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Attitudes of College Seniors toward Federal and Industrial Employment

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ATTITUDES of graduating seniors in engineering, science, and social science were assessed in the spring of 1952 by The American University (1). The purpose was to study the reasons why graduates did or did not take Federal employment (2). The research grew out of a pilot investigation by George P. Bush which indicated the need for further investigation of student attitudes and extension of the study to additional major fields (3).

We administered a questionnaire to seniors, faculty and placement officers in field visits to five colleges and universities (4). The questionnaire was supplemented with interviews, primarily with faculty and placement officers, for background information and opinions. Final assessment of student attitudes was based solely on responses to the questionnaire. For this reason, its development should be discussed briefly.

The Questionnaire

The questionnaire was designed to accomplish objectives established by the University committee directing the research. These objectives were

- 1) To measure the students' degree of preference for Federal employment as compared with industrial employment
- 2) To discover the extent to which students' attitudes concerning the advantages and disadvantages of Federal and industrial employment (derived from interview and questionnaire comment in the pilot study) influence student job decisions
- 3) To discover (i) the sources of information concerning employment which influence the student as he makes his job decision and (ii) the relative values that he assigns to these sources
- 4) To discover (i) the attitudes of faculty members

toward the factors of employment influencing students, (ii) faculty members' sources of information, and (iii) the relative values they assign to these sources

5) To compare (i) student and faculty attitudes and sources of information and (ii) attitudes of engineering students with those of science and social science students

6) To determine the time when college seniors make their final decision to accept or reject specific employment opportunities

The questionnaire included questions to provide information concerning student behavior in the recruitment process, such as the time of job decision, amount of salary received, and sources of information about employment opportunities. For the analysis of attitudes 38 statements concerning industrial and Federal employment were presented in the form of a Likert-type scoring schedule. The student was asked to indicate his agreement or disagreement with the statement. Five degrees of agreement or disagreement were provided.

The 38 items were based on statements that students themselves had used in the pilot study. Several statements were included in each of the following areas: benefits, pay, promotion, job security, recruitment, professional development, and working conditions. Examples of the statements are

Experience gained in Federal employment becomes a poor recommendation for future work in industry. Opportunities for additional training in my professional field are greater while working in private industry than in government.

A person working for the Federal Government in my field has a greater job security than in private industry.

In my field, individual initiative on the job is given higher recognition in government than in similar industrial work.

For each of these, and for the 34 additional statements, the student was asked to check one of five boxes for "Strongly disagree" with this statement, "Tend to disagree," "Neither agree nor disagree, or don't know," "Tend to agree," or "Strongly agree." Finally, the student was asked to indicate which of the statements described the factor that was most important in his job choice.

Employment Decisions

It was rather surprising to find that, in a year of very active recruitment, only 38 percent of the 660 seniors said they had definitely accepted civilian jobs at the time of our visits in late April and early May. Approximately 21 percent expected to go into graduate or professional school, and 16 percent expected to go into the armed forces. Thus as late as April-May approximately 25 percent could be presumed still available for employment.

Most students in the fields surveyed either made or expected to make final job decisions in April and May, with approximately 30 percent accepting employment in each month. A few accepted employment during their junior year, and about 14 percent from October through March of the senior year. The recruiting process for college seniors is therefore a year-round function, even though most students finally accept employment in the spring.

With reference to the selection of industrial or Federal employment, the preference was distinctly in favor of industrial employment. Among those who had definitely accepted jobs, three of four students (77.8 percent) selected jobs in industry; only one of twenty (5.2 percent) chose Federal employment. The remainder chose educational employment (4.8 percent), other types (9.9 percent), or did not answer this question (2.4 percent).

There were substantial variations among institutions with respect to the selection of industrial or Federal employment. For example, 45 seniors at one school had definitely accepted jobs at the time of our visits; none chose Federal employment. At another, 6 students of 46 who had definitely accepted jobs chose Federal employment.

Among those who had definitely accepted employment, approximately 5 percent of the engineering majors, 4 percent of the science majors, and 14 percent of the social science majors chose Federal jobs.

These differences in preference indicate that Federal agencies are under a substantial handicap in attracting and recruiting college seniors in certain institutions and certain major fields.

Attitudes toward Employment

Measurement of students' attitudes also indicates strong preference for industrial, as compared with Federal, employment. Only 13 percent of the seniors' attitude scores were more favorable to Federal than to industrial employment.

Seniors' attitudes toward Federal, as compared with industrial, employment vary with their fields of

college major. For example, students majoring in mechanical engineering averaged attitude scores more favorable to industry than those students who accepted jobs in industry, whereas political science majors averaged attitude scores as favorable toward Federal employment as those students who chose Federal jobs. When the eight fields of college major were combined into three, it was discovered that, although they all favored industrial employment, those in engineering favored industry most, science majors favored industry with less intensity, and social science majors favored industry with still less intensity.

Seniors' previous employment experience affects their attitudes toward employment. Those with previous experience in industry are significantly more favorable toward industrial employment than are those without such experience. Seniors with previous employment in the Federal Government hold attitudes favorable toward industrial employment but with much less intensity than other students. Their attitude scores approach neutrality. On the other hand, 57 students claimed previous employment experience in *both* industry and the Federal Government. Their attitudes were as favorable toward industry as those of students with industrial experience alone.

Many students had participated in summer training programs in industry or the Federal Government. Both groups' attitudes were favorable to industrial employment. The intensity of favor for industry was, however, significantly less among those seniors who had participated in Federal training programs.

When one examines the response to individual items among the 38 attitudinal statements, those which students select as most favorable toward industrial or Federal employment provide a basis for analyzing the differences in attitudes toward these fields. The ten statements upon which seniors' responses were most favorable toward industrial employment, in decreasing rank order, are

- Pay for higher level positions
- Students with greatest ability more likely to enter
- Incentive for employee to work
- Students more inclined to work for industry
- General management efficiency
- Pay dependent upon ability
- Management efficiency in my field
- Employee works harder
- General professional development
- Competent immediate supervisors

The ten statements upon which seniors' responses were most favorable toward Federal employment, in decreasing rank order, are

- Individual works "under pressure" less frequently
- Experience good recommendation for future work in industry
- Liberal vacation policy
- Liberal sick leave policy
- Beneficial retirement system
- Job security
- Equipment for technical work
- Discrimination against individual less likely
- Geographic location of positions
- Employment more likely to be permanent

Important Factors in Employment Decisions

Students were asked to indicate the factors that they considered most important in the choice of employment. The results of this inquiry were then related to the responses to the 38 statements of attitude. No student regarded benefits as his most important consideration. Job security was held most important by only 6 percent of the students. These two content areas, containing several statements in each, were the areas of response most favorable to Federal employment. Thus it was found that *seniors regarded industrial employment more favorably than Federal employment in the considerations that are most important to them in choosing a job.*

Information on sources of employment advice was collected which is significant for those persons who are concerned with recruitment. This description of sources of advice was compared with students' ranking of sources of information concerning specific Federal and industrial job opportunities (Tables 1 and 2). The recruitment representative was considered the most important source of advice in deciding whether or not to accept a job. Industrial representatives were regarded as the most important source of information concerning specific industrial job opportunities. Federal representatives ranked third in importance as sources of information concerning specific Federal job opportunities. Thus, industrial recruitment, in the student's view, is oriented toward the source most valuable to the student, the representative who visits the campus. Federal recruitment is not as effectively oriented around the representative, according to the student's evaluation.

Table 1. Seniors' sources of information concerning job opportunities.

Source	Federal job opportunities*	Industrial job opportunities*
Placement office	20.5	24.4
Newspapers, radio, and television	19.4	7.1
Representative who visited campus	13.5	30.6
Faculty members	10.5	8.0
Other students	8.2	4.7
Family	6.8	8.5
Other sources and no response	21.2	16.7

* Numbers indicate percentage of seniors regarding source to be the most important.

Table 2. Seniors' most important source of advice in job choice.

Source	Percentage of seniors
Representative who visited campus	26.4
Faculty members	20.8
Family	12.6
Placement office	7.7
Other students	4.1
Newspapers, radio, and television	2.0
Other sources and no response	26.5
Total	100.1

Faculty and Placement Officer Attitudes

In addition to analysis of seniors' attitudes, a less intensive study was made of the attitudes of faculty and placement officers. Questionnaires were received from 107 faculty members. These were supplemented by interviews with both faculty and placement officers.

Questionnaire results showed faculty members slightly less favorable toward industry than seniors but still much more favorable to industry than to government as a place for employment. Interviews supported these findings.

The conclusion from this questionnaire study is that college seniors and their major sources of information and advice are more favorable to industrial employment than to Federal employment. Students believe that the factors most important to their job decisions are found in industry rather than in government.

To be realistic, Federal personnel policies must take cognizance of the attitudes of students and faculty and provide a strong recruitment program if the Federal agencies are to attract their share of scientific talent. Planning scientific manpower to meet the requirements of the Federal service needs to be government-wide and long-range.

References and Notes

1. This article is based on research conducted by The American University and supported by funds from the Office of Naval Research. C. M. Hersh was the principal investigator and chairman of a University committee for the project, composed of C. Seckler-Hudson, L. H. Hattery, G. P. Bush, H. H. Roth, and R. T. Bower.
2. For a full report of findings, see C. M. Hersh, *College Seniors and Federal Employment* (The American University, Washington, D.C., 1953).
3. The Bush study was concerned with civil, mechanical, and electrical engineers. See G. P. Bush, *Engineering Students and Federal Employment* (The American University, Washington, D.C., 1951). For a summary of the Bush report, see G. P. Bush and L. H. Hattery, "Federal Recruitment of Junior Engineers," *Science* **114**, 455 (1951).
4. The institutions visited were Johns Hopkins University, Oberlin College, Purdue University, Syracuse University, and West Virginia University.