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ABSTRACT

Results of a questionnaire survey conducted in the spring of 1975 to determine the educational, occupational, and career plans of college seniors in Indiana immediately prior to their completion of work toward a bachelor's degree are presented. Graduates from the public institutions were found to be significantly older than those from the private institutions. The graduates' parents appeared to be of higher socioeconomic status and to have attained higher educational degrees than the general public, and nearly 25 percent of the graduates have interrupted their formal education for a significant period of time since the completion of high school. About 75 percent indicated plans for further education. Fewer than half of the graduates expected to be working in their career occupations the fall after graduation. One-quarter expected to be employed in non-career jobs then; five years hence, 78 percent expected to be employed in full-time career jobs. Differences were found in male and female expectations. The anticipated primary activity for the fall was related to the graduate's major field of study. Fewer than half of all the graduates reported having received occupational or career counseling. (LBH)

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INDIANA COLLEGE-LEVEL MANPOWER STUDY

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EDUCATIONAL PLANS AND CAREER CHOICES OF BACHELOR'S DEGREE RECIPIENTS IN INDIANA

by

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2. Educational Plans and Career Choices of High School College Preparatory Seniors in Indiana, October, 1975

3. Educational Plans and Career Choices of Bachelor's Degree Recipients in Indiana, November, 1975

ublications immediately forthcoming:

1. Educational Plans and Career Choices of Associate Degree Recipients in Indiana, December, 1975 (projected)

2. Educational Preferences for Employees Held by Major Indiana Businesses and Industries, January, 1976 (projected)

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PREFACE

The Indiana College-Level Manpower Study is being conducted by the Indiana Commission for Higher Education to provide manpower information of value to educational planning at the postsecondary level. Factors involving both manpower supply and demand are being investigated, and educational and occupational areas in which major supply/demand imbalances exist will be determined.

This publication is the report of a questionnaire survey conducted in spring, 1975, to determine the educational, occupational and career plans of college seniors immediately prior to their completion of work toward a bachelor's degree. The data should provide valuable information for the determination of Indiana's college-level manpower supply.

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PART I

HIGHLIGHTS

Demographic Characteristics

This is a report of a survey of a sample of those students completing work toward baccalaureate degrees in Indiana, approximately one month before their spring, 1975, graduation. Fifty-six percent of the respondents were male and 44 percent female, which closely represents the actual proportion of the degrees granted to males and females in 1974-75 by Indiana institutions.

Graduates from the public institutions were found to be significantly older than those from the non-public. Males were older and more were married than females. Approximately eighty percent of the graduates from public institutions had attended high school in Indiana, compared to only forty percent of the non-public sector graduates.

The graduates' parents appeared to be of higher socioeconomic status and to have attained higher educational degrees than the general public. More than half of the fathers' occupations were in the professional-technical-kindred or managers-officials-proprietors occupational categories. Approximately 43 percent of the fathers and 34 percent of the mothers had completed a degree beyond the high school level.

Educational Backgrounds and Future Plans for Education

Nearly one-quarter of the graduates had interrupted their formal education for a significant period of time since the completion of their high school studies. Higher proportions of males and public institution graduates had experienced such an interruption, in comparison to females and non-public institution graduates.

About three-quarters of the respondents indicated plans to continue their formal education beyond the baccalaureate level, indicating that a large majority of bachelor's degree recipients felt that further education would be of value to them. Of those expecting to pursue further degrees, 27 percent planned on majoring in an education field and sixteen percent expected to major in business and management. From ten to thirteen percent of the respondents planned to major in each of the areas of health, the social sciences, or the liberal arts, while five percent or fewer expected to pursue further degrees in each of the areas of engineering, science, or mathematics and computer science.

Twelve percent of the graduates expected that the first professional degree was the highest level of education that they would complete. An additional 56 percent expected to complete work toward the master's degree, two percent expected to receive a specialist's degree and twelve percent aspired to a doctorate level degree.

Relationships between major fields of study and their interests, career choices, and talents/aptitudes had been very important factors to the respondents in choosing their undergraduate majors. The status or prestige of the major and the influence of parents, relatives, and friends had been a much less important factor to most. Status and prestige were more important to males than females in choosing their major, while females were more influenced than males by the relationship between a major field and their interests and career choices.

Occupation and Career Plans and Aspirations

Fewer than half of the graduates expected to be working in their career occupations the fall after graduation. One quarter expected to be employed in non-career jobs at that time, and nearly a quarter expected to pursue graduate or professional studies as their primary activity. Few graduates expected to be either in the military or outside the work force.

Five years hence, 78 percent of the graduates expected to be employed in full-time career jobs, and for ten years hence this figure rises to 86 percent. The 16 percent of the females who expected to be housewives in ten years accounted for the fact that more respondents expected to be outside the work force in ten years than in the fall subsequent to their graduation.

Males and females differed concerning the nature of their expectations in that, for the fall, females had more of a tendency than males to anticipate working in career jobs and less of a tendency toward pursuing graduate or professional studies. For five years hence this situation is reversed, with more males than females expecting employment in career jobs while proportionately more females expected to be pursuing graduate study.

It also appeared that the anticipated primary activity for the fall was related to the graduate's major field of study. Generally, in those areas of study for which a bachelor's degree is adequate for entry level positions (education, health, engineering, business) a majority of graduates expected to pursue career jobs in the fall. In those areas where the bachelor's is not usually considered training for related entry level positions (science, social sciences, liberal arts) higher proportions of graduates expected to continue their formal education or to enter a non-career job.

A great majority (81 percent) of the graduates expected to pursue long-term careers in the professional, technical, and kindred occupational category. The specific occupations most frequently chosen within this category were elementary and pre-school teachers (7.3 percent), secondary school teachers (7 percent), engineers (6.9 percent), lawyers and judges (5.4 percent), college teachers (4.3 percent), accountants and auditors (3.9 percent), physicians and surgeons (3.8 percent), and artists and entertainers (3.6 percent). An additional thirteen percent of the respondents expected to pursue careers in the occupational category of managers, officials, and proprietors.

Two-thirds of the graduates expected that their long-term career would be highly related to their undergraduate major. An additional 29 percent expected their career to be somewhat related to their major, and only four percent did not expect there to be a relationship in this regard. Within each academic area, a majority of graduates expected that their careers would relate closely to their undergraduate major.

Twenty-nine percent of the respondents hoped to make their career in an educational institution, with an additional 22 percent anticipating a business or industrial firm as a career environment. Nineteen percent hoped to be self-employed or in private practice with eight percent of the graduates hoping to work in each of the health care facility and government or public service environments. Lower percentages desired a career environment in a welfare agency, private research organization, or the military.

Thirty percent of the graduates had made their career choices during or before high school, twenty-one percent had chosen their careers as sophomores in college, while the percentages choosing careers during each of the freshmen, junior, or senior year ranged from fourteen to sixteen percent. Fewer than five percent indicated that they were undecided concerning a career choice.

Approximately half of the respondents had changed their career choice since entering college. Of these, 54 percent indicated that the reason for this change was the fact that the new choice better suited their talents/aptitudes or interests. Of the remainder, only seven percent claimed that they had changed career plans because there were too few job opportunities in their previous choice.

The influence of college courses, previous work experience, and college teachers were each indicated by more than one quarter of the graduates as having been very important to them in making their career choice. The influence of parents or other relatives had been very important to fifteen percent, while influence of friends, high school teachers or counselors, printed materials-radio-TV, college career or placement counselors, and other counselors had each been very important to fewer than eight percent of the respondents. It is apparent that the activities taking place in the college classroom have a major impact upon career decisions of students.

Fewer than half of the graduates of both public and non-public institutions reported having received occupational or career counseling. Of those who had, more than three-quarters felt that the counseling had been at least somewhat helpful. The years in which occupational or career counseling was most commonly received were the freshman and senior years, though those who had received it in the sophomore and junior year felt it had been the most helpful.

Fewer than half of the graduates planned to pursue careers in Indiana. Of those from Indiana high schools, sixty percent expected to pursue careers in the state, while fourteen percent of those from outside Indiana expected to remain. A higher proportion of females than of males expected to remain within Indiana.

PART II

INTRODUCTION

College-level manpower analysis involves, at some point, the investigation of the supply of college graduates to the work force. Projections of enrollments or degrees granted are generally used to estimate this supply factor. However, when the manpower analyst attempts to relate degrees granted to the labor market, he finds that there are few one-to-one relationships between a college degree and a career.

Even where a degree appears to be closely related to an occupation, we are not certain what proportion of the recipients of the degree aspire to that occupation. For example, the assumption that all elementary education majors plan to become teachers might result in an overestimation of the teacher supply. Attempts to relate more general degrees, such as those in the liberal arts, to specific occupations becomes even more problematic.

A 1974 survey of new chemistry bachelor's degree recipients, conducted by the American Chemical Society, found that only 24.5 percent of the respondents had found full-time employment in their field. An additional 28.1 percent had become graduate assistants, 17.8 percent had engaged in part-time or summer employment, 7.3 percent were employed outside their fields, 4.9 percent were unemployed, 2.0 percent were in the military, Peace Corps, etc., and 15.3 percent were not seeking employment. The data of the survey indicate that only about one quarter of the chemistry graduates had found employment in their field, but give no indication as to how many other chemistry majors had sought or desired such jobs.[1]

The vagaries of labor market demand are not, by any means, the only factors influencing whether or not an individual's career is highly related to his postsecondary education. Indication that the intentions or aspirations of college graduates themselves are important factors in determining supply is contained in a recent research report by Bisconti titled College Graduates and their Employers. Bisconti found that of 1961 freshmen who had completed bachelor's degrees, nearly two-thirds of the male business administrators had not majored in business and four-fifths of the teachers had not majored in education. It was also found that the career aspirations of students shortly before graduation were highly correlated to the careers they eventually pursued.[2]

A follow-up study of the graduates of Saint Peter's College by Malnig and Morrow found that there was a wide variety of occupations pursued by bachelor's degree recipients from all academic areas. Not only liberal arts and social science graduates, but also those from business and other more traditionally job-related programs had become occupationally dispersed.[3]

This is not to say that there are not identifiable relationships between college degrees and career aspirations. In The Market for College-Trained Manpower, Freeman reported that, at the graduate level, there was a relationship approaching a one-to-one correspondence between educational preparation and work. Freeman also found that a majority of undergraduates expected to work permanently in the area of their college major. However,

such career aspirations and future plans for education differed markedly when the undergraduate major field of study was taken into account. [4]

The value of follow-up studies of college graduates is becoming increasingly recognized. Some are conducted by professional organizations such as the Engineers Joint Council, the American Chemical Association, and the Association of American Geographers. Follow-up studies are also frequently conducted by individual colleges and universities, or by specific departments within the institutions. Such studies, particularly those conducted on a regular basis (e.g. annual surveys of graduates) or those of a longitudinal nature (e.g. studies conducted on the same group of graduates over a long period of time) provide useful information concerning the workings of the labor market.

Many of Indiana's postsecondary education institutions, or units within them, currently conduct or participate in efforts to gain manpower-related information about their graduates. Generally the nature of employment and salary level within one year of graduation are investigated. Such studies are of value and should be continued. However, there are a number of reasons why these follow-up efforts are of limited value in attempting to assess statewide college-educated manpower supply.

1. They are conducted at many colleges and universities with varying survey methodologies. Data, therefore, lack comparability from institution to institution.

2. They are not conducted on a wide enough basis to be of significant value in statewide planning.

3. They provide a better indication of college-level manpower demand than supply.

In order to assess the implications of college enrollments and degrees for manpower supply in Indiana, it is of value to identify the immediate and long-range occupational, educational, and career plans and aspirations of students about to graduate. As these plans and aspirations are related to numbers of degrees granted, estimates of manpower supply can be more meaningfully developed.

REFERENCES

1. Office of Manpower Studies, 1974 Survey Report: Starting Salaries and Employment Status of Chemistry and Chemical Engineering Graduates

2. Bisconti, Ann Stouffer, College Graduates and Their Employers

3. Malnig, Lawrence R., Morrow, Sandra L; What Can I Do With a Major in . . .?

4. Freeman, Richard B., The Market for College-Trained Manpower

PART III

DEMOGRAPHIC CHARACTERISTICS OF INDIANA COLLEGE SENIORS

This report is based upon a questionnaire survey of a sample of college students in Indiana's public and independent colleges and universities who were about to complete the requirements for a bachelor's degree in the spring of 1975. The survey was conducted in order to determine the educational, occupational, and career plans and aspirations of these students. A discussion of the study methodology is contained in Appendix A.

TABLE 1: QUESTIONNAIRE RESPONSE RATES (BY INSTITUTION)

Institutions	1 Sent Out	2 Usable Returns	3 Non-Deliverable	4 Blank or Invalid Returns	5 Percent Returns
Public Institutions	2,896	1,378	76	85	51.9%
Ball State University*	415	270	13	42	77.6
Indiana State University-Terre Haute	251	122	0	5	50.6
Indiana State University-Evansville	95	38	0	1	41.1
Indiana University-Bloomington	893	329	54	29	42.7
Indiana University-Regional Campuses	389	167	5	3	44.3
Purdue University-West Lafayette	743	406	3	3	55.3
Purdue University-Regional Campuses	110	46	1	2	44.0
Independent Institutions	1,852	875	20	16	48.6
Anderson College*	69	49	0	1	72.5
Butler University	83	37	2	1	46.9
Calumet College	31	15	0	0	48.4
Concordia Senior College	32	18	0	0	56.3
DePauw University	90	36	1	1	41.6
Earlham College	57	26	0	1	47.4
Franklin College	97	51	5	1	56.5
Goshen College	58	33	0	0	56.9
Hanover College	46	24	0	0	52.2
Huntington College	19	8	0	0	42.1
Indiana Central University	58	27	0	0	46.6
Manchester College	55	35	0	0	63.6
Marian College	41	22	2	1	59.0
Marion College	37	17	0	0	45.9
Oakland City College	18	9	0	0	50.0
Rose-Hulman Institute of Technology	59	26	4	1	49.1
St. Francis College	25	16	0	0	64.0
St. Joseph's College	60	23	0	0	38.3
St. Mary-of-the-Woods College	23	7	0	0	30.4
St. Mary's College	87	30	0	1	35.6
Taylor University	51	22	0	0	43.1
Tri State University	63	21	1	7	45.2
University of Evansville	127	55	1	0	43.7
University of Notre Dame	363	145	2	1	40.4
Valparaiso University	172	105	2	0	61.8
Wabash College	31	18	0	0	58.1
Institution not identifiable				1	
Total	4,748	2,253	96	102	50.6

*Institutions at which a second mailing was conducted
Column 1 = Total questionnaire distribution
Column 2 = All responses usable in data analysis
Column 3 = Undelivered questionnaires returned to Commission office
Column 4 = Response sheets returned blank (i.e. nongraduates) or response sheets which were unusable.
Column 5 = $\frac{\text{Columns } 2 + 4}{\text{Columns } 1 - 3}$ %

Table 1 represents the Occupation and Career Interest Survey response rates for the bachelor's level graduates included in the study sample. An overall response rate of 50.6 percent was received, comprised of 51.9 percent of the public sector's sample and 48.6 percent of the independent sector's.

The responses to this survey represent approximately one-eighth of all the bachelor's degree recipients in Indiana in the spring of 1975. The coefficient of expansion to be used for extrapolating responses of the sample to those of the study universe, then, is eight. This means that the reader may multiply n's of this report by eight in order to estimate what all of the spring, 1975 baccalaureate degree recipients in Indiana would have responded to any item.

The HEGIS institutional reports indicate that 24,747 bachelor's degrees were awarded in Indiana in the 1974-75 academic year. The institutions participating in this study awarded 24,448 degrees during that year, or 98.8 percent of the state total. The 2,253 usable responses to the survey, then, represent 9.2 percent of the degrees granted in participating institutions. The coefficient of expansion to be used to extrapolate to the entire year's bachelor's degrees granted from participating institutions is 10.85. The colleges which did not participate in the survey were primarily theological institutions.

* * * * *

TABLE 2: SEX OF SURVEY RESPONDENTS

Question 1: What is your sex?*

Sex	Public Institutions n	%	Independent Institutions n	%	All Institutions n	%
Male	758	55.0	510	58.3	1,268	56.3
Female	619	45.0	363	41.5	982	43.6
No response	1	0.1	2	0.2	3	0.1
Total	1,378	100.0	875	100.0	2,253	100.0

* Refers to questionnaire number. (See Appendix B)

Table 2 represents the sex of the survey respondents, reported by the type of institution they were attending. There was a higher proportion of males than females in both the public and independent sectors. The two types of institutions did not differ significantly in their proportions of males to females.**

**Levels of significance of the differences in responses from public institutions and independent institutions and from males and females are measured by chi-square analysis and presented in Appendix C. In the narrative of this report, differences significant to the 0.01 probability level will be referred to as statistically significant.

* * * * *

TABLE 3: AGE OF RESPONDENTS

Question 2: How old will you be on July 1 of this year?

Age	Public			Independent			All		
	Male n=758	Female n=619	Total n=1,377	Male n=510	Female n=363	Total n=873	Male n=1,268	Female n=982	Total n=2,250*
18 or 19	0.0%	0.6%	0.3%	0.2%	0.3%	0.2%	0.1%	0.5%	0.3%
20 or 21	20.4	29.2	24.4	31.6	39.4	34.8	24.9	33.0	28.4
22 or 23	52.8	55.9	54.2	55.7	49.6	53.2	53.9	53.6	53.8
24 to 29	22.0	10.2	16.7	9.4	6.1	8.0	17.0	8.7	13.3
30 or older	4.7	4.0	4.4	3.1	4.7	3.8	4.1	4.3	4.2

*Unless otherwise indicated, nonrespondents to each individual question will not be included in the reported data.

Table 3 indicates that there is a major difference in age between students attending Indiana's public and independent institutions. Those graduating from public institutions were significantly older, with more than one quarter of the males and nearly fifteen percent of the females older than 23 years. In the independent sector, only 12.5 percent of the male and 10.8 percent of the female graduates were at that age level. It is also apparent from the data that the male graduates were significantly older than the female, particularly in the public institutions.

* * * * *

TABLE 4: MARITAL STATUS OF RESPONDENTS

Question 3: What is your current marital status?

Marital Status	Public			Independent			All		
	M 758	F 619	T 1,377	M 510	F 363	T 873	M 1,268	F 982	T 2,250
Not married	68.7%	75.9%	72.0%	79.0%	81.5%	80.1%	72.9%	78.0%	75.1%
Married	31.3	24.1	28.0	21.0	18.5	19.9	27.1	22.0	24.9

The data of Table 4 indicate that, among both males and females, a higher percentage of the graduates of public institutions were married than the independent sector. It is also noteworthy that many more males than females within the public institutions were married.

* * * * *

TABLES 5: HOME LOCATION WHEN COMPLETING HIGH SCHOOL STUDIES

Question 4: Where did you live when you last attended high school?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Location	758	619	1,377	510	363	873	1,268	982	2,250
Within Indiana	77.8%	83.5%	80.4%	40.8%	42.7%	41.6%	62.9%	68.4%	65.3%
Outside Indiana but in U.S.A.	21.2	15.7	18.7	57.6	55.1	56.6	35.9	30.2	33.4
Outside U.S.A.	0.9	0.8	0.9	1.6	2.2	1.8	1.2	1.3	1.2

The data of Table 5 represent the respondents' place of residence when they last attended high school. The data provide a general measure of in-migration to the state from high school to college.

Approximately four-fifths of the graduates from public institutions were from Indiana, compared to only two-fifths from the independent schools. In general, more males than females were from out-of-state. About one percent of the public institutions' graduates and two percent of the independents' graduates had resided in a foreign country while completing their high school studies.

* * * * *

TABLE 6: PRIMARY OCCUPATIONS OF RESPONDENTS' PARENTS BY OCCUPATIONAL CATEGORY

Questions 19-20: What is (was) your father's (mother's) primary occupation?

	Fathers' Occupations			Mothers' Occupations		
	Public	Independent	All	Public	Independent	All
Occupational Category	1,367	861	2,228	1,363	865	2,228
Professional, technical, kindred	29.7%	32.4%	30.8%	18.0%	22.1%	19.5%
Managers, officials, proprietors	21.2	21.8	21.4	3.6	3.9	3.7
Sales workers	9.1	7.8	8.6	4.8	3.1	4.2
Clerical workers	0.7	1.3	0.9	21.7	18.6	20.5
Craftsmen, foremen, kindred	16.6	16.4	16.5	0.7	0.8	0.8
Operatives	9.7	7.2	8.7	2.6	2.1	2.4
Service workers	3.1	2.7	2.9	4.3	5.4	4.8
Laborers	2.5	2.8	2.6	0.5	0.1	0.4
Farmers, farm workers	6.7	6.0	6.5	0.1	0.2	0.2
Military service	0.7	1.6	1.0	0.0	0.0	0.0
Housewives	--	—	—	43.5	43.6	43.6

Table 6 presents the primary occupations by occupational category of the respondents' parents. More than 50 percent of the fathers' occupations were in the professional, technical, and kindred or the managers, officials, and proprietors categories. These two occupational categories are generally attributed the highest socioeconomic status and prestige.

The primary occupation for 44 percent of the mothers was housewife. Nearly twenty percent were reported in the professional, technical, and kindred category and an additional 20.5 percent were clerical workers.

* * * * *

TABLE 7: FATHERS' EDUCATIONAL ATTAINMENT

Question 17: What is the highest educational level completed by your father?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Educational Level	755	619	1,374	508	360	868	1,263	979	2,242
Less than h.s. dipl.	17.5%	15.3%	16.5%	16.5%	17.2%	16.8%	17.1%	16.0%	16.6%
H.S. dipl. or equiv.	44.4	41.4	43.0	37.0	35.8	36.5	41.4	39.3	40.5
Assoc. degr. or equiv.	8.5	8.2	8.4	10.2	10.3	10.3	9.2	9.0	9.1
Bachelor's degr.	17.2	19.9	18.4	18.9	17.8	18.4	17.9	19.1	18.4
1st professional degr.	3.3	3.6	3.4	5.7	5.3	5.5	4.3	4.2	4.2
Master's degr.	5.3	6.9	6.0	7.1	9.7	8.2	6.0	8.0	6.9
Specialist's degr.	0.4	1.6	0.9	1.6	0.6	1.2	0.9	1.2	1.0
Doctor's degr.	3.4	3.1	3.3	3.0	3.3	3.1	3.2	3.2	3.2

The data of Table 7 represent the highest educational levels completed by the graduates' fathers. Approximately 43 percent had completed a degree beyond the high school level, and 15 percent had completed graduate degrees. The fathers of graduates from the independent sector had attained higher educational levels than those from the public sector to a degree approaching statistical significance.

* * * * *

TABLE 8: MOTHERS' EDUCATIONAL ATTAINMENT

Question 18: What is the highest educational level completed by your mother?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Educational Level	756	618	1,374	508	363	871	1,264	981	2,245
Less than h.s. dipl.	12.2%	12.3%	12.2%	13.6%	16.3%	14.7%	12.7%	13.8%	13.2%
H.S. dipl. or equiv.	58.3	53.4	56.1	50.4	44.1	47.8	55.1	49.9	52.9
Assoc. degree or equiv.	11.6	12.1	11.9	12.2	13.8	12.9	11.9	12.7	12.2
Bachelor's degree	12.6	13.8	13.1	15.7	17.1	16.3	13.8	15.0	14.3
1st professional degr.	0.7	1.6	1.1	1.4	1.9	1.6	0.9	1.7	1.3
Master's degr.	4.0	5.2	4.5	6.1	6.1	6.1	4.8	5.5	5.1
Specialist's degr.	0.0	1.1	0.5	0.6	0.6	0.6	0.2	0.9	0.5
Doctor's degr.	0.7	0.5	0.6	0.0	0.3	0.1	0.4	0.4	0.4

Table 8 represents the highest educational levels completed by the graduates' mothers. Approximately one-third had completed degrees beyond the high school level. Though a lower percentage of mothers than fathers had not completed high school (13.2 percent and 16.6 percent respectively) the mothers had generally not attained the college degree levels of the fathers. A significant difference found between the mothers of independent school graduates and public school graduates was primarily accounted for by the fact that more of those from the independent sector had completed college degrees.

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PART IV

EDUCATIONAL BACKGROUNDS AND FUTURE PLANS FOR EDUCATION

TABLE 9: INTERRUPTION OF FORMAL EDUCATION

Question 5: Since completing your high school studies, have you ever interrupted your formal education for an extended period of time?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Interrupted	757	617	1,374	509	362	871	1,266	979	2,245
Yes	32.4%	22.0%	27.7%	15.7%	17.1%	16.3%	25.7%	20.2%	23.3%
No	67.6	78.0	72.3	84.3	82.9	83.7	74.3	79.8	76.7

The data of Table 9 indicate that nearly one quarter of the graduates interrupted their formal education for an extended period of time subsequent to completing high school studies. Far more graduates of the public sector had interrupted their formal educations, including nearly a third of these males. Though there was a significant difference in the responses of males and females, nearly all of this difference was accounted for by the public sector where ten percent more males than females reported that they had interrupted their formal education.

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TABLE 10: GRADE AVERAGES - OVERALL AND MAJOR FIELD OF STUDY

Questions 6 & 7: What is your approximate overall (major field of study) average grade in college?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Grade Average	757	619	1,376	510	363	873	1,267	982	2,249
Overall									
A- to A+	24.0%	26.8%	25.3%	23.7%	27.0%	25.1%	23.9%	26.9%	25.2%
B- to B+	54.8	58.2	56.3	52.7	60.9	56.1	54.0	59.2	56.2
C+ or lower	21.1	15.0	18.4	23.5	12.1	18.8	22.1	14.0	18.5
Major Field									
A- to A+	41.4	43.0	42.1	39.1	49.4	43.4	40.5	45.4	42.6
B- to B+	49.4	49.0	49.2	52.3	47.5	50.3	50.6	48.5	49.6
C+ or lower	9.2	7.9	8.6	8.6	3.0	6.3	8.9	6.1	7.7

Table 10 represents the overall and major field of study grade averages as reported by the respondents. The responses of graduates of the public and independent sectors did not differ significantly. Grades were markedly higher for females, particularly in the independent institutions.

Grade averages for major fields of study were appreciably higher than overall grade averages. Where more than 40 percent of the graduates reported major field averages of A- or higher, only about 25 percent reported this as an overall average.

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TABLE 11: EARLIEST, CURRENT AND FUTURE COLLEGE MAJOR FIELDS OF STUDY

Questions 8, 9, & 10: What (a.was your first, b.is your current, c.will be your future) major field of study?

Fields of Study	Earliest Declared Major n	Earliest Declared Major %	Current Major n	Current Major %	Future Major n	Future Major %
Associate Degree Level	97	4.3	--	--	--	--
Bachelor's and Higher Degree Levels						
Business/management	218	9.7	326	14.5	272	12.1
Sciences	218	9.7	194	8.6	83	3.7
Biological sciences	143	6.3	132	5.9	53	2.4
Physical sciences	75	3.3	62	2.8	30	1.3
Engineering	227	10.1	205	9.1	85	3.8
Liberal Arts	273	12.1	268	11.9	177	7.9
Architecture, environmental design	27	1.2	19	0.8	15	0.7
Communications, journalism	30	1.3	30	1.3	16	0.7
Fine & applied arts	74	3.3	75	3.3	70	3.1
Foreign languages	37	1.6	38	1.7	11	0.5
Letters (English, folklore, linguistics literature, speech, philo., religion)	105	4.7	106	4.7	65	2.9
Social Sciences	356	15.8	364	16.2	219	9.7
Economics	20	0.9	28	1.2	16	0.7
History	57	2.5	39	1.7	18	0.8
Home economics	55	2.4	56	2.5	20	0.9
Library science	2	0.1	9	0.4	20	0.9
Political science/government	66	2.9	45	2.0	13	0.6
Psychology	79	3.5	79	3.5	45	2.0
Public affairs & services	24	1.1	39	1.7	56	2.5
Sociology	45	2.0	55	2.4	14	0.6
Other (anthro., archaeology, geography, international relations)	8	0.4	14	0.6	17	0.8
Math/Computer Sciences	120	5.3	70	3.1	48	2.1
Math/statistics	99	4.4	45	2.0	20	0.9
Computer & information sciences	21	0.9	25	1.1	28	1.2
Education	434	19.3	471	20.9	462	20.5
Elementary & pre-elementary education	214	9.5	212	9.4	95	4.2
Secondary education	109	4.8	132	5.9	68	3.0
Special education	32	1.4	40	1.8	78	3.5
Health & physical education	60	2.7	59	2.6	36	1.6
Education administration	1	0.0	5	0.2	35	1.6
Counseling & guidance	1	0.0	1	0.0	85	3.8
Other educational fields	17	0.8	22	1.0	65	2.9
Health	209	9.3	181	8.0	223	9.9
Allied health	9	0.4	8	0.4	8	0.4
Dentistry	15	0.7	12	0.5	30	1.3
Nursing	54	2.4	65	2.9	40	1.8
Optometry	11	0.5	15	0.7	15	0.7
Pharmacy	27	1.2	29	1.3	10	0.4
Physician	53	2.4	19	0.8	76	3.4
Therapy (occupation & physical)	12	0.5	6	0.3	5	0.2
Veterinary	13	0.6	6	0.3	11	0.5
Other health	15	0.7	21	0.9	28	1.2
Other Majors	94	4.2	171	7.6	155	6.9
Agriculture/natural resources/forestry	45	2.0	57	2.5	18	0.8
Area studies	2	0.1	4	0.2	1	0.0
Interdisciplinary studies	6	0.3	13	0.6	4	0.2
Law/pre-law	22	1.0	13	0.6	126	5.6
Double major	19	0.8	84	3.7	6	0.3
No response	7	0.3	3	0.1	529	23.5
Totals	2,253	100.0	2,253	100.0	2,253	100.0

Table 11 represents the past, present, and anticipated future major fields of study of the respondents. A comparison of respondents' earliest declared major fields of study with their majors upon graduation (current majors) indicates fields which experienced net increase or decrease. Because approximately four percent of the respondents had initially declared associate degree majors, there was an increase of four percent overall at the bachelor's levels in moving from first declared major fields to current major fields.

The greatest increase was found in the area of business and management, which was first declared by ten percent of the respondents and was the current major of nearly fifteen percent. No other field experienced a growth or decline approaching this magnitude.

Declines in numbers of majors were experienced primarily by fields generally considered academically the most rigorous. Engineering, the sciences, and mathematics were among the fields exhibiting such a net decline. The health fields also showed an overall decline, most of which was accounted for by decreasing numbers indicating medicine as a major.

It is of interest that about three-quarters of the respondents indicated plans to continue their formal education beyond the baccalaureate level, (future major). Though many of these responses may be unrealistic, it serves to indicate that a great majority of bachelor's degree recipients believe that further formal education would be of value to them.

More than 20 percent of the graduates chose one of the education fields as their future field of study. However, within these choices for graduate studies a drastic shift has taken place among the specialties. The areas of elementary/pre-elementary and secondary education claimed 9.4 percent and 5.9 percent, respectively, of the current majors and a total of only 7.2 percent of future majors. Meanwhile, the specialized areas of special education and counseling and guidance were named by many as future fields of study (3.5 percent and 3.8 percent respectively). Many of those planning future study in these specialized areas were probably among the fifteen percent of the respondents who were graduating with bachelor's degrees in elementary or secondary level education.

TABLE 12: EARLIEST, CURRENT, AND FUTURE MAJOR AREAS OF STUDY *

Questions 8, 9, and 10:

Major Area of Study	Earliest Declared Major							Current Major							Future Major**						
	Public		Indep.		All			Public		Indep.		All			Public		Indep.		All		
	M	F	M	F	M	F	T	M	F	M	F	M	F	T	M	F	M	F	M	F	T
	756	617	509	361	1265	978	2243	758	618	509	362	1267	980	2247	554	491	401	278	955	769	1724
Assoc.degr. prog.	5.8%	3.7%	4.1%	2.5%	5.1%	3.3%	4.3%	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Business, mgmt.	13.9	4.5	13.2	4.7	13.6	4.6	9.7	20.7%	7.9%	19.1%	6.1%	20.0%	7.2%	14.5%	24.0%	7.9%	21.4%	5.0%	22.9%	6.9%	15.8%
Sciences	11.4	6.8	13.2	5.8	12.1	6.4	9.6	10.9	6.0	10.4	5.5	10.7	5.8	8.6	5.2	3.3	6.5	4.3	5.8	3.6	4.8
Engineering	19.3	0.3	15.3	0.3	17.7	0.3	10.1	17.2	0.2	14.3	0.3	16.0	0.2	9.1	9.9	0.8	6.2	0.4	8.4	0.7	4.9
Liberal arts	9.7	11.5	12.8	17.7	10.9	13.8	12.2	8.3	9.5	15.1	19.1	11.0	13.1	11.9	6.3	9.0	14.0	15.1	9.5	11.2	10.3
Social sciences	10.7	18.8	18.1	18.6	13.7	18.7	15.9	11.5	18.6	18.3	18.8	14.2	18.7	16.2	9.7	15.9	11.5	14.7	10.5	15.5	12.7
Math, computer sci.	5.8	4.7	5.9	4.7	5.8	4.7	5.3	4.1	2.3	3.3	2.2	3.8	2.2	3.1	4.2	0.8	3.7	2.2	4.0	1.3	2.8
Education	9.8	33.9	7.3	31.6	8.8	33.0	19.3	11.6	37.5	7.1	31.8	9.8	35.4	21.0	15.7	46.2	9.2	40.3	13.0	44.1	26.9
Health	6.3	13.6	6.9	11.6	6.6	12.9	9.3	5.1	12.3	5.9	9.9	5.4	11.4	8.1	14.6	11.2	13.0	12.2	13.9	11.6	12.9
Other	7.3	2.1	3.3	2.5	5.7	2.2	4.2	10.6	5.7	6.5	6.4	8.9	5.9	7.6	10.3	4.9	14.5	5.8	12.0	5.2	9.0

*Categorization of major fields of study into these broader major areas generally follows the reporting framework of the National Center for Educational Statistics. The specific fields contained within each of these areas were presented in Table 11.

**Figures differ from those of Table 11 because, in this table, non-respondents were excluded from the calculation of percentages.

The data of Table 12 represent the earliest, current, and future major areas of study of the graduates, reported by sex of respondent and type of institution attended. Analysis by both sex and type of institution produced significant differences for all three time frames.

The liberal arts fields experienced a net decrease in the public institutions but a sizable increase in the independent in going from the first declared to the current major. These trends held for both males and females. The social sciences showed a slight increase in majors, accounted for by the fact that more males indicated it as a current major than as a first declared major.

Education increased its number of majors from 19 percent to 21 percent of the graduates. Nearly all of this increase was accounted for by the respondents from the public institutions.

The data of Table 12 indicate that teacher education is still dominated by females. More than forty percent of the women planning further formal education anticipated pursuing graduate study in education, while fewer than fifteen percent of the males planning further education indicated plans to pursue a graduate degree in education. It is also worthy of note that approximately six percent more of both males and females from public institutions expected to study education than from independent institutions.

Business remains primarily a male area of study, with more than twenty percent of the male bachelor's recipients planning further studies indicating that area. However, many women appear to be recognizing business as a viable alternative to the more traditional female study areas, and seven percent of the females planning to pursue further education indicated that business would be their area of study.

The various health-related fields of study were chosen for further education by thirteen percent of the respondents who indicated future majors. Almost equal proportions of males and females, and public and independent school graduates, selected the health fields.

Liberal arts and social science areas of study were frequently chosen as future fields, particularly by females planning on further education. Whereas a much higher proportion of graduates of independent institutions chose the liberal arts than did those of public institutions, the two sectors were nearly equivalent concerning the social sciences.

Five percent of the respondents planning further education chose the field of engineering. Engineering remains primarily a male-dominated area, though it is interesting that more females planned graduate study in engineering than were receiving bachelor's degrees in the field.

About eight percent of the graduates indicating future fields of study chose the science and mathematics fields. Women appeared to be relatively more attracted to the science than to the mathematics fields. Males also expressed greater interest in the sciences, but the difference was not as great as that for females.

FIGURE 1: IMPORTANCE OF FACTORS IN SELECTING MAJOR FIELDS OF STUDY

Questions 11-15: How important has each of the following been to you in the selection of your present degree program or major field of study?

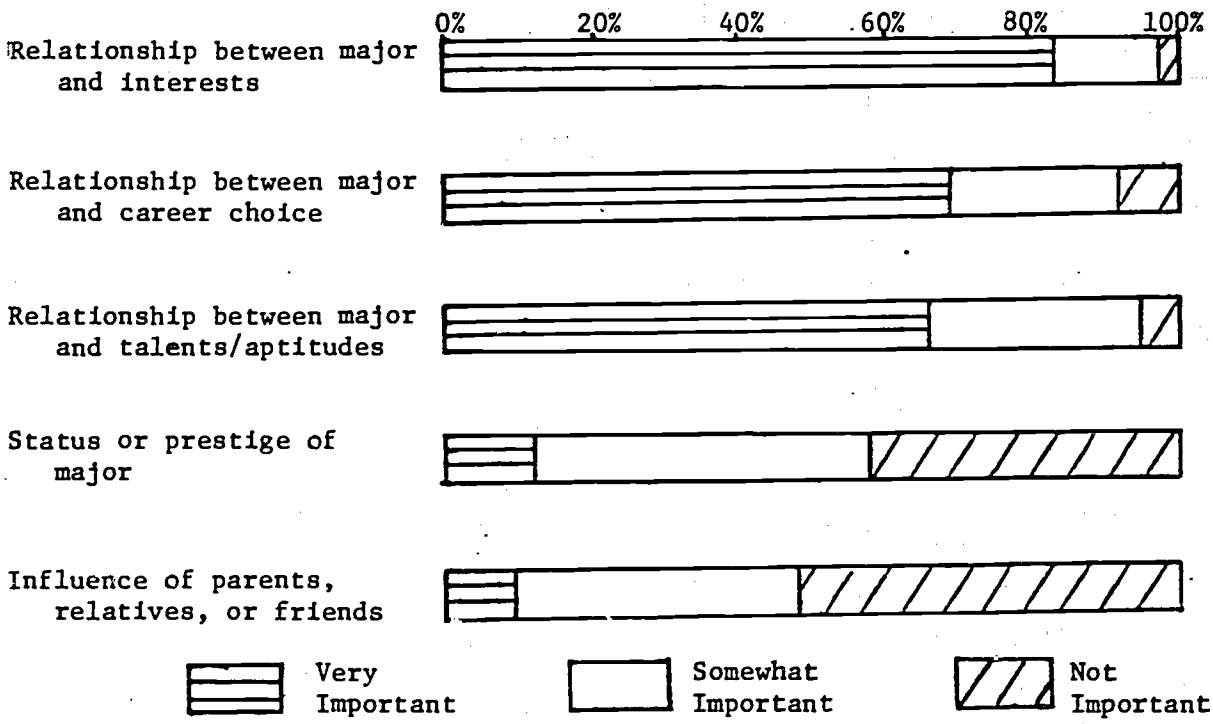


Figure 1 indicates the relative importance to the graduates of a number of factors often taken into account in choosing degree programs. It is apparent that the status or prestige of a major and the influence of parents, relatives, or friends were much less important to students in making these choices than were the relationships between their majors and their interests, career choices, and aptitudes.

* * * * *

TABLE 13: FACTORS INDICATED AS BEING VERY IMPORTANT IN CHOOSING PRESENT MAJOR FIELDS OF STUDY

Questions 11-15:

	Public			Independent			All		
Factor	M 758	F 619	T 1,377	M 510	F 363	T 873	M 1,268	F 982	T 2,250
Relationship between major & interests	78.9%*	88.9%	83.4%	77.6%	88.2%	82.0%	78.4%	88.6%	82.8%
Relationship between major & career choice	68.3	77.2	72.3	63.5	69.4	65.9	66.4	74.3	69.8
Relationship between major & talents/aptitudes	68.6	67.4	68.0	61.8	68.0	64.4	65.9	67.6	66.6
Status, prestige	15.4	10.3	13.1	10.4	7.7	9.3	13.4	9.4	11.6
Influence of parents, relative, friends	10.9	12.0	11.4	7.1	9.6	8.1	9.4	11.1	10.1

*Represents percentages of respondents indicating factor as "very important" (See Figure 1).

Table 13 presents, by type of institution and sex of respondent, the degree to which the graduates thought the factors in choosing a major field of study were very important. The responses of graduates from public institutions differed noticeably from those of the independent. Status-prestige, the influence of parents, relatives or friends, and the relationship between the major field and career choice were all significantly more important for graduates from the public sector.

The sexes also differed in their responses. Status-prestige was significantly more important for males than for females, and the relationship between major fields and interests and career choices were more important for females.

* * * * *

TABLE 14: HIGHEST DEGREE EXPECTED TO COMPLETE

Question 16: What is the highest level of education you expect to complete?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Degree Level	757	617	1,374	505	362	867	1,262	979	2,241
Bachelor's	23.6%	15.6%	20.0%	17.8%	19.1%	18.3%	21.3%	16.9%	19.4%
1st Professional	14.4	6.2	10.7	18.2	7.2	13.6	15.9	6.5	11.8
Master's	48.5	64.8	55.8	48.5	64.4	55.1	48.5	64.7	55.6
Specialist's	0.8	3.1	1.8	1.4	1.9	1.6	1.0	2.7	1.7
Doctor's	12.7	10.4	11.6	14.1	7.5	11.3	13.2	9.3	11.5

Table 14 represents the highest education degree the graduates expected to complete. Over eighty percent expected to complete a degree beyond the bachelor's with the responses from the public and independent institutions not differing significantly.

The sexes, however, differed greatly regarding their highest expected degrees. Proportionately more females than males expected to pursue a degree beyond the bachelor's, with almost two-thirds of the women indicating that the master's would be their highest degree. Though a higher percentage of males planned to receive no degree above the bachelor's, they also planned to pursue degrees at the highest graduate levels (doctorate and professional degrees) proportionately more frequently than females.

* * * * *

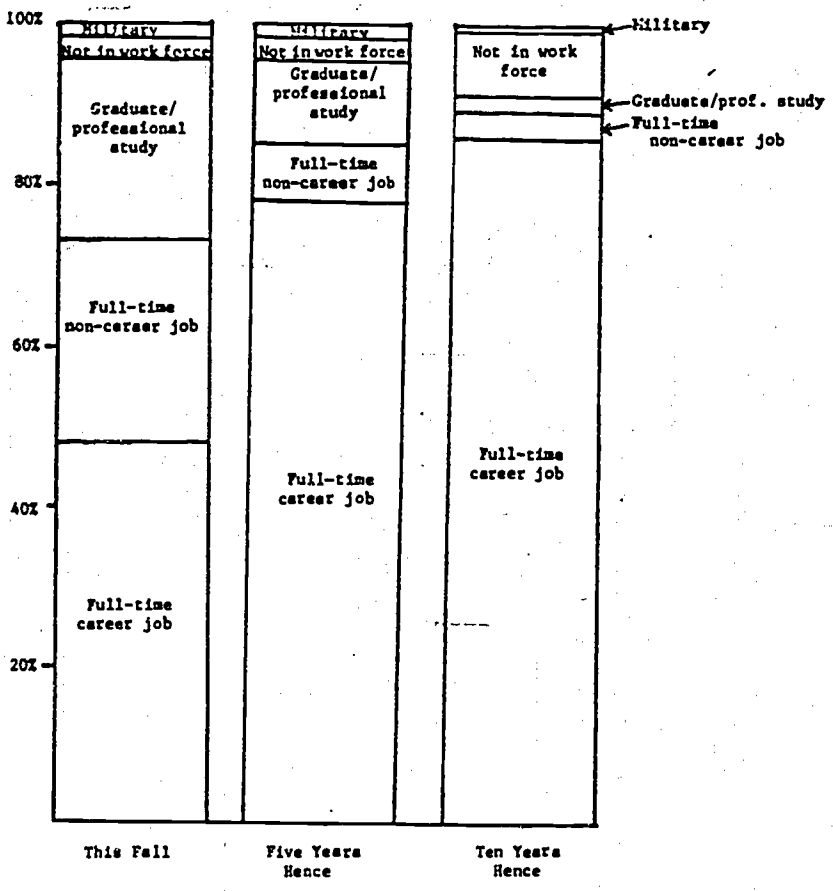
PART V

OCCUPATION AND CAREER PLANS AND ASPIRATIONS

FIGURE 2: EXPECTED FUTURE ACTIVITIES

Questions 54-56: Which one of the five choices best describes what you expect to be your primary activity this fall, about five years from now, about ten years from now?

Manpower analysts sometimes consider bachelor's level college graduates as if they were market-ready manpower supply. It is important, however, to take into consideration what the graduates themselves intend to do as they enter the labor market. Figure 2 represents the expected primary activities of the graduates next fall, five years hence, and ten years hence.



Fewer than half of the graduates expected to be working full-time in their career occupations this fall. Five years hence this figure rises to 78 percent, and 87 percent expect to be occupying a full-time career job in ten years.

One quarter of the graduates expected to be employed this fall in full-time non-career jobs. Over the time frame this proportion drops to 6.5 percent (five years hence) and to 2.8 percent (ten years hence) as they move into career employment.

Nearly one quarter of the respondents expected to pursue graduate or professional studies this fall as their primary activity. This figure drops to ten percent in five years and below two percent ten years hence. Since approximately four out of five graduates expected to study beyond the bachelor's level, it appears as though many intend to do so on a part-time basis in which graduate study will not be their primary activity.

Two percent of the respondents expected to be in the military this fall and five years hence, and only one percent in ten years.

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TABLE 15: EXPECTED FUTURE ACTIVITIES

Questions 54-56:

	This Fall							5 Years Hence							Ten Years Hence						
	Public		Indep.		All			Public		Indep.		All			Public		Indep.		All		
Activity	M 758	F 619	M 509	F 363	M 1267	F 982	T 2249	M 757	F 619	M 507	F 363	M 1264	F 982	T 2246	M 754	F 616	M 505	F 359	M 1259	F 975	T 2234
Full-time career job	45.6%	54.1%	36.7%	52.3%	42.1%	53.5%	47.0%	80.7%	77.7%	79.5%	73.3%	80.2%	76.1%	78.4%	92.7%	83.6%	94.1%	71.0%	93.2%	79.0%	87.0%
Full-time non-car. job	23.1	26.0	23.4	30.9	23.2	27.8	25.2	7.5	4.8	7.7	5.8	7.6	5.2	6.5	3.4	2.3	3.0	1.9	3.3	2.2	2.8
Military service	3.8	0.2	2.6	0.6	3.3	0.3	2.0	3.8	0.2	2.2	0.6	3.2	0.3	1.9	2.0	0.5	0.8	0	1.5	0.3	1.0
Grad. or prof. study	25.3	16.0	34.2	13.8	28.9	15.2	22.9	7.7	12.1	10.5	11.3	8.8	11.8	10.1	1.5	1.1	1.2	4.5	1.4	2.4	1.8
Not in work force	2.1	3.7	3.1	2.5	2.5	3.3	2.8	0.3	5.2	0.2	9.1	0.2	6.6	3.0	0.4	12.5	1.0	22.6	0.6	16.2	7.4

Table 15 presents these expected primary activities by sex and type of institution. A significant difference was found in the expected activity ten years hence when the type of institution was considered. This difference was accounted for by the fact that 84 percent of the public institutions' females and only 71 percent of the independents' expected to be in career jobs, while 23 percent of the independents' females and 13 percent of the publics' anticipated being outside the work force. Differences between the two types of institutions approached the 0.01 level of significance for fall plans, a result of public schools' males showing greater interest in career employment and independent schools' males more frequently expecting to pursue graduate or proressional studies.

Differences between males and females were significant beyond the 0.001 level for all three time periods. For this fall, females were more inclined to seek either career or non-career jobs and less inclined to continue their studies. Five years hence the males more often expected to be working full-time while females more frequently expected to be engaged in graduate or professional studies or to be outside the labor market. For ten years hence the primary differences again rest with the fact that more males expected to be employed in career jobs while more females expected to have left the work force.

* * * * *

TABLE 16: UNDERGRADUATE MAJOR AND PRIMARY FALL ACTIVITY

Questions 9 and 54:

Activity	Business & Mgmt.	Science	Engr.	Liberal Arts	Social Sci.	Math & Comp. Sci.	Educ.	Health	Other	Total
	326	194	205	268	363	60	471	181	171	2,249
Full-time career job	55.8%	16.5%	56.1%	39.2%	28.7%	45.7%	68.8%	61.3%	31.0%	47.0%
Full-time non-car.job	28.8	18.6	19.0	28.0	35.0	24.3	23.4	6.6	32.7	25.2
Military service	2.8	2.6	4.9	0.7	2.5	2.9	0.2	1.7	2.3	2.0
Grad. or prof. study	11.0	58.2	19.5	27.2	30.0	24.3	5.5	28.2	29.8	22.9
Not in work force	1.5	4.1	0.5	4.9	3.9	2.9	2.1	2.2	4.1	2.8

It was hypothesized that graduates from different fields of study would have varying expectations concerning their primary fall activities. Table 16 represents these expectations considered by undergraduate major.

Nearly half of the respondents expected to be employed at full-time career jobs in the fall. However, this response ranged from a high of more than two-thirds of the education graduates to a low of 16.5 percent of the science graduates. Generally, those fields of study for which a bachelor's degree is adequate training for entry-level positions(education, health, engineering, business) saw majorities planning on pursuing career jobs in the fall. Those fields in which a bachelor's degree is not usually considered entry-level training for specific occupations (science, social sciences, liberal arts) saw more graduates expecting to enter non-career jobs or to continue their formal educations.

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TABLE 17: DEFINITENESS OF PLANS

Questions 57-59: How definite do you consider the expectations marked in questions 54-56 (concerning primary future activities)?

Degree of Definiteness	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
	757	617	1,374	508	362	870	1,265	979	2,244
This Fall									
Very definite	56.9%	47.2%	52.6%	54.9%	46.7%	51.5%	56.1%	47.0%	52.2%
Somewhat definite	26.9	35.3	30.7	28.7	37.0	32.2	27.7	35.9	31.3
Highly indefinite	16.1	17.5	16.7	16.3	16.3	16.3	16.2	17.0	16.6
5 Years Hence									
Very definite	42.8	36.4	39.9	38.1	29.6	[illegible]	40.9	33.9	37.9
Somewhat definite	42.1	51.0	46.1	49.6	56.6	[illegible]	45.1	53.1	48.6
Highly indefinite	15.1	12.6	14.0	12.3	13.8	12.9	13.9	13.1	13.6
10 Years Hence									
Very definite	47.2	34.4	41.4	44.7	26.9	37.3	46.2	31.6	39.8
Somewhat definite	33.9	46.0	39.4	36.8	50.6	42.5	35.1	47.7	40.6
Highly indefinite	18.9	19.6	19.2	18.6	22.5	20.2	18.8	20.7	19.6

The data of Table 17 represent the degree to which the graduates considered their plans for this fall and five and ten years hence to be definite. For all three time periods females were significantly less definite than males.

As might be expected, plans for this fall were most frequently viewed as being definite. However, more than fifteen percent of the respondents, only a matter of weeks before their graduation, reported that the nature of their primary fall activity was still highly indefinite. Fewer graduates expressed that they were highly indefinite about their primary activity for five years hence than did so for this fall.

Concerning their expectations for five and ten years hence, 38 and 40 percent respectively reported that they were very definite as to the nature of their primary activity. The number who were highly indefinite over this time span jumped from about 13.5 percent to nearly twenty percent. This may indicate a great number of graduates who are still highly flexible in their career aspirations and who may be able and willing to move into newly developing or high demand occupations for which they can qualify.

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TABLE 18: TYPE OF ACTIVITY BY DEGREE OF DEFINITENESS OF ACTIVITY

Questions 54 and 57, 55 and 58, 56 and 59:

Degree of Definiteness	Full-time career job	Full-time non-career job	Military service	Graduate or professional study	Not in work force
This Fall	(n=1,056)	(n=566)	(n=45)	(n=517)	(n=64)
Very definite	50.8%	40.3%	80.0%	64.6%	57.8%
Somewhat definite	33.1	41.7	4.4	20.7	15.6
Highly indefinite	16.1	18.0	15.6	14.7	26.6
Five Years Hence	(n=1,759)	(n=147)	(n=43)	(n=517)	(n=68)
Very definite	41.6	15.6	55.8	22.6	29.4
Somewhat definite	45.8	59.2	30.2	63.7	58.8
Highly indefinite	12.6	25.2	14.0	13.7	11.8
Ten Years Hence	(n=1,943)	(n=62)	(n=22)	(n=39)	(n=166)
Very definite	43.0	19.4	27.3	12.8	19.9
Somewhat definite	39.5	35.5	63.6	53.8	49.4
Highly indefinite	17.6	45.2	9.1	33.3	30.7

The hypothesis that many seniors may still be flexible or indecisive in their career plans shortly before graduation is supported by the data of Table 18, which relates the type of primary activity to the degree to which the graduate is definite about engaging in the activity. Though all of the activities drop in the degree of definiteness over the time frame, the drop is much less for those expecting to be engaging in full-time career jobs than for any other activity. Nearly two thirds of those planning upon pursuing graduate study in the fall report this as very definite, but five and ten years hence it is much less so. It appears as though most respondents are fairly definite about their activities for the fall, but are still flexible concerning more long-range plans. This flexibility may indicate realism on the part of the graduates and a healthy situation for the labor market as they begin to move into it on a career basis.

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TABLE 19: OCCUPATION AND CAREER CHOICES OF RESPONDENTS

Questions 21-23: In which occupation do you expect to be working next fall, five years from now, long-term career?

Occupations	Next Fall n	Next Fall %	5 Years Hence n	5 Years Hence %	Long-Term Career n	Long-Term Career %
Professional, Technical, & Kindred	1,255	57.3	1,682	76.1	1,806	80.8
Engineers	134	6.1	149	6.7	154	6.9
Life scientists	19	0.9	46	2.1	58	2.6
Physical scientists	9	0.4	33	1.5	36	1.6
Math specialists	4	0.2	11	0.5	12	0.5
Medical workers	135	6.2	245	11.1	269	12.0
Dentists	4	0.2	30	1.4	30	1.3
Optometrists	8	0.4	18	0.8	17	0.8
Pharmacists	27	1.2	27	1.2	28	1.3
Physicians/surgeons	1	0.0	66	3.0	84	3.8
RNs	66	3.0	57	2.6	61	2.7
Therapists	10	0.5	20	0.9	20	0.9
Veterinarians	4	0.2	7	0.3	9	0.4
Other medical	15	0.7	20	0.9	20	0.9
Technicians (health)	22	1.0	22	1.0	19	0.9
Clinical/medical lab technicians	14	0.6	16	0.7	13	0.6
Dental hygienists/lab technicians	2	0.1	2	0.1	2	0.1
LPNs	1	0.0	0	0.0	0	0.0
Therapy technicians	0	0.0	0	0.0	0	0.0
Other health technicians	5	0.2	4	0.2	4	0.2
Technicians (science & engineering)	40	1.8	29	1.3	22	0.9
Science technicians	22	1.0	17	0.8	11	0.5
Engineering technicians	18	0.8	12	0.5	11	0.5
Technicians (other)	9	0.4	10	0.5	11	0.5
Aviation technicians	3	0.1	4	0.2	3	0.1
Other technicians, nec.	6	0.3	6	0.3	8	0.4
Computer specialists	44	2.0	41	1.9	42	1.9
Psychologists	4	0.2	27	1.2	37	1.7
Social scientists	14	0.6	40	1.8	46	2.1
Education professions	502	22.9	542	24.5	558	25.0
Elem. & pre-school teachers	184	8.4	161	7.3	163	7.3
Secondary school teachers	238	10.9	191	8.6	157	7.0
College teachers	13	0.6	60	2.7	97	4.3
Special ed. professions	46	2.1	58	2.6	58	2.6
School counselors	1	0.0	28	1.3	35	1.6
Other educ. professions	20	0.9	44	2.0	48	2.1
Writers, artists, entertainers	67	3.1	100	4.5	132	5.9
Writers & kindred	27	1.2	35	1.6	52	2.3
Artists & entertainers	40	1.8	65	2.9	80	3.6
Other prof. technical, & kindred	252	11.5	387	17.5	410	18.3
Accountants & auditors	90	4.1	93	4.2	88	3.9
Architects	11	0.5	16	0.7	16	0.7
Clergy & kindred	16	0.7	50	2.3	53	2.4
Lawyers & judges	5	0.2	103	4.7	120	5.4
Librarian, curators, archivists	12	0.5	20	0.9	21	0.9
Social workers	51	2.3	51	2.3	53	2.4
Other	67	3.1	54	2.4	59	2.6
Managers, Officials, & Proprietors	134	6.1	254	11.5	284	12.7
Buyers, sales, loan managers	67	3.1	118	5.3	121	5.4
Bank & financial managers	29	1.3	57	2.6	69	3.1
Buyers	16	0.7	17	0.8	21	0.9
Sales managers	22	1.0	44	2.0	31	1.4
Administrators & public inspectors	25	1.1	47	2.1	59	2.6
Health administrators	8	0.4	13	0.6	16	0.7
School administrators	4	0.2	9	0.4	20	0.9
Other administrators	12	0.5	25	1.1	23	1.0
Inspectors, public	1	0.0	0	0.0	0	0.0
Other managers, officials & proprietors	42	1.9	89	4.0	104	4.7
Office managers, nec	18	0.8	57	2.6	56	2.5
Other managers & administrators	24	1.1	32	1.4	48	2.1
Sales Workers	96	4.4	48	2.2	42	1.9
Insurance agents & brokers	11	0.5	5	0.2	3	0.1
Real estate agents & brokers	6	0.3	8	0.4	7	0.3
Stock & bond sales	1	0.0	3	0.1	3	0.1
Sales clerk - retail	24	1.1	3	0.1	3	0.1
Other sales personnel	54	2.5	29	1.3	26	1.2

TABLE 19 (continued)

Occupations	Next Fall n	Next Fall %	5 Years Hence n	5 Years Hence %	Long-Term Career n	Long-Term Career %
Clerical Workers	60	2.7	14	0.6	6	0.3
Secretaries, stenographers, typists	22	1.0	5	0.2	4	0.2
Secretaries, & stenographers	19	0.9	5	0.2	4	0.2
Typists	3	0.1	0	0.0	0	0.0
Office machine operators	4	0.2	1	0.0	0	0.0
Keypunch & computer equipment	1	0.0	0	0.0	0	0.0
Other	3	0.1	1	0.0	0	0.0
Other clerical	34	1.6	8	0.4	2	0.1
Bookkeepers	4	0.2	0	0.0	0	0.0
Cashiers	5	0.2	4	0.2	1	0.0
Other	25	1.1	4	0.2	1	0.0
Craftsmen, Foremen, & Kindred	32	1.5	11	0.5	10	0.4
Construction craftsmen	16	0.7	4	0.2	2	0.1
Construction machine operator	5	0.2	2	0.1	2	0.1
Electrician	5	0.2	1	0.0	0	0.0
Other construction craftsmen	6	0.3	1	0.0	0	0.0
Metal working craftsmen	1	0.0	0	0.0	0	0.0
Foremen, nec	8	0.4	3	0.1	4	0.2
Mechanics, repairmen, & installers	2	0.1	1	0.0	1	0.0
Air cond.,heating, refrig.,workers	0	0.0	0	0.0	0	0.0
Automotive workers	0	0.0	0	0.0	1	0.0
Heavy equipment & diesel mechanics	0	0.0	0	0.0	0	0.0
Other mechs. & repairmen	2	0.1	1	0.0	0	0.0
Printing trade craftsmen	3	0.1	2	0.1	2	0.1
Transp. & public util. craftsmen	0	0.0	0	0.0	0	0.0
Other craftsmen & kindred	2	0.1	1	0.0	1	0.0
Operatives	17	0.8	3	0.1	1	0.0
Operatives other than transportation	11	0.5	2	0.1	1	0.0
Semi-skilled metalworking	1	0.0	1	0.0	1	0.0
Semi-skilled textile	0	0.0	1	0.0	0	0.0
Semi-skilled packing & inspecting	1	0.0	0	0.0	0	0.0
Other	9	0.4	0	0.0	0	0.0
Transportation equip, operatives	6	0.3	1	0.0	0	0.0
Service Workers	45	2.1	21	1.0	17	0.8
Cleaning service	1	0.0	0	0.0	0	0.0
Food service	8	0.4	1	0.0	0	0.0
Health service	6	0.3	0	0.0	0	0.0
Personal service	12	0.5	5	0.2	5	0.2
Protective service	17	0.8	14	0.6	12	0.5
Private household	1	0.0	1	0.0	0	0.0
Laborers (non-farm)	19	0.9	3	0.1	1	0.0
Farmers & Farm Workers	17	0.8	21	1.0	27	1.2
Farmer & farm managers	14	0.6	20	0.9	27	1.2
Farm laborers & foremen	3	0.1	1	0.0	0	0.0
Other	514	23.5	152	6.9	41	1.8
Military	45	2.1	43	1.9	27	1.2
Housewife	16	0.7	60	2.7	14	0.6
Student	453	20.7	49	2.2	0	0.0
Total	2,189	100.0	2,209	100.0	2,235	100.0

The data of Table 19 represent the occupation choices of the graduates for next fall, five years hence, and for their long-term career. For next fall, the highest proportion of respondents expected to be students (20.7 percent). High percentages also expected to be secondary school teachers (10.9 percent), elementary and pre-school teachers (8.4 percent), and engineers (6.1 percent). For five years hence and careers these three professions maintain their respective top rankings and large numbers of additional respondents hoped to become lawyers and judges, college teachers, accountants and auditors, physicians and surgeons, and artists and entertainers.

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TABLE 20: RESPONDENTS' EXPECTATIONS CONCERNING THEIR OWN OCCUPATIONS AND CAREERS (CATEGORIZED)

Questions 21-23:

	Next Fall							5 Years Hence							Long-Term Career						
	Public		Indep.		All			Public		Indep.		All			Public		Indep.		All		
Occupational Category	M 736	F 611	M 489	F 349	M 1,225	F 960	T 2,186	M 742	F 612	M 498	F 354	M 1,240	F 966	T 2,206	M 753	F 617	M 500	F 361	M 1,253	F 978	T 2,232
Prof., tech., kind.	51.4%	67.4%	43.4%	72.2%	48.2%	69.2%	57.4%	71.0%	81.0%	73.9%	81.6%	72.2%	81.3%	76.2%	73.6%	87.2%	78.2%	88.6%	75.4%	87.7%	80.8%
Mgr., off., prop.	7.3	4.9	8.0	3.2	7.6	4.3	6.1	14.8	8.0	15.1	5.4	14.9	7.0	11.5	16.2	9.2	16.2	6.4	16.2	8.2	12.7
Sales workers	6.8	2.8	3.9	2.6	5.6	2.7	4.3	4.0	0.8	2.4	0.3	3.4	0.6	2.2	3.5	0.8	2.0	0.3	2.9	0.6	1.9
Clerical workers	0.4	5.7	1.0	4.9	0.7	5.4	2.7	0.0	1.5	0.2	1.1	0.1	1.3	0.6	0.0	0.3	0.0	1.1	0.0	0.6	0.3
Crafts.,foremen, kind.	2.4	0.5	2.2	0.0	2.4	0.3	1.5	0.8	0.3	0.6	0.0	0.7	0.2	0.5	0.7	0.5	0.4	0.0	0.6	0.3	0.4
Operatives	0.9	0.7	0.6	0.9	0.8	0.7	0.8	0.0	0.3	0.2	0.0	0.1	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.1	0.0
Service workers	1.6	1.6	2.0	3.7	1.8	2.4	2.1	0.9	0.5	1.0	1.7	1.0	0.9	1.0	0.5	0.5	0.6	1.9	0.6	1.0	0.8
Laborers	1.5	0.0	1.4	0.3	1.5	0.1	0.9	0.3	0.0	0.2	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Farmers, farm workers	1.6	0.0	0.8	0.3	1.3	0.1	0.8	2.3	0.2	0.6	0.0	1.6	0.1	1.0	2.8	0.2	1.0	0.0	2.1	0.1	1.2
Military	3.7	0.0	3.3	0.6	3.5	0.2	2.1	3.9	0.0	2.6	0.3	3.4	0.1	1.9	2.7	0.0	1.4	0.0	2.2	0.0	1.2
Housewife	—	2.1	—	0.6	—	1.6	0.7	—	5.4	—	7.6	—	6.2	2.7	—	1.1	—	1.7	—	1.3	0.6
Student	22.1	14.2	33.3	10.9	26.6	13.0	20.6	1.9	2.0	3.2	2.0	2.4	2.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 20 represents the occupational choices by category of the graduates for next fall, five years hence, and for a long-term career, presented by sex of respondent and type of institution attended. The overall manpower supply rises greatly in number as those who plan on continuing their formal educations next fall and five years hence enter and re-enter the labor market. In spite of this fact, the only occupational categories experiencing growth over time are professional, technical, and kindred and managers, officials, and proprietors. All of the other categories show a decline with the passing of time, indicating that aspirants to occupations in those areas view these jobs as short-term avenues toward entry to careers in the first two categories.

It is also of interest to note that many females expect to be occupied as housewives five years hence, but that the proportion expecting to be so occupied for their long-term careers is much lower. This indicates that, at least at the point of receiving the baccalaureate degree, most females who expect to marry and raise families still aspire to pursue careers.

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TABLE 21: RELATIONSHIP OF UNDERGRADUATE MAJOR TO CAREER ASPIRATION

Question 24: To what extent do you expect your long-term career to be related to your undergraduate major field of study?

	Public			Independent			All		
Degree of Relatedness	M 756	F 619	T 1,376	M 509	F 361	T 872	M 1,265	F 980	T 2,245
Highly related	63.8%	70.8%	66.9%	63.1%	69.8%	65.9%	63.5%	70.4%	66.5%
Somewhat related	32.7	25.4	29.4	32.0	24.4	28.8	32.4	25.0	29.2
Unrelated	3.6	3.9	3.7	4.9	5.8	5.3	4.1	4.6	4.3

In Figure 1 and Table 13, factors influencing students as they chose their major fields of study were reported. It was found that a field's relationships to interests, aptitudes, and career plans were most important. Now, as the career plans of students are viewed in greater detail, it becomes necessary to analyze further the degree to which the graduates expect their undergraduate majors to be related to their career choices.

In a manpower sense, this question is extremely important and very elusive. If, for example, a high percentage of education majors do not plan to teach, then the teacher surplus as measured by the number of education majors is less critical than generally thought. The data of Table 21 reflect the degree to which the graduates expected their career work to be related to their undergraduate majors. Approximately two thirds thought that there would be a high degree of relationship between career and major, with females responding in this manner significantly more frequently than males. Fewer than five percent of the graduates expected their careers to be unrelated to their undergraduate majors.

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TABLE 22: UNDERGRADUATE MAJOR AND CAREER RELATEDNESS

Questions 9 and 24:

Degree of Relatedness	Business & Mgmt. 325	Science 194	Engr. 205	Liberal Arts 267	Social Sci. 363	Math & Comp. Sci. 70	Educ. 470	Health 181	Other 170	Total 2,245
Highly related	67.1%	58.2%	66.8%	61.8%	54.5%	72.9%	76.0%	86.7%	56.5%	66.5%
Somewhat related	29.8	38.1	30.7	30.3	39.7	22.9	20.0	12.7	37.6	29.2
Unrelated	3.1	3.6	2.4	7.9	5.8	4.3	4.0	0.6	5.9	4.3

Table 22 represents the degree to which graduates of each academic major category expected their career to be related to their undergraduate major. In all academic categories more than half of the respondents expected a high degree of relatedness. These ranged from highs in the health fields (86.7 percent highly related) and education fields (76 percent highly related) to lows for social sciences (54.5 percent highly related) and sciences (58.2 percent highly related)

In no educational category did as many as ten percent of the graduates expect their careers to be unrelated to their undergraduate major. The highest level for this response was the 7.9 percent from liberal arts graduates, and the lowest was 0.6 percent from the health fields graduates.

The data of Table 22 clearly indicate that it is not only students in academic fields generally identified with specific occupations and careers who hope to find employment related to their education. Rather, majorities of the graduates from all academic areas anticipate careers highly related to their fields of study, and very few in all areas expect to pursue careers unrelated to their educations.

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TABLE 23: UNDERGRADUATE MAJOR AND EXPECTED FALL OCCUPATION (CATEGORIZED)

Questions 9 and 22:

Occupational Category	Business & Mgmt.	Science	Engr.	Liberal Arts	Social Sci.	Math & Comp. Sci.	Educ.	Health	Other	Total
Prof,tech.& kind.	38.7%	31.4%	72.9%	55.4%	39.6%	67.1%	85.4%	72.8%	42.9%	57.3%
Mgr.,official,prop.	21.1	1.1	1.5	3.6	9.7	0.0	1.9	2.2	3.7	6.1
Sales workers	15.1	1.1	2.0	5.2	4.6	2.9	0.9	0.0	4.3	4.4
Clerical workers	5.3	0.5	0.0	4.4	4.3	0.0	3.0	0.0	1.2	2.7
Craft.fore.kind.	3.1	1.1	2.0	1.2	1.1	1.4	1.3	0.6	0.6	1.5
Operatives	0.9	1.1	0.5	2.0	0.0	0.0	0.4	0.5	1.8	0.8
Service workers	0.9	1.6	0.0	2.8	5.7	0.0	0.9	0.0	4.9	2.1
Laborers	0.9	2.7	0.0	1.2	0.3	1.4	0.2	0.6	2.5	0.9
Farm workers	0.3	0.0	0.5	0.4	0.6	0.0	0.2	0.0	6.7	0.8
Military	3.8	2.7	4.9	0.4	2.8	2.9	0.2	1.1	1.2	2.1
Housewife	0.0	0.0	0.0	0.4	1.1	2.9	1.3	1.1	0.6	0.7
Student	9.7	56.8	15.8	23.1	30.2	21.4	4.3	21.2	29.4	20.7

TABLE 24: UNDERGRADUATE MAJOR AND LONG-TERM CAREER CHOICE (CATEGORIZED)

Questions 9 and 21:

Career Category	Business & Mgmt. 322	Science 194	Engr. 205	Liberal Arts 265	Social Sci. 361	Math & Comp. Sci. 70	Educ. 469	Health 180	Other 166	Total 2,232
Prof. tech.,kind.	43.2%	92.8%	84.4%	88.7%	78.1%	95.7%	90.8%	96.1%	77.1%	80.8%
Mgr.,off.,prop.	43.8	3.6	11.2	6.4	14.1	2.9	5.8	2.8	6.6	12.7
Sales workers	7.1	1.0	1.5	1.5	1.1	0.0	0.4	0.0	2.4	1.9
Clerical workers	0.6	0.0	0.0	0.4	0.6	0.0	0.0	0.0	0.6	0.3
Crafts.,fore.,kind.	1.6	0.0	0.0	0.4	0.0	1.4	0.6	0.0	0.0	0.4
Operatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Service workers	0.0	0.0	0.0	1.5	2.5	0.0	0.2	0.0	1.8	0.8
Laborers	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Farm workers	0.3	1.0	1.0	0.0	1.1	0.0	0.6	0.0	9.0	1.2
Military service	3.4	1.5	2.0	0.0	1.7	0.0	0.2	0.0	1.2	1.2
Housewife	0.0	0.0	0.0	0.8	0.8	0.0	1.3	0.6	1.2	0.6

Tables 23 and 24 present the expected fall occupations and the expected long-term careers of the graduates by their undergraduate major fields of study. The data indicate that for each academic area there is an increase into the professional, technical, and kindred category. Only for business/management majors is there more rapid growth to another category, the manager, official, proprietor group.

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TABLE 25: PROFESSIONAL, TECHNICAL, & KINDRED SUBCATEGORIES OF CAREER CHOICE WITH UNDERGRADUATE MAJOR AREA OF STUDY

Questions 9 and 21:

Career Choices	Business & Mgmt.	Science	Engr.	Liberal Arts	Social Sci.	Math & Comp. Sci.	Educ.	Health	Other	Total
	139	180	173	235	282	67	426	173	128	1,803
Engineers	1.4%	0.6%	85.0%	0.4%	0.0%	3.0%	0.0%	0.0%	0.8%	8.5%
Science occupations	0.0	35.6	1.2	0.4	0.0	3.0	0.7	1.2	15.6	5.2
Math, computer occup.	9.4	1.1	0.0	0.0	0.7	53.7	0.2	0.0	0.0	3.0
Health occups.	1.4	47.8	3.5	1.7	4.3	0.0	1.9	90.8	10.2	16.0
Techs.,(non-health)	2.2	5.0	5.2	1.7	1.1	1.5	0.0	0.0	3.1	1.8
Psych, social sci.	0.7	0.0	0.6	1.3	21.6	4.5	0.9	0.6	7.0	4.6
Education occups.	2.9	5.0	2.3	23.0	20.9	31.3	88.3	5.8	15.6	30.9
Writers,artists,ent.	0.7	1.1	1.2	37.0	3.9	0.0	2.8	0.6	12.5	7.3
Accountants,auditors	58.3	0.0	0.0	0.0	0.7	3.0	0.2	0.0	1.6	4.9
Lawyers & judges	10.8	3.3	0.6	5.5	19.5	0.0	0.7	0.0	20.3	6.6
Social workers	0.0	0.0	0.0	1.3	14.2	0.0	0.2	0.0	6.3	2.9
Other prof., tech., and kindred	12.2	0.6	0.6	27.7	13.1	0.0	4.0	1.2	7.0	8.3

There are a number of subgroups of occupations within the occupational category of professional, technical, and kindred. Since four-fifths of the respondents aspired to careers within this category, it was felt to be worthwhile to view the aspirants to some of these major subgroups by their academic majors. The data of Table 25 represent this crosstabulation and clearly indicate that a great majority of the graduates hope to pursue careers related to their major areas of study, where such relationships can be identified.

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TABLE 26: DESIRED CAREER WORK ENVIRONMENT

Question 60: In which of the following work environments do you hope to make your long-term career?

Career Work Environment	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
	757	618	1,375	508	362	870	1,265	980	2,245
Educational institution	18.5%	43.4%	29.7%	16.3%	43.9%	27.8%	17.6%	43.6%	29.0%
Business or industry firm	30.4	13.3	22.7	38.0	12.2	21.4	29.4	12.9	22.2
Self employment, pvt. practice	26.7	10.0	19.2	24.6	8.8	18.0	25.8	9.6	18.8
Health care facility	4.1	13.1	8.1	4.7	13.3	8.3	4.3	13.2	8.2
Gov't or public service	7.5	8.1	7.8	10.6	5.2	8.4	8.8	7.0	8.0
Pvt. research organization	4.1	2.1	3.2	3.1	3.9	3.4	3.7	2.8	3.3
Welfare agency	0.1	2.6	1.2	0.4	3.3	1.6	0.2	2.9	1.4
Military service	2.6	0.2	1.5	2.0	0.0	1.1	2.4	0.1	1.4
Other	5.9	7.3	6.5	10.2	9.4	9.9	7.7	8.1	7.8

The data of Table 26 indicate the work environments in which the graduates hoped to pursue their careers. The responses of males and females differed greatly, with the three most frequent choices of men being business or industrial firm (29.4 percent), self employment or private practice (25.8 percent), and educational institution (17.6 percent), while females most often chose, in rank order, educational institution (43.6 percent), health care facility (13.2 percent) and business or industrial firm (12.9 percent).

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TABLE 27: UNDERGRADUATE MAJOR BY CAREER WORK ENVIRONMENT

Questions 9 and 60:

Career Work Environment	Business & Mgmt.	Science	Engr.	Liberal Arts	Social Sci.	Math & Comp. Sci.	Educ.	Health	Other	Total
	326	193	205	268	363	70	471	180	169	2,245
Educational inst.	4.0%	14.5%	4.4%	27.2%	19.6%	38.6%	84.1%	6.7%	11.8%	28.9%
Business or ind.firm	58.6	13.0	59.5	15.7	12.4	42.9	2.3	2.8	16.6	22.2
Self-empl.,pvt.prac.	23.0	29.0	17.1	23.9	19.3	5.7	4.7	25.6	29.6	18.8
Health care facility	1.2	19.7	1.0	0.7	5.8	0.0	1.3	56.7	5.3	8.2
Gov't or pub. servic	5.2	5.2	6.3	6.7	22.3	2.9	1.1	3.9	14.8	7.9
Private res. org.	0.9	12.4	3.9	1.1	2.2	7.1	1.1	1.7	8.9	3.3
Welfare agency	0.0	0.0	0.0	1.1	6.6	0.0	0.2	0.0	1.8	1.4
Military service	3.4	1.6	2.9	0.0	1.7	0.0	0.2	0.6	1.8	1.4
Other	3.7	4.7	4.9	23.5	10.2	2.9	5.1	2.2	9.5	7.9

Table 27 represents the career work environment choices of the graduates from each major area of study. The differences in the choices from study area to study area were great. Those academic areas which could be related to a specific career environment showed high proportions expecting to work in that environment. For example, 84.1 percent of the education majors expected to work in an educational institution, 59.5 percent and 58.6 percent of the engineering and business/management majors, respectively, expected to work in a business or industrial firm, and 56.7 percent of the health fields graduates expected to work in a health care facility.

Majors in the sciences, liberal arts, and social sciences were distributed widely in their career work environment choices. Majors in the mathematics/computer science area generally chose either business or industrial firms or educational institutions.

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TABLE 28: IMPORTANCE OF FACTORS IN CHOOSING LONG-TERM CAREER

Questions 28-42: How important has each of the following factors been to you in your choice of a long-term career?

Factor	Very Important n	%	Somewhat Important n	%	Not Important n	%
Interest in work activities	1,517	67.8	638	28.5	82	3.7
Uses special talents/abilities	1,380	61.7	761	34.0	97	4.3
Work with people rather than things	1,338	59.8	557	24.9	342	15.3
Service to others	1,291	57.7	745	33.3	202	9.0
Leadership opportunity	796	35.6	1,027	45.9	414	18.5
Security	732	32.7	1,157	51.7	349	15.6
Independence on job	686	30.7	1,079	48.2	472	21.1
Desire to contribute to knowledge	674	30.1	984	44.0	579	25.9
Initial job opportunities	523	23.3	1,014	45.3	700	31.3
Opportunity to get ahead rapidly	313	14.0	832	37.2	1,094	48.9
High income	280	12.5	1,111	49.6	847	37.8
Free time	279	12.5	721	32.2	1,237	55.3
Interest in travel	245	10.9	689	30.8	1,304	58.3
Status, prestige	199	8.9	1,064	47.5	976	43.6
Education requires less time than for other careers	40	1.8	276	12.3	1,922	85.9

Table 28 presents the relative importance of various factors to the graduates in making their career choices. Similar to the findings for choices of major fields of study (Figure 1), the two most frequently chosen factors were an interest in the work activities and the opportunity to use special talents and abilities. Such factors as the opportunity to get ahead rapidly, high income, free time, travel, status, and fewer educational requirements were of relatively less concern to most respondents.

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TABLE 29: FACTORS INDICATED AS BEING VERY IMPORTANT IN MAKING CAREER CHOICES (TABLE 28, COLUMN 1)

Questions 28-42:

	Public			Independent			All		
Factors	M 758	F 619	T 1,377	M 510	F 363	T 873	M 1,268	F 982	T 2,250
Interest in work activities	69.4%	70.1%	69.7%	64.5%	65.3%	64.8%	67.4%	68.3%	67.8%
Uses special talents	61.1	65.4	63.0	54.9	65.8	59.5	58.6	65.6	61.7
Work with people	44.9	73.8	57.9	53.3	76.9	63.2	48.3	74.9	59.9
Being of service	44.5	69.8	55.9	52.2	72.5	60.7	47.6	70.8	57.7
Leadership opportunity	41.0	29.9	36.0	40.4	27.0	34.8	40.7	28.8	35.5
Security	36.4	30.9	34.0	35.2	23.7	30.5	35.9	28.2	32.6
Independence	35.1	29.7	32.8	30.3	23.7	27.6	33.2	27.5	30.7
Desire to contribute to knowledge	27.2	35.5	31.0	26.4	32.2	28.8	26.9	34.3	30.1
Initial job opportunities	28.4	20.4	24.8	23.0	17.7	20.8	26.2	19.4	23.2
Opportunity to get ahead rapidly	21.8	8.2	15.7	15.9	5.2	11.4	19.4	7.1	14.1
High income	18.1	7.3	13.3	16.9	3.3	11.2	17.6	5.8	12.5
Allows free time	14.0	13.1	13.7	9.4	12.4	10.7	12.2	12.8	12.5
Interest in travel	9.4	12.0	10.5	11.6	11.3	11.5	10.3	11.7	10.9
Status, prestige	11.2	6.9	9.4	11.4	4.1	8.4	11.5	5.9	8.9
Less time for education	2.0	1.5	1.7	2.2	1.7	1.9	2.1	1.5	1.8

Table 29 represents the factors rated as very important to the graduates in making career choices, by sex of respondent and type of institution attended. The chi-square test of significance indicated that there were many differences between males and females concerning the importance of these factors. These differences are noted below.

Male High - Female Low Importance

Leadership opportunity
Independence
Security
High income
Status, prestige
Opportunity to get ahead rapidly
Initial job opportunities

Male Low - Female High Importance

Being of service
Uses special talents/abilitie
Work with people
Desire to contribute to knowl

No Significant Difference ($p > 0.01$)

Interest in work activities
Allows free time
Less time needed for education
Interest in travel

Females appear to make their career choices for much different reasons than males. The women were more concerned about humanistic types of factors such as service, contributing to knowledge, and working with people. Males, on the other hand, were more attracted by career concerns dealing with security, money, and opportunities for initial employment, for advancement, and for leadership.

Though differences approaching the 0.01 level of significance were found when the responses from public - independent institutions were analysed, none attained that level. The factors influencing the career choices of respondents from the two sectors appear to be relatively similar.

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TABLE 30: VERY IMPORTANT FACTORS IN CAREER DECISIONS (TABLE 28, COLUMN 1) BY AREA OF STUDY

Questions 9 and 28-42:

Career Choice Factors	Business & Mgmt. 326	Science 193	Engr. 265	Liberal Arts 267	Social Sci. 364	Math & Comp. Sci. 70	Educ. 471	Health 181	Other 171	Total 2,248
Work activities	63.8%*	68.8%	70.7%	68.9%	69.8%	74.3%	67.7%	59.1%	70.8%	67.7%
Use talents/abilities	51.5	57.5	61.5	73.8	61.0	68.6	69.9	48.6	56.1	61.6
Work with people	44.8	42.4	27.8	59.6	69.1	42.9	86.0	72.4	49.7	59.9
Service	29.1	57.0	26.3	56.2	63.5	44.3	80.9	82.9	55.6	57.7
Leadership	52.6	25.4	49.8	27.3	34.6	31.4	30.4	32.0	32.7	35.6
Security	40.5	40.9	44.9	22.1	28.0	32.9	21.4	50.3	31.6	32.6
Independence	30.1	44.0	24.4	31.8	32.7	29.0	22.9	34.3	38.0	30.8
Des.to contr. to know.	15.6	34.0	25.5	31.2	29.4	40.0	45.4	14.4	29.2	30.1
Job opportunities	41.7	24.4	41.0	12.7	17.4	27.1	10.6	32.6	18.1	23.3
Opp'ty to adv. rapidly	37.1	10.3	27.3	7.1	11.8	18.6	2.5	7.2	11.1	14.1
Free time	10.5	13.0	6.3	15.0	12.1	14.3	16.1	11.6	9.9	12.5
Income	31.6	10.4	20.5	6.4	9.9	10.0	3.0	12.2	11.7	12.5
Travel	15.3	8.8	7.8	16.9	13.5	4.3	8.3	4.4	10.5	10.9
Status, prestige	18.4	9.8	8.3	7.1	8.0	7.1	4.0	9.4	9.9	9.0
Educ. needs less time	4.6	0.5	1.0	1.9	1.9	2.9	1.1	1.1	1.2	1.8

*Figures represent percentages of respondents majoring in each area of study rating each factor as being "very important" in making a career choice.

It was hypothesized that factors considered very important in making career choices would differ with different academic majors. The data of Table 30 indicate that this is the case. The only factor which did not elicit a wide range of response rates was that with a very low rate of response from all academic areas (education takes less time). The factors involving interest in work activities and the opportunity to use talents and abilities remained high (above 50 percent) for the graduates of all areas of study.

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TABLE 31: TIME OF CAREER CHOICE

Question 25: When did you make your present choice of career?

	Public			Independent			All		
Time of Choice	M 754	F 616	T 1,371	M 507	F 362	T 871	M 1,261	F 978	T 2,239
Presently undecided	4.6%	3.1%	3.9%	5.1%	5.5%	5.3%	4.8%	4.0%	4.5%
Senior year	13.9	12.7	13.3	17.6	11.6	15.0	15.4	12.3	14.0
Junior year	15.0	15.4	15.2	15.6	14.6	15.3	15.2	15.1	15.2
Sophomore year	22.7	20.1	21.5	19.1	20.4	19.6	21.3	20.2	20.8
Freshman year	17.5	16.2	16.9	13.0	14.4	13.5	15.7	15.5	15.6
During or before h.s.	26.3	32.5	29.0	29.6	33.4	31.2	27.6	32.8	29.9

Table 31 indicates the time at which the graduates had made their present career choices. Thirty percent had made their career choices during or before high school, and slightly over four percent reported that they were still undecided. This means that nearly two-thirds of the respondents had made their career choices while in college.

The year of college in which these graduates chose a career was widely variable. The most frequently indicated was the sophomore year, the time at which most students select a major field of study. The freshman, junior, and senior years were each indicated by from fourteen to sixteen percent of the respondents as the time a choice was made.

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TABLE 32: CAREER CHOICE CHANGES SINCE ENTERING COLLEGE

Question 26: Have you changed your career choice since entering college?

	Public			Independent			All		
Change	M 755	F 618	T 1,373	M 506	F 361	T 867	M 1,261	F 979	T 2,240
Yes	49.7%	48.2%	49.0%	48.2%	48.2%	48.2%	49.1%	48.2%	48.7%
No	50.3	51.8	51.0	51.8	51.8	51.8	50.9	51.8	51.3

The data of Table 32 indicate that approximately half of the graduates had changed their career choices since entering college. This proportion changed only slightly when the sex of respondents and the type of institution attended were taken into account

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TABLE 33: REASONS FOR CHANGING CAREER CHOICE

Question 27: If you have changed your career choice since entering college, why did you do so?

	Public			Independent			All		
Reasons	M 365	F 296	T 661	M 240	F 170	T 410	M 605	F 466	T 1,071
Few job openings in previous choice	7.1%	6.1%	6.7%	6.3%	11.8%	8.5%	6.8%	8.2%	7.4%
Better financial future	4.9	2.7	3.9	4.6	0.6	2.9	4.8	1.9	3.5
Better use of education	3.3	2.4	2.9	2.9	2.4	2.7	3.1	2.4	2.8
Better suits talents & aptitudes	26.0	22.6	24.5	19.6	25.3	22.0	23.5	23.6	23.5
Better suits interests	26.8	33.1	29.7	30.8	33.5	32.0	28.4	33.3	30.5
Previous choice only tentative	15.9	12.2	14.2	17.1	12.9	15.4	16.4	12.4	14.7
Training for previous choice too costly	0.8	1.7	1.2	1.2	0.0	0.7	1.0	1.1	1.0
Lost interest in previous choice	7.4	6.8	7.1	10.0	5.3	8.0	8.4	6.2	7.5
Other	7.7	12.5	9.8	7.5	8.2	7.8	7.6	10.9	9.1

The data of Table 33 indicate the graduates' primary reasons for having changed their career choices since entering college. The most frequently reported reasons were that the new career choice better suited the individual's interests (30.5 percent) or better suited his talents and aptitudes (23.5 percent). These two responses correspond with the most important factors considered by the graduates in making long-term career choices, as shown in Table 28.

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TABLE 34: DEGREES OF INFLUENCE OF SOURCES OF INFORMATION OR GUIDANCE IN MAKING CAREER CHOICE

Questions43-51: How influential has each of the following sources of information or guidance been to you in making your long-term career choice?

	Very Impt.		Somewhat Impt.		Not Impt.	
Influence	n	%	n	%	n	%
College courses	722	32.3	1,061	47.4	455	20.3
Previous work experience	660	29.5	725	32.4	850	38.0
College teachers	606	27.1	962	43.0	670	29.9
Parents or other relatives	330	14.7	1,022	45.7	886	39.6
Friends	153	6.8	899	40.2	1,186	53.0
High school teachers/counselors	147	6.6	518	23.1	1,573	70.3
Printed materials, radio, TV	138	6.2	640	28.6	1,460	65.2
College career/placement counselors	106	4.7	430	19.2	1,700	76.0
Other counselors	95	4.2	379	16.9	1,763	78.8

Students get information about careers from a wide variety of potential sources of information. The relative influences of these sources were investigated, and the findings are presented in Table 34.

The importance of college courses and college teachers stand out as influencing students in the making of career decisions. College career/placement counselors and other college counselors were of much less importance. It is apparent that the college classroom has a major impact upon important career decisions of students and this fact should be emphasized.

Previous work experience had also been of importance to many graduates. The various types of summer employment, part-time work, or full-time work experienced by the graduates provided them with information which contributed to their career decisions.

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TABLE 35: VERY IMPORTANT (TABLE 34, COLUMN 1) SOURCES OF CAREER INFORMATION OR GUIDANCE

Questions 43-51:

Sources	Public M 758	Public F 618	Public T 1,376	Independent M 509	Independent F 363	Independent T 872	All M 1,267	All F 981	All T 2,248
College courses	32.2%	31.2%	31.8%	28.3%	39.4%	32.8%	30.6%	34.3%	32.2%
Previous work experience	29.0	32.7	30.7	22.9	35.3	28.1	26.6	33.7	29.7
College teachers	25.6	26.4	25.9	27.3	31.4	28.9	26.3	28.2	27.1
Parents or other relatives	14.4	14.2	14.3	15.5	14.9	15.3	14.8	14.5	14.7
Friends	6.7	7.0	6.8	6.7	7.4	7.0	6.7	7.1	6.9
H.S. teachers or counselors	5.1	6.6	5.8	6.7	9.1	7.7	5.8	7.5	6.5
Printed materials, radio or T.V.	5.8	5.7	5.7	6.9	7.4	7.1	6.2	6.3	6.3
College career or placement counselors	7.0	3.6	5.5	2.8	4.7	3.6	5.3	4.0	4.7
Other counselors	4.4	4.4	4.4	3.3	5.0	4.0	3.9	4.6	4.2

The data of Table 35 present by sex of respondent and type of institution attended, those sources of career information or guidance marked very important by the graduates. The public institution graduates and independent institution graduates did not differ significantly in the sources they considered very important. When the responses of males and females were analyzed it was found that previous work experience was significantly more important for females than males.

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TABLE 36: OCCUPATIONAL OR CAREER COUNSELING RECEIVED

Question 52: Did you receive occupational or career counseling while attending college?

When Received	Public M 758	Public F 619	Public T 1,377	Independent M 510	Independent F 363	Independent T 873	All M 1,268	All F 982	All T 2,250
None received	56.6%	56.6%	56.6%	63.3%	62.5%	63.0%	59.3%	58.8%	59.1%
Freshman year	23.1	22.8	22.9	16.3	13.8	15.2	20.3	19.5	20.0
Sophomore year	15.8	13.7	14.9	10.0	13.2	11.3	13.5	13.5	13.5
Junior year	16.5	11.5	14.2	13.9	11.6	12.9	15.5	11.5	13.7
Senior year	19.5	16.2	18.0	20.0	23.1	21.3	19.7	18.7	19.3

Percents add up to more than 100 percent because some students received counseling in more than one year.

Recent talk about the problems of college graduates in finding suitable employment has led to a great deal of attention being paid to occupational and career counseling. The data of Table 36 indicate that fewer than half of the graduates, consistent for both sexes and types of institution, had received such counseling. Of those who had, the most frequent years of counseling were the freshman and senior years.

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TABLE 37: EVALUATION OF COUNSELING

Question 53: How helpful was occupational or career counseling received while in college?

	Public			Independent			All		
Degree of Helpfulness	M 323	F 266	T 589	M 186	F 135	T 321	M 509	F 401	T 910
Very helpful	18.9%	20.3%	19.5%	22.0%	27.4%	24.2%	20.0%	22.7%	21.2%
Somewhat helpful	54.5%	51.9	53.3	59.1	54.1	57.1	56.2	52.6	54.6
Not helpful	26.6	27.8	27.2	18.8	18.5	18.6	23.8	24.7	24.2

Table 37 represents the evaluations of occupational and career counseling from those graduates who had received it. More than three-quarters reported that the counseling had been either very helpful or somewhat helpful. It appeared as though the students who had received such counseling in the independent schools viewed it as having been of more help than did those from the public sector.

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TABLE 38: EVALUATION OF CAREER COUNSELING BY YEAR COUNSELING WAS RECEIVED

Questions 52 and 53:

	Freshman year	Sophomore year	Junior year	Senior year
Evaluation	447	303	309	433
Very helpful	21.3%	30.0%	28.5%	24.0%
Somewhat helpful	51.9	52.1	57.3	58.9
Not helpful	26.8	17.8	14.2	17.1

It was hypothesized that the evaluations of counseling would differ according to the year in which the counseling was received. The data of Table 38 indicate that such aid received in the sophomore and junior years was more helpful than that received in the freshman or senior years. This finding is particularly interesting in light of Table 36, in which it was found that students are most frequently counseled concerning occupations or careers as freshmen and seniors. It would appear as though occupational and career counseling takes place most often when it is least helpful.

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TABLE 39: EXPECTED CAREER RESIDENCE LOCATION

Question 61: Where do you expect to be living when you begin your career?

	Public			Independent			All		
	M	F	T	M	F	T	M	F	T
Location	752	617	1,369	503	357	860	1,255	974	2,229
Within Indiana	45.9%	54.3%	49.7%	31.6%	40.1%	35.1%	40.2%	49.1%	44.1%
Outside Indiana but within U.S.A.	52.1	42.3	47.7	63.8	57.7	61.3	56.8	47.9	52.9
Outside U.S.A.	2.0	3.4	2.6	4.6	2.2	3.6	3.0	3.0	3.0

Table 39 indicates the location in which the graduates expected to pursue their careers. Fewer than half of the respondents planned to do so within Indiana. The responses of males and females differed significantly as more females expected to remain within the state. Graduates of public institutions also planned to pursue careers in Indiana more frequently than did those of the independent sector.

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TABLE 40: HIGH SCHOOL LOCATION AND EXPECTED CAREER RESIDENCE

Questions 4 and 61:

		Public			Independent			All		
		High School Location			High School Location			High School Location		
Career Residence		Within Indiana	Outside Indiana	Outside U.S.A.	Within Indiana	Outside Indiana	Outside U.S.A.	Within Indiana	Outside Indiana	Outside U.S.A.
Within Indiana	n	637	41	2	234	66	3	871	107	5
	%	57.9	16.0	16.7	65.7	13.5	18.8	59.8	14.3	17.9
Outside Indiana but within U.S.A.	n	439	210	5	113	408	6	552	618	11
	%	39.9	81.7	41.7	31.7	83.4	37.5	37.9	82.8	39.3
Outside U.S.A.	n	25	6	5	9	15	7	34	21	12
	%	2.3	2.3	41.7	2.5	3.1	43.8	2.3	2.8	42.9
Total	n	1,101	257	12	356	489	16	1,457	746	28
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 40 compares high school residence with expected career residence by type of institution attended in order to provide a measure of out-migration from Indiana colleges and universities. Majorities of respondents from Indiana high schools expected to pursue careers within the state, regardless of whether they had attended public or independent institutions. However, even higher proportions (more than 80 percent) who had come from out-of-state high schools expected to leave Indiana to pursue their careers.

Overall, 1,457 respondents had come from high schools within the state. Of these, 871 expected to remain, a loss of 586. Among those from non-Indiana high schools and foreign countries, 112 planned to remain in the state, leaving an overall net loss of 474 highly educated people among the survey respondents. This represented more than one fifth of the responses. It is probable that all or much of this deficit could be made up by graduates from out-of-state post-secondary institutions coming to Indiana to pursue careers.

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PART VI

BACHELOR'S DEGREE-LEVEL MANPOWER PRODUCED IN INDIANA, 1974-75

The data of this report have been collected and analyzed toward the ultimate goal of estimating bachelor's degree-level manpower supply in Indiana. A number of intervening variables make the attempt to ascertain precisely college-level manpower supply on a statewide basis a quixotic effort. For that reason, the extrapolations presented in this section of this report should be viewed as rough estimates.

One intervening variable involves the time or stage in individuals' career development with which one is concerned. As has been shown, the plans of graduates change over time, so that many who anticipate employment in certain occupations shortly after receiving a bachelor's degree have aspirations toward long-term careers in other occupations. This analysis will concern the long-term career aspirations of the 1974-75 bachelor's degree recipients, realizing that primary occupations are entered at different times by different individuals, and that some people pursue multiple careers.

Mobility is another variable which affects the accuracy of statewide manpower estimates. Census data indicate that people with high levels of educational attainment tend to be more geographically mobile than those with lower levels. It was reported in Table 39 that only 44 percent of the graduates expected to pursue careers in Indiana, and in Table 40 that even among those who had graduated from Indiana high schools, only 60 percent expected to pursue careers within the state. This reflects the high level of mobility of the college educated population.

However, much of this out-migration, perhaps all of it, is offset by graduates of colleges and universities in other states who pursue careers in Indiana. Indiana's overall in-migration and out-migration appear to offset one another, and this may also be the case at the college level.

National trends and developments can strongly affect statewide manpower supply and demand information. Trained manpower shortages in one part of the country may be surpluses in another. College graduates are often willing to relocate if it means that they will find desired forms of employment, so statewide estimates of college-level manpower supply should often be viewed in a nationwide context.

It should also be kept in mind that all of the manpower supply to high-level occupations, even many of those which are often associated with college training, need not necessarily be baccalaureate degree recipients. For example, many individuals pursue careers as registered nurses without having received bachelor's degrees. For the category of managers, officials, and proprietors, the employment of individuals is contingent upon the preferences of the employers, and employment opportunities leading to high level positions may exist for those who have not completed bachelor's degree programs. In other words, the manpower supply data included in this report are not inclusive of all manpower supply in Indiana, even for some high-level occupations.

TABLE 41: BACHELOR'S DEGREE-LEVEL MANPOWER PRODUCED IN INDIANA, 1974-75

Questions 21 and 61:

Career Choice	All Graduates (Extrapolation)	Career Expected in Indiana (Extrapolation)	Percent Expec Career in Ind (Col.2 ÷ Col.
Professional, Technical, Kindred	19,536	8,893	45.5%
Engineers	1,676	352	21.0
Life scientists	646	183	28.3
Physical scientists	391	42	10.7
Math specialists	129	21	16.3
Medical workers	2,929	1,646	56.2
Dentists	325	219	67.4
Optometrists	201	69	34.3
Pharmacists	316	258	81.6
Physicians/surgeons	907	436	48.1
RNs	646	442	68.4
Therapists	210	99	47.1
Veterinarians	105	24	22.9
Other medical	219	99	45.2
Technicians - health	201	129	64.2
Clinical/med. lab. technicians	135	84	62.2
Dental hygienists/lab technicians	24	12	50.0
LPNs	0	0	--
Therapy technicians	0	0	--
Other health technicians	42	33	78.6
Technicians-science & engineering	243	93	38.3
Science technicians	120	36	30.0
Engineering technicians	123	57	46.3
Technicians - other	129	36	27.9
Aviation technicians	36	0	0.0
Other technicians nec	93	36	38.7
Computer specialists	457	186	40.7
Psychologists	384	114	29.7
Social scientists	496	123	24.8
Education professions	6,062	3,679	60.7
Elementary & pre-school teachers	1,751	1,154	65.9
Secondary school teachers	1,682	1,187	70.6
College teachers	1,045	391	37.4
Special ed. professions	664	415	62.5
School counselors	385	246	63.9
Other education professions	535	286	53.5
Writers, artists, entertainers	1,442	520	36.1
Writers & kindred	562	231	41.1
Artists & entertainers	880	289	32.8
Other professional, technical, kindred	4,351	1,769	40.7
Accountants & auditors	943	526	55.8
Architects	189	36	19.0
Clergy and kindred	513	108	21.1
Lawyers and judges	1,258	433	34.4
Librarians, curators, archivists	234	126	53.8
Social workers	559	342	61.2
Other	655	198	30.2
Managers, Officials, and Proprietors	3,088	1,251	40.5
Buyers, sales, loan managers	1,316	444	33.7
Bank and financial managers	739	264	35.7
Buyers	234	45	19.2
Sales managers	343	135	39.4
Administrators & public inspectors	666	330	49.5
Health administrators	177	99	55.9
School administrators	228	138	60.5
Other administrators	261	93	35.6
Inspectors, public	0	0	--
Other managers, officials, proprietors	1,106	477	43.1
Office managers, nec	583	270	46.3
Other managers and administrators	523	207	39.6

TABLE 41: (continued)

Career Choice	All Graduates (Extrapolation)	Career Expected in Indiana (Extrapolation)	Percent Expecting Career in Indiana (Col.2 ÷ Col.1)
Sales Workers	472	192	40.7
Clerical Workers	60	42	70.0
Craftsmen, Foremen, and Kindred	114	81	71.1
Operatives	12	0	0.0
Service Workers	174	75	43.1
Laborers (non-farm)	12	0	0.0
Farmers & Farm Workers	310	180	58.1
Other	442	108	24.4
Military	304	21	6.9
Housewife	138	87	63.0
Subtotal	24,220	10,822	44.7
No response/unusable	224	82	36.6
Total	24,444	10,904	44.6

Table 41 represents the career plans of the respondents, extrapolated* to represent all of the 1974-75 bachelor's degree recipients in the participating Indiana institutions. These extrapolations represent 98.8 percent of the 1974-75 bachelor's degrees granted in the state. Because of the importance of the mobility of college graduates in assessing manpower supply, an additional extrapolation is reported for those respondents who expected to pursue careers in Indiana.

Of the 24,444 graduates represented by the survey sample, it would be anticipated that 10,904 or 44.6 percent expected to pursue careers in Indiana. This proportion, however, varied widely from occupation to occupation. Very low proportions (below 25 percent) of those planning on being physical scientists (10.7 percent), math specialists (16.3 percent), architects (19.0 percent), buyers (19.2 percent), engineers (21 percent), clergy (21.0 percent), veterinarians (22.9 percent), social scientists (24.8 percent) and career military (6.9 percent)

* The total numbers of bachelor's degrees conferred by participating institutions were taken from the 1974-75 HEGIS institutional reports of degrees granted. Totals of degrees granted were calculated for public institutions and independent institutions. These two totals were then divided by the number of usable survey responses from each sector, resulting in coefficients of expansion of 12.03 for public institutions' responses and 8.99 for the independents'.

expected to remain in Indiana. High proportions (over 65 percent) of those aspiring to become dentists (67.4 percent) registered nurses (68.4 percent), elementary and secondary school teachers (65.9 percent and 70.6 percent respectively) and craftsmen, foremen, and kindred (71.1 percent) expected to stay in Indiana.

These extrapolations indicate that in 1974-75 colleges and universities of Indiana produced 19,536 bachelor's degree recipients who aspired to careers in the professional, technical, and kindred occupational category. Of these, 6,062 planned to enter education professions, 2,929 aspired to medical professions and 1,676 planned to become engineers. An additional 1,442 expected to become writers, artists or entertainers, and 1,258 wanted to enter the legal profession.

A total of 3,088 graduates aspired to careers in the managers, officials, and proprietors occupational category. No other category was the career choice of as many as 500 graduates.

APPENDIX A

METHODOLOGY

The Problem

What are the educational, occupational, and career plans and aspirations of bachelor's degree recipients in the public and independent colleges and universities of Indiana?*

Development of the Instrument

A 61 item questionnaire (Appendix B), the "Occupation and Career Interest Survey" was developed. The questionnaire was designed to assess the educational, occupational, and career plans and aspirations of college students who would graduate with associate or baccalaureate degrees within a short period of time. Permission was obtained to use or adapt a number of questions from the "College Senior Survey" of the Educational Testing Service and the "Indiana High School Senior Survey", developed by Dr. J. P. Lisack of Purdue University.

Two detailed lists accompanied each questionnaire. The first dealt with degree programs and major fields of study, and was based upon the HEGIS Taxonomy for programs currently available in Indiana. The second list concerned occupation and career titles and groupings, and was based upon the occupational listings of the Bureau of the Census.

At the initiation of the Indiana College-Level Manpower Study, the presidents of all of Indiana's institutions from whom participation was requested designated contact persons for the study. A draft of the questionnaire was sent to the contact persons for criticism and suggested changes, and was revised accordingly. The revised instrument was then pretested with the senior class at Franklin College. Analysis of the responses to each item and students' comments concerning the instrument led to further minor revisions of the questionnaire to its final form.

The Sample

The contact persons were asked to provide lists of students who would be graduating in the spring of 1975 with baccalaureate degrees. Twenty-five percent of these degree recipients were chosen by a random selection process and received the survey instrument.

Questionnaire Distribution

Questionnaire distribution was conducted primarily by two methods. For students living off-campus, first-class mail was used. For institutions with large numbers of students living in residence halls, campus mailings were

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* Associate degree recipients have also been studied. The results of that study are being reported in a separate publication.

prepared and distributed with the help of the contact person. At one institution the questionnaire was given to the selected students as part of a graduation check-out procedure. Answer sheets were returned directly to the Commission in preaddressed, postage paid envelopes.

Follow-Up Mailing

Because contact persons, in most cases, were unable to provide lists of graduates more than a few weeks prior to final examinations and graduation, only one mailing to the sample members from each institution was feasible. At Ball State University and Anderson College time permitted a follow-up mailing. The responses to the second mailing were then compared with those of the first and were not found to be significantly different.*

Analysis of the Data

Students' responses to the questionnaire were made directly on Optical Scanning answer sheets which were prepared for this study (Appendix B). These responses were converted to computer tape and the Statistical Package for the Social Sciences (SPSS) was used for computation and statistical analysis of responses.

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* At the two institutions where follow-up mailings were conducted an analysis of the differences between first-mailing respondents and follow-up respondents was made on 53 questionnaire items by means of the chi-square test of independence. Differences at or beyond the 0.10 level of significance were found in 10 percent of the cases, the proportion that would be expected by chance alone.

A chi-square goodness of fit test was also conducted to test the observed distribution against the expected distribution of the chi-square probability values. The observed distribution could happen by chance alone more than 80 percent of the time.

Because responses to the second mailing at these two institutions did not appear to differ significantly from those to the initial mailing, it can be concluded that at the other institutions many non-respondents were similar to the respondents and that the data presented in this study are representative of more than the 50.6 percent of the sample who were included in the returns.

APPENDIX B

OCCUPATION AND CAREER INTEREST SURVEY

STATE OF INDIANA
COMMISSION FOR HIGHER EDUCATION
143 WEST MARKET STREET
INDIANAPOLIS, INDIANA 46204

Dear Graduating Student:

As your graduation approaches, you are called upon to make some important decisions concerning next year and your entire future. Will you continue your formal education, seek employment, or choose some other way of pursuing your life's goals?

The Indiana Commission for Higher Education is a state agency responsible for the coordination of public postsecondary institutions in the state, and is charged to take the private institutions' resources into account in its planning. In order to perform better its duties in these areas, the Commission is undertaking a major study of college level manpower supply and demand.

The portion of the Commission's manpower study related to this student survey is primarily an examination of factors influencing students' academic and career choices, and the relationships between these choices. The information gained from this study coupled with other portions of the overall manpower study will be of great value to the Commission and participating institutions in career counseling, and in developing academic programs to meet the needs of students.

Student input into this study is crucial to its success, so please take a few minutes to complete and return this questionnaire. A self-addressed envelope is enclosed for your convenience.

Sincerely,

Robert Greenberg

Robert Greenberg
Project Director — Manpower

The Occupation and Career Interest Survey is part of the College-Level Manpower Study of the Indiana Commission for Higher Education. The Survey will provide information whereby we can better identify relationships between the occupations desired by college graduates and the types of degrees they receive. Such information should be useful to the Commission in its planning function, to colleges and universities as they develop academic programs, and to students themselves as they engage in the process of relating their educations to their anticipated careers.

Would you please complete the enclosed questionnaire by marking your responses on the separate answer sheet and return the answer sheet in the stamped, self-addressed envelope at your earliest convenience. If you do not expect to complete the requirements for an associate or bachelor's degree during the spring or summer of 1975, please return the answer sheet unmarked.

All individual responses to this questionnaire will be confidential. Results will be reported only for groups of students.

PLEASE MARK RESPONSES TO ALL QUESTIONS ON THE ENCLOSED ANSWER SHEET IN NUMBER 2 LEAD PENCIL.

1. What is your sex?
   (a) male
   (b) female

2. How old will you be on July 1 of this year?
   (a) 17 or younger
   (b) 18 or 19
   (c) 20 or 21
   (d) 22 or 23
   (e) 24 to 29
   (f) 30 or older

3. What is your current marital status?
   (a) not married
   (b) married

4. Where did you live when you last attended high school?
   (a) within Indiana
   (b) Outside Indiana but within the United States or its possessions
   (c) in a foreign country

5. Since completing your high school studies have you ever interrupted your formal education for an extended period of time (semester, quarter, term or longer) other than a summer break?
   (a) yes
   (b) no

6. What is your approximate overall average grade in college?
   (a) A— to A+
   (b) B— to B+
   (c) C— to C+
   (d) lower than C—

7. What is your approximate average grade in your major field of study?
   (a) A— to A+
   (b) B— to B+
   (c) C— to C+
   (d) lower than C—

Use List A, "Degree Programs and Major Fields Study" to answer the following three question Please enter the appropriate code numbers and i in the corresponding spaces on the answer sheet.

8. What was your earliest declared degree progra or major field of study?

9. What is your current degree program or maj field of study?

10. If you plan to attain a higher degree, what will l your future field of study?

How important has each of the following been to y in the selection of your present degree program major field of study? Please fill in **one** space for ea potential influence.

	NOT IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	
11.	(n)	(s)	(v)	The status or prestige of my major field.
12.	(n)	(s)	(v)	The influence of parents, relatives, or friends.
13.	(n)	(s)	(v)	The relationship between major field of study and my talents and aptitudes.
14.	(n)	(s)	(v)	The relationship between my major field of study and my interests.
15.	(n)	(s)	(v)	The relationship between my major field of study and my career choice.

The Occupation and Career Interest Survey is being conducted by the Indiana Commission for Higher Education in cooperation with the colleges and universities of the State of Indiana. We would like to thank the Educational Testing Service for their permission to use a number of questions developed for their College Senior Survey, and Dr. J. P. Lisack for his permission to use questions from his Indiana High School Senior Survey.

to complete?
(a) Associate degree or equivalent
(b) Bachelor's degree
(c) First-professional degree (D.D.S. or D.M.D., LL.B. or J.D., M.D., B.D., D.V.M., D.S.C. or D.P.S.)
(d) Master's degree
(e) Specialist's degree (Ed.S., etc., **not** a first-professional degree)
(f) Doctor's degree (Ph.D., Ed.D., etc., **not** a first-professional degree)

Use the following choices to answer questions 17 and 18:

(a) Less than high school graduation
(b) Received a high school diploma or G.E.D.
(c) Received an associate degree or equivalent
(d) Received a bachelor's degree
(e) Received a first-professional degree
(f) Received a master's degree
(g) Received a specialist's degree
(h) Received a doctor's degree

7. What is the highest educational level completed by your father?

8. What is the highest educational level completed by your mother?

Use List B, "Occupational/Career Categories" to answer **each** of the following five questions. Please enter the appropriate code numbers and fill in the corresponding spaces on the answer sheet.

9. What is (was) your father's primary occupation?

0. What is (was) your mother's primary occupation?

1. What is your long-term career choice?

2. In which occupation do you expect to be working next fall?

3. In which occupation do you expect to be working five years from now?

4. To what extent do you expect your long-term career to be related to your undergraduate major field of study?
(a) Highly related
(b) Somewhat related
(c) Unrelated

5. When did you make your present choice of career?
(a) I am presently undecided.
(b) During my 4th or senior year in college.
(c) During my 3rd or junior year in college.
(d) During my 2nd or sophomore year in college.
(e) During my 1st or freshman year in college.
(f) During or before high school.

6. Have you changed your career choice since entering college?
(a) Yes
(b) No (If no, go to question 28)

If entering college, why did you do so? Mark ONLY the **one** most important reason for your most recent change.
(a) Previous choice seems to have few job openings.
(b) Present choice offers a better financial future.
(c) Present choice makes better use of my education.
(d) Present choice better suits my talents and aptitudes.
(e) Present choice better suits my interests.
(f) Previous choice was only tentative, until I decided my actual field of interest.
(g) Training for my previous choice would cost too much.
(h) Lost interest in my previous choice.
(i) Other.

How important has each of the following been to you in your choice of a long-term career? Darken **one space** for each factor.

		NOT IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	
28.	(n)	(s)	(v)	High income.
29.	(n)	(s)	(v)	Independence (extent to which you can work alone)
30.	(n)	(s)	(v)	Being of service to others.
31.	(n)	(s)	(v)	Security.
32.	(n)	(s)	(v)	Opportunity for leadership.
33.	(n)	(s)	(v)	Interest in work activities.
34.	(n)	(s)	(v)	Allows more free time than other fields.
35.	(n)	(s)	(v)	Makes use of my special talents and abilities.
36.	(n)	(s)	(v)	Interest in working with people rather than with things.
37.	(n)	(s	(v)	Education needed for entrance to the career takes less time than for entrance to other careers.
38.	(n)	(s)	(v)	Interest in travel.
39.	(n)	(s)	(v)	Status, prestige.
40.	(n)	(s)	(v)	Opportunity to get ahead rapidly.
41.	(n)	(s)	(v)	Desire to make a contribution to knowledge.
42.	(n)	(s)	(v)	Initial job opportunities.

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How influential has each of the following sources of information or guidance been to you in making your long-term career choice? Please fill in **one** space for each potential source.

	NOT IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	
43.	(n)	(s)	(v)	Parents or other relatives.
44.	(n)	(s)	(v)	Friends.
45.	(n)	(s)	(v)	High school teachers or counselors.
46.	(n)	(s)	(v)	College courses.
47.	(n)	(s)	(v)	College teachers.
48.	(n)	(s)	(v)	College career or placement counselors.
49.	(n)	(s)	(v)	Other counselors.
50.	(n)	(s)	(v)	Printed materials, radio, or TV.
51.	(n)	(s)	(v)	Previous work experience.

52. Did you receive occupational or career counseling while attending college? Indicate as many as are appropriate.
    (a) No (If no, go to question 54).
    (b) Yes, during my 1st or freshman year.
    (c) Yes, during my 2nd or sophomore year.
    (d) Yes, during my 3rd or junior year.
    (e) Yes, during my 4th or senior year.

53. If you answered yes to the previous question, how helpful was the counseling?
    (a) Very helpful.
    (b) Somewhat helpful.
    (c) Not helpful.

For questions 54-56, select the best response to each question from the five-item list below. Fill in **only one** response for each time period.

(a) Working full time at a job which I expect to make my career.
(b) Working full time at a job which will probably not be my career.
(c) Military service.
(d) Graduate or professional study.
(e) Not in the work force.

54. Which **one** of the five choices above best describes what you expect to be your primary activity this fall?

55. Which **one** of the five choices above best describes what you expect to be your primary activity about five years from now?

56. Which **one** of the five choices above best describes what you expect to be your primary activity about ten years from now?

How definite do you consider the expectations marked in your last three responses?

	VERY DEFINITE	SOMEWHAT DEFINITE	HIGHLY INDEFINITE	
57.	(v)	(s)	(h)	This fall.
58.	(v)	(s)	(h)	Approximately five years from now.
59.	(v)	(s)	(h)	Approximately ten years from now.

60. In which of the following work environments do you hope to make your long-term career? (Indicate only one.)
    (a) Self employment or private practice.
    (b) Business or industrial firm.
    (c) Educational institution.
    (d) Private research organization.
    (e) Welfare agency.
    (f) Military service.
    (g) Government or public service (not educational, welfare, or military).
    (h) Health care facility.
    (i) Other

61. Where do expect to be living when you begin your career?
    (a) Within Indiana.
    (b) Outside Indiana, but within the United States or its possessions.
    (c) In a foreign country.

Thank you very much for completing this questionnaire. Would you please return it to us in the enclosed, stamped, self-addressed envelope at your earliest convenience. If you have misplaced the envelope, send the answer sheet to:

OCCUPATION AND CAREER INTEREST SURVEY
The Indiana Commission for Higher Education
143 West Market Street
Indianapolis, Indiana 46204

Please use this list when you answer questions 8 through 10 in your questionnaire. Review this list carefully, find the degree program or major field of study you are looking for, and enter the corresponding two digit code number in the spaces provided on the answer sheet.

ASSOCIATE DEGREE PROGRAMS
(2 years of college)

Code	FIELD OF STUDY
	Business and Commerce Technologies
01	Business and Commerce Technologies, General
02	Accounting
03	Banking and Finance
04	Marketing, Distribution, and Purchasing
05	Secretarial Technologies
06	Other Business and Commerce Technologies
	Health Service and Paramedical Tech.
11	Dental Health Technologies
12	Medical Laboratory Technologies
13	Nursing
14	Medical Therapy Technologies
15	Other Allied Health
	Mechanical and Engineering Tech.
21	Aeronautical and Aviation Technologies
22	Graphics and Drafting Technologies
23	Automotive Technologies
24	Electronics and Machine Technologies
25	Other Mechanical and Engineering Technologies
	Miscellaneous Associate Degree Programs
31	Data Processing Technologies
32	Natural Science Technologies
33	Public Service Related Technologies
34	Other Associate Degree Programs

BACHELOR OR HIGHER DEGREE PROGRAMS
(4 years college or more)

Code	FIELD OF STUDY
41	Agriculture, Natural Resources, and Forestry
42	Architecture, Environmental Design, and Urban and Regional Planning
43	Area Studies
44	Biological Sciences
45	Business and Management
46	Communications (includes Journalism)
47	Computer and Information Sciences
48	Engineering
49	Fine and Applied Arts
50	Foreign Languages
51	Home Economics
52	Interdisciplinary Studies
53	Law and Pre-Law
54	Letters (includes English, Folklore, Linguistics, Literature, Speech, Philosophy, and Religion)
55	Library Science
56	Mathematics and Statistics
57	Physical Sciences
58	Psychology
59	Public Affairs and Services (includes Forensic Studies, Public Administration, Parks and Recreation, Social Work, etc.)
	Education Fields
61	Elem. and Pre-Elementary Education
62	Secondary Education
63	Special Education
64	Health and Physical Education
65	Educational Administration
66	Counseling and Guidance
67	Other Education Fields
	Health Fields
71	Allied Health
72	Dentistry
73	Nursing
74	Optometry
75	Pharmacy
76	Physician
77	Therapy, Occupational and Physical
78	Veterinary
79	Other Health Fields
	Social Sciences (not psychology)
81	Economics
82	History
83	Political Science and Government
84	Sociology
85	Other Social Sciences (Anthropology, Archaeology, Geography, International Relations, etc.)
99	Double Major

Please do not return these lists with your answer sheet. You are welcome to keep them for your own use.

OCCUPATIONAL/CAREER CATEGORIES

Please use this list when you answer questions 19 through 23 in your questionnaire. Review the entire list before you select the category that most accurately identifies your response to each of the questions, then enter the corresponding two digit code number in the spaces provided on the answer sheet.

PROFESSIONAL, TECHNICAL AND KINDRED

Code	CATEGORY
01	***Engineers***
02	***Life Scientists*** (Agricultural, Biological, Marine, etc.)
03	***Physical Scientists*** (Astronomer, Atmospheric and Space, Chemist, Geologist, Physicist, etc.)
04	***Mathematical Specialists*** (Actuary, Mathematician, Statistician, etc.)
	Medical Workers
05	Dentists
06	Optometrists
07	Pharmacists
08	Physicians and Surgeons
09	Registered Nurses
10	Therapists (Occupational, Physical, Respiratory, Speech, etc.)
11	Veterinarians
12	Other Medical Workers (Chiropractor, Dietician, Sanitarian, etc.)
	Technicians — Health [for assistants, see Service Workers: Health Service Workers]
13	Clinical or Medical Lab Technicians
14	Dental Hygienists and Dental Lab Tech.
15	Licensed Practical Nurses
16	Therapy Technicians
17	Other Health Technicians (Health Records Technician, Radiologic Tech., etc.)
	Technicians — Science and Engineering
18	Science Technicians (Agricultural, Biological, Chemical, Mathematical, etc.)
19	Engineering Technicians (includes draftsman)

Code	CATEGORY
	Technicians — Other
20	Aviation Technicians (Airplane Pilot, Air Traffic Controller, Flight Engineer, etc.
21	Other Technicians not elsewhere classifie
22	***Computer Specialists*** (Programmer, Systems Analyst, etc.)
23	***Psychologists*** (not a teacher)
24	***Social Scientists*** (Economist, Historian, Political Scientist, Sociologist, Urban and Regional Planner, etc. — not a teacher)
	Education Professions
25	Elementary and Pre-School Teachers
26	Secondary School Teachers
27	College Teachers
28	Special Education Professions
29	School Counselors
30	Other Education Professions
	Writers, Artists, Entertainers
31	Writers and Kindred (Author, Editor, Reporter, etc.)
32	Artists and Entertainers (Announcer, Artist, Athlete, Composer, Designer, Performer, Photographer, etc.)
	Other Professional Technical and Kindred
33	Accountants and Auditors
34	Architects
35	Clergymen and Kindred
36	Lawyers and Judges
37	Librarians, Curators, Archivists, etc.
38	Social Workers
39	Others (Personnel and Labor Relations, Recreation Worker, Research Worker, etc.)

[*continued*]

Code	CATEGORY
	Buyers, Sales, Loan Managers
40	Bank and Financial Managers
41	Buyers (Wholesale, Retail, Shipper, Farm Produce, Purchasing Agent, etc.)
42	Sales Managers (Wholesale and Retail Trade)
	Administrators and Public Inspectors
43	Health Administrators
44	School Administrators (Elementary, Secondary and College)
45	Other Administrators (Local, Public, Postmaster, Mail Supervisor, etc.)
46	Inspectors, Public
	Other Managers, Officials and Proprietors
47	Office Managers, not elsewhere classified
48	Other Managers and Administrators (Funeral Director; Hotel, Motel, Restaurant, or Bar Manager; Superintendant and Building Manager; etc.)

SALES WORKERS

Code	CATEGORY
49	***Insurance Agents, Brokers***
50	***Real Estate Agents, Brokers, etc.***
51	***Stock and Bond Salespeople***
52	***Sales Clerks — Retail Trade***
53	***Other Sales Personnel*** (Wholesale and Retail Trade, Manufacturing Representative, Service and Construction, etc.)

CLERICAL WORKERS

Code	CATEGORY
	Secretaries, Stenographers, and Typists
54	Secretaries and Stenographers (Personal, Legal, Medical, etc.)
55	Typists
	Office Machine Operators
56	Keypunch and Computer Equipment Operators
57	Others (Bookkeeping and Billing Machine, Calculating, Duplicating, etc.)
	Other Clerical Workers
58	Bookkeepers
59	Cashiers
60	Other Clerical Workers (Bank Teller, Clerk, Receptionist, Telephone Operator, etc.)

CRAFTSMEN, FOREMEN AND KINDRED

Code	CATEGORY
	Construction Craftsmen
61	Construction Machinery Operators (Bulldozer, Excavating and Grading Machine, etc.)
62	Electricians
63	Other Construction Craftsmen
64	***Metalworking Craftsmen*** (Not mechanics)
65	***Foremen, not elsewhere classified***
	Mechanics, Repairmen, and Installers
66	Airconditioning, Heating, Refrigeration Workers
67	Automotive Workers (Accessories Installer, Body Repairman, Mechanic, etc.)
68	Heavy Equipment and Diesel Mechanics
69	Other Mechanics and Repairmen
70	***Printing Trade Craftsmen***
71	***Transportation and Public Utilities Craftsmen***
72	***Other Craftsmen and Kindred Workers*** (Baker, Cabinetmaker, Jeweler, Miller, Optician, Stone Cutter, Tailor, Upholsterer, Window Dresser, etc.)

[continued]

Code	CATEGORY
	Operatives other than Transportation Equipment
73	Semiskilled Metalworking Operatives (Drill Press, Lathe, Welder, etc.)
74	Semiskilled Textile Workers (Knitter, Spinner, Weaver, etc.)
75	Semiskilled Packing and Inspecting Workers
76	Other Operatives (Assembler and Production Worker, Bottling and Canning Worker, Dressmaker, Garage Worker and Gas Station Attendant, Laundry and Dry Cleaning Operative, Meat Cutter and Butcher, Mine Operative, etc.)
77	***Transport Equipment Operatives*** (Bus and Taxi Driver, Railroad Operative, Truck Driver, etc.)

SERVICE WORKERS

Code	CATEGORY
78	***Cleaning Service Workers — not Private Household*** (Maid, Cleaner, Janitor, etc.)
79	***Food Service Workers — not Private Household*** (Bartender, Cook, Waiter, etc.)
80	***Health Service Workers*** (Dental Assistant, Health Aid, Nurse's Aid, Orderly, etc.)
81	***Personal Service Workers*** (Airline Steward and Stewardess, Barber, Child Care Worker, Hairdresser and Cosmetologist, Welfare Service Aide, etc.)
82	***Protective Service Workers*** (Fireman, Policeman, Watchman, etc.)
83	***Private Household Workers*** (Cook, Housekeeper, Servant, etc.)

LABORERS

Code	CATEGORY
84	***Laborers, not Farm Workers*** (Construction Laborer, Freight Handler, Garbage Collector, Gardener, etc.)

FARMERS AND FARM WORKERS

Code	CATEGORY
85	***Farmers and Farm Managers*** (Manager, Owner, or Tenant)
86	***Farm Laborers and Farm Foremen***

OTHER CATEGORIES

Code	CATEGORY
87	***Military Services***
88	***Housewife***
89	***Student***

Question 1 on survey: ...

RESPONSE ON ANSWER SHEET TO QUESTION 1 ....

USE NO.2 PENCIL

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7. Major Field

See List A for Two Digit Code for Questions 8 - 9 - 10

8. Earliest Major Field of Study

9. Current Major Code

10. Future Field of Study

Questions 11 - 15 mark your responses as follows:

If Not Important Mark the "n"
If Somewhat Important Mark the "s"
If Very Important Mark the "v"

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17. Father's Education Level

18. Mother's Education Level

INDIANA COMMISSION FOR HIGHER EDUCATION

See List B for Two Digit Code for Questions 19 - 20 - 21 - 22 - 23

19. Father's Occupation

20. Mother's Occupation

24.

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Questions 28 - 42 mark your responses as follows:

If Not Important Mark the "n"
If Somewhat Important Mark the "s"
If Very Important Mark the "v"

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Questions 43 - 51 mark your responses as follows:

If Not Important Mark the "n"
If Somewhat Important Mark the "s"
If Very Important Mark the "v"

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Questions 57 - 59 mark your responses as follows:

If Very Definite Mark the "v"
If Somewhat Definite Mark the "s"
If Highly Indefinite Mark the "h"

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LEVEL OF SIGNIFICANCE OF DIFFERENCES IN RESPONSES BY

SEX AND TYPE OF INSTITUTION (USING CHI-SQUARE)

Table No.	Question No.	MALE - FEMALE			PUBLIC - INDEPENDENT		
		Chi-square	df	Probability	Chi-square	df	Probability
2	1	-	-	-	2.3347	1	.1265
3	2	45.17130	4	.0000	52.36179	4	.0000
4	3	7.52882	1	.0061	18.67600	1	.0000
5	4	7.91375	2	.0191	355.69886	2	.0000
6	19	18.48900	9	.0299	14.50324	9	.1055
6	20	9.13136	9	.3727	15.58576	9	.0761
7	17	5.17729	7	.6383	17.38487	7	.0151
8	18	12.00552	7	.1004	20.73849	7	.0042
9	5	8.86336	1	.0029	38.80593	1	.0000
10	6	24.38298	2	.0000	0.04003	2	.9802
10	7	9.90043	3	.0194	4.41267	3	.2202
12	8	452.18890	9	.0000	25.59766	9	.0024
12	9	446.08674	8	.0000	46.00153	8	.0000
12	10	316.68373	8	.0000	33.87426	8	.0000
13	11	28.53278	2	.0000	22.73963	2	.0000
13	12	4.54277	2	.1032	6.82926	2	.0329
13	13	4.09122	2	.1293	4.40901	2	.1103
13	14	43.37357	2	.0000	1.95934	2	.3754
13	15	17.12594	2	.0002	15.34207	2	.0005
14	16	88.49644	4	.0000	5.13383	4	.2738
15	54	91.42534	4	.0000	11.29120	4	.0235
15	55	109.04649	4	.0000	6.25578	4	.1808
15	56	205.70963	4	.0000	21.67286	4	.0002
17	57	20.99238	2	.0000	0.63420	2	.7283
17	58	14.71267	2	.0006	8.54955	2	.0139
17	59	51.86778	2	.0000	3.48628	2	.1750
20	21	117.41015	10	.0000	18.68809	10	.0444
20	22	236.59959	11	.0000	21.20138	11	.0313
20	23	194.53263	11	.0000	13.95764	11	.2353
21	24	14.67878	2	.0006	3.18943	2	.2030
26	60	378.51239	8	.0000	10.90469	8	.2072
29	28	107.41238	2	.0000	8.05322	2	.0178
29	29	8.87365	2	.0118	8.38541	2	.0151
29	30	124.24356	2	.0000	5.33027	2	.0696
29	31	15.07983	2	.0005	3.63718	2	.1623
29	32	34.98346	2	.0000	0.37255	2	.8300
29	33	0.23210	2	.8904	7.15628	2	.0279
29	34	1.48406	2	.4761	4.51914	2	.1044
29	35	14.68959	2	.0006	3.31310	2	.1908
29	36	168.55131	2	.0000	6.41535	2	.0405
29	37	1.06307	2	.5877	0.16659	2	.9201
29	38	8.04604	2	.0179	5.20250	2	.0742
29	39	66.54690	2	.0000	6.17489	2	.0456
29	40	160.02174	2	.0000	17.03271	2	.0002
29	41	16.05546	2	.0003	6.91633	2	.0315
29	42	14.94168	2	.0006	18.40043	2	.0001
31	25	10.01403	5	.0748	8.89798	5	.1132
32	26	0.13588	1	.7124	0.09588	1	.7568
33	27	17.07395	8	.0293	5.21381	8	.7345
35	43	0.20296	2	.9035	5.96872	2	.0506
35	44	0.15813	2	.9240	8.27343	2	.0160
35	45	3.31305	2	.1908	4.27811	2	.1178
35	46	4.86905	2	.0876	0.27858	2	.8700
35	47	6.61102	2	.0367	5.69294	2	.0580
35	48	2.16959	2	.3380	4.37952	2	.1119
35	49	0.71845	2	.6982	0.48673	2	.7840
35	50	1.24473	2	.5367	1.79801	2	.4070
35	51	20.65717	2	.0000	1.84509	2	.3975
37	53	1.34623	2	.5101	9.00336	2	.0111
39	61	18.04446	2	.0001	45.10817	2	.0000