.0	8.1	5.0	5.8	10.2	11.9	5.2	9.6
Not eligible but interested in applying for federal support as principal investigator	7.5	10.9	8.6	9.9	23.7	3.1	7.6	17.0

Table 12

Nontenure-Track Personnel at Doctorate-Granting Institutions, by Selected Department, 1976-77:
WOMEN
(In Percentages)

Characteristic	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
Total nontenure-track personnel employed full-time	100.0	100.0	100.0	100.0	*	100.0	100.0	100.0
	(N=1,000)	(N=200)	(N=200)	(N=100)	-	(N=300)	(N=100)	(N=100)
Eligible to apply for federal support as principal investigator	46.4	40.2	46.3	37.2	-	52.0	59.7	36.9
Applied for federal support since 1974-75 as principal investigator	21.3	20.1	18.9	11.7	-	25.2	27.6	20.4
Received federal support since 1974-75 as principal investigator	12.7	12.0	14.4	7.6	-	15.7	14.2	7.8
Received federal support in 1976-77 as principal inveatigator	10.9	10.3	13.4	7.6	-	11.8	12.7	5.8
Not eligible but interested in applying for federal support as principal investigator	10.0	16.3	9.0	10.3	-	6.3	8.2	11.7

* Less than 50 women

Table 13

Policies and Practices Affecting Eligibility of Nontenure-Track Personnel to Serve as Principal Investigators:
ALL RESPONDING INSTITUTIONS
(In Percentages)

Statements about Policies and Practices	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
NUMBER OF RESPONDING DEPARTMENTS	619	110	112	141	25	49	103	79
PROPORTION REPORTING THAT:								
A formal policy exists:	22.9	20.9	26.8	25.5	32.0	14.3	19.4	22.8
On departmental level	4.5	1.8	5.4	7.1	8.0	0	1.9	7.6
On institutional level	20.0	20.0	23.2	19.9	32.0	14.3	17.5	19.0
Exceptions may be made to policy	11.8	10.0	15.2	12.1	20.0	10.2	9.7	10.1
No formal policy exists	74.0	74.5	70.5	73.8	56.0	81.6	75.7	77.2
In practice, nontenure-track are discouraged from seeking support:	24.6	32.7	21.4	34.0	32.0	12.2	14.6	19.0
Because of limited lab space and equipment	14.9	24.5	12.5	14.9	24.0	4.1	11.7	12.7
Because they are hired to teach	7.1	3.6	5.4	13.5	8.0	6.1	6.8	3.8
Because they are hired for specific services	16.2	20.0	10.7	24.1	24.0	6.1	10.7	15.2
Because of low probability of funding	4.8	9.1	2.7	5.0	4.0	0	4.9	5.1
Because they have limited appointments	3.9	4.5	1.8	7.8	0	2.0	3.9	1.3
Because of other reasons	5.5	6.4	5.4	6.4	4.0	6.1	4.9	3.8
In practice, nontenure-track are encouraged/allowed to seek support:	59.5	50.9	60.7	51.1	64.0	81.6	62.1	65.8
Applies to faculty	53.0	45.5	50.9	44.7	52.0	73.5	56.3	64.6
Applies to nonfaculty	28.8	28.2	33.0	25.5	28.0	28.6	27.2	31.6
Other	8.7	10.0	9.8	11.3	12.0	8.2	3.9	6.3

Note: Please refer to questionnaire for complete wording of statements about policies and practices.
These data are unweighted and do not necessarily represent the population of eligible institutions.

Table 14

Policies and Practices Affecting Eligibility of Nontenure-Track Personnel to Serve as Principal Investigators: RESPONDING PUBLIC INSTITUTIONS

(In Percentages)

Statements about Policies and Practices	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
NUMBER OF RESPONDING DEPARTMENTS	416	74	64	94	20	36	76	52
PROPORTION REPORTING THAT:								
A formal policy exists:	24.3	23.0	26.6	24.5	30.0	13.9	22.4	30.8
On departmental level	5.5	1.4	6.2	8.5	10.0	0	2.6	11.5
On institutional level	21.2	21.6	23.4	19.1	30.0	13.9	19.7	25.0
Exceptions may be made to policy	12.7	12.2	18.8	8.5	15.0	11.1	13.2	13.5
No formal policy exists	77.6	81.1	68.8	74.5	60.0	94.4	78.9	82.7
In practice, nontenure-track are discouraged from seeking support:	25.0	36.5	17.2	36.2	30.0	8.3	15.8	21.2
Because of limited lab space and equipment	15.6	29.7	10.9	16.0	20.0	2.8	11.8	13.5
Because they are hired to teach	9.6	5.4	7.8	17.0	10.0	8.3	9.2	5.8
Because they are hired for specific services	16.6	21.6	7.8	24.5	25.0	8.3	11.8	15.4
Because of low probability of funding	5.0	10.8	3.1	3.2	5.0	0	5.3	5.8
Because they have limited appointments	3.6	4.1	0	8.5	0	0	3.9	1.9
Because of other reasons	5.3	8.1	3.1	7.4	0	5.6	2.6	5.8
In practice, nontenure-track are encouraged/allowed to seek support:	62.7	51.4	62.5	46.8	65.0	91.7	69.7	76.9
Applies to faculty	56.5	47.3	53.1	42.6	50.0	80.6	63.2	75.0
Applies to nonfaculty	31.5	28.4	37.5	23.4	30.0	33.3	34.2	38.5
Other	8.7	9.5	10.9	9.6	15.0	11.1	5.3	3.8

Note: Please refer to questionnaire for complete wording of statements about policies and practices.
These data are unweighted and do not necessarily represent the population of eligible institutions.

Table 15

Policies and Practices Affecting Eligibility of Nontenure-Track Personnel to Serve as Principal Investigators: RESPONDING PRIVATE INSTITUTIONS

(In Percentages)

Statements about Policies and Practices	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
NUMBER OF RESPONDING DEPARTMENTS	203	36	48	47	5	13	27	27
PROPORTION REPORTING THAT:								
A formal policy exists:	20.2	16.7	27.1	27.7	40.0	15.4	11.1	7.4
On departmental level	2.5	2.8	4.2	4.3	0	0	0	0
On institutional level	17.7	16.7	22.9	21.3	40.0	15.4	11.1	7.4
Exceptions may be made to policy	9.9	5.6	10.4	19.1	40.0	7.7	0	3.7
No formal policy exists	66.5	61.1	72.9	72.3	40.0	46.2	66.7	66.7
In practice, nontenure-track are discouraged from seeking support:	23.6	25.0	27.1	29.8	40.0	23.1	11.1	14.8
Because of limited lab space and equipment	13.3	13.9	14.6	12.8	40.0	7.7	11.1	11.1
Because they are hired to teach	2.0	0	2.1	6.4	0	0	0	0
Because they are hired for specific services	15.3	16.7	14.6	23.4	20.0	0	7.4	14.8
Because of low probability of funding	4.4	5.6	2.1	8.5	0	0	3.7	3.7
Because they have limited appointments	4.4	5.6	4.2	6.4	0	7.7	3.7	0
Because of other reasons	5.9	2.8	8.3	4.3	20.0	7.7	11.1	0
In practice, nontenure-track are encouraged/allowed to seek support:	52.7	50.0	58.3	59.6	60.0	53.8	40.7	44.4
Applies to faculty	45.8	41.7	47.9	48.9	60.0	53.8	37.0	44.4
Applies to nonfaculty	23.2	27.8	27.1	29.8	20.0	15.4	7.4	18.5
Other	8.9	11.1	8.3	14.9	0	0	0	11.1

Note: Please refer to questionnaire for complete wording of statements about policies and practices.
These data are unweighted and do not necessarily represent the population of eligible institutions.

Table 16

Policies and Practices Affecting Eligibility of Nontenure-Track Personnel to Serve as Principal Investigators: TOP 20 RESPONDING INSTITUTIONS

(In Percentages)

Statements about Policies and Practices	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
NUMBER OF RESPONDING DEPARTMENTS	114	21	14	17	8	15	20	19
PROPORTION REPORTING THAT:								
A formal policy exists:	33.3	23.8	35.7	47.1	37.5	26.7	30.0	36.8
On departmental level	6.1	0	7.1	17.6	12.5	0	0	10.5
On institutional level	28.9	23.8	28.6	35.3	37.5	26.7	30.0	26.3
Exceptions may be made to policy	18.4	9.5	21.4	23.5	25.0	20.0	20.0	15.8
No formal policy exists	64.9	76.2	64.3	52.9	50.0	66.7	65.0	68.4
In practice, nontenure-track are discouraged from seeking support:	31.6	33.3	50.0	47.1	50.0	20.0	25.0	10.5
Because of limited lab space and equipment	24.6	33.3	21.4	29.4	50.0	13.3	25.0	10.5
Because they are hired to teach	9.6	4.8	14.3	17.6	0	6.7	15.0	5.3
Because they are hired for specific services	17.5	19.0	14.3	35.3	50.0	0	10.0	10.5
Because of low probability of funding	6.1	19.0	0	5.9	12.5	0	0	5.3
Because they have limited appointments	1.8	0	0	5.9	0	0	5.0	0
Because of other reasons	8.8	4.8	28.6	0	12.5	0	10.0	10.5
In practice, nontenure-track are encouraged/allowed to seek support:	58.8	57.1	42.9	47.1	50.0	73.3	65.0	68.4
Applies to faculty	51.8	57.1	42.9	35.3	25.0	60.0	55.0	68.4
Applies to nonfaculty	27.2	23.8	21.4	35.3	25.0	6.7	45.0	26.3
Other	7.0	0	14.3	17.6	0	6.7	5.0	5.3

Note: Please refer to questionnaire for complete wording of statements about policies and practices.
These data are unweighted and do not necessarily represent the population of eligible institutions.

Table 17

Policies and Practices Affecting Eligibility of Nontenure-Track Personnel to Serve as Principal Investigators: BOTTOM 20 RESPONDING INSTITUTIONS

(In Percentages)

Statements about Policies and Practices	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
NUMBER OF RESPONDING DEPARTMENTS	37	3	12	17	0	0	3	2
PROPORTION REPORTING THAT:								
A formal policy exists:	5.4	0	8.3	5.9	-	-	0	0
On departmental level	2.7	0	0	5.9	-	-	0	0
On institutional level	2.7	0	8.3	0	-	-	0	0
Exceptions may be made to policy	0	0	0	0	-	-	0	0
No formal policy exists	83.8	100.0	75.0	88.2	-	-	66.7	100.0
In practice, nontenure-track are discouraged from seeking support:	2.7	0	8.3	0	-	-	0	0
Because of limited lab space and equipment	2.7	0	8.3	0	-	-	0	0
Because they are hired to teach	5.4	0	8.3	0	-	-	33.3	0
Because they are hired for specific services	5.4	0	8.3	0	-	-	33.3	0
Because of low probability of funding	0	0	0	0	-	-	0	0
Because they have limited appointments	0	0	0	0	-	-	0	0
Because of other reasons	2.7	0	0	5.9	-	-	0	0
In practice, nontenure-track are encouraged/allowed to seek support:	70.3	100.0	75.0	64.7	-	-	33.3	100.0
Applies to faculty	62.2	100.0	58.3	58.8	-	-	33.3	100.0
Applies to nonfaculty	40.5	66.7	41.7	29.4	-	-	33.3	100.0
Other	8.1	0	0	11.8	-	-	33.3	0

Note: Please refer to questionnaire for complete wording of statements about policies and practices. These data are unweighted and do not necessarily represent the population of eligible institutions.

Table 18

Policies and Practices Affecting Eligibility of Nontenure-Track Personnel to Serve as Principal Investigators:

ALL OTHER RESPONDING INSTITUTIONS

(In Percentages)

Statements about Policies and Practices	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
NUMBER OF RESPONDING DEPARTMENTS	468	86	86	107	17	34	80	58
PROPORTION REPORTING THAT:								
A formal policy exists:	21.8	20.9	27.9	25.2	29.4	8.8	17.5	19.0
On departmental level	4.3	2.3	5.8	5.6	5.9	0	2.5	6.9
On institutional level	19.2	19.8	24.4	20.6	29.4	8.8	15.0	17.2
Exceptions may be made to policy	11.1	10.5	16.3	12.1	17.6	5.9	7.5	8.6
No formal policy exists	75.4	73.3	70.9	74.8	58.8	88.2	78.8	79.3
In practice, nontenure-track are discouraged from seeking support:	24.6	33.7	18.6	37.4	23.5	8.8	12.5	22.4
Because of limited lab space and equipment	13.5	23.3	11.6	15.0	11.8	0	8.8	13.8
Because they are hired to teach	6.6	3.5	3.5	15.0	11.8	5.9	3.8	3.4
Because they are hired for specific services	16.7	20.9	10.5	26.2	11.8	8.8	10.0	17.2
Because of low probability of funding	4.9	7.0	3.5	5.6	0	0	6.2	5.2
Because they have limited appointments	4.7	5.8	2.3	9.3	0	2.9	3.8	1.7
Because of other reasons	4.9	7.0	2.3	7.5	0	8.8	3.8	1.7
In practice, nontenure-track are encouraged/allowed to seek support:	58.8	47.7	61.6	49.5	70.6	85.3	62.5	63.8
Applies to faculty	52.6	40.7	51.2	43.9	64.7	79.4	57.5	62.1
Applies to nonfaculty	28.2	27.9	33.7	23.4	29.4	38.2	22.5	31.0
Other	9.2	12.8	10.5	10.3	17.6	8.8	2.5	6.9

Note: Please refer to questionnaire for complete wording of statements about policies and practices.
These data are unweighted and do not necessarily represent the population of eligible institutions.

Table 19

Policies and Practices Affecting Eligibility of Nontenure-Track Personnel to Serve as Principal Investigators: RESPONDING MEDICAL SCHOOL DEPARTMENTS

(In Percentages)

Statements about Policies and Practices	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
NUMBER OF RESPONDING DEPARTMENTS	262	65	7	0	11	49	62	68
PROPORTION REPORTING THAT:								
A formal policy exists:	19.1	18.5	0	-	36.4	14.3	17.7	23.5
On departmental level	2.7	1.5	0	-	0	0	1.6	7.4
On institutional level	17.2	18.5	0	-	36.4	14.3	16.1	17.6
Exceptions may be made to policy	11.1	12.3	0	-	27.3	10.2	9.7	10.3
No formal policy exists	77.9	76.9	100.0	-	45.5	81.6	79.0	77.9
In practice, nontenure-track are discouraged from seeking support:	20.2	29.2	42.9	-	36.4	12.2	11.3	20.6
Because of limited lab space and equipment	14.1	21.5	28.6	-	27.3	4.1	9.7	14.7
Because they are hired to teach	4.2	3.1	0	-	9.1	6.1	3.2	4.4
Because they are hired for specific services	13.0	15.4	28.6	-	18.2	6.1	9.7	16.2
Because of low probability of funding	6.1	12.3	14.3	-	0	0	4.8	5.9
Because they have limited appointments	2.7	3.1	0	-	0	2.0	4.8	1.5
Because of other reasons	6.1	6.2	14.3	-	9.1	6.1	6.5	4.4
In practice, nontenure-track are encouraged/allowed to seek support:	63.4	50.8	57.1	-	54.5	81.6	66.1	61.8
Applies to faculty	58.4	46.2	42.9	-	45.5	73.5	61.3	60.3
Applies to nonfaculty	24.8	24.6	14.3	-	9.1	28.6	25.8	25.0
Other	6.1	10.8	0	-	9.1	8.2	0	5.9

Note: Please refer to questionnaire for complete wording of statements about policies and practices. These data are unweighted and do not necessarily represent the population of eligible institutions.

Table 20

Policies and Practices Affecting Eligibility of Nontenure-Track Personnel to Serve as Principal Investigators: RESPONDING GRADUATE SCIENCE DEPARTMENTS

(In Percentages)

Statements about Policies and Practices	Total	Biochemistry	Biology	Chemistry	Genetics	Medicine	Microbiology	Pharmacology
NUMBER OF RESPONDING DEPARTMENTS	357	45	105	141	14	0	41	11
PROPORTION REPORTING THAT:								
A formal policy exists:	25.8	24.4	28.6	25.5	28.6	-	22.0	18.2
On departmental level	5.9	2.2	5.7	7.1	14.3	-	2.4	9.1
On institutional level	22.1	22.2	24.8	19.9	28.6	-	19.5	27.3
Exceptions may be made to policy	12.3	6.7	16.2	12.1	14.3	-	9.8	9.1
No formal polity exists	71.1	71.1	68.6	73.8	64.3	-	70.7	72.7
In practice, nontenure-track are discouraged from seeking support:	27.7	37.8	20.0	34.0	28.6	-	19.5	9.1
Because of limited lab space and equipment	15.4	28.9	11.4	14.9	21.4	-	14.6	0
Because they are hired to teach	9.2	4.4	5.7	13.5	7.1	-	12.2	0
Because they are hired for specific services	18.5	26.7	9.5	24.1	28.6	-	12.2	9.1
Because of low probability of funding	3.9	4.4	1.9	5.0	7.1	-	4.9	0
Because they have limited appointments	4.8	6.7	1.9	7.8	0	-	2.4	0
Because of other reasons	5.0	6.7	4.8	6.4	0	-	2.4	0
In practice, nontenure-track are encouraged/allowed to seek support:	56.6	51.1	61.0	51.1	71.4	-	56.1	90.9
Applies to faculty	49.0	44.4	51.4	44.7	57.1	-	48.8	90.9
Applies to nonfaculty	31.7	33.3	34.3	25.5	42.9	-	29.3	72.7
Other	10.6	8.9	10.5	11.3	14.3	-	9.8	9.1

Note: Please refer to questionnaire for complete wording of statements about policies and practices. These data are unweighted and do not necessarily represent the population of eligible institutions.

Appendix A: Survey Instrument

AMERICAN COUNCIL ON EDUCATION
ONE DUPONT CIRCLE
WASHINGTON, D. C. 20036

HIGHER EDUCATION PANEL
(202) 833-4757

July 12, 1977

Dear Higher Education Panel Representative:

Enclosed is Higher Education Panel Survey Number 39, Nontenure-Track Personnel: Opportunities for Self-Initiated Research. Requested by the National Institutes of Health, this survey seeks information on the status of nontenure-track personnel in regard to their eligibility to serve as principal investigators on federal research projects. Better information is needed on these people and their opportunities for independent research. The survey will help determine the extent to which this group is involved in the research process.

The questionnaires are to be completed by the heads of only the following doctorate-level departments: biochemistry, biology, chemistry, genetics, medicine, microbiology, and pharmacology. Please take a few minutes now to complete and return the enclosed postcard, indicating which of the above departments award the doctorate at your institution, and to distribute the survey forms to the appropriate departments.

Should a department head be unavailable during the survey period, please have the questionnaire completed by the acting department head or the department's director of graduate studies. If your institution has a medical school, please include the appropriate departments within the medical school.

If you have any questions unanswered by the enclosed sheet of instructions and definitions, please do not hesitate to contact us.

The data you provide will be reported in summary fashion only and will not be identifiable with your institution. A copy of the final report will be sent to you as soon as it becomes available.

We would appreciate receiving the completed questionnaires by August 5, 1977. A self-addressed, stamped envelope is enclosed for your convenience. Thank you for your cooperation and assistance.

Sincerely,

Frank Atelsek

Frank Atelsek
Director

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND 20014

July 12, 1977

Dear Colleague:

We are requesting your assistance in completing the attached questionnaire concerning "Non-Tenure Track Personnel: Opportunities for Self-Initiated Research."

The purpose of this survey is to obtain information on the status of non-tenure track individuals in regard to their eligibility to serve as principal investigators under Federal research projects. Better information is needed on this population and its opportunities for independent research; such information will contribute to more effective assessment of the utilization of a significant manpower resource in health-related research.

We have asked the American Council on Education to conduct this survey through its Higher Education Panel. (The Panel is a mechanism for obtaining quickly a limited amount of data from a sample of institutions.) Copies of the questionnaire are being sent to the heads of several departments: biochemistry, biology, chemistry, genetics, medicine, microbiology, and pharmacology.

We would greatly appreciate your cooperation in completing the attached questionnaire at your earliest convenience. As in the case with all Higher Education Panel surveys, the data will be reported in summary fashion only and will not be identifiable with any institution.

Thank you for your cooperation.

Sincerely yours,

William E. Rhode

William E. Rhode, Ph.D.
Acting Director,
Division of Resources Analysis
Office of Program Planning
and Evaluation

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American Council on Education
One Dupont Circle, N.W.
Washington, D.C. 20036
Higher Education Panel Survey No. 39

Nontenure-Track Personnel: Opportunities for Self-Initiated Research

Name of Department _____

(PLEASE CHECK ONE)

Is this a ☐ medical school department, or a

☐ graduate science department

I. Numbers of Nontenure-Track Personnel: Please provide the following data on doctoral-level personnel who held nontenure-track positions in your department during academic year 1976-77. Where actual data are not readily available, please provide your best estimates.

	Men	Women	Total
A. Total number of nontenure-track personnel employed full-time in your department in the 1976-77 academic year			
B. Number of nontenure-track personnel who are eligible, in the eyes of your department or institution, to apply for federal research support as principal investigators			
C. Number of personnel counted in "B" who have applied for federal research support as principal investigators during the past three academic years (since 1974-75), regardless of the outcome of the application.			
D. Number of personnel counted in "C" who have received support in the past three academic years (since 1974-75) as principal investigators on federally sponsored research projects.			
E. Number of personnel counted in "D" who, in the 1976-77 academic year, were engaged as principal investigators on federally sponsored research projects			
F. Number who are not eligible to apply but who, in your opinion, would be interested in applying for federal research support as principal investigators			

PLEASE LEAVE NO BLANK SPACES

PLEASE NOTE DEFINITIONS OPPOSITE

(OVER)

II. Policy: Please check below all the statements that apply within your department/institution regarding nontenure-track personnel seeking federal research support as principal investigators.

Check All That Apply

/__/ A formal (i.e., written) policy exists governing eligibility of nontenure-track personnel to serve as principal investigators.

This policy exists at the following level(s):

/__/ Departmental level

/__/ Institutional level

/__/ Exceptions may be made to this formal policy on an individual basis.

/__/ There is no formal departmental or institutional policy.

/__/ In practice, nontenure-track personnel are discouraged from seeking support as principal investigators.

The rationale for this practice is as follows (CHECK ALL THAT APPLY):

/__/ Limited laboratory space and equipment should be/are reserved for tenure-track and tenured personnel.

/__/ Nontenure-track faculty are typically hired to teach, and major involvement as a principal investigator would interfere with this primary duty.

/__/ Nontenure-track nonfaculty staff are typically hired to perform specific service functions, and major involvement as a principal investigator would interfere with these primary functions.

/__/ Proposals from nontenure-track personnel have a low probability of being funded.

/__/ Other (please specify)_____

_____

_____

/__/ In practice, nontenure-track personnel are encouraged/allowed to seek support as principal investigators.

This practice applies to:

/__/ Faculty

/__/ Nonfaculty

/__/ Other (please specify)_____

_____

_____

Please return this form by August 5 to your HEP representative, who will send it to the

American Council on Education
Higher Education Panel
One Dupont Circle, N.W.
Washington, D.C. 20036

PLEASE RETAIN A COPY OF THIS SURVEY FOR YOUR RECORDS

Name_____
(Person completing this form)

Telephone( )_____

If you have any questions, please call the HEP staff collect at 202/833-4757

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Higher Education Panel Survey No.39

Nontenure-Track Personnel: Opportunities for Self-Initiated Research

General Instructions

Enclosed are the following:

A. Postcard. Please return it to us as soon as possible. On it indicate how many of the listed departments offer doctoral programs at your institution. If a science field is represented by more than one department (e.g., departments of cellular and developmental biology), so indicate and include them in the survey.

B. Questionnaire (10 copies). Please distribute a copy of the questionnaire to each department you have identified on the postcard as appropriate:

Biochemistry	- Include only departments of biochemistry, biological chemistry, or combined departments of biochemistry and biophysics.
Biology	- Include only departments designated as biology, biological sciences, cellular biology, molecular biology, or developmental biology.
Chemistry	
Genetics	- Include departments of medical and human genetics.
Medicine	
Microbiology	- Include only departments designated as microbiology or bacteriology.
Pharmacology	

C. Return envelope. Please return all completed questionnaires by the due date of August 5, 1977.

If you have any questions, please telephone the Panel staff collect at (202) 833-4757.

Definitions

The term *nontenure-track* is used to describe those faculty and nonfaculty positions at colleges and universities in which the persons employed are not normally considered eligible for tenure.

The following listing provides generic examples of possible nontenure-track positions:

- adjunct faculty
- assistant instructor
- clinical faculty
- lecturer
- postdoctoral fellow
- research associate
- research faculty
- resident
- specialist

For purposes of this survey, the term is limited to personnel who

(1) hold the doctorate degree: Ph.D., Sc.D., M.D., D.V.M., D.D.S.; and,

(2) are employed full-time in your department.

Exclude personnel who

(1) are unpaid; or

(2) have temporary appointments of less than one year; or

(3) are postdoctoral fellows who have received their doctorate within the past three years (since 1974), and who are still in training.

Departments to be Surveyed

1. Biochemistry - Include only departments of biochemistry, biological chemistry, or combined departments of biochemistry and biophysics.
2. Biology - Include only departments designated as biology, biological sciences, cellular biology, molecular biology, or developmental biology.
3. Chemistry
4. Genetics - Include departments of medical and human genetics.
5. Medicine
6. Microbiology - Include only departments designated as microbiology or bacteriology.
7. Pharmacology

PLEASE NOTE: REFERENCES TO FEDERAL RESEARCH SUPPORT IN THE SURVEY ARE NOT LIMITED TO NIH OR PUBLIC HEALTH SERVICE FUNDS.

Appendix B: Methodology

Stratification Design

For purposes of weighting to national estimates, the institutional population was defined as follows:

Institutional Stratification Design for Weighting

Cell	Characteristic	Population (N=311)	Panel (N=258)	Respondents (N=247)
1	Public universities	112	110	106
2	Private universities	73	71	66
3	Public medical schools	31	28	27
4	Public nonblack four-year colleges FTE >8,750	19	19	19
5	Private medical schools	17	15	14
6	Private nonblack four-year colleges FTE >8,750	6	5	5
7	Public four-year colleges FTE 3,700-8,750	8	4	4
8	Public four-year colleges FTE <3,700	6	1	1
9	Private four-year colleges FTE 2,000-8,750	10	3	3
10	Private four-year colleges FTE 1,000-2,000	9	1	1
11	Private four-year colleges FTE <1,000	20	1	1

The weighting methodology explained below assumes that the departmental structure of the population of institutions in each of the strata is fairly represented by the departmental structure of Panel institutions in the same strata.

The final weights for all items in the questionnaire were obtained in two stages. Stage 1 was the adjustment of departmental nonresponse for the responding institutions in each of the strata. Stage 2 was the adjustment of institutional nonresponse (for each item). The following is the mathematical representation of the weighting methodology.

Stage 1

$$W_{dh}^{1} = \frac{I_{dh}}{R_{dh}}$$

where

h = 1,--- 11 HEP stratification cells

d = 1,2,--- 14 departments

I_{dh} = the eligible population of departments, (d) of responding institutions in stratum (h)

R_{dh} = number of respondent departments (d) in stratum (h)

W_{dh}^{1} = stage 1 adjustment of departmental nonresponse, department (d), stratum (h)

Stage 2

$$W_{h}^{2} = \frac{N_h}{n_h}$$

where

N_h = number of population institutions in stratum (h)

n_h = number of institutions in stratum (h) responding for at least one department

Calculate final weight $W_{dhj} = W_{dh}^{1} * W_{h}^{2}$

where

j = 1,2,---- institutions

W_{dhj} = final weight for department (d) of institution (j) in stratum (h).

Comparison of Respondents and Nonrespondents

Of the 258 institutions surveyed, 247 (96 percent) provided usable departmental data. Within those 247 institutions, responses were received from 86 percent of the eligible departments. Departments of medicine and genetics had the lowest response rates (77 percent and 78 percent, respectively) and chemistry had the highest (90 percent).

Departmental Respondents and Nonrespondents
(In Percentages)

Characteristic	Respondents (N=652)	Nonrespondents (N=118)	Response Rate
Total	100.0	100.0	85.7
Biochemistry	17.5	16.5	86.4
Biology	18.1	13.8	88.7
Chemistry	22.5	14.7	90.2
Genetics	4.6	7.3	78.9
Medicine	8.0	13.8	77.6
Microbiology	16.7	17.4	85.2
Pharmacology	12.6	16.5	82.0

Institutional Respondents and Nonrespondents
(In Percentages)

Characteristic	Population (N=311)	Respondents (N=247)	Nonrespondents (N=11)	Response Rate
Total	100.0	100.0	100.0	95.7
Type				
University	59.7	69.9	72.7	95.6
Medical college	15.2	16.3	27.3	93.0
Four-year college	25.1	13.8	0	100.0
Control				
Public	55.8	63.0	45.5	96.9
Private	44.2	37.0	54.5	93.8
Census Region				
East	30.2	28.7	18.2	97.2
Midwest	2217	23.4	45.5	91.9
South	30.5	30.7	27.3	96.2
West	16.6	17.2	9.1	97.7

Other Reports of the Higher Education Panel
American Council on Education

Blandford, B. and Dutton, D. **Survey of First-Year Graduate and Postdoctoral Enrollment in Science and Engineering.** Higher Education Panel Report, No. 1, August, 1971.

Blandford, B. and Dutton, D. **Research Support for Science Faculty.** Higher Education Panel Report, No. 2, November, 1971.

Astin, A., Blandford, B., and Mahn, T. **Freshman Class Vacancies in Fall 1971 and Recent Trends in Enrollment of Minority Freshmen.** Higher Education Panel Report, No. 3, February, 1972.

Changes in Graduate Programs in Science and Engineering 1970-72 and 1972-74. Science Resources Studies Highlights. Washington: National Science Foundation, July, 1972.

Blandford, B. and Sell, C. **Enrollment of Junior-Year Students (1970 and 1971).** Higher Education Panel Report, No. 5, April, 1972.

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Trexler, J. and Kent, L. **Commercial Theme-Writing Services.** Higher Education Panel Report, No. 7, June, 1972.

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Dutton, J. E. and El-Khawas, E. H. **Production of Doctorates in Selected Fields, 1972-1975.** Higher Education Panel Report, No. 16, April, 1974.

Dutton, J. E. **First-Year Enrollment for Masters or Higher Degrees, Fall 1973.** Higher Education Panel Report, No. 17, April, 1974.

El-Khawas, E. H. and Kinzer, J. L. **The Impact of Office of Education Student Assistance Programs, Fall 1973.** Higher Education Panel Report, No. 18, April, 1974.

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Kinzer, J. L. and El-Khawas, E. H. **Compensation Practices for Graduate Research Assistants: A Survey of Selected Doctoral Institutions.** Higher Education Panel Report, No. 21, October, 1974.

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Atelsek, Frank J. and Gomberg, Irene L. **Bachelor's Degrees Awarded to Minority Students, 1973-74.** Higher Education Panel Report, No. 24, January, 1977.

Atelsek, Frank J. and Gomberg, Irene L. **Nonfederal Funding of Biomedical Research and Development: A Survey of Doctoral Institutions.** Higher Education Panel Report, No. 25, July, 1975.

Gomberg, Irene L. and Atelsek, Frank J. **Major Field Enrollment of Junior-Year Students, 1973 and 1974.** Higher Education Panel Report, No. 26, April, 1976.

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Atelsek, Frank J. and Gomberg, Irene L. **Young Doctorate Faculty in Selected Science and Engineering Departments, 1975 to 1980.** Higher Education Panel Report, No. 30, August, 1976.

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Atelsek, Frank J. and Gomberg, Irene L. **Production of Doctorates in the Biosciences, 1975-1980: An Experimental Forecast.** Higher Education Panel Report, No. 34, November 1977.

Gomberg, Irene L. and Atelsek, Frank J. **Composition of College and University Governing Boards.** Higher Education Panel Report, No. 35, August, 1977.

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Atelsek, Frank J. and Gomberg, Irene L. **International Scientific Activities at Selected Institutions, 1975-76 and 1976-77,** Higher Education Panel Report, No. 37, January, 1978.

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Atelsek, Frank J. and Gomberg, Irene L. **Scientific and Technical Cooperation with Developing Countries, 1977-78,** Higher Education Panel Report, No. 40, August 1978.

Single copies of the above reports may be obtained from the Higher Education Panel, American Council on Education, One Dupont Circle, Washington, D. C. 20036.